

BASIN RANGE & RIMROCK

FALL 2021 NEWSLETTER • UTAH CHAPTER

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Conservation Corner

Tier 1 Shortage on the Colorado River

For the first time in history, a Tier 1 shortage has been declared on the Colorado River. The shortage declaration by the Bureau of Reclamation will impact water deliveries to Arizona, Nevada and Mexico, with Arizona taking the biggest cut. The reductions are being made as part of the Drought Contingency Plan, an agreement among all the basin states and the federal government. Nature Conservancy water experts working in the Colorado River Basin knew this was coming. Facing accelerated climate change impacts and increasing usage demands, the Colorado River has experienced a steady drop in flows since 2000. Its decline is impacting communities, agriculture, industry and wildlife.

TNC has worked in the Colorado River Basin for 20 years, and we know what it will take to change course and secure a sustainable and resilient future. We are working with partners to develop and implement a variety of solutions, such as reducing water use, updating aged irrigation systems, enhancing natural infrastructure, using technology to sustain groundwater levels and improving stream and river health. Here in Utah, our projects on rivers like the Price and Virgin are rooted in collaboration and focused on improving efficiency and sustaining flows. Learn more at nature.org/coloradoriver.



iFiesta for Nature! 2021 events featured hands-on fun. © Stuart Ruckman

iFiesta for Nature! Returns

This September, during National Hispanic Heritage Month, TNC and its partners were thrilled to host iFiesta for Nature! events at three venues. Featuring bilingual activities including nature walks and interactive art, the family-friendly events were designed to celebrate the many diverse connections we have to Utah's natural world. Free tacos, prize giveaways and glorious weather made these outdoor gatherings a success on all fronts. Due to the ongoing pandemic, attendee numbers were limited and health protocols were in place to keep everyone safe. The partners for this year's event included Artes de México en Utah, the Natural History Museum of Utah, Tracy Aviary and the Utah Museum of Fine Arts.

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Lasting Results

Utah Private Lands Protection

Number of Projects......195

(COVER) Great blue heron © Gary Crandall

Doing What's Right for the Range

Sometimes It's Nice to be Noticed

By Dave Livermore, TNC Utah State Director





(LEFT) TNC's Matt and Kristen Redd (RIGHT) TNC's Elaine York and Louis Provencher

"The world is moved along, not only by the mighty shoves of its heroes, but also by the aggregate of the tiny pushes of each honest worker." — Helen Keller

WHAT A SUMMER. I'M GLAD WINTER IS almost here. When we were kids, summer was something to celebrate. Now drought, smoke and heat make it something to endure. But, we made it. Recent COVID numbers seem to be down too. "May you live in interesting times" is an English expression translated from the Chinese. For better or worse, we are. Fortunately, these "interesting times" of climate/pandemic anxiety, and occasional melancholy, can give way periodically to appreciation and joy. This happened the other day, when our Utah Chapter received not one

