

The Flow

Delivering News from the Carson River Watershed Community

Summer 2014

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Ranch Partnership to Protect the West Fork

By Shane Fryer, Alpine Watershed Group

Through the Rivers and Ranches Project, Alpine Watershed Group and Ace Hereford Ranch are coordinating efforts to protect the water quality of the West Fork of the Carson River in Alpine County, California. The project will implement ranch improvements to reduce sediment and nutrient input into the river. The project is funded by the Agricultural Water Quality Grant Program under the State of California's Proposition 84 bond. The intent of the Rivers and Ranches Project is to aid landowners in implementing management practices which reduce the discharge of pollutants from grazing operations into surface waters.



Ace Hereford Ranch in Alpine County, California.

Work on the Ace Hereford Ranch will include a variety of practices. Wetland and riparian enhancements will trap and filter nutrients. Improvements to fences and ditches will help to better utilize pastures and protect sensitive environments. Repairs to wells will provide off-site water for cattle and limit the need to access the river. Tree and shrub plantings will reduce erosion and trap nutrients. Water quality will be monitored before, during, and after implementation of the management practices to determine which are the most effective.



Participants on River and Ranches Tour.

Ranching is an integral part of Alpine County. A long-term focus on land stewardship and grazing practices will support a secure food supply, protect the water quality of our rivers, and preserve the open space we cherish. Partners for this Rivers and Ranches Project include the Sierra Business Council, Lahontan Regional Water Quality Control Board, U.C. Davis, and the Natural Resources Conservation Service.

Please contact the Alpine Watershed Group at 530-694-2327 for more information about this program and other watershed group activities, or visit our website www.alpinewatershedgroup.org.

Clear Creek Trail Opening

By Jeremy Vican, Carson Valley Trails Association

Carson Valley Trails Association, in partnership with the US Forest Service, Douglas County, Carson City, The Nature Conservancy, Clear Creek Tahoe, private landowners, Nevada State Parks, and the Nevada Conservation Corps recently built the new Clear Creek Trail, which opened in April. The trail is about 10.5 miles long and is open to hikers, mountain bikers, and equestrians. Trail access begins at Jacks Valley Trailhead, located next to Jacks Valley Elementary School on Jacks Valley Road just south of Carson City in Douglas County. There is plenty of parking room for autos and horse trailers at this location. A secondary access point suitable for autos only is available 0.3 miles further west of the school along Jacks Valley Road where the trail crosses the road.

The trail winds its way for the first three miles through typical low elevation sagebrush and bitterbrush, passing by some rocky crags. Much of the trail then travels through private property surrounded mostly by Jeffrey Pine and white fir. The trail leads to a destination at Knob Point, seven miles from the trailhead with views of the Carson Valley in sight most of this length. The trail then continues another few miles, crossing the only permanent water along the entire trail at the south and north forks of Clear Creek. The trail currently ends about 1,000 feet shy of Highway 50. There is no trail access or parking from this end due to private roads and other land ownerships, so trail users must return on the trail to the Jacks Valley Trailhead.



View of the Carson Valley from the Clear Creek trail.

About half of this trail travels through private lands. Cooperative partnerships allow the trail to traverse comfortably through several different private and public landowners through trail easements and agreements. For this reason, trail users must be respectful of all private lands by using the designated trail only and staying off all cross roads. Trail access is only permitted from the two access points near Jacks Valley Elementary School.

The trail is well signed along its length and the trail grade is modest at only 5% on average. The elevation ranges between 4,950 feet at Jacks Valley Trailhead to a high point of 6,200 feet at the south fork crossing of Clear Creek. It can be quite warm during the summer months, particularly the first few miles where shade is very limited. More detailed trail information, along with pictures and a trail map, can be found at: <http://carsonvalleytrails.org/Trails-ClearCreek.html>.

The Carson Valley Trails Association is a non-profit, volunteer-based organization working with partners to provide access to public lands through a recreational trail system for present and future generations to enjoy. To learn more, visit <http://carsonvalleytrails.org/>.



A Look Back at the 2014 CRC Forum and Watershed Tour

By Debbie Neddenriep, Carson Water Subconservancy District

On April 3, 2014, Carson River Coalition (CRC) members gathered for a forum at Ruvo Hall at the Governor's Mansion. Various studies, programs, and projects were presented at the forum addressing floodplain protection, water quality, habitat, environmental education, invasive species, and water supply. Several display tables outlined work done on the river by various groups and also described education and outreach conducted throughout the watershed. By the end of the day, the 80+ attendees, a mixture of resource professionals, environmental educators, policy makers, and interested citizens, came away with a better understanding of the Carson River Watershed.

