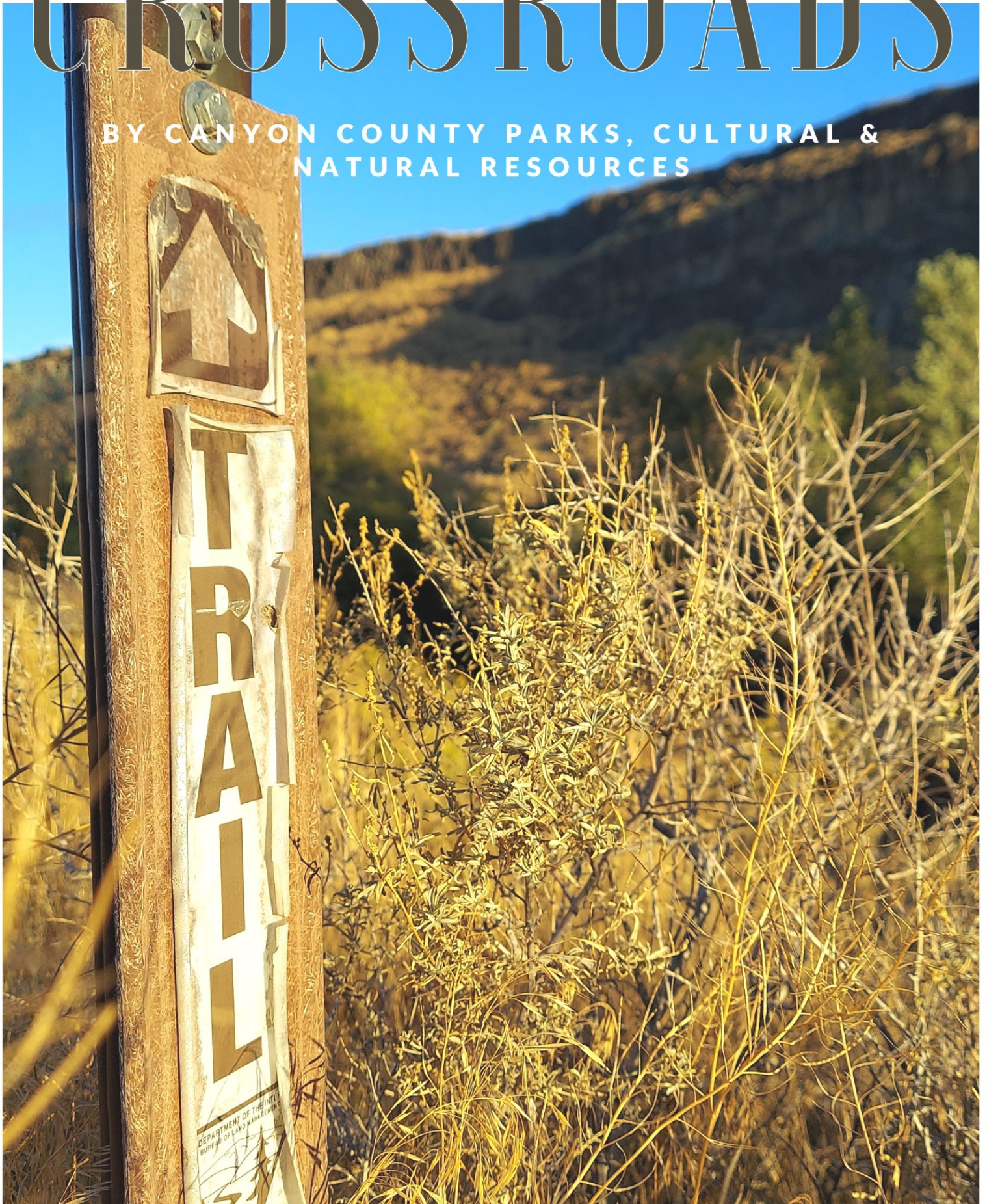


2024

Vol. IV

# CROSSROADS

BY CANYON COUNTY PARKS, CULTURAL &  
NATURAL RESOURCES





*Director Nicki Schwend teaches visitors on the Petroglyph Trail.*







*Top: Guffey Bridge, nearly 128 years old and still a sight to behold.*

*Bottom, left: Ranger Paul McGrew leads students on an Ecology Hike.*

*Bottom, right: One brave flower holds on in the summer heat.*









Page 4:

Top: Summers bring wildfire smoke, very visible at Halverson Lake.

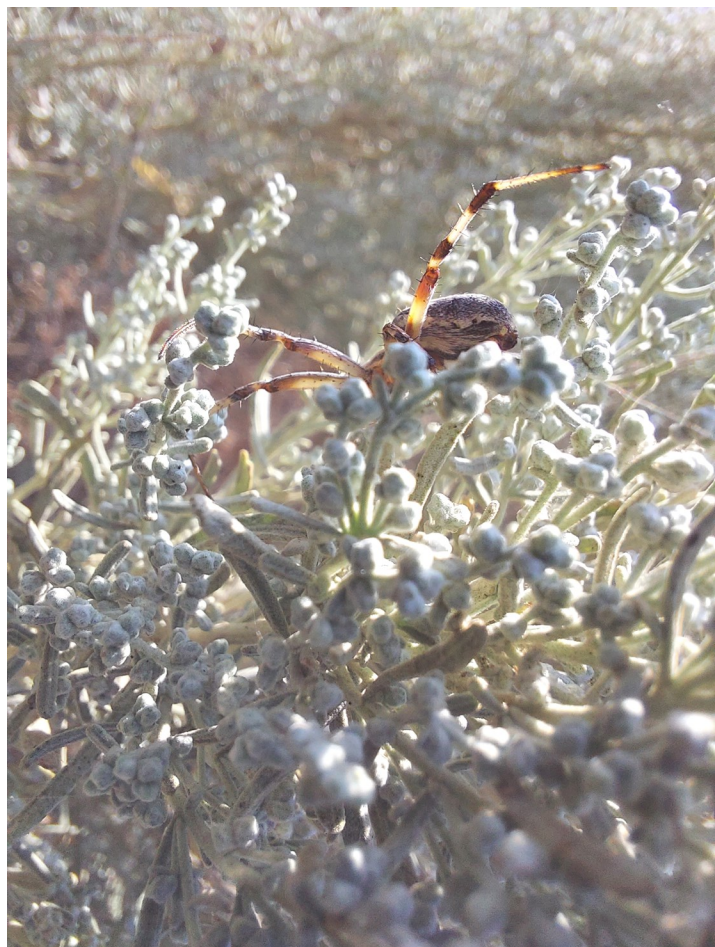
Bottom: Here one day, gone another—the smoke dissipates over Halverson Lake.

Page 5:

Top, right: A gopher snake at the East End Campground.

Bottom, left: Staff train on the Ecology Trail.

Bottom, right: An orbweaver spider sits in the sagebrush. Every August, orbweavers craft their webs all over the plants, buildings, and anywhere else they might catch a bug.









*Page 6: Dr. Mark Plew, Professor Emeritus of Boise State University, leads an archaeological dig at Celebration Park.*

*Page 7:*

*Top: Late-summer rains rekindle this waterfall above Halverson Lake.*

*Bottom: Cheatgrass sunrise.*

*Photos courtesy Larry Haney.*





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**Cover:** Ranger Larry Haney loves to hike to Halverson Lake. He found this old trail marker east of the park on BLM public access land.

Photo courtesy Ranger Larry Haney.



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# FROM THE DIRECTOR:

## Nicki Schwend

FROM AN ARCHAEOLOGICAL PERSPECTIVE, irrigation is fascinating; a phrase that my younger self would have given a questioning side-eye at. Irrigation? Yes, I'm referring to the infrastructure that brings water across vast landscapes to hundreds of thousands of acres of farmland. The majority of my life, the subject of irrigation went no further than being the mechanism to bring water to crops for growing food. It also meant my older cousin Bob spending significant amounts of time helping his father by managing watering schedules while us younger cousins got to play outside. While we were running around, climbing trees, and building forts in the old sheep pen, he was up early, out the door, managing headgates, clearing debris, and performing irrigation maintenance to conserve water. He would return home for a short break and then was back out the door to do it again. Of course, my uncle was out working hard all day long, but being young, I noted the work that cousin Bob had to do while we played. He was employed by the family business: farming to provide financial support for the family.

I definitely didn't understand the bigger picture at that age; that irrigation is the final piece of a much greater, broader, and vital lifeblood turning deserts into livable lands. Irrigation ditches are the end line, the capillaries that provide blood to the extremities of the system, to the individual farmers and fields. The canals are the arteries that feed all the ditches, and reservoirs are the hearts that allow the entire system to keep thriving by storing, conserving,



*Director Nichole Schwend on the Petroglyph Trail at Celebration Park.*



*Construction of the New York Canal that feeds Lake Lowell. Boise State University.*

and distributing water in a life-sustaining manner.

