



Canyon County Parks, Cultural and Natural Resources

Crossroads

Winter 2019



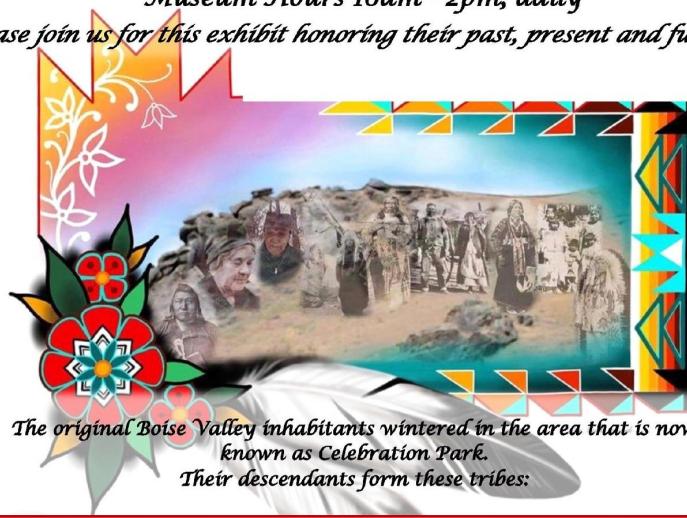
An Exhibit
The Five Tribes of the Boise Valley

Canyon Crossroads Museum at Celebration Park

March 1st, 2019—June 30th, 2020

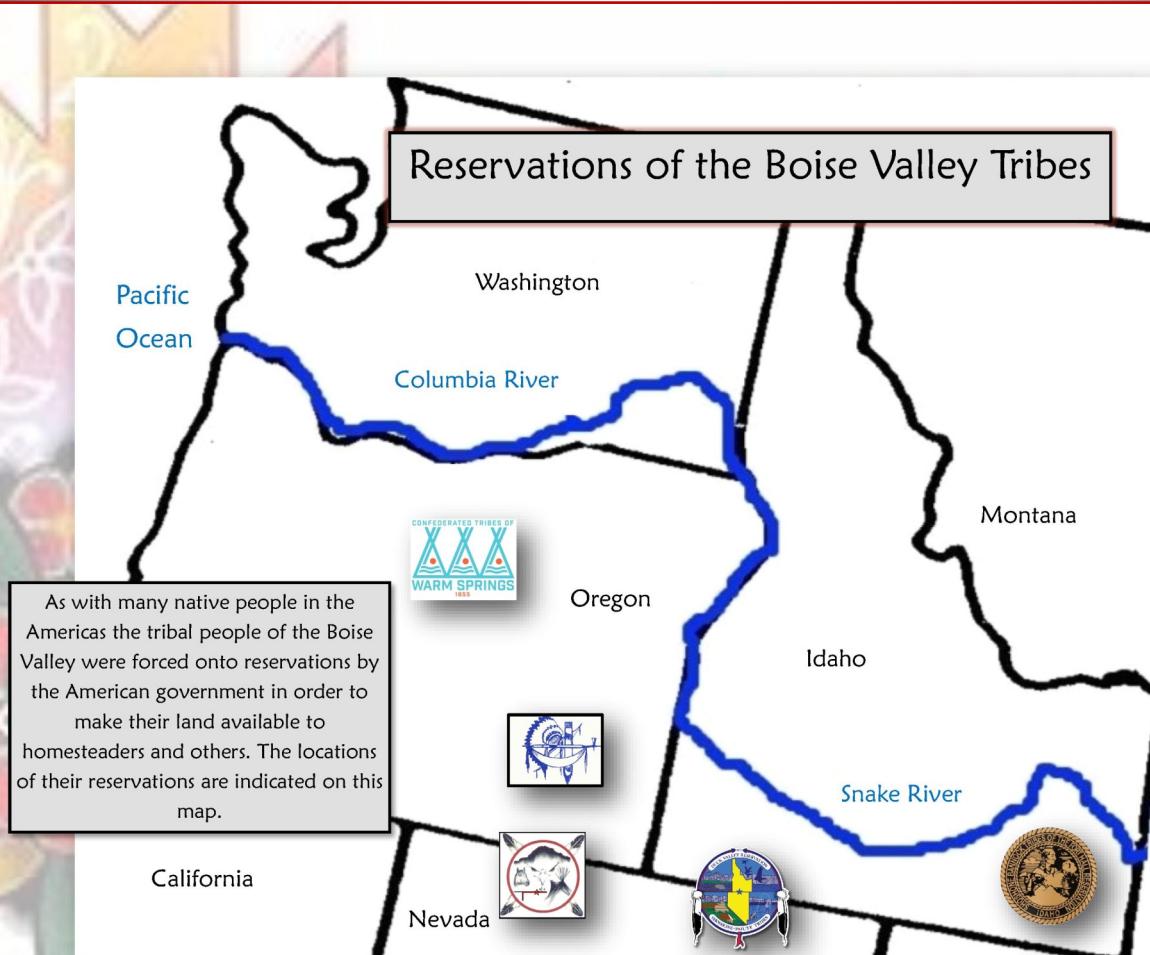
Museum Hours 10am—2pm, daily

Please join us for this exhibit honoring their past, present and future.