On June 11-12, 2014, the CWSD annual "Get on the Bus" watershed tour provided an overview of the geographic, geologic, and hydrologic picture of the Carson River Watershed. This tour highlights the importance of cooperation in balancing the water needs of agricultural, municipal, and environmental users. It also underscores the benefits of preserving the floodplain. Traveling through the entire watershed allowed 54 attendees to see on-the-ground efforts to combat challenges such as invasive species, riverbank stabilization, and recreation management. The tour also showcases the successful programs operated by the Alpine Watershed Group, Carson City's Open Space initiative, and River Wrangler's environmental education programs for youth, to name a few.



Bus Tour participants crossing bridge to the pumphouse at Lahontan Reservoir.

Thank you to the 30 speakers who took the time to discuss their projects and programs throughout the watershed. We also want to thank the refreshment and luncheon sponsors: Douglas County, AMEC, Cardno Entrix, Resource Concepts, Trader Joes, and Costco. This year's bus tour, which offers CEU credit to teachers, AICP credit to planners, and PDH credit to Engineers, filled up three weeks in advance, so remember to sign up early next year!

Farewell to Kathi Lawrence, CWSD Senior Watershed Clerk

By Ed James, Carson Water Subconservancy District

Senior Watershed Clerk, Kathi Lawrence, recently resigned from CWSD. Kathi's cheerful, calming presence in the office will be greatly missed. She was extremely organized in managing many grant agreements CWSD has obtained over the years. Although she was only employed with CWSD for three and a half years, her organizational skills and attention to detail helped keep all the various state and federal grants in order. As Kathi is irreplaceable, CWSD will not be filling her position, and her duties will be taken on by other staff members. CWSD staff warmly wishes Kathi luck in pursuing her goals into the future!



Invasive Species and Motorized Trails

By Courtney Walker, Carson Water Subconservancy District

Invasive species, in particular noxious weeds, are a big problem in the vast, open landscapes of Nevada and the Carson River Watershed. Invasive species are plants, animals, and microorganisms that are not native to a particular area. They can cause many issues in our ecosystems, as they spread aggressively, crowd out natives, and consume resources at a faster pace. These species are spread short distances by wind, rain, animals, soil, and water. Long distance travel of invasive species occurs by humans through vehicle transportation and recreation. Once introduced into a new area, aggressive species are free to expand their range as they have a competitive advantage over native plants and animals due to the lack of natural enemies.



Invasive Species are often unintentionally spread by motorized trail users. Copyright 2005, RiderPlanet, LLC



Rumble Pit at Ash Canyon, Carson City, NV
Photo by Courtney Walker

Invasive species have spread into many of our beautiful open space areas, and the use of off-road vehicles on miles of motorized trails in our watershed may unknowingly be one of the causes for their prevalence. In early 2014, the Carson Water Subconservancy District received grant funding through the Nevada State Parks Recreational Trails program to install invasive species signage at motorized trailheads within the Carson River Watershed. Signage will be placed on open space land in Carson City, NV, and at the Soda Lakes Recreational Area in Churchill County outside of Fallon, NV. The signs will educate motorized trail users about their potential impact to these important recreational areas and how to act responsibly to avoid the spread of weeds.

In addition to the signage, three rumble pits have been installed at the entrance of Ash Canyon, Voltaire Canyon, and Carson River Canyon in Carson City. The rumble pits contain 2-4" gravel and were installed the entire width of the trail entrance, approximately 50' long and 8" deep. Trail users will drive over these rumble pits as they enter and leave the trail system, and the gravel will remove sediment and any invasive weed seeds from vehicle tires. We will be monitoring these rumble pits throughout this season and next, to determine if any unwanted plant growth occurs. If we are successful, we plan to duplicate the rumble pits at other motorized trailheads in the watershed to help reduce the spread of noxious weeds in our motorized trail areas. We will let you what we find!

If you have any questions regarding invasive species and motorized trails, please contact Courtney Walker at courtney@cwsd.org or 775-887-9005.

STOP INVASIVE SPECIES IN YOUR TRACKS.

Help Prevent
The Spread Of
Invasive Plants
And Animals.

- Arrive with clean gear.
- Burn local or certified firewood.
- Use local or weed-free hay.
- Stay on the trails.
- Before leaving, remove mud and seeds.



Low Flows...High Energy

By Linda Conlin, River Wranglers, Environmental Educator

The Carson River flow is slowing to a trickle, drying up in this extended drought, promising only a fraction of the normal water allotments. Despite low flows, River Wranglers energy was high as teens and elementary students celebrated the culminating event for the 2013-14 school year with the Carson River Festival on Saturday, June 21 in Old Town Dayton. Held in conjunction with the Dayton Chamber of Commerce- Oodles of Noodles Cook-off, the Carson River Festival provides a platform for teens from Dayton and Silver Stage High Schools to acquaint the public with our Carson River Watershed.

