

WINTER 2022/2023

Watershed Connections

Delivering News to the Carson River Watershed Community





Photo of Lower Clear Creek Courtesy of Brenda Hunt

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CWSD works to promote cooperative action with communities to protect the Carson River Watershed.

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UPCOMING EVENTS

Nevada State Parks

parks.nv.gov/events

Carson City Open Space

[Parks, Recreation, and Open Space | Carson City](#)

Muscle Powered

[Events Calendar | Muscle Powered](#)

Carson Valley Trails Association

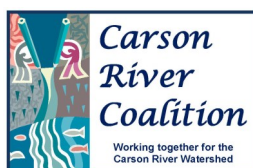
[Events Calendar | CVTA](#)

Alpine Watershed Group

[Events Calendar | Alpine Watershed Group](#)

Friends of Hope Valley

[Events Calendar | Friends of Hope Valley](#)



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Cover Photo: Lower Clear Creek, Courtesy of Brenda Hunt

Great Snowpack, Triple-Dip La Niña: What Does It Mean for This Winter?

By Chris Smallcomb, Meteorologist-in-Charge, National Weather Service, Reno

Winter sure has been off to an active start, with multiple rounds of wet Pacific storms coupled with colder-than-normal temperatures. In fact, the October 22 through December 12 period at our Minden, Nev. observation site was the coldest since 1972! Just check your utility bill. This pattern has yielded a well-above-average snowpack in the Carson River Basin. We're running a month ahead of **normal** for snow-water content as of December 13—very welcoming news!

So, what does the outlook have in store? I've been told at recent pre-winter meetings to say anything other than "it's going to be 50/50."

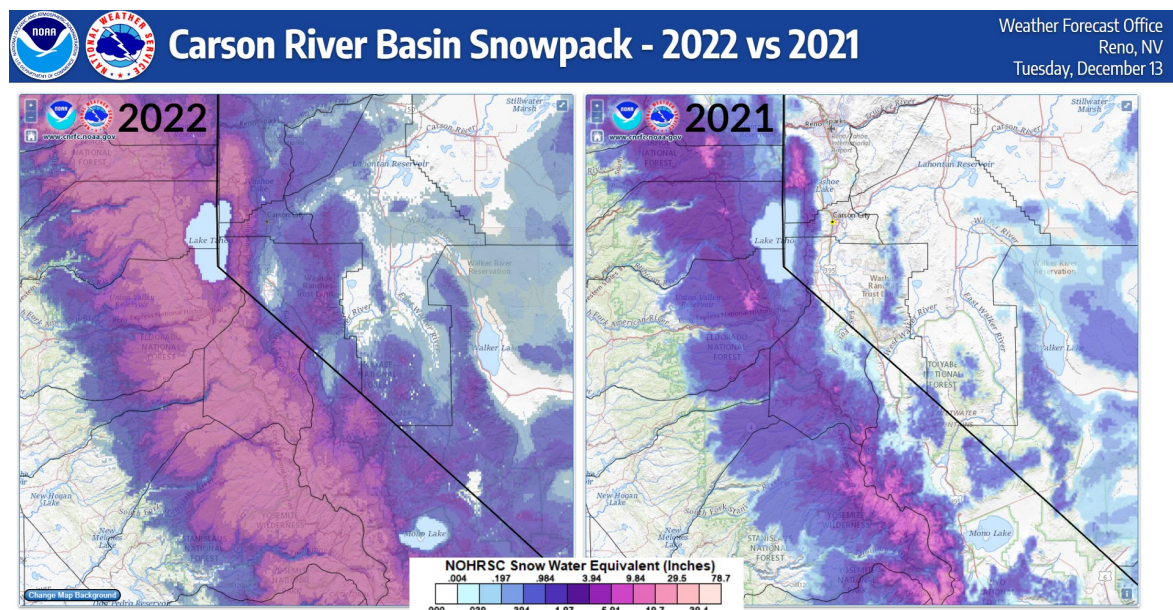
Well, how about "33/33/34"? Usually the room goes quiet at that point...

We are going to be in a La Niña situation in the Pacific Ocean, where typically the storm track heads further north, sending more frequent storms into the Pacific Northwest and fewer storms into the southwest U.S. For us in the Carson River Basin, the historical scatterplots show we've had wet La Niñas and we've had dry ones. So, any scenario from a wet to a normal to a dry winter is feasible. Basically a 33-percent chance of each!