Desert environments significantly constrain and reduce the size of habitable areas and the carrying capacity of an environment (the number of living organisms or crops that a region can support without environmental degradation). Deserts physically tether people and livelihoods to any and every stream, pond, river, or lake that mother nature provides. Water is second only to air for survival. Unfortunately, unlike air, water is limited in availability and it is heavy and bulky (it weighs over eight pounds per gallon). For humans this means it is costly to move, both



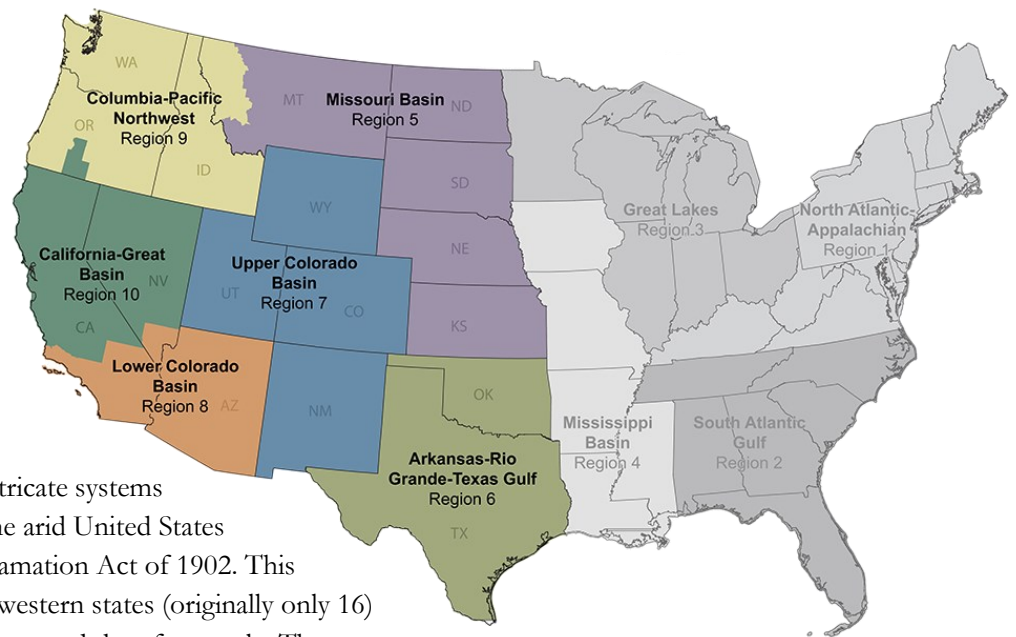
physically and financially; especially considering that one human needs half a gallon or more per day to survive. Now add a garden or crops to your water needs. Before irrigation, early European settlers in the west were limited to living on land extremely close to natural bodies of water. The capacity for population growth in the west was extremely stunted and limited.

The construction of massive and intricate systems for water storage and dispersal in the arid United States was only made possible by the Reclamation Act of 1902. This act funded irrigation projects in 17 western states (originally only 16) with lands deemed too arid to cultivate and therefore settle. The federal government funded these projects through the sale of public lands. Once a project was completed and began to provide water to an area, lands in these once arid places were sold and those proceeds were put towards other reclamation developments. Projects included construction of dams, hydropower plants, canals, and other undertakings. Since 1902 the Bureau of Reclamation has built over 600 dams, 58 hydroelectric plants, and over 470 storage dams and dikes. Reclamation completely transformed lands, landscapes, and environments in the west.

With reclamation, instead of people being tethered to water, water was brought to the people. Reclamation projects meant people were no longer constricted or bound; they could now live in previously-uninhabitable places. Vast expanses of waterless land were turned into arable soil. Land-use changed rapidly and extensively for humans, and flora and fauna



*Dichotomy of irrigation in the desert. Green crops pushed into the desert, separated by a canal.*



*The 17 western states of the Reclamation Act. Photo courtesy U.S. Bureau of Reclamation.*

adapted quickly. Just imagine the transformations that were seen once these projects were completed. Picture in your mind the dichotomy of luscious, often green crops pushed into and up against the browns and tans of the desert.

This drastic conversion of arid lands into agricultural areas and even cities is what makes irrigation so interesting as an archaeologist. We are, of course, familiar with our modern landscapes and how people live on and use the land today; but for archaeologists in the western U.S. it is critical to understand and think about the lands as they were *before*

*(continued p. 15)*



**CANYON COUNTY PARKS,  
CULTURAL & NATURAL  
RESOURCES**

# DEPARTMENT UPDATE: ON THE GROUND

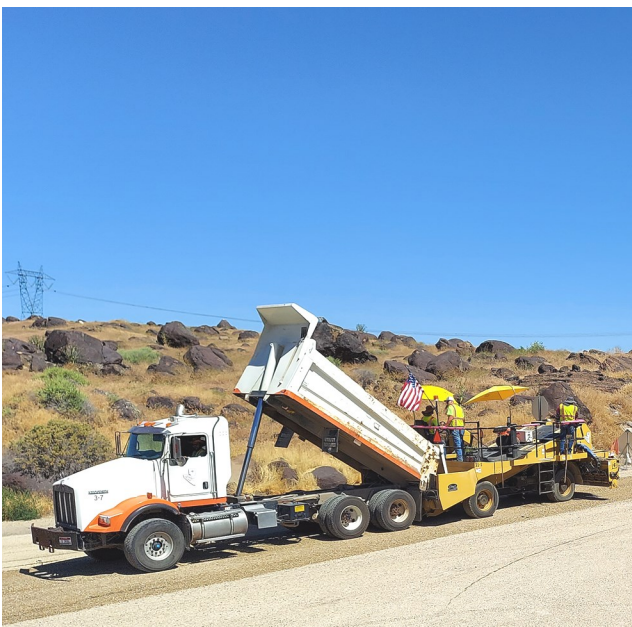


## **Watershed Education**

Every September, the City of Boise and the Boise Watershed Education Center team up to provide a fun day of outdoor education for the students of Parma Middle School at Martin Landing. Participants tested water quality indicators like temperature, pH, turbidity (cloudiness of the water), and dissolved oxygen levels. As co-managers of Martin Landing (with Idaho Department of Fish and Game), Parks staff joined in and helped students make discoveries and learn about the water quality of the confluence of three rivers (Boise, Snake, and Owyhee Rivers) right in their own backyards!

## **Atlatl Deck Construction**

Construction has begun on the Celebration Park Atlatl and Petroglyph Decks. Contracted through Veritas Construction, this work is expected to go through the winter and be ready for students in the spring. The new space will include ADA accessibility to both decks, a decomposed granite trail, safety railings, and even covered sections. Local farmstead Shindig Farms (near Highway 45 and Schism Rd.) also generously donated eight giant straw bales to serve as the new backstop for students to shoot into. These new improvements should help programs continue well into the future.



## **Sinker Road Work**

Nampa Highway District 1 recently finished road maintenance on Sinker Road, which connects Warren Spur Road to Celebration Park. Chip sealing, oil, and road striping were completed at the end of summer. The new road surface looks great and contributes to the professional image that the Parks Department hopes to convey.



## CANYON COUNTY PARKS, CULTURAL & NATURAL RESOURCES

# DEPARTMENT UPDATE: IN THE OFFICE

### New Cabinetry

Canyon County Facilities recently installed beautiful new cabinets in the Visitor Center and Canyon Crossroads Museum Classroom. Custom-built for the spaces, they add more storage for books and supplies, as well as better access to program materials. Better organization has been a goal of department management, and these new cabinets and bookshelves help make that a reality. Thank you to the facilities wood shop for building and installing these wonderful pieces.

### Mezzanine Update

As part of the effort to build the Canyon Crossroads Museum Mezzanine Library, the Facilities Wood Shop built and installed these new bookshelves to house the Dr. Mark Plew Collection. While the temporary bookshelves held up alright, these new shelves are more secure, hold more materials, and look more professional. Historic Preservation Officer Chelsea Boehm said, "These new bookcases will help improve access to staff and researchers, as well define the space."



### Certified Interpretive Guide Workshop

Visitor Services Specialist Lily Brown and Programs Manager Dylan Starry were certified as Certified Interpretive Guides (CIG) this fall. The 32-hour course was held at the MK Nature Center in Boise. It covered old and new interpretation methodologies and several presentations were required of the participants. Brown and Starry also connected with other professionals in interpretation, including new staff at Deer Flat National Wildlife Refuge. With this certification, they can help train staff in interpretative methods to provide better tours to Park visitors.

*Photo courtesy course instructor Jamie Little.*







## CANYON COUNTY PARKS, CULTURAL & NATURAL RESOURCES

# DEPARTMENT UPDATE: EVERYTHING ELSE

### Interpretive Rangers

With new uniforms for all staff, visitors are finding it easier to identify people to ask for information, tours, and help. But another common question we've gotten has been about the title "Interpretive Specialist." We're often asked whether these staff members are language interpreters. To help ameliorate this, the department changed the title of this position from "Interpretive Specialist" to "Interpretive Ranger" or just "Ranger" for short. This will continue the department's goal of creating a more professional appearance for its public-facing staff.

### Idaho News 6 Segment

Celebration Park was recently featured on KIVI Idaho News 6, covering the atlatl deck repair project. Neighborhood Reporter Brady Caskey (pictured, center photo, left) interviewed Director Nicki Schwend and Interpretive Ranger Larry Haney as part of the segment, and even tried his own hand on the temporary atlatl range set up near the museum.

The atlatl deck is under construction, expected to be finished in February 2025. Check the segment out here:

<https://www.kivitv.com/updates-celebration-park-safety-accessibility-atlatl-boardwalk>

### Staff Training

Interpretive Rangers are always being encouraged to learn more about the sciences they pass onto students and visitors. This summer, Program Manager Dylan Starry set up several peer-led training days, where Rangers taught lessons to each other on ecology, history, geology, ornithology, ichthyology, and more. Each Ranger is instrumental in bringing new perspectives to programs, and each has something unique to add.





# Historic Preservation Commission

## 2025 GRANT AWARDS

The Canyon County Historic Preservation Commission (HPC), under the direction of the Board of County Commissioners (BOCC), recommends and administers the Canyon County Historic Preservation Grant Award Program. The program grants funds to non-profit organizations in Canyon County dedicated to the protection and maintenance of historic materials or properties. To do this, Canyon County sets aside a small portion (no more than twelve one-thousandths of a percent or  $\leq .012\%$ ) of property tax revenue every year.

