

# Watershed Connections

*Delivering News from the Carson River Watershed Community*



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[www.cwsd.org](http://www.cwsd.org)

## Growing a Partnership for the East Carson River

By Gavin Feiger & Hannah Drummond, Alpine Watershed Group

The East Fork of the Carson River is a cherished natural resource. The reach between Hangman's Bridge (near Markleeville, CA) and the Ruhenstroth Dam (near Gardnerville, NV) offers spectacular scenery, remote wildlife habitats, and extraordinary opportunities for recreation. The Alpine Watershed Group (AWG) and partners recognize the need to increase education and stewardship efforts along the East Carson River to ensure user harmony and the preservation of the resources we all love.

On Thursday, May 12, a group of 40 people representing 16 government agencies, private organizations, and volunteer groups came together for a float trip down the East Fork of the Carson River. Staff from the AWG, Carson Water Subconservancy District (CWSD), and United States Forest Service-Humboldt-Toiyabe National Forest (USFS) organized the trip with support from partnering organizations. The group travelled by raft through this beautiful Class-II rated section of the East Fork from Hangman's Bridge to Ruhenstroth Dam. The purpose of the trip was to share the splendor of this watershed, discuss restoration and stewardship needs, foster collaborations between stakeholders, and just have some fun. The group achieved all of its goals thanks to our skillful captains and a generally cooperative river.

A highlight of the trip was a stop at the natural hot springs, commonly called Carson River Hot Springs, about halfway down the 21-mile float. While remote, the Carson River Hot Springs are connected by trails and rough dirt roads that allow off highway vehicle (OHV) users and hikers to join rafters at the site. The hot springs attract a significant numbers of visitors for soaking and camping. It is also a known party spot. This concentrated recreation has led to environmental degradation including impacts on water quality and habitat. Specific issues include the accumulation of refuse, loss of trees for firewood and increased erosion. Presently the USFS does not have the dedicated resources needed to effectively manage recreation in the area or provide education and outreach. Local OHV clubs organize one to two clean-ups a year to help maintain the area, but it isn't enough to keep up with increasing cumulative impacts.

A lively lunchtime discussion led by USFS representatives brought everyone together for a brainstorming session and to reaffirm the need for broad partnerships for the East Carson River. Solutions discussed included an enduring education campaign with some signage at the hot springs, regional outreach, direct outreach to user groups, and a "friends of" program for the East Fork. The group also discussed current restoration work occurring along a four mile stretch of river above Hangman's Bridge. Under a grant from the California State Parks' Off Highway Motor Vehicle Recreation Program, the AWG, USFS and the Bureau of Land Management are restoring user-impacted riparian habitat along sections of the East Carson. Restoration efforts will improve fish habitat and ensure the sustainability of vehicle use.

(Continued on page 7)

## Carson River Watershed-Literacy Survey Results and Program Update

By Brenda Hunt, CWSD

The vision of the Carson River Coalition's (CRC) Education Working Group (EWG) is "A Carson River Watershed community that believes their behavior impacts watershed-wellness and applies their knowledge to act in ways that benefit the Watershed as a whole."

To realize this vision, a key action in the CRC's Watershed-Literacy Action Plan calls for conducting a watershed-wide repeatable survey of residents' basic understanding of the Carson River watershed. Collecting this baseline allows the CRC to hone outreach messages and methods, and assists in evaluating our outreach efforts overtime. The survey's main goal is to measure changes in resident knowledge overtime and deduce effective outreach efforts. A long-term objective is to see an increase in resident's watershed-literacy; fostering changes in behaviors that benefit watershed health and, ultimately, enhance water quality.



Mark Duda, Responsive Management, speaking at the Environmental Education Roundtable in April.

With this in mind, CWSD contracted Responsive Management, Inc. (RM), a public opinion survey research firm specializing in natural resource, wildlife, environmental, and outdoor recreation issues. In June 2015, using both landlines and cell phones, RM obtained 846 survey responses from watershed residents over 18 years old. The 15-20 minute phone survey included both open-ended and multiple choice questions relating to environmental values, knowledge of watersheds, health of the Carson River, activities that affect the watershed, where watershed information is obtained, and basic demographics. Statistically, the survey is representative of the population of the watershed within +/- 3.36 percentage points and of the six counties that comprise the Carson River Watershed.