There is a statistical quirk where a number of our large

winter flood events on the Truckee and Carson Rivers have occurred in La Niña winters, but we don't really know why that is. With a healthy snowpack on the ground, we're always mindful to watch for signals of large and warm atmospheric rivers that can trigger flooding in the region. Fortunately, science and modeling have advanced where we can often see these coming five or more days in advance.

Bottom line—be prepared for anything. With a solid snowpack on the ground now, things are looking optimistic for water supply in 2023, but it's **far from a done deal**. Remember last winter where the atmosphere,



NOAA NOHRSC Snowpack Analysis comparing December 13th for both 2022 and 2021.

after a great start, just shut down after New Years!?! Such a snowpack also sets the stage for flooding if we were to have a series of major, warm atmospheric rivers. Rest assured that your friends at the National Weather Service will keep you aware of those possible scenarios.

It's Time to Kill Your Lawn!

By Shane Fryer, CWSD Watershed Program Specialist

Watching your garden mature, then picking that first perfectly ripe tomato, plucking those succulent blackberries, and digging up aromatic garlic all are incredibly rewarding. Then you get to eat them! Like many, I derive considerable joy from my garden. I find it reassuring to know exactly how I raise my plants and what amendments or treatments I use. I build my own compost and spend hours washing off aphids. I even build little collars around my chilies to keep cutworms at bay.

Unfortunately, I still fail to cultivate the same sentiment for my lawn. Ever been dandelion-shamed? It's like that god-awful tie I feel obligated to wear. Honestly, I only want my lawn to be alive and preferably not embarrassing.

I love Nevada's rolling sagebrush hills. Slopes of blooming desert peach and walking among the Brown's peonies brings me deep joy. Spiney hop sage, globe mallow and buckwheat are beautiful. Lawns remind me of my childhood in Kentucky. However, in Nevada they feel out of place and, with the need to conserve water, out of time. In the past it's been a lawn care cycle of weed and feed, water and cut. Now all that is changing.

It's time to break this grievous cycle. It's time to kill your lawn. A lawn is a pretty little green skirt you put around your house. It

yard, or be a servant to bluegrass and fescue?

Start small by looking for areas where your yard is driest and often weediest. First step is to give up on it, yep! If you have weeds, then you have weed seeds—in fact, millions of weed seeds. Hoary cress, a common weed, can produce between 1,200 to 4,800 seeds, and all those seeds will never, ever go away. Your best option is to hide



A "river" of rock can be pleasing to the eye and help reduce lawn space.

them from the sun, just like a dirty sock kicked under the bed. Like most seeds, weed seeds need sunlight and warmth to germinate.

It's going to look ugly for a bit, but go ahead and chalk out an area you want to reclaim. Then suffocate the area under staked-down cardboard. After a few weeks of cutting off the seeds' solar life support, cover with weed cloth right on top of the cardboard. Don't worry: The cardboard will compost in place. Double up if the weed cloth is thin.

Now it's time to reclaim your yard and turn it into a space where you actually want to spend time. Develop sitting areas for entertaining, cocktails, and appetizers. Add trees to create shady areas to play. Build an outdoor studio or just a place to relax in a hammock. Front yards are often sunny, and great places for beautiful flower beds, gardens, or statuary. Yeah, I know you've been wanting a giant scrap-metal triceratops for all the neighbors to envy.

It's time to let the creative juices flow. What do you want to see there? Rock and wood chips look great with interspersed planting of your favorite flowers, shrubs or trees. Just cut a hole in the weed cloth and plant in the ground. Mulch or rock will look great

"Lawns are the most-grown crop in the U.S.—and there's not one that anyone can eat; their primary purpose is to make us look and feel good about ourselves."

Krystal D'Costa—*Scientific American*, May 3, 2017

holds down mud and dust, but beyond that it doesn't have much utility. You pay to feed it, you pay to water it, and you pay to poison it year after year after year.