In April 2024, the HPC received nearly \$140,000 in funding requests.  
The projects below were selected for funding in the 2025 fiscal year.



### American Legion Post 18

Grant to repair the main hall and restore the stage of American Legion Post 18 building in Nampa.

**Total Award: \$39,700**

*Both listed on the National Register of Historic Places, these structures need urgent repairs.*

### Nampa Valley Grange

Grant to begin restoration of the Nampa Valley Grange 131 building, including replacing shingles, roof work, and more.

**Total Award: \$37,000**





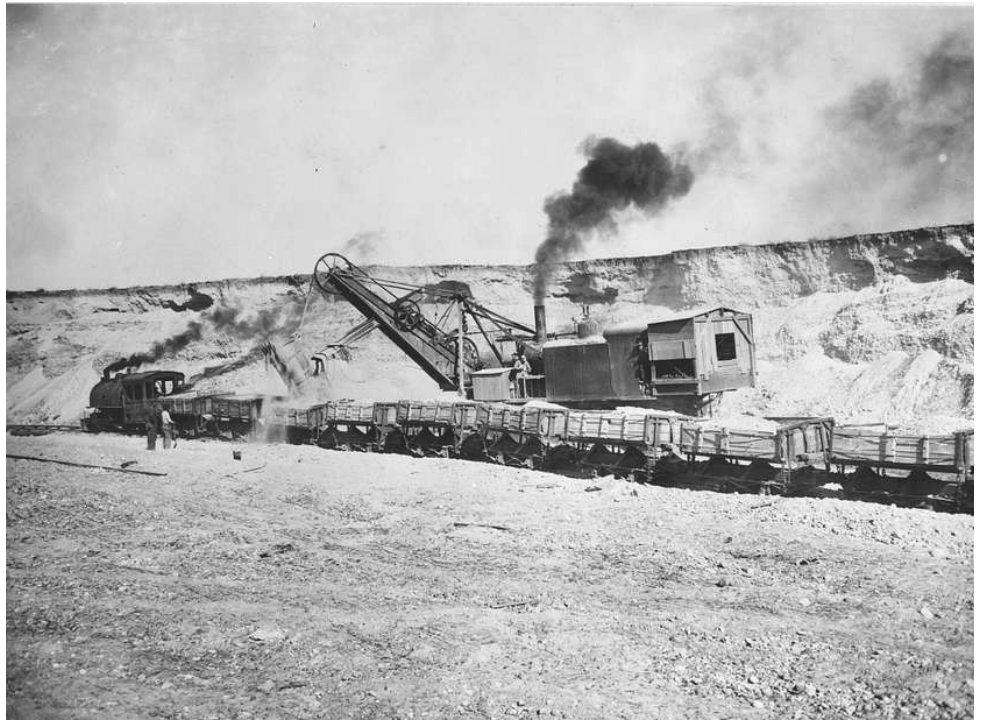
*(continued from p. 10)*

reclamation, and even deeper back through time. Environmental changes can drastically affect where archaeological sites are located, and where they would have been located at different times throughout history.

Take the Great Basin for instance. For a long period of time, much of the area was covered in a plethora of large pluvial lakes. These lakes formed in the basin areas of Nevada, Utah, and the southeast corner of Oregon during the Pliocene to Pleistocene epochs. This was a time of increased precipitation and moisture. This means archaeological sites dating back to those times are not likely to exist within those lake boundaries (underwater). During the Holocene, climate in the Great Basin became more arid with less precipitation. Pluvial lakes either dried up or significantly decreased in volume and size. The Great Salt Lake of today is ten times smaller than ancient Lake Bonneville; it is the 'puddle' that is left of its former self. Areas that were once inundated with water, became solid landscapes to occupy, use, and move across. As these bodies of water changed, so too did the location of archaeological sites as nomadic people were also tethered to water in many different ways.

In the same way archaeologists need to know about these types of environmental changes in the deep past, we need to be aware of the recent and drastic changes irrigation brought

to western landscapes practically overnight. Reclamation doesn't just water the crops to grow food (which is obviously essential for life) but on a bigger scale it provides a livable and sustainable landscape for masses of people to inhabit; people like my Uncle's family, and non-farming families like mine. Where water would otherwise not exist in quantities enough to sustain a large population, we have the Treasure Valley filled with hundreds of thousands of people, all of whom use the land very differently than it was used hundreds and thousands of years ago. Again, irrigation is fascinating! ■



*A familiar-looking reclamation project: the Lake Lowell Dam under construction and newly completed, circa early 20th century.  
Photos courtesy Library of Congress.*





*Above, left: handmade example of twining basket.*

*Above right: sprang woven hat found in Denmark, estimated to be over 2,000 years old.*

*Twining is a method of twisting fibers to form a weave. Sprang style is woven between two sticks or a frame.*



# Invisible Thread: THE ARCHAEOLOGY OF CORDAGE

by Jessica Sweeney, Interpretive Ranger

OUR LIVES ARE INTERTWINED with threads of all different lengths and types. String ties objects together, and is tightly woven into fabrics, knitted into accessories, and embroidered into elaborate decorations. A seemingly never-ending supply of threads, yarns, ropes, cords, and various other strings surround us, and are so highly entangled in our lives it is difficult to even imagine life without the technology. This speaks to the countless applications fiber arts play in our lives. As with many other tales spun, there is a beginning, and this particular story starts with cordage.

The precise moment a human twisted a handful of fragile filaments together into cord is impossible to pin down to an exact date, and that is due to the nature of the materials. The most common prehistoric artifacts in popular imagination are made of stone, such as arrowheads, spearpoints, or grinding stones – decidedly not nets, ropes, sprang bags, or twinned cloth (see photos on page 16), all created from hand



spun or twisted cord, and equally as important to survival. There are two reasons for this. First, stone survives in a myriad of different conditions relatively unharmed, meaning the most commonly-found objects at ancient archaeological sites worldwide are stone tools. Organic materials, while much easier to work with, tend to decompose quickly unless preserved under specific conditions. Second, perishable objects were often overlooked and discarded by early archaeologists who were looking for metal and stone artifacts (Wayland Barber 1991).



Perishable artifacts come in a variety of shapes and sizes, from a handful of fibers to woven tapestries. Fibers are a collection of slender filaments which can be twisted together to multiply the overall strength of each individual strand. For thousands of years, twisting fibers into cordage was all done by hand. Today, the most common fibers in our fabrics are synthetic. However, prior to the invention of nylon in 1935, plants and animals were the only source of filaments available. Fibers from organisms are referred to as natural fibers. There are two types of natural fibers: protein and cellulose. Protein fibers come from animals, like sheep's wool or moth silk. Cellulose fibers come from various parts of different plant species. The fluffy seed fiber cotton is the most well-known, due to its abundance in the market. When considering the archaeological evidence, the diversity of plants processed for fibers is astounding, and the most commonly used were bast fibers. Bast fibers come from the inner bark of various plant species due to the long base length of the individual filaments. Conifer bark, flax, dogbane, milkweed, yucca, and nettle are merely a few examples.

Dogbane is a popular choice for making cordage in the Great Basin of the United States. To turn the dogbane plant into fibers and then into cordage takes time, though generally it's not as intensive as the process required to make cordage from other plants, such as flax. First, the stalks must be collected from along the riverbanks, which is a more difficult task as habitat shrinks. This is usually done in late fall, once the leaves have died. Next, the waxy outer coating is scraped off with a dull knife, and the stem is broken in half

lengthwise. The fibers are then peeled away from the pith. Once a small pile is collected, the work can begin to make cordage.

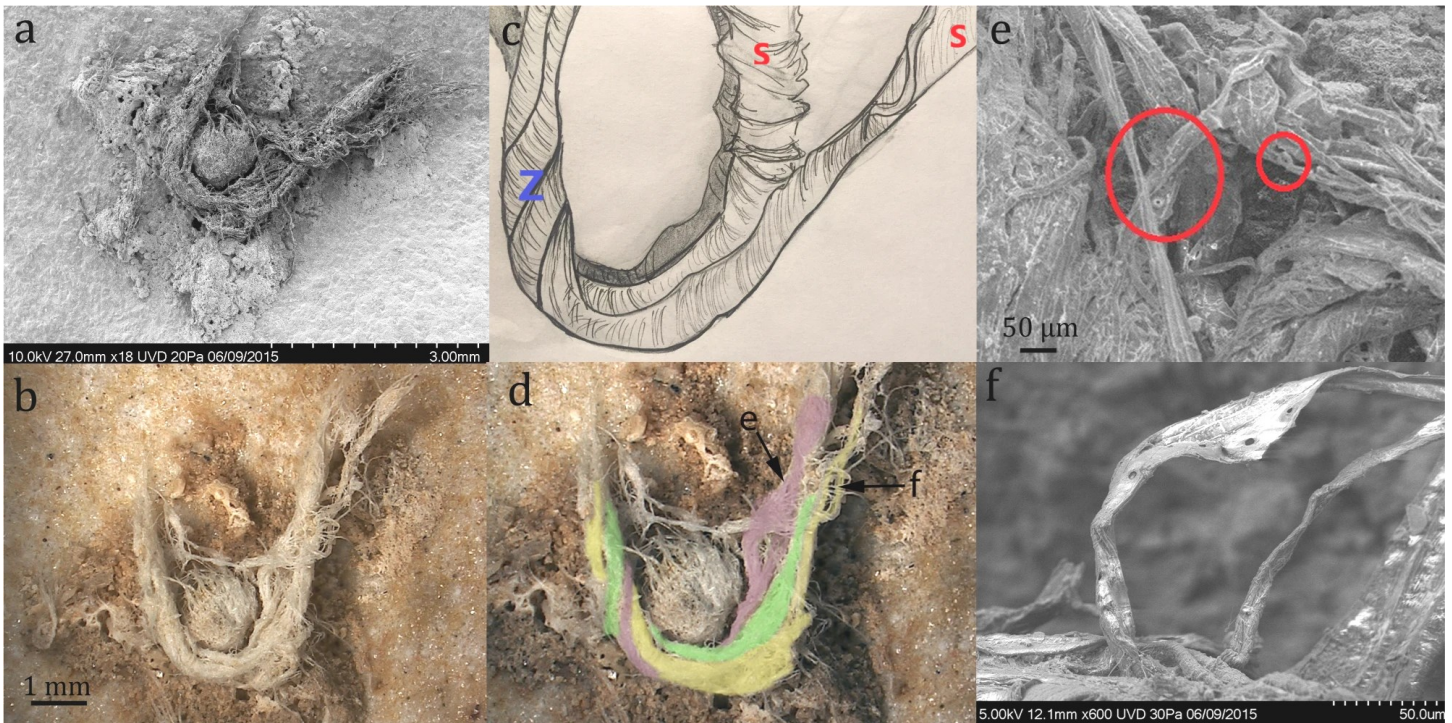
It can take between five and 20 minutes to create a foot of cordage. Of course this depends on the level of experience of the maker; a person who has practiced can create cordage much faster than someone who has not. To put this into perspective, a medium sized scarf, 60 inches long by 6 inches wide, needs around 600 yards of medium-weight yarn. Assuming the person making the cordage takes only five minutes to create a foot, to twist the amount of cordage needed to make a similar sized scarf would take 150 hours of work. This is not including plying (twisting cordage into thicker cordage), dying, or weaving. The labor involved to create a single object out of simple fibers is immense, but with a simple piece of cord there are infinite possibilities.