Bulleted below are some of the key survey results (Percentages are based on survey responses):

- ◆ The category "water-related issue" is the most important environmental issue to Carson River watershed residents (62%).
- ◆ Most residents are unaware that drainage from their property "ultimately" flows into the Carson River (~90%).
- ◆ Nearly half (49%) of respondents said that groundwater or well water is the source of their tap water; the second most named response is city water (non-specific) at 11%. Only 2% named the Carson River.
- ◆ A majority of residents claim to know little or nothing about watersheds in general (69%). Also, a majority are unaware that they currently live in a watershed (62%).
- ◆ Residents are divided on their perceptions of the health of the Carson River watershed, with nearly equal numbers saying it is healthy or unhealthy.
- ◆ The health of the Carson River watershed's environment is very important to most residents (83% ranked it a 7 or higher on a scale of 0 -10).
- ◆ A majority of residents think they have little or no impact on the health of the Carson River and its watershed (70%).
- ◆ In contrast to the previous finding, two-thirds (67%) of residents believe that lawn maintenance practices affect the health of the Carson River watershed.
- ◆ When asked to name the single most important action they can take to help protect or improve the health of the Carson River and its watershed environment, 76% of Carson River Watershed residents named a specific action. Of those who named a specific action, 85% state they are currently taking the action they listed.





Steve Lewis, University of Nevada Cooperative Extension conducting brainstorming workshops.

◆ Below are the factors rated as important regarding the health of the Carson River watershed. The percentages equal the number of respondents who ranked these factors as a 9 or 10 on a scale 0 - 10:

- ◆ reduction of polluted run-off (71%),
- ◆ protection of the river's headwaters (67%),
- ◆ efforts to conserve water (67%),
- ◆ protection of habitat along the river (56%),
- ◆ watershed outreach and education (56%)
- ◆ addressing invasive species (49%),and
- ◆ floodplain conservation (42%).

To further focus our outreach efforts CWSD contracted RM to create a Marketing and Communication Plan which was finalized in June 2016. The plan further analyzes the results of the initial survey outlining key message topics, target audiences, and delivery methods. It describes strategies and makes recommendations regarding the development of an effective outreach campaign and long-term evaluation of our efforts.

Using the survey results and the recommendations from the Marketing and Communication Plan, the attendees of the Environmental Education (EE) Roundtable (see article from Spring newsletter) participated in workshops brainstorming overarching and specific message taglines, themes that were missing, and next steps.

The critical overarching theme that came out of all the research and work associated with the Watershed-Literacy Action Program to date is establishing a connection between the residents' health and quality of life, and the health of the Carson River Watershed. Specific messages that tier off this overarching theme are reducing polluted runoff from properties, caring for our drinking water sources, protecting the floodplain from development, and controlling invasive species.

So what's next? The CRC EWG is utilizing all this baseline data, the recommendations from the Marketing and Communications Plan, and outreach programming currently being done, to map out a cohesive watershed-wide messaging campaign that promotes this overarching theme and connects people's behavior to improving the health and water quality of the Carson River Watershed. Please contact Brenda Hunt, 775.887.9005, [brenda@cwdsd.org](mailto:brenda@cwdsd.org) to get involved. Click on the links to view the documents related to the Watershed-Literacy Action Program including the [Action Plan](#), the [survey results](#) and the [Marketing and Communications Plan](#), and the [April 2016 EE Roundtable](#). The CWSD thanks all our amazing partners in the CRC, our environmental educators that work in the Carson River Watershed, and especially the Nevada Division of Environmental Protection for partially funding this program through their Clean Water Act Section 319(h) funds.

**CELEBRATE THE FALL COLORS  
AND THE SOURCE OF YOUR WATERS - FROM TREES TO TAP**

**Alpine Aspen Festival**  
Alpine Watershed Group  
& Friends of Hope Valley

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## Let's Go Down to the River and Play