You ready? Okay, grass monocultures are hard. They show every little imperfection. It is like they were designed to suck up time and money. Do you want to reap the rewards of your own custom

(YARD, Continued on page 4)

(YARD, Continued from page 3)

around your new plants. It is also simple to convert sprinkler heads to drip lines; this will ease watering and increase savings. Use sand and cobblestone for that xeriscape look. Dig shallow depressions to capture rain and runoff to help water thirsty plants like trees. Use rock piles to create interesting topography, though beware—mounds are harder to water. Grass isn't evil, but consider maintaining only small areas of lawn that are easy to irrigate. This decreases water consumption, and smaller plots of grass are easier to manage without chemicals.

Your front yard is your home: It can have utility, be a palette for your creativity, AND provide wildlife habitat. Think of all the pollinators in your beautiful butterfly garden, quail in your bushes, and songbirds in your trees. Introduce the native plants you love into your yard, tying it into the natural environment around you.

Congratulations, you just dealt with your weedy lawn without a single chemical, used stormwater as a resource, and captured potentially polluted runoff. All this protects our river, conserves water and creates habitat! Muahahaha! Addictive, isn't it? Now look around: Where is the next piece of your lawn you can't bear? Wouldn't a little gravel sitting area be nice? I love eating outside, but the backyard is too cool in the fall. A little hidden brunch nook would be sweet. A cherry tree could be the start of your own little orchard! Remember that scrap-metal triceratops? Watch out—you could become a lawn serial killer!

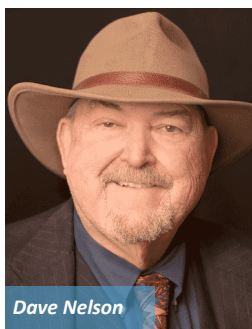
Need some "KILLER" lawn ideas? Visit these websites to get started:

[The National Wildlife Federation](#)

[Homegrown National Park](#)

[Sierra Nevada Yard & Garden](#)

Board Member Spotlight—Dave Nelson



Dave Nelson

After working his way through college at a variety of jobs, **Dave Nelson** graduated from California State University, Pomona with a B.S. in Business Administration. Upon graduation Dave moved into real estate, starting in real estate sales, then managing a real estate office and becoming a real estate appraiser. He eventually earned a Class 3

designation with the state of California. Dave then became a regional loan underwriter in southern California and later held a national director of claims position for a mortgage insurance company for more than four years.

Dave moved to Nevada in 2003 and ran for Douglas County Commissioner in 2008. Although he did not win, in 2016 a group of supporters encouraged him to run again. He then won a commissioner's seat and served the public for four years.

He founded Nelson and Shizuru, Inc. and today remains its CEO.

Besides serving on the board for CWSD, Dave serves on the Douglas County Planning Commission.

Trail Organizations Expand Offerings

By Kelly Nicholas, CWSD Watershed Tech, AmeriCorps

Several new trails throughout the watershed and a new app give hikers, bikers and equestrians great incentives to start 2023 outside.

[Alpine Trail Association \(ATA\)](#) restoration on the Thornburg Canyon Trail created water diversions and drainages in the Tamarack Burn area to mitigate flash flooding. This summer, regular trail maintenance neglected during COVID was completed in the upper elevations. In the fall, the ATA cleared downed trees and repaired tread along the entire 7.5-mile trail. It is now in great condition for hiking and equestrian use.

The [Carson Valley Trail Association](#) completed the [Jacks Valley Loop](#), giving the Carson Valley a spectacular 21-mile trail feature that takes riders from Spooner Summit all the way into the Carson Valley. The loop adds an additional eight miles to the Clear Creek trail system. CVTA celebrated the expansion with a Trails Festival in October.

[Muscle Powered \(MP\)](#) had a highly productive work season in Carson City, including work on the Odyssey and Capital-to-Tahoe (C2T) Trails. The long-anticipated C2T route connects existing single track to the Tahoe Rim Trail, which has many users chomping at the bit.

