

nevada update

FALL 2021

YOUR
NEVADA
NEWS

A New Resiliency Agenda for Nevada

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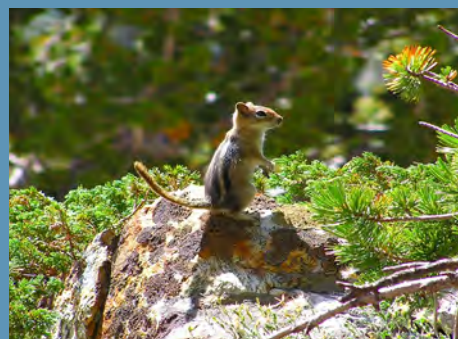
Mauricia M.M. Baca
NEVADA STATE DIRECTOR



Nevada Update is the biannual newsletter for friends of The Nature Conservancy in Nevada. If you have questions or feedback, please contact Sara Cobble at sara.cobble@tnc.org.

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ON THE COVER Rainbow over Jarbidge Mountains © Chip Carroon/TNC; THIS PAGE Mauricia M.M. Baca © Chip Carroon/TNC; Chipmunk at the Ruby Mountains © Chip Carroon/TNC; Red-naped sapsucker © Chip Carroon/TNC; OPPOSITE PAGE Sagebrush checkerspot © Len Warren/TNC; East Humboldt Range © Chip Carroon/TNC; Amargosa River falls © Chip Carroon/TNC; Aerial view of Independence Lake © Chip Carroon/TNC; Carlin © Chip Carroon/TNC; Male Greater sage-grouse © Scott Copeland.

DEAR FRIENDS,

As summer gives way to fall, I am excited and grateful to share an important new direction for The Nature Conservancy in Nevada (TNC).

I am pleased to introduce to you TNC's new resiliency agenda for Nevada. Our agenda is made up of three primary initiatives:

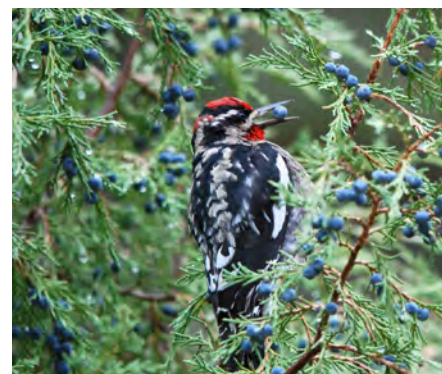
- **Resilient Lands** is focused on preserving and protecting both public and private lands through programs such as sustainable grazing and wildfire prevention and habitat restoration.
- **Resilient Waters** will work to ensure water security for critical freshwater systems such as underground water that sustains ecosystems, and the lakes and rivers so important to our communities.
- **Climate Action** will bring innovative solutions to support a more resilient climate and a diversified economic future to Nevada through programs such as Mining the Sun, which puts disturbed areas such as mines and brownfields to work and makes them part of our green energy future.

I am confident in our ability to meet the challenges our state is facing together. TNC is working with partners and stakeholders in business, government, academic and nonprofit sectors to create a more sustainable, resilient and biodiverse path for our state.

Thanks to your support, we are developing the innovative approaches and partnerships needed to conserve biodiversity and make Nevada more resilient. These initiatives are driven by hope — hope that future generations will also share a world with plants, animals and natural wonders that today make the Silver State so extraordinary.

We bring our 37 years of experience in conservation in Nevada to the most critical issues facing our state. Our success in these areas will not only protect Nevada's extraordinary lands and waters, but they will also help us to inform and inspire similar work across the West and around the world.

Thank you for everything you do to support TNC and a brighter future for people and nature in Nevada. We couldn't do this work without you.



A note from TNC in Nevada staff

As this newsletter was in production, multiple catastrophic climate events were happening across the country and at home in Nevada. Our hearts are with the communities, people and wildlife impacted by these disasters, and our commitment to finding solutions is stronger as we witness the evacuation and recovery efforts.