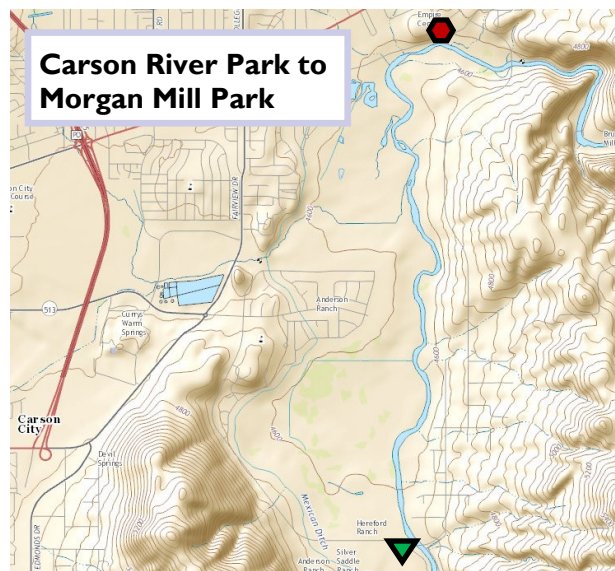
By Shane Fryer, CWSD

Spring is a great time to be on the Carson River. After four consecutive years of marginal flows, this spring offered a much needed reprieve. Last winter's El Niño forecasts for snowfall varied considerably. Predictions simultaneously drove emergency managers to prepare for flooding, while public water systems planned for continued drought. In the end the El Niño brought us just slightly above average precipitation. The snow levels were far from enough to reverse the drought, but sufficient enough to encourage a scramble through the shed to find and dust off boats.

Unfortunately, the year's boating season on the Carson River has rapidly come to an end. If you didn't get out, here are three friendly floats to entice you to seek out the river next spring. All three trips are suitable for novice paddlers in open boats like canoes.

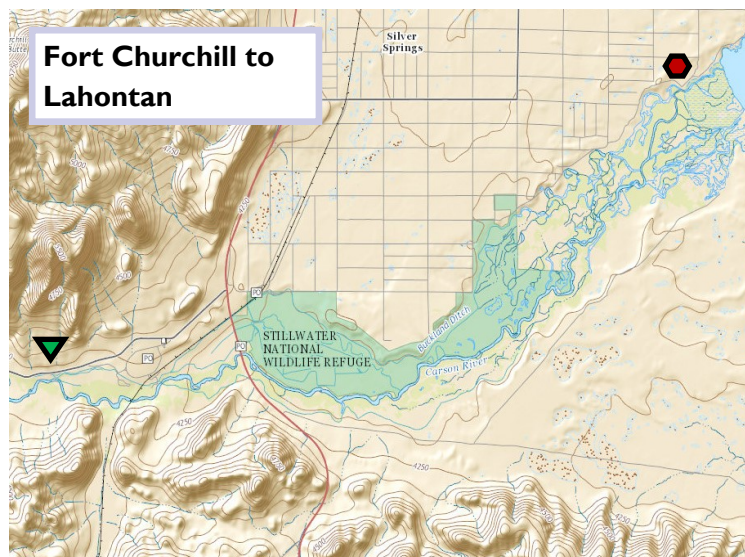
### Lloyds Bridge at Carson River Park to Morgan Mill Park

This reach is wonderful for an easy afternoon on the River. This reach offers easy access, quick shuttle, and abundant cottonwood galleries. Start by putting in at the boat ramp at Carson River Park. Enjoy a leisurely float along Riverview Park, Ambrose Park and the Empire Golf course. Then takeout at Morgan Mill Park boat ramp on the downstream left side. Ensure you plan for about 1.5 hours total float time. Please note, below Morgan Mill Park the Carson River enters the canyon and becomes more technical and only suitable for experienced white water paddlers.



### Fort Churchill State Monument to Lahontan Reservoir

This reach is a longer float and a great weekend trip when you have most of the day to dedicate to the river. This reach will take you through some of the largest cottonwood galleries on the Carson River. From Highway 95A, take Fort Churchill Road beyond the Fort Churchill State Monument approximately 1.2 miles after Fort Churchill Rd. turns to gravel. Look for the wide turnaround on the left hand side. There is a narrow foot bridge over the irrigation ditch to access the river put in. Your takeout will be the southernmost river access lot along South Beach Rd. within the Lahontan State Recreation Area (a fee area). To access the takeout follow 9<sup>th</sup> St.

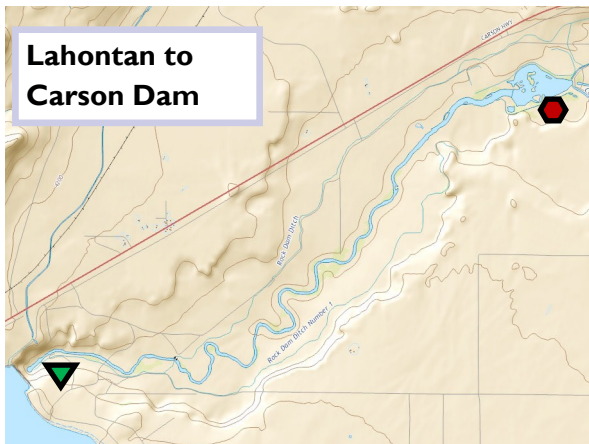


(Silver Springs) until it makes a right hand turn onto South Beach Rd. Look immediately for a parking lot on your right. Please note the river slows as you get closer to the Lahontan Reservoir and this flat water reach can demand a moderate amount of paddling. There are some signs along the river that point correctly to the takeout, however having a GPS point is nice as the parking lot can be difficult to spot from the river. Ensure to plan for about 5.5 hours of total float time.