(TRAILS, Continued on page 8)

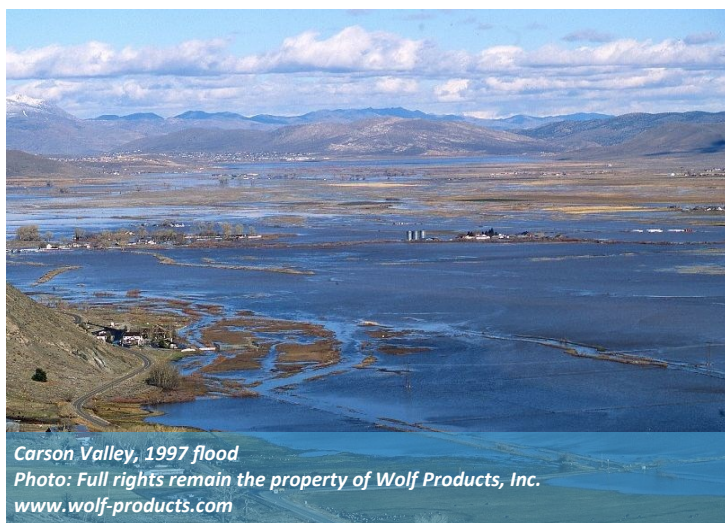
The 25th Anniversary of the 1997 Flood: Where Are We Now?

By Max Robinson, CWSD Water Resource Specialist 1

To perennial residents of the Carson River Watershed (CRW), the Flood of 1997 is a lucid, quarter-century-old memory that is still discussed today. In the 25 years since that perilous and costly holiday season, the watershed, as with much of the western U.S., has experienced a growth in population and a loss of understanding as to how the country's "driest state" could endure such a deluge. Like many natural disasters, flooding is best remembered when experienced firsthand. So, to keep with the season's traditions of reflection and resolution, I'd like to invite all members of our watershed, from longstanding to just arriving, to look back at the Flood of 1997 and revisit what occurred and how far we've come.

The Perfect Storm

The Flood of 1997 was one of the most devastating floods in recorded history within the watersheds of western Nevada. The story of the Flood of 1997 began in late



December 1996, when a storm originating from the Gulf of Alaska arrived in the Sierra Nevada Mountains and the surrounding valleys. This storm delivered an extensive snowpack to the region over four days, with an additional two-day snowfall occurring within a week. Shortly after the snow's arrival, an extremely warm tropical system originating in the central Pacific entered the Sierra Nevada

Mountains and provided torrential rains from the valley floors to above 10,000 feet in elevation. This rain event began on December 30, 1996 and persisted through January 3, 1997. The combination of storms resulted in intense flooding in what is referred to as a rain-on-snow



and highly-saturated-soils flood event. The abundant snowpack, compounded with rainfall, produced significant quantities of direct runoff as well as snowmelt runoff, producing a catastrophic flooding situation for the region and its residents.

In the Carson River system, flows from the East and West Forks into the Carson Valley were the highest on record. As flood waters progressed through Carson and Eagle Valleys toward Carson City, they were attenuated in the natural floodplain, the low-lying ground adjacent to the river. However, the amount of floodwater flowing through the system, combined with additional flows draining from the Carson Range into Eagle Valley and prior existing snow accumulation, were intense enough to cause flooding and record flows in the Carson City area. Throughout the entirety of the watershed, floodwaters destroyed six United States Geological Survey (USGS) river gauges and damaged 29 others. This resulted in inconsistent data from the flood event. However, at the USGS Fort Churchill gauge just above Lahontan Reservoir, the National Weather Service estimated flows to be 25,000 cubic feet per second (cfs), the highest on record. With the previous peak being 16,600 cfs (1986), the flood of 1997 had established itself in the history books of Nevada.

A Tale of Two Rivers

The impact created by the Flood of 1997 was vastly

different on the Carson River compared to its neighbor to the north, the Truckee River. The Federal Emergency Management Agency (FEMA) estimates that the costs of damages in Washoe County during the '97 flood was \$686,000,000 compared to the estimated \$29,076,372 accrued in damages by all counties along the Carson River.



Reno during the 1997 flood
Photo by Marilyn Newton—RGJ

The primary reason for this discrepancy is how each river is managed.