The original Boise Valley inhabitants wintered in the area that is now known as Celebration Park.
Their descendants form these tribes:

As we did in the last issue of Crossroads, we're providing a peek at some of the exhibit displays.
We hope you have the opportunity to visit the museum during the next few months to view the exhibit in its entirety.



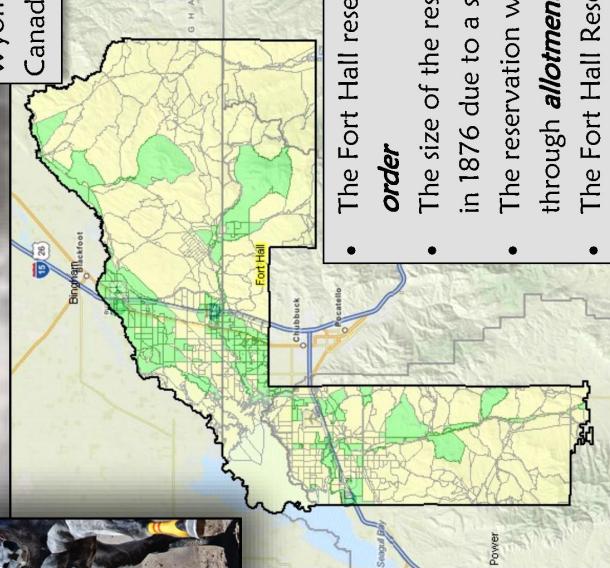
Fort Hall Shoshone-Bannock Tribes

The Shoshone-Bannock Tribes of Fort Hall are made up of the eastern and western bands of the Northern Shoshone and the Bannock, or Northern Paiute, bands.

*6,000+ tribal members



Aboriginal people inhabited Idaho, Montana, Wyoming, Utah, Oregon, Nevada, and into Canada.



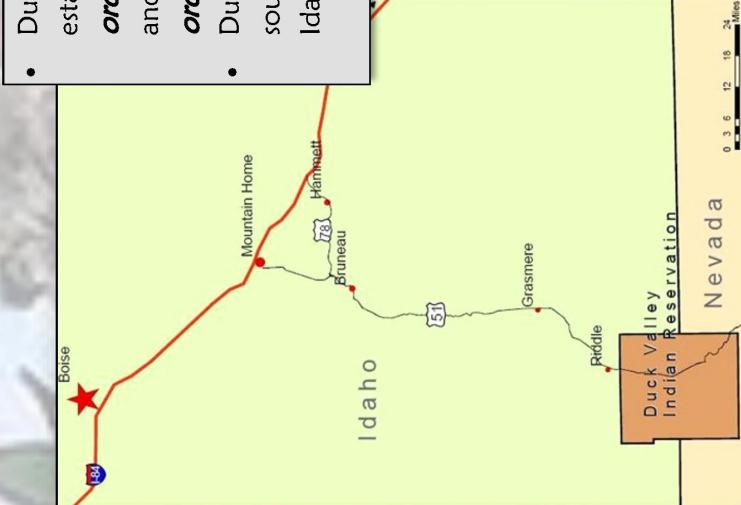
- The Fort Hall reservation was established 1867 by *executive order*
- The size of the reservation was reduced to 1.2 million acres in 1876 due to a survey error
- The reservation was further reduced to its current size through *allotments*
- The Fort Hall Reservation is located on the eastern Snake River Plain to the north and west of Pocatello



Duck Valley Shoshone-Paiute Tribes

Descendants of the Western Shoshone and the Northern Paiute occupy the Duck Valley Indian Reservation of Idaho and Nevada. Various bands of the two closely related tribes have jointly utilized the area since pre-historic times.
*2000+ tribal members

- Duck Valley reservation was established in 1877 by **executive order** and expanded in 1886 and 1910 by further **executive orders**
- Duck Valley is located in southern Owyhee county in Idaho and extends into Nevada