### Lahontan Dam to the Carson River Diversion Dam

Due to water storage in Lahontan Reservoir, this reach is floatable a bit later into the year. The reliable flows along this reach encourage





wildlife and offer great opportunities to see ducks, other birds, and mule deer. The best place to put in is the campground (River Camp) below the dam within the Lahontan State Recreation Area (fee area). To access the takeout follow Hwy 50 for 4.5 mile East toward Fallon, then turn right onto Pioneer Rd. Observe the sign for the Carson River Diversion Dam at the turn. After crossing the first bridge (T Line diversion) stay to the right, and soon you'll cross a second bridge (Carson River). At the split in the road, take the left. Observe the final bridge on your right and turn to cross it (V Line diversion), and take an immediate right onto the dirt road. Stay to the right to follow the V Line diversion above the Carson River Diversion Dam. Then select a site along the river to stage your vehicle. Please don't take out next to the dam as there are many safer

options just a little further downstream. Ensure you plan for about 3 hours of total float time.

### Safety and Respect for Private Land

Always wear a proper PFD (Personal Floatation Device). Make sure it fits, is snug and secure. Check all children's PFDs periodically to make sure they haven't loosened. Always bring plenty of water and sun protections; don't underestimate dehydration and sun exposure even on cool days. Always avoid overhanging branches and other obstacles in the river. Even in low current rocks, branches, and logs can entrap and drown boaters. Clean up after yourself, and carry out any other trash you see. Never bring glass bottles on the river.

Unless you know you are on public land assume it's private. If you exit the river outside of designated areas you are likely trespassing. Good land owner relations are critical in keeping our waterways accessible and friendly. Happy paddling!

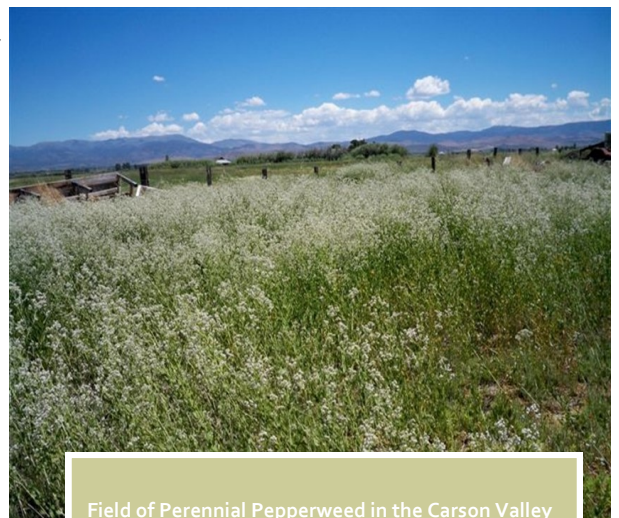
## Wet Spring, Crazy Weeds!!!

Rob Holley, Dayton Valley Conservation District

Although the impacts of noxious weeds on natural ecosystems are well understood by professionals in the conservation field, for the layperson a weed might just be another pretty flower. A single, mature Perennial Pepperweed plant — formerly known as tall whitetop — produces up to 10,000 seeds. This plant is a Nevada listed noxious weed that can wreak havoc in and around our floodplain and waterways. You may have seen the photographs of ATV's blasting through a field of Perennial Pepperweed, the sun backlighting thousands of seeds flying through the air, scattering on the ground and getting lodged in the nooks and crannies of the vehicle — for efficient transport to another location. But where do all of those seeds ultimately end up and what happens to them?

Well, those seeds have come knocking this year! In our work in Dayton Valley, and nearby Carson City and Storey Counties, we've seen significant germination of latent Perennial Pepperweed, Hoary Cress, and Russian Knapweed seed. This latent seed has remained viable for years; in fact, Perennial Pepperweed seeds are known to remain viable for up to seven years or more. That's millions of seeds accumulated over a period of years in and around any given infestation.