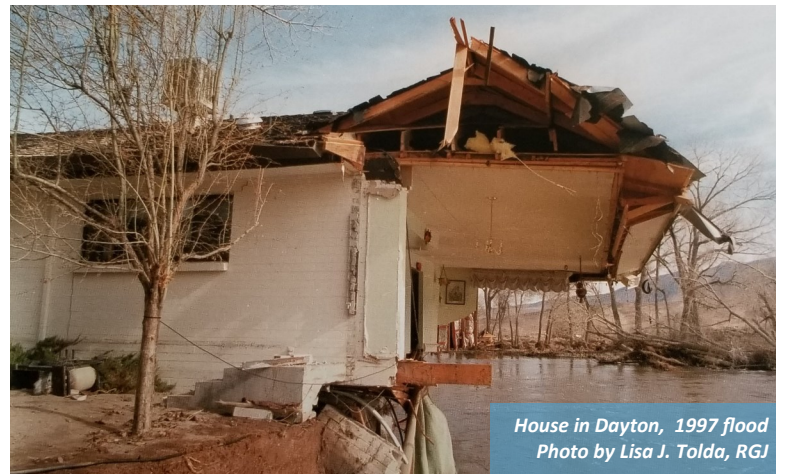
Residents of the Truckee River watershed depend on multiple upstream reservoirs to manage the flow rates of the river. This technique allows municipalities on the river to channelize the river and utilize the broad floodplains for development. However, this engineering-centric approach to river management isn't a failsafe against large flood events. By constricting the available space for floodwaters to flow, areas such as Reno can experience extensive inundation and damage. In 1997, floodwaters flowed over the highly structured riverbanks and into the city streets. This urbanization of the floodplain proved extremely costly in the end.

To the south, management of the Carson River takes a different approach. The upper watershed of the Carson lacks the upstream reservoirs seen on the Truckee, so those residents downstream are at the mercy of the natural dynamics of the river. However, by maintaining a more natural flow on the Carson, floodplains lower in the

watershed provide the space needed for water to flow into during flood events. The large agricultural presence in the Carson River watershed has resulted in much of the land around the river remaining undeveloped and instead used for crops or grazing. During the Flood of 1997, these large areas of undeveloped floodplain provided the much-needed space for floodwaters to flow. While areas like Carson City still experienced heavy flooding, had these open floodplains been developed, the outcome could have been much more dangerous and expensive.

The Future of Flood Management

With the Flood of 1997 fresh in their memories, stakeholders from throughout the Carson River watershed convened in 1998 to discuss the future of watershed management in the area. With many management approaches on display during the torrent of the previous year, the stakeholders of the Carson River wanted to seek a solution that steered clear of "serial engineering" and looked more toward management approaches that incorporated the river's natural processes, were cost effective, and were environmentally friendly. From this collaboration of perspectives grew the idea of the Integrated Watershed Planning Process (IWPP), an approach that focused on the management of watershed



House in Dayton, 1997 flood
Photo by Lisa J. Tolda, RGJ

(FLOOD, Continued on page 9)

Faith Valley Meadow Restore Gets Underway

Project by American Rivers with Humboldt-Toiyabe National Forest and with local partner

This summer, American Rivers completed the first phase of the Faith Valley Meadow Restoration Project after years of planning and partner collaboration. Located in the Humboldt-Toiyabe National Forest in California, this project aims to re-establish the hydrological connectivity between the West Fork Carson River and the surrounding meadow. In summer 2022, contractors installed a grade-control structure and 14 beaver dam analogs (BDAs), features that mimic natural beaver dams. The structures will raise the water table and capture sediment, aggrading the stream to reconnect the channel and the meadow floodplain. This season, the project piloted several types of BDAs, which will be monitored to inform the subsequent installation of additional features in 2023.

Alpine Watershed Group (AWG) Creek Day volunteers loved being able to help on one of the BDAs! The plan for 2023 is to install additional BDAs and make improvements to the dirt road adjacent to the meadow, enhancing recreation access while protecting meadow health. For more information, contact Julie Fair at jfair@americanrivers.org



Volunteers build a beaver dam analog (BDA).
Photo by Debbi Waldear courtesy of AWG

Upper Watershed Heals Post-Fire

By Kimra McAfee, AWG Executive Director



Creek Day 2022
Photo by Neon Agency

After last year's Tamarack Fire, opportunities to help heal the Upper Carson River watershed landscape and our community are more cherished than ever. Alpine Watershed Group (AWG) had the privilege of helping coordinate three large volunteer workdays this year: two tree planting workdays in the spring and Markleeville Creek Day on September 17—an annual restoration event since 2000. As usual, AWG volunteers came from near and far, including people living in the watershed in both California and Nevada, and folks in other watersheds who simply love the headwaters in Alpine County. Thank you to everyone who helped AWG in 2022! Here's what we accomplished together:

Markleeville Creek Day 2022

- ◆ 52 volunteers worked at eight project sites
- ◆ 72 bags of trash removed along a one-mile stretch of riparian habitat and 14 miles of highway corridor
- ◆ 25 bags of invasive weeds removed from one-half acre of meadow habitat in Grover Hot Springs State Park
- ◆ 1 beaver dam analog built in Faith Valley
- ◆ 102 willow stakes installed along eroding banksides in Hope Valley
- ◆ Inspired others through the [CWSD Watershed Moment: Engage in Your Watershed](#)

April 9 and May 1 Tree Planting

- ◆ 112 volunteers
- ◆ Three project sites on US Forest Service land: Thornburg Canyon, off Pleasant Valley Road, and near Grover Hot Springs meadow
- ◆ More than 4,300 trees planted

Please join us to celebrate this volunteerism at the next AWG meeting on **Tuesday, January 17, 5:30 p.m.** at Turtle Rock Park or via Zoom. Stay tuned via our [website](#) and [newsletter](#)!

Douglas High Students Put LID Practices to Work

By Courtney Walker, Stormwater Program Manager, Douglas Co. Public Works



Douglas High students work together to build a rain garden.
Photo by Courtney Walker

Douglas County, with partner support, is conducting a non-point source stormwater management outreach-and-implementation project focusing on low-impact development (LID) practices and fertilizer-use management. Area residents and Douglas High School students and staff are critical project partners. The project's catalyst is a large algae bloom in the East Fork of the Carson River where the storm-drain system outlet discharges into the river. The area's land use is primarily residential and includes the high school's large turf fields. Pre-project water-quality sampling of the storm drains revealed phosphorus and nitrogen within the system. The stormwater system drains from Douglas High's fields and local residential lawns directly into the East Fork Carson River, with no buffer to filter out sediment or nutrients.

In 2022, students helped design and implement a LID project intended to filter urban runoff prior to its discharge into the storm-drain system. Water-quality education accompanied these on-the-ground measures. Students received relevant

classroom instruction, marked storm drains throughout the neighborhood with "No Dumping, Drains to River," sampled water quality at the drop inlets, and conducted neighborhood outreach. Multiple classes were involved, the engineering class developed the LID design plans, and the geoscience class provided plant selection and soil amendment suggestions. The geoscience class also marked storm drains and conducted water-quality sampling. The English class created outreach material and distributed it to the school and community.

Conservation-landscaping practices and storm-drain awareness are being promoted throughout the Westwood neighborhood. Municipal and school maintenance staff are improving storm-drain cleaning and fertilizer use on the school grounds.

Water-quality sampling of the storm drains is ongoing to monitor nitrogen, phosphorus and algae. We want to know if the LID implementation, strategic fertilizer application by the residents and school maintenance staff, and improved neighborhood awareness results in decreased nitrogen and phosphorus levels and a reduction in the algae bloom. The project has been very successful to date, and Douglas County Stormwater Division is excited to potentially pursue another round of funding to continue the on-the-ground educational opportunity and positive work!



A completed rain garden includes native plants. Photo by Courtney Walker

(TRAILS, Continued from page 4)

"It's great to see the level of excitement in the community over this amazing piece of trail," said Chelsea Kincheloe, Muscle Powered board president. They emphasized users should stay clear of the trail so crews can complete the remaining two miles in time for a National Trails Day grand opening in June. The Odyssey Trail offers a more gradual west-side climb to Prison Hill's ridge than the original steep, washed-out road. Odyssey work will continue throughout 2023. Public comment and input for the proposed Centennial Trail system on the north-east side of Carson City is expected to begin January 2023.

The [Nevada Division of Outdoor Recreation \(NDOR\)](#) and its partners launched [Nevada Trail Finder](#) this fall. The app, a "one-stop shop" for trails statewide, connects to current trail information and web-based interactive maps. NDOR encourages members of the public to submit trail information via the Contact page on the [Nevada Trail Finder website](#).

Max Robinson Joins CWSD

Max Robinson started his position as a Water Resource Specialist I in 2022. Before joining the CWSD team, Max enjoyed a rewarding career in the private sector as a hydrogeologist and groundwater modeler working in the Coastal Plain region of Eastern North Carolina, where he gained valuable experience in everything from well drilling and groundwater sampling to aquifer modeling and permitting. During the summer, Max would travel with the North Carolina Geology Field Course to the Southwest to teach geological field mapping and where he developed a love for the exposed and beautiful landscapes of the American West. Max holds Bachelors of Science in Kinesiology and Geological Sciences from Truman State University and East Carolina University, respectively.