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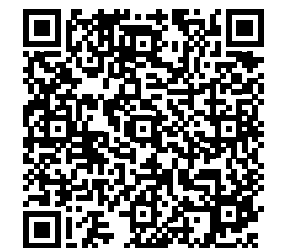
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Fall and Spring Webinars



Resilient Waters with Laurel Saito

October 26,
11 a.m. - 12 p.m.

Register:
tinyurl.com/nvwaters



Climate Action with Jaina Moan

December 8,
12 - 1 p.m.

Register:
tinyurl.com/nvclimateaction

Resilient Lands Coming Soon

February 2022
Stay tuned!



Innovative Restoration Coming Soon

April 2022
Stay tuned!



Questions? Contact Sara Cobble at sara.cobble@tnc.org or (702) 737-8744 x 3142.



Explore Nevada

A Network of Preserves Across the Silver State



At the heart of Nevada's resilient lands efforts lies a focus on conserving our state's extraordinary biodiversity. By ensuring that public and private lands are connected, wildlife can move to new habitats as the climate and availability of water and food sources change. We are committed to making sure that these lands, which are already vulnerable to degradation, are maintained in good ecological condition.

To accomplish this, we work with partners to promote land use planning that benefits people and nature, protects our existing properties, and advances cost-effective ecological grazing and fire management. We also work with private landowners and public resource managers across Nevada to support their land, water, and wildlife management goals.

THIS PAGE Gold Butte © Chip Carroon/TNC; Places We Protect map © Sarah Byer/TNC; McCarran Ranch © Chip Carroon/TNC; 7J Ranch © Chip Carroon/TNC; OPPOSITE PAGE River Fork Ranch © Chip Carroon/TNC; Independence Lake © Chip Carroon/TNC.

Restoring the Truckee River at McCarran Ranch



Much of the Lower Truckee River suffered from decades of harm due to human actions. This includes damage to the river channel due, in part, to having been straightened as part of a failed 1960s flood control project. The groundwater dropped beyond the reach of riverside vegetation, resulting in a loss of most of the native trees, shrubs, and other plants along the river corridor, as well as many of the bird species living along the river.

Re-creating the functioning ecosystem along the Truckee River began as a relatively small-scale pilot project at McCarran Ranch Preserve. Completed in 2003, the project focused on testing restoration methods and practices for the long term. This work enabled a 10-year, large-scale restoration that began in 2006, reconnecting the river to its historic meandering path over the course of 11 miles.

Today the Truckee River provides healthy habitat for trout, other fish, and insects, and helps reduce the impact of flood events. The restoration effort also created conditions that allow native plants to thrive, providing important habitat for birds and other wildlife.

Building an Oasis in the Amargosa Valley at 7J Ranch



In 2019 we acquired the 7J Ranch near Beatty, a 900-acre property with associated water rights and an approximately 280,000-acre grazing allotment. TNC acquired the 7J Ranch to protect the property's exceptional ecological value as the headwaters of the

Amargosa River. Primarily running underground, the Amargosa emerges in the form of springs, seeps, marshes, and flowing stream corridors along its 125-mile path through the Mojave Desert.

While we have now succeeded in these goals, there are new challenges ahead. A century of varied land uses affected ecosystem functions and will require active restoration to address. The pressures of a changing climate and the demands of a growing population in Southern Nevada continue to mount, making these efforts even more important for the future of the Oasis Valley.

Ash Meadows National Wildlife Refuge and Torrance Ranch areas are popular among hikers, especially those with an affinity for watching the many species of birds that call southern Nevada their home. If you look carefully, you may even spot an Amargosa toad in the many wetlands or a Devil's Hole pupfish in the Amargosa's deep pools.

Preserving Habitat at River Fork Ranch



We secured long-term protection of key wetland, meadow, and riparian habitats along a two-mile section of the Carson River by purchasing River Fork Ranch in 2000. Located where the east and west forks of the Carson River meet near Genoa, the ranch is both a nature preserve and a working cattle operation. This riparian corridor and patchwork of pastures, meadows and wetlands support a robust and diverse wildlife population.