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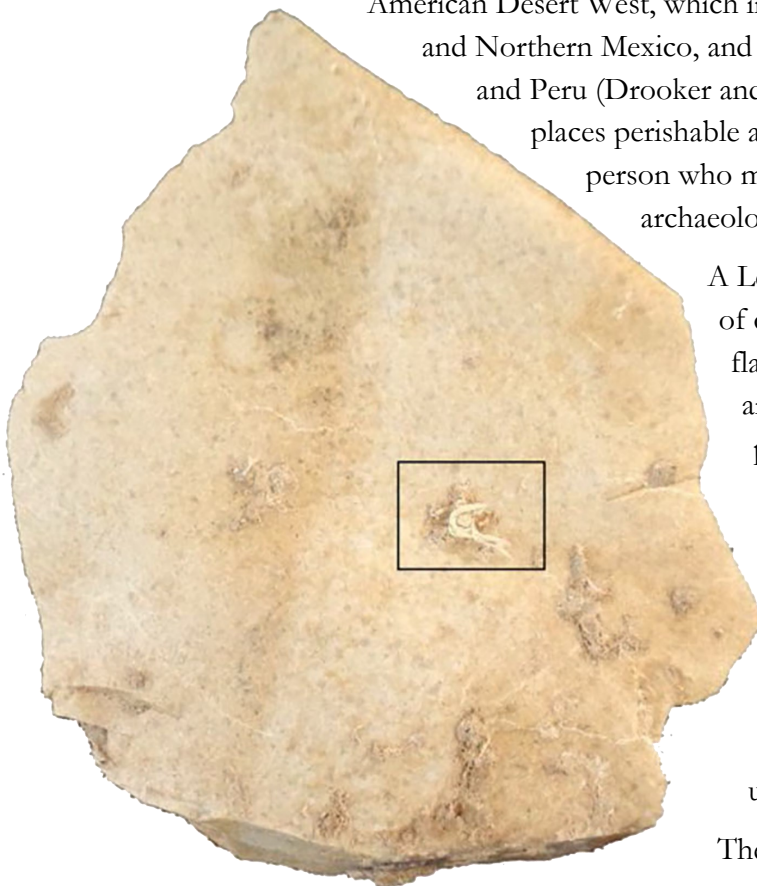
*P. 16, bottom: Handmade example of tablet weaving, made by the author. Tablet weaving is done on a loom with stacked, hole-punched cards.*

*P. 17: Fourth-grader Adelaide Starry tries making dogbane cordage during Archaeology Month 2024 at Celebration Park.*





Plant fibers are the base material for most ancient cordage, and are prone to rotting quickly in most environments. The specific conditions required for preservation of organic artifacts are sheltered areas, alkaline soils, dry temperate climates, anaerobic environments, or a combination of any of these factors. The Middle East and Americas have places where the environment lends itself to plant fiber preservation. In *Beyond Cloth and Cordage: Archaeological Textile Research in the Americas* edited by Laurie D. Webster and Penelope Drooker, it states there are two major regions in the Americas where climate conditions help preserve perishable artifacts. The first is the American Desert West, which includes the American Southwest, the Great Basin, and Northern Mexico, and the second is the coastal regions of Northern Chile and Peru (Drooker and Webster 3). That being said, these are not the only places perishable artifacts are found. Oftentimes, bad luck for the person who made (and lost) the object can lead to a lucky find for archaeologists.



A Levallois stone flake holds the oldest direct evidence of cordage at around 52,000-40,000 years old. The flake was left in a rock shelter, a site best known by archaeologists as Abri du Maras in France. The sharp piece of cream-colored flint itself is not an unusual byproduct of Neanderthal craftsmanship. However, the 60 mm piece of three plied coniferous bark fiber caught on the craggy surface of the flake is a different story (Scientific American). The small piece is likely a fragment of a larger cord, that could have been one of many in the form of a bag that held flakes for later use, or one length used to haft the flake to a stick.

The Upper Paleolithic epoch, from around 50,000 years ago until about 12,000 years ago, is where cordage



use begins to truly hit its stride. In a phrase first coined by Elizabeth Wayland Barber, this surge is often called the “String Revolution,” and “it opened the door to an enormous array of new ways to save labor and improved the odds of survival, much as the harnessing of steam did for the Industrial Revolution” (Wayland Barber 45, 1994). There is not only a distinct increase of cordage found, but also of other artifacts that required fine string to use.

Lascaux Caves in northern France, in use from c. 17,000 to c. 15,000 BCE, is a site most famous for the beautiful paintings that took generations to create. But it also held a surprise for archaeologists. In 1959, an archaeology team worked to copy engravings and document the cavern system. During a break, they found a piece of clay with a strange black line running through it, tapping it with a pen knife it broke open to reveal a six plied rope, a small fragment of a much longer rope that guided people through the cave system (Wayland Barber 51-52, 1994), allowing them to traverse the darkness, lit only by flickering torchlight. At one time this was the earliest evidence of cordage ever found.



Artifacts are used by archaeologists to weave a picture of what life was like for the people who created the objects. But with the shortage of organic materials in the record, the picture is incomplete and often misleading. That is not to say that there aren’t any wonderful and intriguing artifacts; across the world in various ages, artifacts have been found that can help deepen our understanding of past peoples and the skills they relied on in a world far different from our own. Every new artifact found or old one studied brings us closer to understanding the people who came before us.

There likely will always be a little bit of mystery surrounding the advent of cordage, but this does not change how it revolutionized human lives. People created, invented, and carried just as we do today, and the artifacts we find connect us to them. The age and condition of each artifact are variable, but even the oldest cordage that remains was made with experienced hands, creating well-made and often multi-ply lengths. It hints at a truly ancient craft, perhaps tying us today further back than we could possibly imagine. ■

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*P. 18, top: (a) SEM photo of cord fragment, (b) 3D Hirox photo of cord fragment, (c) schematic drawing illustrating s and Z twist; (d) enlarged Hirox photo with cord structure highlighted, arrows indicate location of photos e and f; (e) SEM photo of bordered pits (circled in red); (f) SEM photo of bordered pits. (Drawing by C. Kerfant; Hirox: C2RMF, N. M  lard).*

*P. 18, bottom: The Levallois flake in which the cordage example was found.*

*P. 19: Cordage making supplies, from raw plants, to fibers, to finished cordage. Photo courtesy Interpretive Ranger Jenna Raino.*

*References page 35.*





# Conserving Nature

## From the Snake River to the Tropics

**I**F YOU'VE BEEN A SUBSCRIBER to Canyon County's *Crossroads* Magazine for some time, you might recognize that the fall publication is often connected to historic preservation. Here at Celebration Park, historic preservation is of utmost importance. One of our primary responsibilities is to protect what is found in and around the park, as well as encourage others to respect the history of areas at Celebration Park and beyond. However, the historical and cultural significance of the park is not the only aspect we strive to protect. Here at the park, we are surrounded by nature – both plants and animals. It is another of our missions to preserve the natural resources—specifically the wildlife—of the park. We are not alone in our mission to preserve the nature around us. Across the globe,

organizations and companies are dedicated to protecting wildlife and the critical roles wildlife play in human lives. This includes factors such as ecosystem stability, economic value, and cultural significance. Organizations are striving to protect wildlife from current threats and preserve what wildlife provides to humanity.

The first case for wildlife preservation is its role in ecosystem stability. Wildlife plays a crucial role in maintaining ecosystem balance. Predators control prey populations, herbivores manage vegetation, and various species contribute to nutrient cycling. Disruptions of these roles can lead to ecosystem degradation and loss of services. For example, in the early 1990s, Yellowstone National Park was in a dysregulated environmental state. There were massive herds of elk destroying vegetation within the park; the food chain could not support the other animals. Conservationists noticed this imbalance and reintroduced gray wolves from Canada. Wolves are a natural predator of elk and brought

*by Lily Brown*

*Clockwise from top left: Elk; Mangrove forest in a swamp; Mountain lion in a tree; Idaho Department of Fish and Game doing conservation work at Wilson Springs Ponds in Nampa. Elk, mangrove, mountain lion photos courtesy Wikimedia Commons.*



the herd sizes back down to sustainable numbers. With smaller herds of elk, the ecosystem returned to an improved balance. Vegetation was given a better chance to grow, allowing more animals, like birds and insects, to thrive. Without the stability of predators and prey, the entire ecosystem begins to break down and the natural cycles are disrupted.