Table demonstrations, activities and hands-on learning included mammals, fish, reptiles, amphibians, birds, water pollution, floodplain protection, Leave No Trace, pollinators, and the Wonders of Water. Twenty-three teens volunteered 218 hours which included their job shadow, event preparation, and the day-long festival. Special thanks to their great mentors. Several hundred people participated in the Carson River Festival and had their passports stamped to earn a Nevada Division of Forestry plant, sponsored by Carson Water Subconservancy and Dayton Valley Conservation District.



Keren, Alexis, and Ty introduce the public to Carson River Watershed mammals.

During the school year, you will find River Wranglers activities occurring at various locations along the river and throughout the watershed: The Nature

Conservancy's River Fork Ranch, Baily's Pond, Ambrose Park, Quill Canyon, Ft. Churchill State Historic Park, Rolling A Ranch, and Rambling River Ranch. Ten elementary schools participated in Conserve Carson River Work Days led by students from six area high schools. Five schools participated in Trout in the Classroom, a program supported by Nevada Department of Wildlife, and released trout fry raised in their classrooms from fertilized eggs. Thirteen schools participated in the Carson River History Trunk activity and learned about historic issues and impacts concerning the Carson River.

Though the water forecast is bleak, kids in the Carson River watershed are excited and energized as they learn about the Carson River and reducing their impacts. Consider volunteering with River Wranglers and help expand our outreach. Contact us by emailing nevadariverwranglers@yahoo.com.



Makayla teaches Leave No Trace to Carson River Festival attendees on June 21, 2014.

River Wranglers appreciates the talented resource professionals that mentored these students.

Blain Merrell, NDOW Mason Valley Fish Hatchery
 Mary Kay Wagner, Nevada Division of Environmental Protection
 Brenda Hunt, Carson Water Subconservancy District
 Rich Wilkinson, Dayton Valley Conservation District
 Rob Holley, Owner of Holley Family Farm
 Matt Duncan, Offishal Aquarium, Reno
 Debbie Gilmore, Mason Valley Beekeepers
 Susan Sawyer, US Fish and Wildlife Service, Stillwater
 Kathy Baily, US Fish and Wildlife volunteer
 Bill Conlin, USDA Natural Resources Conservation Service

Health Advisory Signage at the Carson River Mercury Site

By Alexi Lanza, Nevada Division of Environmental Protection

Be on the look out for “Health Advisory” signs recently placed at several public access points within the Carson River system and Washoe Lake area. This signage placed by Nevada’s Division of Environmental Protection (NDEP) – Bureau of Corrective Actions (BCA) in cooperation with US EPA Region 9 office, will inform people of possible bioaccumulation of mercury in fish, prevent fish consumption, and promote the practice of “catch and release” for fish caught in these areas. Mercury can cause permanent damage to the nervous system and serious disabilities for developing fetuses and children. Catch and release of fish, swimming, and recreation are safe.

The area of mercury contamination concern along the Carson River begins near Morgan Mill Road in the New Empire section of Carson City, continues along the river through Lyon County and throughout Lahontan Reservoir, and ends at the river’s terminus in the Carson Sink.

Outreach efforts are continuing to raise awareness about the effects of historic mercury contamination within the Carson River Mercury Superfund Site (CRMS). Up to 236 ore-processing mills were located in Washoe Valley and along the Carson River and three of its tributaries (Six Mile Canyon, Seven Mile Canyon, and Gold Canyon) during the mid to late 1800’s gold and silver rush near Virginia City, Nevada. Many of these mills processed ore to recover gold and silver using mercury amalgamation until the turn of the century. This recovery process resulted in the release of an estimated 14,000,000 pounds of elemental mercury into the immediate environment. Over 100 years of weathering and erosion have redistributed this mercury contamination throughout the Carson River and its flood plains and into Steamboat Creek from Washoe Lake.



Mercury Health Advisory Signs at Morgan Mill
Photo by Courtney Walker

Mercury health advisory signs were made in both English and Spanish and contain Quick Response (QR) codes and web links to the EPA’s mercury information bilingual webpages and a QR code and web link to the [Nevada Department of Wildlife \(NDOW\) “Fish Consumption Recommendations”](http://www.ndow.org/fish-safety/mercury).

Additional information about the CRMS is available on [NDEP’s website](http://www.ndep.gov) and on the [EPA website](http://www.epa.gov) related to the health risk assessment and other pertinent site specific studies about mercury contamination in the area.