Visitors to the trails along the river see our staff and volunteers engaging in floodplain protection, habitat restoration, river erosion mitigation, and educational programs through the Whit Hall Interpretive Center. We also partner with neighboring Ranch One to model sustainable grazing, consisting of a rest-rotational grazing plan and exclusion of livestock from the ranch's sensitive riparian and wetland areas to protect wildlife habitat.

An important goal is to restore cottonwoods to the Carson Valley, using trees grown at McCarran Ranch. The preserve is an important migratory path for mule deer, and an ideal location for more than 50 species of birds, including the bald eagle. This once absent majestic bird is now spotted along the trails, to the delight of local photographers.

Forest Management at Independence Lake



Located north of Truckee, California, Independence Lake is a critical source of water for California and northwestern Nevada. The area also provides vital habitat for plants and wildlife and important sites for outdoor recreation.

TNC created the 2300-acre Independence Lake Preserve to safeguard the land around the lake. In doing so, we protected habitat for one of the last wild, self-sustaining lake populations of Lahontan cutthroat trout, stopped threats of inappropriate development, provided public access for recreation, and began a years' long process to restore a healthy forest for a healthy watershed.

Our forest restoration program, which is implemented in partnership with the U.S. Forest Service, is designed to reduce the risk of catastrophic wildfire and improve overall forest health. With increased wildfire in the Sierra, demonstrating that well-managed forests can burn with less heat and therefore less destruction, is especially timely.

Visitors enjoy hiking trails, kayaks provided TNC and catch-and-release fishing. The long dirt road is worth the bumps when this crown jewel in the Sierra comes into view!

[→ LEARN MORE at nature.org/preserves](https://www.nature.org/preserves)

Resilient Lands



Across the West, natural landscapes and the plants and animals that depend on them are in jeopardy due to invasive species, catastrophic wildfire, habitat fragmentation, and drought. With many of Nevada's species found nowhere else in the world, our extraordinary biodiversity has truly raised the stakes.

A network of healthy and resilient public and private lands benefits both nature and people. Our goal is to protect, restore, and manage a network of public and private lands that are compatible with conservation while supporting biodiversity, adaptation, and people.



Hope for the Colorado River

The Colorado River is known for its iconic landscapes, but it is also an incredibly hard-working river that supports people and nature. The river and all its tributaries provide drinking water for more than 40 million people in the U.S. and Mexico, including almost all of the water for the Las Vegas area. By providing irrigation waters to over 5 million acres of agricultural land, the Colorado River enables the farming that provides a majority of carrots, lettuce, and other winter vegetables to U.S. consumers.

Nearly nine billion kilowatt-hours of hydroelectric power are delivered each year by the river — enough to serve more than seven million people, including 30 Native American tribes living along the shores. Water rights in the Colorado River basin are held by 22 Native American Tribes, and an additional 12 Tribes have pending claims. The Colorado River also supports a \$26 billion recreation and tourism economy including angling, hiking, and whitewater rafting. And, while critical for people, the Colorado River Basin's network of healthy flowing rivers and streams are also essential for wildlife and fish in a region that is mostly desert. In Nevada and across the West, we depend on the Colorado River and the river depends on us.

In August, the Bureau of Reclamation declared a Tier 1 shortage on the Colorado River for the first time ever. The

shortage declaration will go into effect on January 1, 2022 and means Nevada, Arizona and Mexico will receive less Colorado River water throughout the coming year. While states in the Colorado River Basin have reduced their water demands over the years, the reductions have not kept pace with diminished supply.



“The Colorado River can be a model for resiliency and sustainability, but not without a concerted and significant effort by stakeholders in the region.

TAYLOR HAWES Director, Colorado River Program, The Nature Conservancy

None of this came as a surprise to those working in the Colorado River Basin. The past year has been the driest or second driest in most Southwestern states since record-keeping began in 1895. This “mega-drought” has persisted in the Southwest since the early 2000s and is being exacerbated by climate change. Rising temperatures and changes in precipitation patterns have many scientists saying that the Colorado River Basin will permanently be a hotter and drier place.