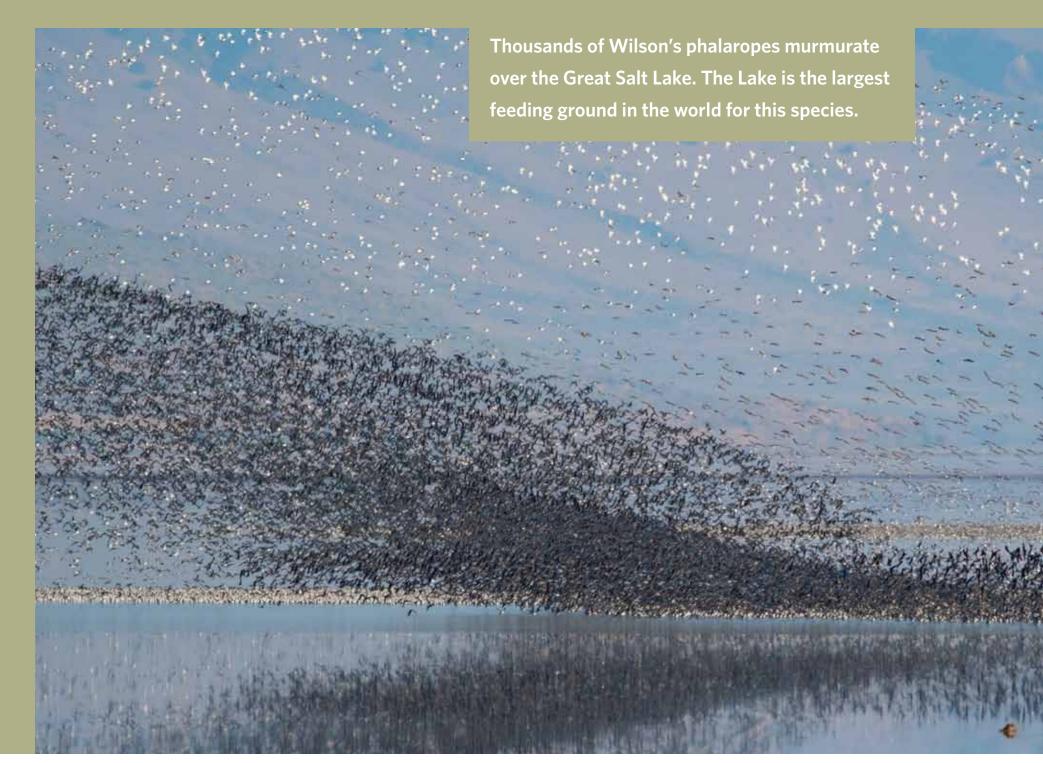
but two awards from the Bureau of Land Management at the same time:

- The Rangeland Stewardship Award for beneficial management practices to restore, protect, or enhance rangelands. This award was given to TNC's Matt and Kristen Redd for their innovative stewardship at the Dugout Ranch.
- The Sagebrush-Steppe Stewardship Award for outstanding examples of enhancement, restoration, or reclamation of sagebrush habitats. This distinction went to TNC's Louis Provencher and Elaine York for their pioneering work in Landscape Conservation Forecasting™.

These awards were presented at the Public Lands Council's 2021 (virtual) Annual Meeting in September. Matt, Kristen, Louis and Elaine are wonderful people. They are also incredibly hard workers. In the categories described, only two awards are given out per year. That Utah was selected twice among all western states is remarkable. That TNC received these awards in Utah is like lightning striking twice in the same place. Perhaps most meaningful, these awards went to our

people on the ground. Their day-to-day efforts, working in the landscapes they love, are really what make TNC special.

Years ago, while we were in the midst of trying a hundred ways to wrest away a valuable natural area from the grasp of a land developer, one of my colleagues asked, "Dave, do you know the difference between a conservationist and a developer? Well, when a conservationist scores a victory, to celebrate, they might take the night off and go out and have a pizza. Then they're hard at it the next day. When a developer scores a victory, say by changing the zoning on a farm, clearing the way for a big subdivision and big profits, to celebrate, they announce they can now retire!" Matt, Kristen, Louis and Elaine are modest folks...the "honest. workers" of Helen Keller's quote (above). Accolades, profits and even the occasional pizza (!) are not what drive them. But the aggregate of their work, doing what's right for the range, is an amazing legacy. It is the heart and soul of TNC. Especially now, during this challenging era, it is nice to be noticed. Three cheers to Matt, Kristen, Louis and Elaine—and congratulations! You are very deserving of these awards and a source of pride for all of us at TNC.



Legacy or Loss?

The Great Salt Lake Has Never Been More Threatened

IT WAS SUPPOSED TO BE A CELEBRATORY milestone. In May, Utah's Governor Cox proclaimed 2021 the "Year of the Shorebird" to honor the 30th anniversary of the Great Salt Lake's designation as a Western Hemisphere Shorebird Reserve Network Site. But by summer, the Lake had marked a very different milestone: the lowest water levels in recorded history. Utah's most unique ecosystem is in dire straits. The question now is whether our communities will rally in time to save it.

"In 1984, when TNC protected our first wetlands property at the Lake, I don't think any of us imagined this is where we would be in 2021," says Dave Livermore, TNC Utah's State Director. "But climate change and growth are delivering impacts that are more severe and more rapid than Utahns anticipated." The Lake's current plight, now exacerbated by drought, is a result of years of increasing water diversions from its tributaries to fuel agriculture and development.