For a seed to germinate, many factors are required including good contact with the soil, soil temperature, and soil



Field of Perennial Pepperweed in the Carson Valley

(Continued: Page 6)

## Carson City to Update Stormwater Program

By Rob Fellows, Carson City

The Carson City Stormwater Division of Public Works is requesting public input on the Carson City Stormwater Management Program Update. The draft update will soon be available on the city's stormwater website, [www.carsonsw.org](http://www.carsonsw.org) for review and comment. Anyone wishing to comment can use the email button on the website or email comments to [stormwaterhotline@carson.org](mailto:stormwaterhotline@carson.org).

**Brief History:** The [Stormwater Management Program](#) was adopted by the Board of Supervisors on September 4, 2003, showing Carson City's commitment to actively manage stormwater runoff and improve water quality. The program is a part of Carson City's Municipal Separate Storm Sewer System (MS4) permit. The program implemented six control measures and other requirements that help reduce the discharge of pollutants to impaired waterways, such as the Carson River. These control measures consist of public outreach and education; public involvement and participation; illicit discharge detection and elimination; construction site runoff control; post construction stormwater management; pollution prevention/good housekeeping for municipal operations; and special consideration to reduce pollution from impacting Clear Creek.



Clear Creek Restoration 2007



Trash in storm manhole

**Program Highlights:** Over the past 13 years, the City has partnered with various organizations, like the Carson Water Subconservancy District, Carson School District, Nevada Department of Environmental Protection, Washoe Tribe, and other service organizations to provide public outreach and participation to promote healthy watersheds/floodplains, river/watershed cleanups and restorations, and other educational events.

The City adopted ordinances that prohibit dumping, control construction activities, and promote maintenance of stormwater facilities.

Public Works has implemented controls and policies to reduce or eliminate pollution derived from operating and maintaining city facilities, such as water, sewer, and stormdrain systems.

Also, the Parks Department has implemented an integrated pest management program to control pollutants from city parks and open space.

**New Activities:** The program expects to continue to implement the existing activities and will add an "Adopt a Watershed" program, develop and adopt a [Low Impact Development \(LID\) ordinance](#), and update several policies and procedures related to municipal operations. These new program activities will be finalized within two years after the MS4 update is approved. **Editors Note:** Also see [Low Impact Development in the Carson River Watershed Report](#).

(Continued: Page 5—Wet Spring, Crazy Weeds!!!)

moisture. This past spring we saw the perfect combination of moisture and temperature for latent seeds to germinate. There are new plants of all kinds, everywhere. Noxious weeds, nuisance weeds, native grasses — you name it and it germinated this spring!

Noxious weed treatment is especially important for land owners/managers, conservationist, and anybody concerned about healthy ecosystems. While you're out and around, be aware that there are many new infestations of noxious weeds out there from our wet spring. Identifying these new weed infestations is a critical element of the Early Detection Rapid Response approach to controlling their spread. Please take note of the type and location and use [Eddmaps](#) website or [download the app](#) to report them. If you're not sure what you're looking at, or if you're not in the business of treating weeds, let the landowner or responsible party know and report the infestation to your [local conservation district](#). With the latent seed count rising annually, weed control is an ongoing issue. We can make a difference in the health of our ecosystem if we keep an eye out and cooperate in controlling noxious weeds. To contact Rob Holley, call 775.276.1999 or email [rholley.dvcd@yahoo.com](mailto:rholley.dvcd@yahoo.com).

## RCAC Offers Free Drinking Water Well Assessment

By Thi Pham, RCAC

Rural Community Assistance Corporation (RCAC), a nonprofit organization, provides training, technical and financial resources and advocacy so rural communities can achieve their goals and visions. RCAC recently launched the pilot *Individual Well Program* (IWP), in partnership with the National Environmental Health Association, University of Illinois, National Groundwater Association, and the Water System Council. The Program aims to provide free well assessments and educational resources for private well owners not regulated by the Safe Drinking Water Act (SDWA).



The water quality and safety of private wells are not regulated by SDWA. Individual well owners are responsible for their private well systems' maintenance and water quality monitoring. However, many well owners do not know how to properly maintain their well to ensure the safety of their drinking water source, nor are they aware of the danger of drinking contaminated water. Drinking contaminated water can cause deficiency in cognition development in infants and young children, as well as other health concerns.

For interested parties, an RCAC geologist can perform a free comprehensive well assessment, which includes inspecting for potential well vulnerabilities, potential contamination sources near the well, and to ensure the well is constructed according to the state well construction standards. The assessment provides well owners educational resources on water quality, potential contamination, water treatment options, and other additional resources to ensure their drinking water is safe.