Climate change and drought are also magnifying the risk of catastrophic wildfire in the Basin, affecting communities, water quality and water quantity. When rainfall and snowmelt rush across wildfire-scarred landscapes devoid of vegetation to slow the runoff, sediment runs down the mountain sides to clog waterways, damage water supplies and destroy wildlife habitat. Water users often turn to groundwater when surface supplies in the river are scarce, which can threaten groundwater-dependent ecosystems that are critical habitat and resources in a water-limited landscape.

So how do we adapt to this new normal? The shortage on the Colorado River, like other water issues, is complex. Because long-term solutions require partnership and collaboration, TNC has worked in the Colorado River Basin for 20 years to develop critically important partnerships to chart a sustainable and resilient future. To adapt as quickly as the river is changing, the Colorado River Basin teams are accelerating efforts to think more broadly and creatively. By working together to test ideas, share knowledge and invest in both short-term and long-term solutions, our goal is to have the greatest impact in the shortest amount of time so we can minimize future shortages.

“The Colorado River can be a model for resiliency and sustainability,” says Taylor Hawes, The Nature Conservancy’s Colorado River Program Director, “but not without a concerted and significant effort by stakeholders in the region.”

TNC is instrumental in bringing science to policy discussions at every level, informing decision-makers who share our goal of increased flexibility in how we manage water and the rivers in the region for multiple needs. We work with stakeholders to craft local solutions and, when they succeed, we share these models for other river systems. We developed a groundwater recharge system and helped farmers switch to less water intensive crops in Arizona, and worked with partners in the U.S. and Mexico to restore water and habitat in the Colorado River Delta. In Colorado, we worked with local communities, farmers and ranchers, outdoor recreation businesses, and other nonprofits to develop the Yampa River Fund. Here in Nevada, on the Virgin River, we helped initiate a United States Geological Survey study to determine flow needs to sustain native fish, and have mapped where groundwater-dependent ecosystems likely are so we can assess the stressors and threats to them.

Like the Colorado River, water resources across the world are in trouble. In Nevada and across the West, we will continue to face difficult decisions on how to allocate limited resources, especially in the ongoing drought. Your investment in our work allows us to make a difference as we pursue creative and innovative solutions to our most pressing environmental challenges.

[→ LEARN MORE](#) about TNC’s work on the Colorado River at nature.org/coloradoriver

Resilient Waters

The goal of our Resilient Waters Initiative is to ensure water security and resiliency for freshwater systems in Nevada in the face of a changing climate and the growing need for economic uses.

We are focused on ensuring water security for Nevada’s critical freshwater systems by protecting and restoring critical freshwater and groundwater-dependent habitats and species, developing science to inform sustainability planning, developing multi-benefit approaches that will provide solutions for over-appropriated basins, and developing effective restoration methods for stressed systems.



HOW YOU CAN HELP

Thank you for being one of TNC’s supporters. In addition, please consider taking action to support our rivers and water supply.

- 1 Continue to support TNC’s efforts to protect water sources through gifts to our Resilient Waters Initiative.
- 2 Make smart choices to limit both your carbon footprint and your water use.
- 3 Know where your water comes from — it might be your favorite trout fishing stream, hiking spot, or the groundwater beneath your feet!
- 4 Get involved with community decisions to protect water quality and quantity.

climate action

The Oasis Valley © Chip Carroon/TNC.

Providing climate solutions that are equitable and just for all are at the heart of Nevada's Climate Action Initiative. Economic prosperity, climate responsibility and sustainability go hand in hand with incorporating the best scientific solutions that will make people and nature more resilient in a changing world.

We developed multiple strategies to drive innovation in conservation that are good for the climate and have multiple benefits for people and nature. Our goal is to reduce greenhouse gas emissions that cause climate change and implement solutions that will make our ecosystems and communities more resilient to adverse effects.