Food chains and animal interactions are not the only cycles reliant upon wildlife preservation for protection. Cycles such as decomposition, water purification, soil fertility, and pollination are all reliant upon wildlife preservation. All of these cycles are integral to human health and stability. One of the most recognized cycles is our agriculture and its symbiotic relationship with pollinators.

Without pollinators, specifically native species, we would not be able to produce crops at our current rate and they would be less diverse and healthy. Unfortunately, the world has seen a general decline in pollinator levels, especially among bees. The decline is attributed to habitat loss, competing invasive species, disease, and habitat fragmentation (where tracts of habitat degrade resulting in habitats too few and far between for organisms to reach). Without pollinators, we would not be able to grow viable crops nor support the current population level. Within Idaho, we would lose a significant portion of our crops and agriculture if the native pollinators were to disappear.

To help resolve these issues, many companies and organizations have started educating communities about the importance of pollinators and how simple acts, such as cultivating native plants or creating wintering habitats, help to preserve our native pollinators by reducing the stress of habitat loss and fragmentation. This method not only helps

preserve native species, but it also connects people to the wildlife around them and its importance in their lives.

Another example of endangered, essential ecosystems for wildlife preservation (as well as protecting humans) is mangroves. Mangroves are areas of semi-aquatic trees that create a barrier between land and sea. Many of these areas are prone to hurricanes, tsunamis, and massive weather events that cause devastation to cities as well as land. Studies show that when mangroves are present, they serve as natural barriers that help disrupt the effects of extreme weather on land. Mangroves have been shown to help reduce storm

surges, large waves, and protect against winds, which helps decrease the destruction caused by these severe weather events. Not only do mangroves protect the land and wildlife, but they also

*Without the stability of predators and prey, the entire ecosystem begins to break down and the natural cycles are disrupted.*

protect cities, creating even greater benefits to their preservation. Unfortunately, since the 1980s more than 35% of the world's mangroves have been lost. The decline is primarily due to deforestation for timber, aquaculture, and city development along coastlines. These practices still occur, but many organizations are dedicated to preserving and reintroducing mangroves. These entities are helping educate people on the importance of mangroves and their role in reducing the negative effects of extreme weather.

Similar to mangroves, Idaho has riparian zones—unique ecosystems between land and water—that serve comparable functions. These riparian areas help to slow erosion, clean waters, and serve as a unique habitat for countless animals. Riparian zones can also help reduce extreme weather events. Idaho's weather is not as severe as compared to the tropics, so riparian zones do not serve as great a function to slow the effects of storms as much as mangroves do. Despite their differences, riparian and mangrove areas are both essential to protecting and preserving the areas around them.





In addition to the health of an ecosystem and its cycles, wildlife preservation also plays a role in some areas' economic value. Wildlife tourism, safaris, bird-watching, diving, hunting, fishing, and other wildlife-inclusive activities generate significant income for many regions. The economic benefit provides financial incentives for conservation efforts and supports local economies. For example, Kenya has extensive wildlife programs including safaris, bird cameras, snorkeling, and guided hikes. These programs generate income for locals while also helping support wildlife preservation.

One of Kenya's highlighted programs is Room to Roam which creates large protected areas for elephants to safely continue their yearly migrations. This program works with the communities within the elephants' migration path and creates a protected area for both people and animals. Without the funds provided by wildlife tourism, many of Kenya's programs would not exist.

Similarly, in Idaho, we have the Idaho Department of Fish and Game (IDFG), which is dedicated to protecting, preserving, and managing Idaho's wildlife. They get much of their funding through personal hunting and fishing licenses, game tags, and permits. These sales help fund the department and allow IDFG to manage Idaho's wildlife and continue to support its preservation.

Not only does wildlife preservation support environmental and economic value, but it also carries cultural significance. Across the world, cultures and even religions have special connections to animals. These groups see wildlife as sacred, which increases their desire to preserve them. Safeguarding wildlife helps protect their traditions, beliefs, and practices, maintaining their culture as well as the animals.

For example, buffalo are culturally significant to the Eastern

Shoshone and the Northern Arapaho peoples in western and central Wyoming. Since these animals are important, the Wind River Tribal Buffalo Initiative (WRTBI) have begun restoring buffalo herds back into the Wind River Indian Reservation. Buffalo used to roam through these lands, but significant decrease in the buffalo's populations across the west meant the herds had nearly disappeared. In the last decade, WRTBI has focused on bringing buffalo back with a continuously growing herd of 160+ buffalo migrating across their lands. Jason Baldes, the executive director of WRTBI and the Shoshone Tribal Buffalo Representative, said, "Buffalo restoration is not just about ecological importance, it's also about cultural and spiritual importance." He also

says that restoring buffalo populations "touches everything that we do, it's foundational to who we are as people as both tribes" (Eastern Shoshone and Northern Arapaho). It is essential to these tribes to restore buffalo across the west, including Idaho. By restoring the buffalo populations, the tribes are not only regaining a species that helps maintain the environment but also helps preserve what is important to their cultures and beliefs.

Across the world, wildlife preservation faces many threats including habitat loss, pollution, invasive species, and overharvesting. As seen from the pollinators and

the mangrove ecosystems, these threats affect both wildlife and humanity. Luckily, wildlife conservation has been practiced for generations and the last decade has seen an even greater public interest in maintaining wildlife.

Thousands of organizations exist to protect wildlife on all levels and to help educate people on the importance of preserving nature. These groups are protecting wildlife through a combination of creating protected areas, legal regulations, community engagement, and scientific research. This combination of techniques creates a greater chance of



*Animals such as this African elephant depend on conservation efforts by organizations for their continued survival.  
Photo courtesy Wikimedia Commons.*



success than one method alone. Within Idaho and the U.S., we have many departments dedicated to preserving Idaho's wildlife. Departments such as Idaho Department of Fish and Game, U.S. Fish and Wildlife, U.S. Department of Agriculture, and within our own department at Canyon County Parks. Each department has a mission to preserve the wildlife around us so our environments remain healthy and the residents of Idaho continue to enjoy nature. Wildlife preservation helps maintain environmental health, supports economic prosperity, and upholds cultural values. As negative impacts continue to grow, societies must invest in and prioritize conservation efforts. By recognizing the interconnectedness of human and wildlife well-being, we can work towards a more sustainable and harmonious future. ■



*Buffalo are culturally significant to many native tribes. WRTBI is working to restore these animals back onto the Wind River Indian Reservation.  
Photo courtesy Wikimedia commons.*

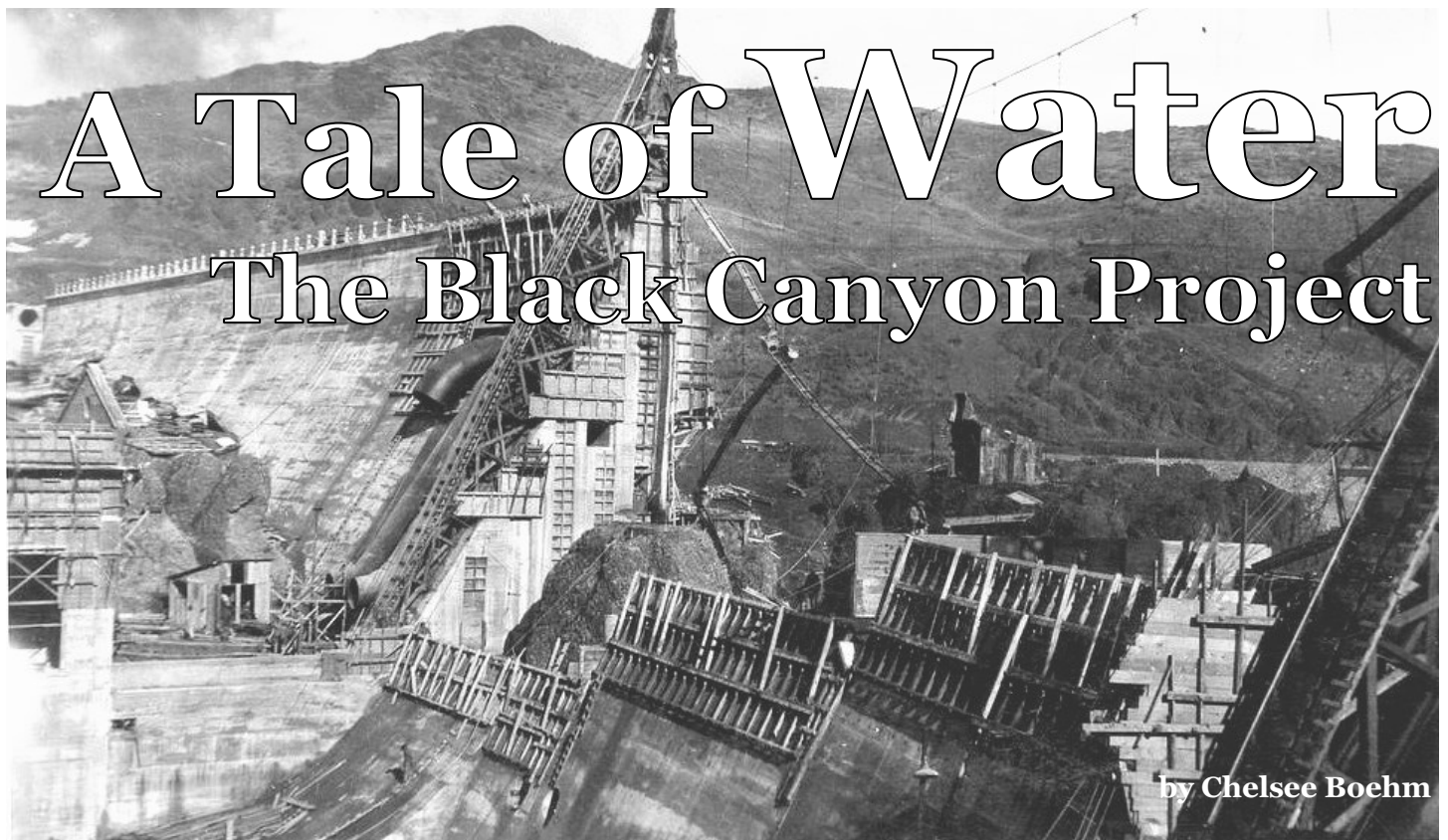


*Wildlife conservation matters, whether it's on the plains of Africa or the Snake River Plain in our own backyard.*