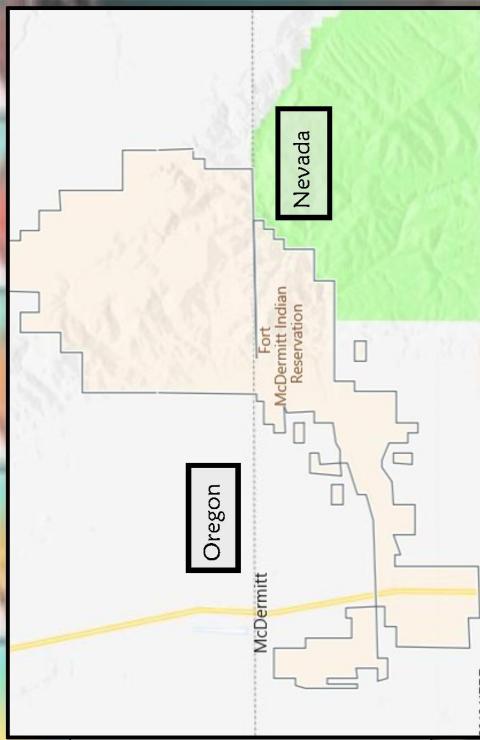


Aboriginal people inhabited Idaho, Nevada and Oregon.

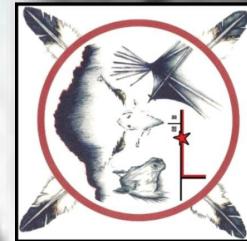


Fort McDermitt Paiute and Shoshone Tribes

Fort McDermitt Paiute and Shoshone Tribes live on the Fort McDermitt Indian Reservation which spans the Nevada and Oregon border next to Idaho. The reservation consists of 16,354 acres in Nevada and 19,000 acres in Oregon. Originally established as a military outpost and adjacent Paiute and Shoshone camp in 1865, the tract became an official reservation in 1889.



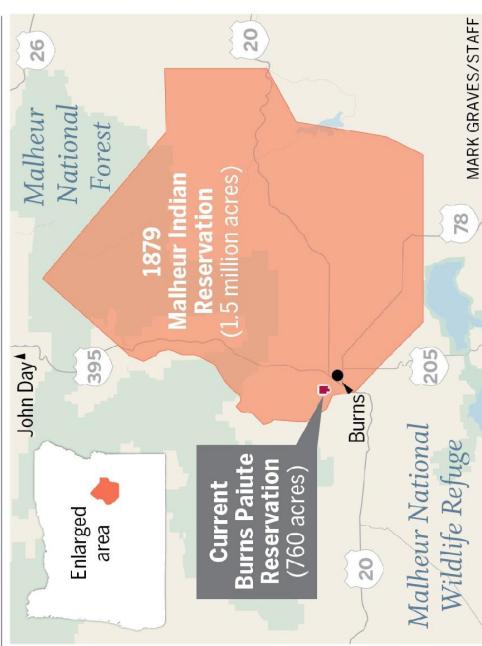
Sarah Winnemucca, daughter of Chief Winnemucca, was a Northern Paiute activist and author who worked as an interpreter, scout and hospital matron at Fort McDermitt from 1868-1873.



Burns Paiute Tribe

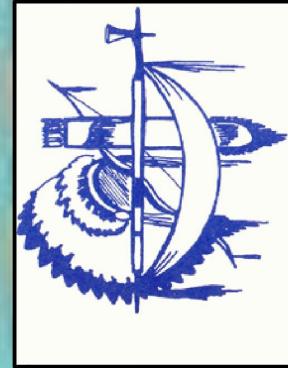
- The Burns Paiute Reservation is located in rural eastern Oregon
- The Burns Paiute Tribe is primarily made up of the descendants of the Wadatika Band of Northern Paiutes
- The traditional homelands of the Burns Paiute include 5250 square miles of land in central-southeastern Oregon, Northern Nevada, northwestern California and western Idaho
- The Burns Paiute still maintain title to much of their **aboriginal** territory

Malheur Indian Reservation: Then and now



The Malheur Indian Reservation once covered nearly 1.5 million acres of land in Harney, Grant and Malheur counties. Today, the Burns Paiute Tribe's reservation consists of just 760 acres on the outskirts of Burns.

Sources: Bureau of Indian Affairs; U.S. Interior Department.



Paiutes of The Confederated Tribes of Warm Springs

The Warm Springs Reservation is home to three unrelated tribes who were forced to live together. They are the Paiute, Wasco and Warm Springs.