Max grew up in the Ozark Mountains of Missouri , where he developed a deep connection to the outdoors. He and his partner, Hallie, moved to Nevada in 2021 via Flagstaff, Ariz., where they met while Max was pursuing his other life passion, mountain biking.

(FLOOD, Continued from page 6)



Carson Valley, 1997 flood
Photo: Full rights remain the property of Wolf Products, Inc.
www.wolf-products.com

resources long-term and addressed the diverse needs and concerns of all stakeholders. Carson Water Subconservancy District (CWSD) was asked to serve as the lead agency for watershed planning and management in the Carson River Basin and serve as coordinator for the newly formed watershed-wide stakeholder group, the Carson River Coalition (CRC). The CRC would serve as a steering committee for the IWPP.

Participants in the CRC include private individuals; local, state and federal agencies; tribal governments; and citizen-driven groups. Since its conception, the CRC has established a variety of working groups to address specific watershed issues and developed a Carson River Watershed vision statement and guiding principles, which were adopted by five counties and approximately 20 agencies and organizations within the watershed. These ideas are the backbone of the later-developed 2007 Carson River Watershed Adaptive Stewardship plan prepared by CWSD.

With a new vision from the Carson River Conference and a full-time staff, CWSD marched into the new millennium with purpose. Along with our dedicated CRC partners and residents, we've learned from the events of 25 years ago and developed a proactive and holistic watershed management approach. The '97 flood provided the catalyst needed to find ways to manage across both county and state lines so everyone in the watershed is represented and forward-thinking decisions can be made and carried out. Through CWSD's and each county's adoption of the Carson River Watershed Regional Floodplain Management Plan, the guidance of the CRC Floodplain Management Working Group, and the funding partnership with FEMA and NDEP, the integrated watershed planning and management process is still going strong. Twenty-five years after the 1997 flood, the risk of an extreme weather event still looms over the citizens of the Carson River Watershed, but with the diligent work performed by the collective efforts of the CRC stakeholders and CWSD, we are more knowledgeable and better prepared for the future.

CWSD FLOOD MILESTONES

- 1997** – A historic flooding event impacts the watersheds of western Nevada.
- 1998** – Carson River Conference convenes and begins a new course for the floodplain and watershed management in the Carson River Watershed. The Carson River Coalition (CRC) is formed.
- 2001** – CWSD successfully grants membership to Alpine Co., providing representation to all watershed counties; elevating CWSD to a bi-state agency; and making progress to holistically address flooding at the watershed scale.
- 2003** – CRC members surveyed and protection of the floodplain from development determined to be CRC’s main message.
- 2004** – CWSD hosts "Conserving Our Lifeline in the Desert Through Community Development and Floodplain Management," providing the basis for a Carson River Watershed Regional Floodplain Management Program.
- 2005** – CRC River Corridor Working Group (later the CRC Floodplain Management Working Group) forms.
- 2005** – CWSD and the Federal Emergency Management Agency (FEMA) enter into a Cooperating Technical Partner Agreement (CTP), allowing CWSD to leverage its revenue with FEMA CTP funding for flood management endeavors.
- 2007** – CWSD and the CRC develop the CRW Adaptive Stewardship Plan. Its completion met the Environmental Protection Agency’s (EPA) nine-element watershed plan requirements, allowing entities within the Carson River Watershed to better compete for EPA 319 grant funding.
- 2008** – CWSD and the CRC develop the Carson River Watershed Regional Floodplain Management Plan, which focuses on a “living-river” approach to floodplain management; all five Watershed counties along the river adopt it.
- 2011** – CRC partner University of Nevada Cooperative Extension (UNCE) publishes several flood risk and floodplain management public outreach brochures.
- 2012** – CWSD, Carson River counties, and state and federal agencies enter into a first-of-its-kind Risk MAP Charter Agreement with FEMA for Region 9. This agreement enables CWSD to work on flood-related issues on a watershed basis instead of county by county.
- 2013** – CWSD and the CRC update the Carson River Watershed Regional Floodplain Management Plan.
- 2015** – CRC partner UNCE publishes Floodplain Protection Inventory for the Carson River, Special Publication 15-05 , providing a baseline map of CRW protected floodplain.
- 2015** – CWSD and the CRC host a Watershed Forum, focusing on floodplain management and watershed-wide issues.
- 2017** – CWSD and the CRC update the CRW Adaptive Stewardship Plan.
- 2018** – CWSD and the CRC update the Carson River Watershed Regional Floodplain Management Plan.
- 2019** – CWSD receives a FEMA CTP Flood Risk Project Mapping Activity Statement (MAS) grant to: perform flood mapping in Churchill County and west Carson City; perform flood modeling of the Carson Valley; and create an Area Drainage Masterplan (ADMP) for the Ruhenstroth area.
- 2020** – CWSD receives a FEMA CTP MAS grant to develop: a web access system for flood data; a Letter of Map Revision (LOMR) for the Smelter Creek area; flood awareness and outreach; a flood forecast model for Carson Valley; a LOMR for the Clear Creek area; and a continuation of the Ruhenstroth ADMP.
- 2021** – CWSD receives a FEMA CTP MAS grant to: develop southeast and east Carson City ADMPs; design flood mitigation for Buckeye Creek; conduct flood awareness in the watershed; develop an ADMP for the Virginia City/Six Mile Canyon area; and develop a floodway analysis for Ramsey Canyon.
- 2021** – Storey County becomes a formal member of CWSD’s board and adopts the CRW Regional Floodplain Management Plan.
- 2022** – CWSD receives a FEMA CTP Community Outreach and Mitigation (COMS) grant to: identify flood risks on the Walker River in Douglas and Lyon Counties; evaluate culverts in the Fish Springs and Pinenut Creek area of Douglas County; conduct flood awareness and outreach; and develop ADMPs for the Stagecoach and Silver Springs areas.