If you have any questions about the mercury contamination “Health Advisory Signs” or the CRMS site, please contact [Alexi Lanza](mailto:Alexi.Lanza@ndep.gov), P.E. or (775) 687-9547.

Russian Knapweed, a Noxious Weed in the Carson River Watershed

By JoAnne Skelly, University of Nevada Cooperative Extension

This article was reprinted with permission from JoAnne Skelly and the University of Nevada Cooperative Extension. June is Invasive Species Awareness Month in the Carson River Watershed.

Nobody likes weeds, especially when they can kill horses or other animals, destroy a land's economic or recreational value, or devastate the environment. I'm talking particularly about noxious weeds. The term "noxious weed" is defined in Nevada state law as any species of plant, which is, or is likely to be, detrimental or destructive and difficult to control or eradicate. Russian knapweed (RKW) is a noxious weed that can kill horses, outgrow native or beneficial vegetation, reduce property values, and destroy valuable habitat.

Although RKW has pretty flowers, it can overrun a home landscape or pasture within a year if left unchecked. These problem plants emerge in early spring. They are gray-green in color with hairy surfaces and wavy edges. The stems elongate from May to June and then flower buds develop blooming from late June to October with pink to purple flowers about ¼ inches to ½ inches in diameter. When a mature plant is pulled out of the soil, the roots are black in color.



Russian Knapweed, in flowering stage. Photo courtesy of Steve Dewey, Utah State University, www.bugwood.org

RKW can take several years to control because of its extensive root system. Keys to controlling RKW include stressing the plant to deplete the stored energy in the roots, preventing new seed production, controlling plant spread via root pieces or root bud growth, and establishing and maintaining competing vegetation. No one single control method works.

Hand pulling, mowing, and tilling may successfully control RKW if they are done frequently and consistently over several years. Herbicide application also requires vigilance and persistence. Ultimately, long-term success is dependent upon establishing competitive vegetation. The effectiveness of mowing, tilling, reseeding or planting new desirable plants increases after vegetative suppression of knapweed with herbicides.

Before spraying, remove last year's dead foliage to allow chemicals to reach the underlying new growth of the weed. Bag the dead parts to eliminate any remaining seed and to avoid scattering seed to uninfested areas. When selecting an herbicide, make sure it will not prevent establishment of desirable vegetation. After spraying, do not remove sprayed plants until the plants wither and turn brown. This may take weeks to become evident. It is essential to reseed or transplant desirable plants into the area once the infestation has been reduced. It is then important to maintain seedling vigor with proper fertilization and irrigation.

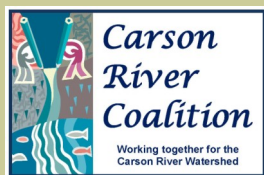
By law, it is a property owner's responsibility "to cut, destroy or eradicate all weeds declared noxious...before such weeds propagate and spread..." (Nevada Revised Statute 555.150). For more information on managing RKW, see <http://www.unce.unr.edu/publications/files/ho/2005/fs0551.pdf>.

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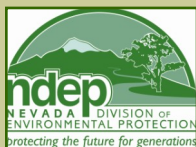
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UPCOMING EVENTS

Family Fun Saturday: Water in Nevada
July 12, 10am—3pm, Nevada State Museum,
Carson City. Learn about the Carson City
watershed and how water is used in our state.
dstevenson@nevadaculture.org.

Markleeville Creek Day
August 23, 9am, Markleeville Library Park,
Hosted by Alpine Watershed Group. Projects
will include invasive weed removal, stream bank
stabilization, and willow planting.
www.alpinewatershedgroup.org

**Behind-the-Scenes Tours in Natural
History by George Baumgardner, PhD**
August 29, 10am and 1:30pm, Nevada State
Museum, Carson City. Featuring Plants and Animals
of Nevada dstevenson@nevadaculture.org.

Alpine Aspen Festival
September 25-28, Alpine County, California.
Catch the fall colors—no limit! Daily trips,
workshops on fishing, photos and more!
www.alpinewatershedgroup.org

**Nevada Water Resources Association Fall
Symposium**
October 7-9, Reno/Fernley, Nevada.
<http://www.nvwra.org/2014-fall-symposium/>

**CWSD has been working on two
websites, that are going live
soon!**

CWSD has a new website—same
address, fresh look:

www.cwsd.org

Nevada Floods. Are You Prepared?
November 10-15, 2014 is Nevada
Flood Awareness Week
For a plethora of information and
resources, including preparedness tips
and flood chronology, visit:

www.NevadaFloods.org

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