These strategies include:

- Demonstrating and enhancing carbon mitigation benefits of healthy rangelands, forests and groundwater-dependent ecosystems
- Avoiding the conversion of natural lands that have high conservation values
- Helping to ensure a sustainable transition to a zero-carbon energy economy
- Supporting efforts that enhance resiliency for Nevada's communities and ecosystems

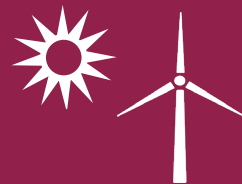
Climate Adaptation

To understand how to best protect nature from the effects of climate change, we must first understand where species will find adequate habitat for migration and refuge. TNC recently completed a 10-year project to map resilient, connected landscapes in the United States with unique topographies, geologies and other characteristics that make places resilient

to climate change. Using this data, we identified several climate resilient corridors in Nevada.

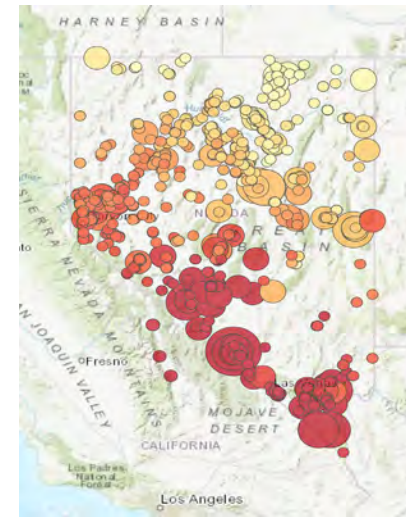
These networks of lands and waters in our state will likely provide refuge for plants and wildlife from drought and heat. To facilitate climate adaptation on the ground, we are enhancing and restoring habitat along the Amargosa River. We recently planted 30,000 willow trees, providing vital habitat to birds and wildlife—a lasting refuge from the increasing stress of a hotter, drier climate.

Climate Action



There is no greater threat to the future of the planet than climate change. TNC made a worldwide commitment to meet this challenge by implementing solutions that will enable our ecosystems and communities to mitigate and adapt to a changing climate.

In Nevada, we are working to ensure that nature-based solutions are embedded and prioritized in local and state climate change strategies. These include demonstrating the carbon mitigation benefits of healthy rangelands, forests, and groundwater-dependent ecosystems; advancing multi-benefit regional planning; facilitating a sustainable transition to a zero-carbon energy economy; and supporting efforts that enhance resiliency for Nevada's communities and ecosystems.



MINING THE SUN Our map tool demonstrates the renewable energy potential on mine lands and brownfields in Nevada.

Smart from the Start Renewable Energy Development

As more states adopt clean energy goals, there will be greater demand for renewable energy. Nevada, at the center of the intermountain west, shares expectations with neighboring states that a sustainable energy infrastructure, both transmission and generation, will need to grow significantly. Proper deployment of this renewable build-out is critical to avoid potentially devastating impacts to Nevada's lands, waters, and wildlife.

Our team of scientists has modeled multiple energy scenarios and determined that, with careful planning, we can minimize impacts of energy development to Nevada's natural and working lands. For example, we can develop renewable energy on lands that no longer provide economic use like retired mine lands, brownfields, and landfills. TNC's Mining the Sun program is focused on making it easier to site renewable energy on previously developed sites rather than healthy, undeveloped lands that are important for wildlife, clean water and open space.

Reduced Fire Risk, Increased Carbon Storage

Thriving natural ecosystems capture and store carbon from the atmosphere, which makes this a priority focus for TNC in Nevada. Recent developments led by TNC scientists indicate that natural climate solutions based on the conservation, restoration and management of forests, grasslands, and wetlands can deliver up to a third of the emission reductions needed by 2030. In Nevada, our forests, sagebrush, deserts, and riparian areas provide excellent opportunities for natural climate solutions and TNC scientists are implementing these solutions.

In the Truckee River watershed, we are analyzing where stand-replacing wildfire is likely to occur and deploying forest fuel reduction treatments to reduce the threat. A healthy forest sequesters more carbon and is more resilient to catastrophic wildfires that release carbon into the atmosphere. In the sagebrush sea, we are working to combat invasive grasses that fuel wildfire with innovative range management and native plant restoration.

Local Actions, Global Impact

Demonstrating how climate change impacts Nevada's economy, residents and natural systems is only the first of many steps toward long-term solutions. Climate action also means supporting and implementing policies that will bring the system-level solutions that are equitable and just for all life in Nevada. We are working to build broad-based, bipartisan support for ambitious policy action at both the state and federal level. Nevada's immense importance as a political swing state uniquely positions us to influence public policy by actively working with legislators locally and nationally to build support for good climate action.