For tips on how to prepare for a flood and what to do afterward, visit <http://nevadafloods.org/>



The AmeriCorner

By Kelly Nicholas, CWSD Watershed Technician, AmeriCorps

Kelly Nicholas, CWSD's newest watershed tech, does best while wearing many hats. Originally hailing from the San Francisco Bay Area, Kelly graduated with a B.A. in Communications from the University of Washington and has lived and worked throughout the U.S., including stints in Austin, Tex.; Hagatña, Guam; New Orleans; and Flagstaff, Ariz. Kelly moved to Carson City in 2019 and became the administrative assistant for the nonprofit Muscle Powered, which advocates safe walking and biking in Carson City. While there she not only became knowledgeable in transportation and recreation issues but also learned trail-building skills and honed her Leave No Trace practices.

As Kelly hiked the Pacific Crest Trail this past summer, the need to protect and support rivers and lakes became shockingly apparent to her, and she wanted to get involved. She looks

forward to exploring the Carson River Watershed and how best to encourage others to get involved too.

Kelly enjoys trail running, hiking and backpacking, honing her massage practice, gardening, reading, and making a mess in her kitchen. Since her move close to the Sierra she has also taken up snowshoeing and Nordic skiing, with varying levels of success.

Instructions for living a life.

Pay attention.

Be astonished.

Tell about it.

—Mary Oliver, "Sometimes"



Alpine Lakes Wilderness, PCT, Wash.
Photo courtesy of Kelly Nicholas

"Watershed Moments" Wrap Up

By Catrina Schambra, CWSD Administrative Assistant and Kelly Nicholas, CWSD Watershed Technician, AmeriCorps



The "I Am Carson River Watershed" campaign released its 12th and final [Watershed Moment, "Curb Your Chemical Use."](#) December 2022, capping off a year of public service announcements aimed at fostering a healthy watershed. The campaign focuses on how everyone's individual actions add up to positively impact water quality in the entire Carson River Watershed. "We want people to take the pledge, adopt the simple actions in each film, and incorporate healthy watershed practices into their daily lives for years to come," said Brenda Hunt, CWSD Watershed Program Coordinator.

The campaign is possible through a Clean Water Act 319(h) grant funded by [Nevada Division of Environmental Protection](#) and [CWSD](#).

To see the videos, go to iamcarsonriver.org or visit CWSD's YouTube channel, [Carson River Watershed](#).



TAKE THE PLEDGE!

Your Actions Matter! I Am Carson River Watershed, And You Are Too!