The implications of the Lake's decline are grave. Dangerous dust from the lakebed

threatens air quality along the Wasatch Front as well as mountain snowpack. The loss of Lake water affects Utah's industries and could cost the state up to \$2 billion annually and the loss of over 6,500 jobs. And for the world's birds, the results could be catastrophic. Attracting 10 million birds every year, the Lake is one of the only places on Earth that can support birds migrating along the Pacific Flyway between North and South America.

For TNC, meeting today's crisis is a top priority. We're using our extensive experience at the Lake to help inspire the movement for swift and lasting action (See sidebar.) "There is hope amid the urgency," says Ann Neville, TNC Utah's Northern Mountains Regional Director. "We're forming new partnerships and developing innovative solutions."

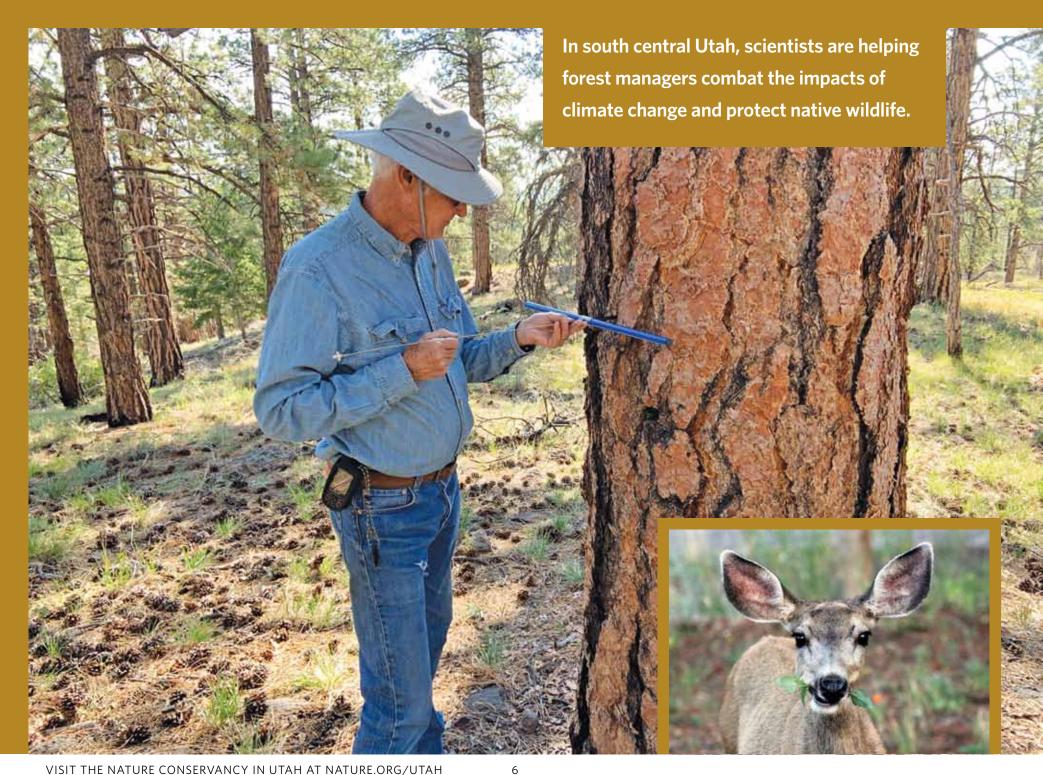
The Great Salt Lake Advisory Council has identified 12 recommendations to improve water delivery, ranging from water law changes and new incentives for agricultural and municipal water conservation, to new tools for water acquisition that could protect the Lake's inflows. "One of the greatest threats to the Lake has always been a lack of public value and concern," says Livermore. "And that may finally be changing."

Partnership Secures More Water in Farmington Bay

In October, the Utah Division of Water Rights approved applications to deliver water to the Great Salt Lake's Farmington Bay via the Jordan River. A team of partners, including TNC, brokered two donations of water rights from Rio Tinto Kennecott and the Central Utah Water Conservancy District, adding up to approximately 21,000 acre-feet of water annually to be delivered to Farmington Bay over the next 10 years. Rather than leaving the Jordan River at the historical diversion points some 30 to 40 miles upstream, the water will continue down to where the Jordan flows into Farmington Bay. The bay itself supports vital habitat for a large number of the world's bird populations.