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by Chelsea Boehm

*The Black Canyon Dam partially constructed, ca. 1923.*

**M**ORE THAN ANY OTHER INDUSTRY, farming has shaped the character of Canyon County, and it wouldn't have been possible without irrigation.

Driving by the fields of barley, vineyards, and farms of rural Canyon County, you see lush green stretched out across the horizon. It might be hard to believe that you are in a once-parched place. But, without the decades of planning and engineering, and the construction of dams and canals to redirect water, it would be as dry as dirt.

For thousands of years, ancestral bands of Bannock, Paiute, and Shoshone peoples lived in the area now known as southern Idaho. Following seasonal cycles of subsistence, they spent parts of the year moving around, hunting and gathering.<sup>i</sup> While they didn't engage in Euro-American methods of farming, they purposefully managed resources, such as the harvesting and burning of camas.<sup>ii</sup>

In Washington Irving's portrayal of the Pacific Fur Company's 1810-1813 expedition through the western United States, he wrote:

"A dreary desert of sand and gravel extends from the Snake River almost to the Columbia. Here and there is a thin and scanty herbage, insufficient for the pasturage of horse or buffalo. Indeed, these treeless wastes between the Rocky

Mountains and the Pacific are even more desolate and barren than the naked upper prairies on the Atlantic side; they present vast desert tracts that must ever defy cultivation..."<sup>iii</sup>

Seeing the same "dreary desert" many emigrants on the Oregon Trail only passed through modern-day Idaho.<sup>iv</sup> Most headed to Oregon or California. But with the discovery of gold in the 1860s, Idaho's population exploded. Small towns sprang up. Wooden structures – home to general stores, bars, and churches – lined muddy roads frequented by horses and donkey trains.

The growing population spurred a demand for supplies. With water easily accessible, industrious settlers pursued agriculture along rivers. This settlement along waterways came at the detriment of Indigenous populations – who had long relied on resources from, and lived in, those very areas.<sup>v</sup>

As the land around the rivers filled, other settlers needed to route water to areas beyond. Canal companies and cooperatives formed around the valley, seeking to move water to farms farther from natural sources. Self-described as the "oldest community in Canyon County," irrigation cultivated Middleton's establishment and early growth. Water flowed through the Middleton Mill Ditch in 1864, just one of many to transport water across Canyon County.

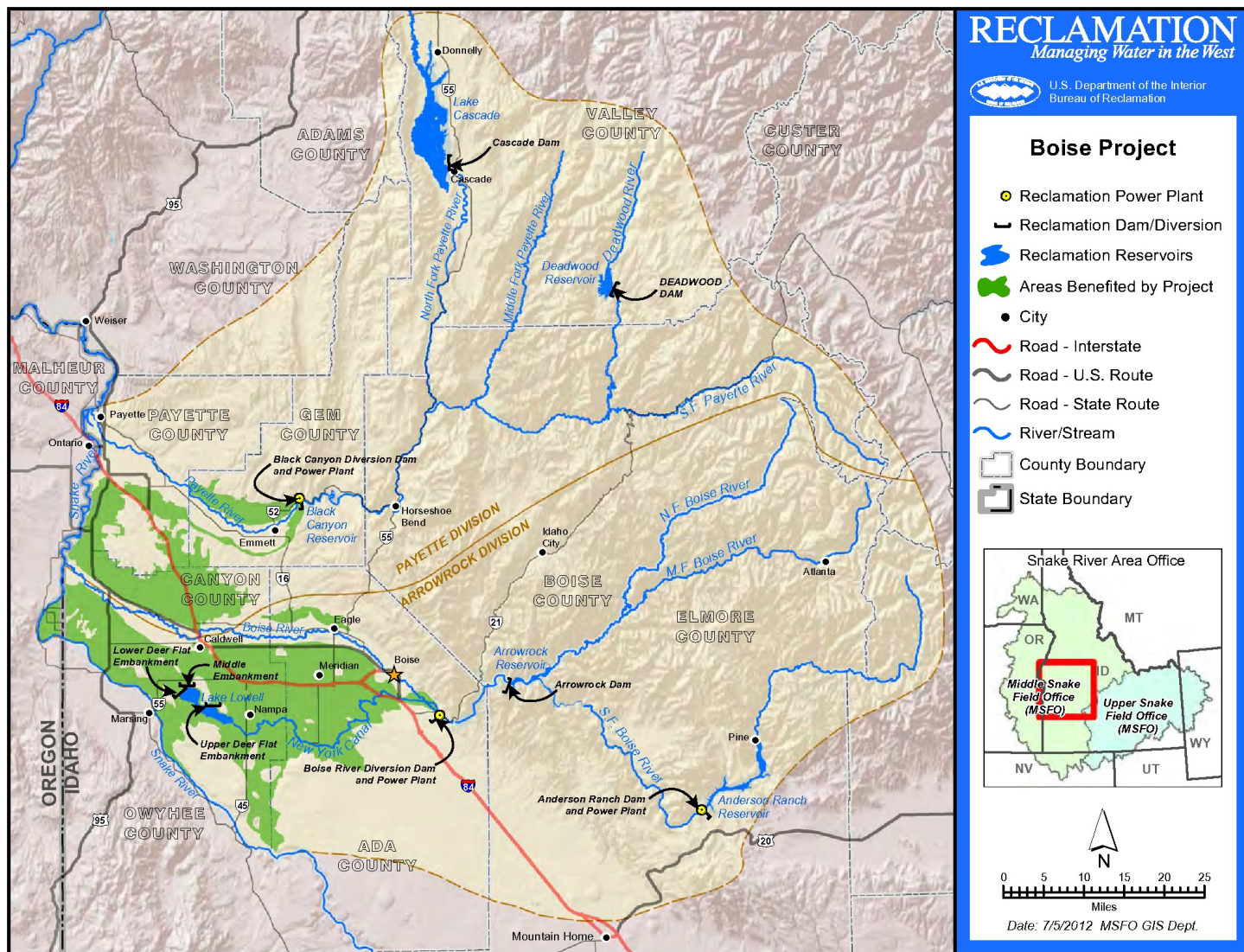


Just as modern county residents are watching farmlands fill in with subdivisions, people living in the area in the late 1800s and early 1900s saw the landscape change from sagebrush to fields of green crops. But, the transition from desert to agricultural oasis wasn't smooth. Rerouting thousands of gallons of water was laborious and expensive.

Created in 1902, the Reclamation Service (now the Bureau of Reclamation) eventually took over the momentous task of funding, and building, the ever-growing irrigation system needed.<sup>vi</sup> Authorized in 1905, the Payette-Boise Project (later renamed the Boise Project) built on previous, private efforts to irrigate large swaths of southwestern Idaho. Parts of the Boise Project include familiar irrigation features



Top: Farmer preparing land for planting to be supported by the Black Canyon Project, 1941.  
All photos courtesy Library of Congress.





like the Arrowrock Dam, Lake Lowell, and the New York Canal. Today, the Boise Project supplies water to 167,000 acres of land with more than 460 canals and laterals that equal about 1,500 miles.<sup>vii</sup>

A culmination of decades of work, the Black Canyon Irrigation Project illustrates the struggle of bringing water to farms in the west. The project is part of the Payette Division, which includes land between the Boise and Payette Rivers.

The Boise Project included plans to irrigate the Payette Division. Expecting water to arrive soon, settlers began to fill in the Black Canyon Project area with plans to

farm. But, the Reclamation Service financially gutted the northern part of the Boise Project in 1910. In response, community members formed the Black Canyon Irrigation District – with Middleton, Notus, and Parma within it – to try to get water to the Payette Division with private funding.<sup>viii</sup>

But, years went by with little progress. The district returned to the federal government to ask for money to support the project. In 1914, Senator William Borah presented a petition to the United States Senate.<sup>ix</sup> In it, he described the situation of the Black Canyon Project.

“...most of said land has been settled for the last eight or nine years, and the greater number of settlers have spent all their savings in constructing homes, digging wells and making improvements on the land, expecting that water would be available within a short time, and are now almost destitute.”<sup>x</sup>

Finally, in 1918, the Reclamation Service allocated money to get water to the Notus Unit (also known as the First Unit) of the Payette Division. On April 23, 1921, 3,000 people gathered to celebrate the opening of the unit. The festivities included a barbecue, a baseball game, dancing, and more.<sup>xi</sup> Supplied with water from the southern part of the Boise



*Farmhouse of a man waiting for water from the Black Canyon Project, 1941. Note the desert ranch sign reading, “Have Faith in God and U.S. Reclamation.”*

Project, the Notus Unit includes about 7,000 acres. Despite this success, many in the Black Canyon Project area still didn’t have the water they needed.