Post well assessment, well owners who have their wells inspected will receive a completed well assessment report with recommendations of possible needed repairs. Included with the assessment, the RCAC will provide educational resources on the local area's hydrology and geology, and specific information regarding their well system. All private well information will be kept strictly confidential and will only be seen by the RCAC team. For more information about the program, to request a well assessment, or to become a partner organization, please contact Thi Pham, Project Coordinator of IWP at (916) 447 – 2854, extension 1038 or at [tpham@rcac.org](mailto:tpham@rcac.org).

Additional details on the program are available by visiting the [RCAC website](#). Download a well assessment request form [here](#).

*(Continued from Page 1—Growing a Partnerships for the East Carson River)*

After an informative lunch stop, folks continued rafting down the river. The trip concluded with contemplations on Native American uses within the valley and along the river; observations of historic mining, grazing, and weeds; the past proposed site of Watasheamu Dam; and the ruins of the Ruhenstroth Dam. As everyone pitched in to help pack up the rafts, there was a sense of shared experience – not just for successfully completing the trip – but for sustaining the effort to protect the East Fork of the Carson and its surrounding environments.

The AWG, CWSD, USFS and all of the partners look forward to working together to ensure the East Fork and its hot springs are enjoyed and valued by all visitors for years to come. Balanced management ideas from the broader public who utilize this area are most welcome. To get involved with the AWG or for more information, call 530-694-2327 or visit [www.alpinewatershedgroup.org](http://www.alpinewatershedgroup.org).

17<sup>th</sup> Annual

### Markleeville Creek Day Saturday, September 10<sup>th</sup>, 2016



#### Join the Alpine Watershed Group for our annual stream restoration work day!

Projects include stream bank stabilization, willow planting, invasive weed removal, storm drain stenciling, and more. Participants are invited to a celebration at the end of the day.

For more information, contact  
Hannah Drummond:  
[awg.hannahd@gmail.com](mailto:awg.hannahd@gmail.com)  
or call (530) 694-2327  
[alpinewatershedgroup.org](http://alpinewatershedgroup.org)



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Rob Fellows  
Thi Pham

**August 2, 2016, 5:00 - 8:00pm:**  
**National Night Out** -Mills Park, Carson City;  
Check out the Flood Awareness Booth.

**August 7, 2016, 1:00 - 4pm:**  
**Genoa Sweet Sippin Sundays CVTA**  
benefit \$12 per person For more information,  
see <http://carsonvalleytrails.org/>

**August 13, 2016, 10:00am - 5:00pm:**  
**Ag Day in Douglas County**, Fun Event for  
the entire family at Lampe Park. Contact  
Woody Worthington 775.230.1402

**September 10, 2016, ~9:00am - 2:00pm:**  
**Markleeville Creek Day – Annual Stream**  
**Restoration Day.** For more information,  
Contact awg.hannahd@gmail.com or call  
530.694.2327

**August 20, 2016, 8:00 - 9:00am:**  
**Muscle Powered's Trash Mob in Carson**  
**City** Muscle Powered [Facebook Book](#) or email  
[RandallGaa@gmail.com](mailto:RandallGaa@gmail.com)

**September 17, 2016**  
**CVTA Hike for Health at the Nature**  
**Conservancy's River Fork Ranch:** For more  
information, see <http://carsonvalleytrails.org/>

**September 17, 2016, 8:00 - 9:00 am:**  
**Muscle Powered's Trash Mob in Carson City**  
Muscle Powered [Facebook Book](#) or email  
[RandallGaa@gmail.com](mailto:RandallGaa@gmail.com)

**October 8-9, 2016, 10:00 - 4:00 pm:**  
**2016 Alpine Aspen Festival:** For more  
information, Contact awg.gavinf@gmail.com or  
call 530-694-2327

**October 15, 2016, 8:00 - 9:00 am:**  
**Muscle Powered's Trash Mob in Carson City**  
Muscle Powered [Facebook Book](#) or email  
[RandallGaa@gmail.com](mailto:RandallGaa@gmail.com)

**Save the Date for these Upcoming Events**

**November 14 - 19, 2016: Flood Awareness**  
**Week**

**January 26 - 28, 2017: Eagles and Ag in**  
**Douglas County**



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**CARSON WATER SUBCONSERVANCY DISTRICT**  
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Carson City, NV 89701