When nature thrives, so do we.

Climate solutions benefit both people and nature. Protecting and restoring Nevada's lands, waters ecosystems and biodiversity also helps strengthen our economy, keeps our communities resilient, and provides us with clean air, clean drinking water and outdoor recreation opportunities.

Protecting climate corridors can help provide a pathway north and a lasting refuge for pronghorn antelope and other iconic species in the face of climate change. © Simon Williams/TNC



Above: Prescribed fire can help keep forests healthy and reduce the risk of catastrophic wildfire, as shown in this photo at Independence Lake © Courtesy TNC. **Below:** Implementing forest management strategies to decrease the risk of catastrophic wildfire can help protect at-risk species like the Lahontan cutthroat trout. © Simon Williams/TNC



Creating riparian habitat along the Amargosa River can help species, like the federally endangered least Bell's vireo, adapt to changing conditions as their ranges shift. © Len Warren/TNC



We began to create riparian habitat last fall by planting 30,000 of 100,000 trees along the Amargosa River that will help create a lasting refuge for birds and wildlife in an increasingly hotter, drier climate. © Len Warren/TNC



nature through the lens of Chip Carroon

If beauty is in the eye of the beholder, Dr. Chip Carroon has a magnificent eye. Many of the stunning photos in our publications are the work of this talented photographer.

Carroon began his tenure with the Nevada Chapter by capturing our restoration work in the Sagebrush Sea. As a volunteer for TNC, Chip has traversed the state many times, from the Mojave Desert and Independence Lake to the shores of the Truckee River. His work captured attention across TNC, taking him to California, Arizona, Wyoming, and even internationally to Croatia, Montenegro, and Bosnia-Herzegovina.

Carron was trained as a geologist at the University of California and attended graduate school at Stanford University. He began studying photography during his

academic career, and as he traveled extensively worldwide for work, it quickly became his primary passion. He has donated his time and talent to nonprofit organizations across the state and around the globe for many years.

Traveling beautiful natural landscapes has been a passion of Carroon's since he was young. His interest in conservation began with trips to the Sierra Nevada with the Sierra Club and continued in college as he hiked and mountaineered throughout the western United States. He climbed many of the classic Big Walls of the Yosemite Valley and worked as an instructor for Jackson Hole Mountain Guides.



As a volunteer, Carroon demonstrates his adventurous spirit and commitment to conservation in his willingness to go wherever it takes to get the job done — whether it's jumping on a plane, driving down dangerous roads in Bosnia, or camping on cold nights in the Mojave Desert. Carroon simply hopes his photography will contribute to protecting the special places he has been able to visit.