Completed in 1924, the Payette River’s Black Canyon Dam supplies water to the Emmett Irrigation District. While engineers also planned for the dam to provide water to the Payette Division, the river’s flows proved too unreliable to deliver enough water.<sup>xii</sup> So, in 1927, the Black Canyon Irrigation District signed a contract with the Reclamation Service for

“construction of a canal system [supplied] by diversions at Black Canyon Dam, construction of a storage reservoir on the Payette River or its tributaries to augment the natural flows... thereby assuring a reliable water supply, and a share of the power generated at Black Canyon to be used for pumping on division lands.”<sup>xiii</sup>

To meet these needs, the Bureau of Reclamation completed the Deadwood Dam in 1931. But, the water sat 30 miles away. It would take eight more years for the Black Canyon Canal to be completed and for water to be delivered to the Second Unit of the Black Canyon Project. In an article describing the canal’s completion, the first delivery of water was described as “the culmination of more than a century of



promotion—the result of a fight longer than the Thirty-Year War.”<sup>xiv</sup>

It should be no surprise that there was still not enough water to go around. Flows from the Payette River and the storage at Deadwood Dam were not sufficient to irrigate the lands of the Black Canyon Project area. The Bureau of Reclamation planned the Cascade Dam to supplement these sources, but World War II delayed the project by seven years. The addition of the C-Line Canal, completed in 1949, finally rounded out fifty years of extensive efforts to deliver water to the Black Canyon project area. Today, the Black Canyon Irrigation District (who now manages the irrigation water) delivers to more than 60,000 acres of land in Canyon and Payette County.

Today, agriculture remains an important part of the Canyon County culture and economy. As of 2023, Canyon County accounted for a major percentage of the state’s seed production, or the growing of crops to produce seeds to grow more plants. In 2012, the County exported seeds to 120 countries, with an approximate industrial worth of \$300 million. ■

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<sup>vi</sup> Wm. Joe Simonds, *The Boise Project* (Bureau of Reclamation History Project, 1997), 5.

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Sign for Notus, home of the Black Canyon Irrigation District, 1941.



# Trail Spotlight: Guffey Butte

by Brendan Blowers de León

**T**RAIL CONDITIONS CAN CHANGE QUICKLY—swollen rivers can become impassable, windstorms can knock trees down across trails, and snow can come earlier than expected. Please take these recommendations as a starting place and do additional research to understand current conditions and keep yourself safe if you choose to hike this trail. Physical guidebooks and maps are always good to have or check out some online resources like Alltrails.com for updated trail reports.

**Duration:** Day Hike

**Area:** Morley Nelson Snake River Birds of Prey National Conservation

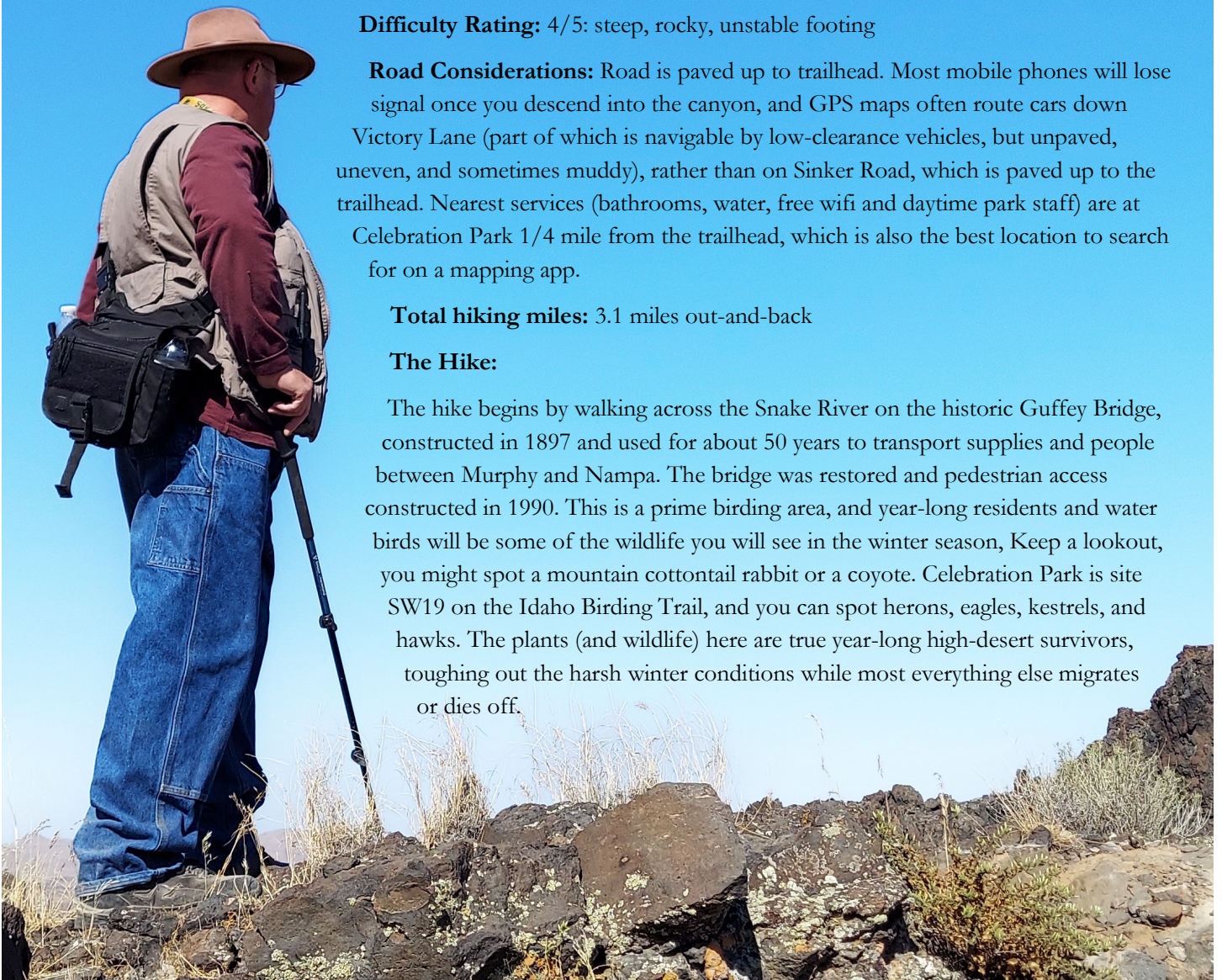
**Difficulty Rating:** 4/5: steep, rocky, unstable footing

**Road Considerations:** Road is paved up to trailhead. Most mobile phones will lose signal once you descend into the canyon, and GPS maps often route cars down Victory Lane (part of which is navigable by low-clearance vehicles, but unpaved, uneven, and sometimes muddy), rather than on Sinker Road, which is paved up to the trailhead. Nearest services (bathrooms, water, free wifi and daytime park staff) are at Celebration Park 1/4 mile from the trailhead, which is also the best location to search for on a mapping app.

**Total hiking miles:** 3.1 miles out-and-back

## The Hike:

The hike begins by walking across the Snake River on the historic Guffey Bridge, constructed in 1897 and used for about 50 years to transport supplies and people between Murphy and Nampa. The bridge was restored and pedestrian access constructed in 1990. This is a prime birding area, and year-long residents and water birds will be some of the wildlife you will see in the winter season. Keep a lookout, you might spot a mountain cottontail rabbit or a coyote. Celebration Park is site SW19 on the Idaho Birding Trail, and you can spot herons, eagles, kestrels, and hawks. The plants (and wildlife) here are true year-long high-desert survivors, toughing out the harsh winter conditions while most everything else migrates or dies off.



*Interpretive Rangers Larry Haney (pictured) and Colton Oswald (pictured p. 29, top) volunteered to hike to the top of Guffey Butte for the sake of these pictures. Photos are courtesy of them.*



After crossing the bridge, a steep scramble down the berm gets you into a short section of sagebrush/saltbrush steppe before peeling upward to the right for a steep ascent up to a higher plain. Be sure to take the ascent to the RIGHT, this will get you on the path up Guffey Butte, instead of toward the left butte, with steep cliffs. After the brief, steep ascent, a level section precedes another steep portion straight up the side of Guffey Butte. The slope is the remnant of a prehistoric volcanic eruption millions of years ago when volcanism was forming the area. As you summit the “saddle” of the smaller butte with all the gnarly tuff cones and spires, the terrain under your feet will change to gravelly lava rock where someone has created a “geoglyph” (a rock arrangement visible from above). The saddle area is a false summit, but scramble around to your left in the rock formation to climb through the circular hole that has been weathered through the rock (“window” rock). At this point you’ve ascended the steepest part, but you’re only 3/4 mile in and halfway to the actual summit. Already, the views to the north are majestic, across the Snake River and Guffey Bridge to other prominent geological features such as Hat Butte, Walter’s Butte, White Butte, and Initial Point.

Descend the north slope of the ridge, and the trail will continue to the right, past the volcanic spires, and swoop up another steep slope. You can’t see the summit from the trail... but it is there... due North from the trail, which peters out at the base of the slope. You can follow the faint trace of the trail up to the ridge and toward the right, but any ascent you take will get you closer to the actual summit of Guffey Butte. Technically you are ascending a second, higher volcanic peak, through a maar formation, which created rising magma that mixed with water and erupted, causing more shallow, sloping craters.