In addition to Kennecott and the Conservancy District, other lead partners in this innovative deal include the Utah Division of Wildlife Resources, National Audubon Society and Utah Reclamation Mitigation and Conservation Commission. "The aim is to deliver water for beneficial use into the Lake through voluntary water transactions," says Neville. "We see this as an important first step. It shows us that if we work together and get creative, we can make a difference."

(OPPOSITE) One-third of the world's population of Wilson's phalaropes rely on the Great Salt Lake each year. © Mia McPherson



Science to the Rescue

Protecting Forests from Climate Change

ON BOULDER MOUNTAIN, THE HIGHEST forested plateau in North America, the mule deer are stressed. The herds here are declining, in part because the mountain itself, rising west of Capitol Reef National Park, is changing. The growing climate crisis is delivering intense heat and drought to south central Utah, altering nature in the process. It changes the types of trees and shrubs that survive, increases cataclysmic fire risks, insect infestations and disease outbreaks—and impacts critical food and shelter resources for mule deer and other native wildlife.

To meet these challenges, the USDA Forest Service, which manages Boulder Mountain's national forests, is turning to cutting-edge science and technology. TNC scientists are teaming up with managers from both the Fishlake and Dixie National Forests to apply our ground-breaking Landscape Conservation
Forecasting™ (LCF) tool to nearly 700,000 acres
on Boulder Mountain. Through LCF modeling,
the team will analyze land management
scenarios and determine how best to protect
wildlife habitat threatened by climate change.

"Partners want to know the current condition of plant and animal communities," explains Linda Whitham, TNC's Central Canyonlands Program Manager, "and then, looking ahead, they need to know which restoration and protection practices will be most impactful and feasible in the face of climate change." Using high-resolution remote sensing combined with ecological simulation models, LCF enables land managers to predict the outcomes of their management actions and to compare the costs and effectiveness of various strategies—including the best ways to help the struggling mule deer. TNC has conducted 20 LCF projects on more than 10 million acres in the West, and the Boulder Mountain project will be the largest LCF landscape analysis to date. "Public land managers have to address a range of threats with limited funding," says Whitham.

"This type of meaningful data can be a game changer as we race to adapt to new ecological and climate conditions."

Game-changing science is also underway in a separate project just below Boulder Mountain. TNC is working as part of the Escalante River Watershed Partnership to study how climate change impacts are altering ponderosa pine forests. The team is studying a relatively intact forest protected in the Upper Sand Creek Research Natural Area (RNA) north of the town of Escalante. TNC helped the USDA Forest Service establish this RNA in the 1990s, and as climate change grips this region, it provides a valuable study site. Partners have conducted two "bio-blitzes" here, collecting baseline ecological data that will help TNC and partners understand how ponderosa forests are responding to heat and drought and what types of mitigation strategies can help protect this forest type throughout the watershed. "It's an exciting opportunity," says Whitham. "As climate change accelerates, we have this relatively intact area to guide and inform our protection and restoration efforts."

(OPPOSITE LARGE IMAGE) Dr. Dennis Bramble analyzes a ponderosa pine in the Upper Sand Creek RNA. @ Marc Coles-Ritchie, Grand Canyon Trust (INSET) Mule deer @ Richard Barry



Learning Together on the Colorado Plateau

TNC and USU Launch Tribal Natural Resources Program

"SCIENTISTS ARE LEARNING THE EARTH needs to heal and Indigenous knowledge of the land needs to be included." Those are the words of Danielle Smiley, a member of the Navajo Nation, a recent graduate of Utah State University-Blanding (USU), and one of the first participants in TNC's new Tribal Natural Resources Leadership Program at the Canyonlands Research Center (CRC).

The program, launched in partnership with USU-Blanding, offers several paid, 12-week internships in natural resource management for students with tribal backgrounds. "We want to bridge the gap between the science and practice of sustainable land management on the Colorado Plateau," says Nichole Barger, CRC Research Director and Professor at the University of Colorado Boulder. "This first year was a great success. Working with these students underlined how important it is that conservation

is driven by diverse teams, partners, and local communities."