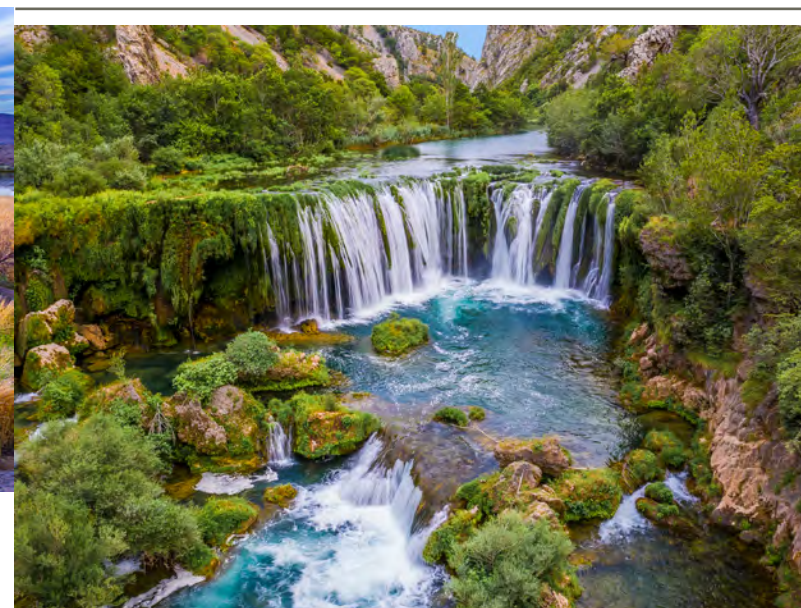
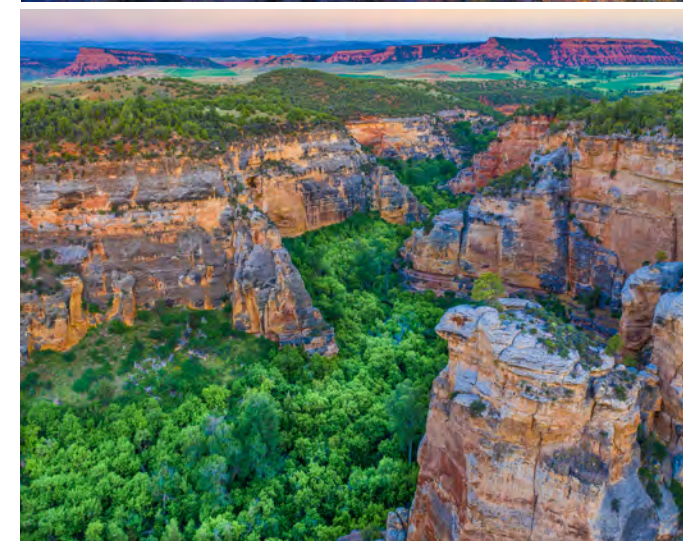
"I suppose my photographic objective is to achieve some satisfaction that I have helped save some natural habitat in an increasingly crowded world," he says.

In his free time, Carroon can be found mountain bike riding, hiking in the mountains, and planning for his next adventure, whether it be a local destination or a very distant one. Some of his favorite outdoor places in Nevada to explore are uncrowded alpine environments like the Ruby and Toiyabe ranges, the Jarbidge Mountains, and the fossilized Jurassic sand dunes of Gold Butte in the Mojave Desert.

Thank you Chip for everything you do to help protect nature in Nevada.



SEE MORE of Carroon's photography in *Landscape Photography Magazine* and on his website, chipcarroonphotography.com



CHIP CARROON IN SOUTHEAST EUROPE

In 2019, Carroon volunteered to spend several weeks traveling solo around southeastern Europe to photograph rivers that TNC's Europe Program was working to protect. Shortly after his photos were taken, TNC and our partners were successful in setting national precedents when the governments of Montenegro and Croatia permanently protected the Zeta and Krupa rivers.

But for Carroon, it was all in a day's work and part of the adventure.

"My helter-skelter, rapid-fire encounters with numerous, somewhat dangerous and challenging conditions in the Balkan States as I worked internationally were, perhaps, the most memorable of my TNC assignments," Carroon says. "There were just so many unknowns, and I am someone who is uniquely familiar with international travel. I feel proud that my images played an important role in achieving permanent protections for two of those rivers."

"It is not said in vain that a photograph is more than 1,000 words, especially Chip's photographs," says Matija Penezic, Southeastern Europe Coordinator for The Nature Conservancy. "They give our projects a visual identity and provide power which inspires many and springs them to action."

Carroon's background as a research geologist shines in his approach to his photography, where he brings scientific precision and an artistic eye for the beauty of landforms, says John Zablocki, who worked with Carroon both in southern Nevada during his tenure as TNC's Southern Nevada Conservation Director, and in Europe.




"Chip plans out his photo expeditions like Indiana Jones—studying maps, traversing dangerous roads and rugged country to make sure he is at the exact right spot at the exact right time and angle to capture a place's beauty," Zablocki, says. "His mentality is one of service. Chip doesn't just visit places he wants to see and then send TNC photos. His journeys are mission-oriented, focused on what others need most. I always find myself humbled by his tireless pursuit of service, excellence in his craft, and deep humility and concern for the well-being of people and the natural world."



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Bryce Canyon National Park in Utah © Nick Hall.

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