You’ll know you’re at the true peak at 3,123 feet when you encounter a towering rock cairn with an American flag in it (likely shredded to bits by the violent winds on the top of the butte) with a summit logbook inside a toolbox cache. You’ll also have a beautiful scenic panoramic view, this time including the Owyhees: Hayden Peak and War Eagle Peak towering above the rest. You’ll also have spectacular views down into the town of Murphy (the historic terminus of the railroad crossing the Guffey Bridge).

If the wind hasn’t blown you off the butte, return the way you came or explore some of the side trails that loop around other parts of the volcanic butte or cross over to the other plateau to the east. If you’re into geocaching, search for some of those as well. ■

*Interpretive Ranger Brendan Blowers-de Leon left the department this year for Haiti, but continues to help as a volunteer from abroad with things like this fun article!*



*Top: The halfway point is marked with this towering rock with a natural window in it.*

*Bottom: Remnants of an ancient maar volcano are visible at the top.*





by Noelle Halverson

*This article appears as one in a series of nature- and science-themed pieces written by Canoe Science Camp Field Instructors in summer 2024.*



Noelle  
Halverson

**A**LTHOUGH MANY PEOPLE MIGHT NOT TAKE A SECOND LOOK at the leafy plants floating around the edges of Lake Lowell, Canoe Science Camp participants quickly took notice of it: the smartweed. These leafy greens can be seen in large quantities on the water's surface and are found all around the lake's perimeter. Smartweeds grow so thick, that one kid commented on how they “look like a beautiful meadow” floating in the water. As a Field Instructor, I got to take the kids through the smartweed in the early months of the summer, and even later when the plants grew too thick to canoe through. The kids loved to go near the smartweed and look at the pink flowers. Naturally, they had lots of questions about what these mysterious floating plants were, how they grow, or if they could even eat them!

The smartweed in Lake Lowell is just one of the many different varieties of smartweed in Idaho, not all of which grow in water. This plant is classified as a rhizomatous perennial herb, meaning that it has a modified stem with roots growing in all directions from its nodes and it regrows every year. It has great variety in its morphology and is known by several common names such as long root smartweed, water knotweed, and amphibious bistort. It is one of the few plants that inhabits almost every state in America and can be found in several different countries. The smartweed plant prefers wet environments, but can be found on land, or purely in water, such as at Lake Lowell. The kind of smartweed found specifically at Lake Lowell is given the scientific name *Polygonum amphibium* var. *emerson*. “*Polygonum*” can be translated to “many knees” because of its knobby stem, and “*amphibium*” references the aquatic nature of the plant. There are many varieties of smartweed, but the variety *emerson* (meaning to rise out of the water) is found specifically at Lake Lowell and has been used as a resource for humans and animals for many years.

Throughout time, smartweed plants have been used by people as different medications and ointments, as well as a food source. The smartweed found at Lake Lowell is in the buckwheat family. All parts of the plant are considered edible, but should never be eaten without expertise in edible plants. Smartweed is said to taste



much better when roasted and is most commonly eaten when the roots and leaves are ground up as seasoning or as a thickener for food. Although smartweed is not commonly eaten today, Native Americans often utilized this resource. The smartweed at Lake Lowell, as well as *P. punctatum*, *P. piperoides*, and *P. densiflorum*, are all varieties that are considered diuretic, meaning they can be used as a natural remedy to stop intestinal and uterine bleeding, can be placed directly on open wounds to disinfect the area, or used on rashes to reduce itching. Besides uses for cooking and treating ailments, these plants have also been used by Native Americans to aid in hunting, by crushing up the leaves and throwing them into a small pond to disrupt the oxygen intake of the fish. This forces the fish to float to the top of the water, making them easier to catch. Not only is this seemingly boring plant a multipurpose resource, but it is also a home to many fish, and a great addition to the Lake Lowell ecosystem.

Smartweed has thick roots, with many offshoots connecting to one another, making them almost impossible to pass through in the late months of summer. Although it's tough to canoe through, it creates a great filtration system around the edges of the lake, stopping pollution and pieces of trash from ending up in the lake and potentially harming wildlife. The filtration of the root system is so effective that miners have found trace amount of gold in smartweed stalk tissues near the outputs of streams near mines. The thick root system and high oxygen content make for an ideal habitat and breeding ground for fish, dragonflies, and frogs. Smartweed is a crucial part of the ecosystem because of the variety of resources it provides for all surrounding organisms and allows a glimpse into the past about natural remedies and how plants can be invaluable. These unique plants at Lake Lowell might seem just like a floating leafy green, but have a rich history and play a key role in local ecosystems, making them a great topic for education with the kids. ■



*Damselflies are common on the smartweed at Lake Lowell.*



*Canoeing gets more difficult as the summer progresses and the smartweed grows taller.*





CANYON COUNTY  
PARKS AT



**CELEBRATION  
PARK**

# STORIES IN STONE

A place-based archaeological field trip that allows students to connect to place through exploration, observation, and hands-on experience.

Students will be immersed in the rich cultural and natural history of southwest Idaho. They will leave with a better understanding of how ancient cultures and lifeways of southwest Idaho relate to their own lives today.

Students will learn about:

Archaeology on the  
**PETROGLYPH  
FIELD**

Ancient Tools in  
**LITHIC  
LIFEWAYS**

Mining History on  
**GUFFEY  
BRIDGE**

Hunting on the  
**ATLATL  
RANGE**

## Information

- ✓ 10:00 AM—2:00 PM
- ✓ 4th Grade and up
- ✓ Students should bring a lunch
- ✓ One lesson indoors, three outdoors

## Celebration Park

5000 Victory Rd.  
Melba, ID 83641

## Registration Link

[www.canyoncounty.id.gov/field-trips](http://www.canyoncounty.id.gov/field-trips)



**More Information:**

[parksprograms@canyoncounty.id.gov](mailto:parksprograms@canyoncounty.id.gov)

(208) 455-6022





CANYON COUNTY  
PARKS AT

**CELEBRATION  
PARK**

# WILDLAND FIRE FIELD TRIP

A place-based ecological experience designed to teach students how they interact with fire in the natural ecosystem of Idaho, the sagebrush-steppe. While this program teaches fire safety, it also explains the impacts of fire in our local ecosystem.

Students will explore the Park's fire regime and learn about fire behavior. They will also learn about wildland firefighting tools and methods. Students will leave with a better understanding of how wildfire regimes relate to their lives in Idaho.

Students will learn about:

Fire Management  
**FIREFIGHTING  
TOOLS**

How Fire Works in  
**HANDS-ON  
FIRE LAB**

Fire Regimes on a  
**FIRE  
ECOLOGY  
HIKE**

Hunting on the  
**ATLATL  
RANGE**

## Information

- ✓ 10:00 AM—2:00 PM
- ✓ 5th Grade and up
- ✓ Students should bring a lunch
- ✓ One lesson indoors, three outdoors

## Celebration Park

5000 Victory Rd.  
Melba, ID 83641

## Registration Link

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(208) 455-6022





CANYON COUNTY  
PARKS AT



**CELEBRATION  
PARK**

# WINTER DESERT ECOLOGY

Students will be immersed in Celebration Park's winter landscapes. They will learn about the plants and animals of the Park and how they are adapted to winter in the high desert, as well as how native people interacted with them.

A collaborative teaching effort between Canyon County Parks and the Bureau of Land Management's Morley Nelson Snake River Birds of Prey National Conservation Area also teaches students about birds of prey.

Students will learn about:

Birds of Prey in

**MEET THE  
RAPTORS**

Ancient Tools in

**LITHIC  
LIFEWAYS**

Adaptation on

**ECOLOGY  
TRAIL HIKE**

Hunting on the

**ATLATL  
RANGE**

## Information

- ✓ 10:00 AM—2:00 PM
- ✓ 5th Grade and up
- ✓ Students should bring a lunch
- ✓ Two lessons indoors, two outdoors

## Celebration Park

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**More Information:**

[parksprogramms@canyoncounty.id.gov](mailto:parksprogramms@canyoncounty.id.gov)

(208) 455-6022



## Join us for the 2025 Master Naturalist Program!

**NOW recruiting new members. Classes will be held Fridays 1 to 4 pm, February 7 through May 16, 2025 at the Deer Flat NWR Visitor Center.**



**Who?** Adults who enjoy nature and are interested in learning more.

**What?** Participants learn about Idaho's natural resources and get involved in local conservation projects. To become a Certified Master Naturalist, you must *attend 40 hours of classes* and *volunteer 40 hours* working with local agencies and organizations to teach children about nature, help biologists collect data, monitor wildlife, improve habitat, and more.

**Cost:** \$100 registration fee. Scholarships may be available if you qualify.



***Space is limited—Register November 30, 2024—January 25, 2025***

**Email [mndeerflat@gmail.com](mailto:mndeerflat@gmail.com) to register or for more info.**

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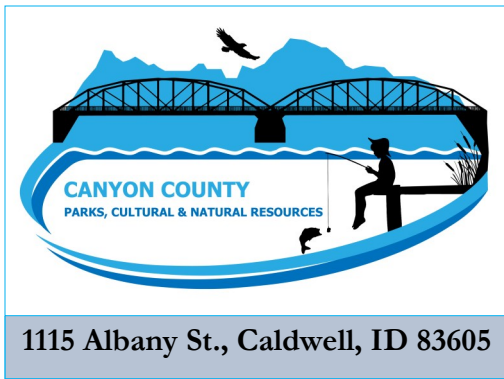
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*We never get tired of pictures like this. Long-time Interpretive Ranger Brenda Stone took this picture on a walk at Lake Lowell. She retired this fall and we'll miss her greatly, but wish her all the best in her retirement.*