Smiley and her fellow interns, Shailyn
Parrish and Benjamin Tohsonii, spent the past
summer gaining practical experience in the
fields of climate change science, restoration
practices and research on Indigenous foods.
"I was drawn to this internship by the idea of
learning something new," says Tohsonii of the
Navajo Nation, who also graduated from USUBlanding this spring. "The experience opened
up a whole new world of thought, and I was able
to get some hands-on experience in that world.
I was also pleasantly surprised this wasn't about
working on trails."

Smiley agrees: "The program was both rewarding and enriching. We had great mentors and learned amazing things about food sovereignty, land restoration, and land management. It was inspirational to meet so many accomplished people that utilize their professions to help the planet."

The CRC's location at TNC's Dugout Ranch provided a unique chance for these undergraduates to receive training at the interface of scientific research and public lands management. But the students weren't the only ones learning. "I think all of the staff and scientists were struck by how much they gained because the students were willing to share their culture, history and traditional knowledge," says Kristen Redd, TNC's CRC Field Station Manager.

"I loved how after each session at the Dugout Ranch we were asked our insights on the lesson," says Smiley. "Our culture and teachings of traditions from our elders are still being passed from our ancestors, and I felt like we finally had a voice."

Going forward, TNC hopes to hear from more voices as we continue to grow the Tribal Natural Resources Leadership Program. TNC staff will be on campus at USU recruiting students this fall. For next year's interns, Tohsonii offers some advice: "Try to keep an open mind and soak up as much as possible, because once it ends you wish you would have had more time."

(OPPOSITE) The first graduates of the Tribal Natural Resources Leadership Program, left to right: Danielle Smiley, Shailyn Parrish and Benjamin Tohsonii © Sue Bellagamba/TNC

Special Thanks

The following major supporters have generously contributed to our Utah projects and programs during the period of July 1, 2020-June 30, 2021 (FY 21). We extend our sincere thanks to them and to the many other Utah supporters, too numerous to list here, who have also given during this period.

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Welcome Sarah West



Sarah West recently joined our local TNC team as the Utah Director of Development. She brings more than 20 years of fundraising experience from her work with the U.S. Ski Team, Olympic Aid, Sundance Institute and Ballet West. "I love working

with people who are committed to making the world a better place," says West. "I've already been inspired by supporters who want to join TNC's vision in approaching big opportunities with scalable results." With a degree in marketing from the University of Denver and an MBA from Westminster College, West is using her skills and experience to hit the ground running, rallying support for conservation projects statewide. She's also feeling grateful for this new chapter in her career. "I live near Swaner Nature Preserve," West explains, "and I love waking up to the sandhill cranes and watching their families grow. It's wonderful to be part of an effort to care for our natural world—for the benefit of all of us."



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FCS FPO

Know the Lake. Love the Lake. These Great Salt Lake facts will make you go WOW.



Eared grebe © Becky Matsubara

Special thanks to Jaimi Butler at the Great Salt Lake Institute for fun facts.

Birds. Birds. (Seriously, people.) Birds!

338 different avian species rely on the Great Salt Lake – about **10 million birds** each year!

Are You Gonna Eat That? (yes!)

A single eared grebe eats **28,000** brine shrimp every day! Now get this: The Great Salt Lake supports about **5 million** eared grebes each fall (85 percent of the world's population).

Is That a Brine Fly Bite? (no!)

Brine flies don't bite people and are a critical food source for migratory birds. Scientists estimate there are **billions of brine flies** hatching at the Great Salt Lake each year.

It's All in the Swirl

Wilson's phalaropes spin at up to **60 rpm,** creating a "water tornado" to suck bugs up from the bottom of the Lake. The Lake hosts around **500,000 Wilson's phalaropes** annually—one third of the global population.

Move Over, Neil Armstrong

Scientists have launched **brine shrimp into space** to study their unique hardiness. The ability to "hibernate" in cyst form makes these tiny crustaceans precious to hungry birds... and the **multi-million-dollar** brine shrimp industry...and maybe NASA.