The settlement of the Paiutes on the Warm Springs Reservation began in 1879 when 38 Paiutes were moved to Warm Springs from the Yakama Reservation. These 38 people, along with many other Paiutes, had been forced to move to the Yakama Reservation and Fort Vancouver after joining the Bannocks in a war against the U.S. Army. Eventually more of them came and they became a permanent part of the Warm Springs Reservation.



The Paiutes had lived in southeastern Oregon and spoke a Shoshonean dialect, their lifestyle was considerably different from that of the Wasco and Warm Springs bands. Their high-plains existence required that they migrate further and more frequently for game. Fish was not an important part of their diet.

The Paiute language was foreign to the Wasco and Warm Springs bands, and trade among them was infrequent. In early times contact between them often resulted in *skirmishes*.

The Paiute bands which were removed to Warm Springs lived in the area of Lake, Harney, and Malheur counties in Oregon.



The Treaty of 1855 defined the area of the Reservation and affirmed Tribes rights to harvest fish, game, and other foods on lands outside the reservation boundaries.



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OF INTEREST TO TEACHERS

LAKE LOWELL BOATING
SEASON ENDED ON
SEPTEMBER 30 WITH THE
REMOVAL OF THE DOCKS.

BOATING WILL RESUME ON
APRIL 15, 2020.

Canyon County Parks, Cultural and Natural Resources

Crossroads

Winter 2019



Director/Nicki Schwend
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Canyon County Parks, Cultural and Natural Resources

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www.canyonco.org/parks



FROM THE DIRECTOR



When I started working for Canyon County Parks in 2015, my daughter was 5 years old and in Kindergarten and my son was just months old. It didn't take long for my family to realize we had some very important events to look forward to. With the Stories in Stone 4th grade field trips at Celebration Park being arguably the single most popular 4th grade field trip in the Treasure Valley, we were soon starting the count down to our daughter's turn. As years progressed she got more and more excited about the idea of going to 'mommy's park' and showing all her friends every-

thing there is to do at Celebration Park. She would talk to her friends about it and before I knew it, her friends were counting down with her.

The four-year wait went quickly (at least in my mind) and this October her 4th grade class loaded up in buses and made the long, exciting bus trek to Celebration Park. My husband was able to join as a chaperone and experience what it's like to be in the Park when the buses pull in full of excited, screaming children, all in need of a bathroom and a chance to run around. The excitement and noise can be overwhelming, in a good way.

Years ago I actually worked as an Interpretive Specialist guiding children through each of the tours that continues to this day at Celebration Park. It was a thrill (and sometimes a challenge) to teach the young, overly excited minds. Back then I didn't have children, but it was still amazing to experience their excitement, see their faces light up and to watch them learn. The best part was watching them engage and knowing that our programs weren't just a lesson, but also a memory being solidified in their growing brains.

This fall was my turn to experience our field trip programs as not only the Director of Canyon County Parks, but as a mother and a chaperone to an incredibly excited young girl and all her closest friends. It was truly a day that none of us will forget! It was also a chance for me to experience our flagship field trip program through a new lens – not as an interpretive specialist, or Director, but as a mom and chaperone. It was a chance to look at our programs and staff from a different perspective. A chance to consider making changes or at least improvements if things aren't going as well as they should be. A chance to coach staff on program deliveries. I was prepared to experience some sort of 'need for improvement' and I even asked my daughter's teacher to provide me feedback.

What I experienced was above and beyond my wildest expectations. The program flow was as seamless as it can be when herding groups of energized 4th graders. The educational presentations by our Interpretive Specialists were accurate, engaging and visibly entertaining to the kids and adults. There were no wondering eyes, bored looks or distracted minds (with the exception of the occasional lizard encounter, but that's a bit out of our control). I honestly and truly could not have been happier with the staff or programs that day. I got only one suggestion for improvement from the teacher and that was a request for a visual map to accompany one of our programs which we will have in place for the next year's field trip programs.

As a Director, a field trip chaperone and the mother of a field trip student, I want to thank my amazing staff at Celebration Park for another remarkable field trip season. To learn more about this staff, turn to page 10.

And now we wait for my son's turn at Celebration Park in 5 years... Let the countdown begin.

Nicki



Meet the 2019 Interpretive Staff

by Juli McCoy

The Interpretive Specialists at Celebration Park are the people who make our field trip programs work! Everyday they engage the kids who visit us with the resources here at this special place. They do a great job of educating and connecting future generations in a way that benefits not only the kids who visit but the community at large. Without them our field trips would not be the highly regarded educational experience that they are. We are so grateful for each of them and their stellar work this past season!



David Baucom—8 years



Larry O'Dell—5 years



Javier Guizar—5 years



Megan Thomas—3 years



Tim Syreen—2 years



Mary Bybee—2 years



Henry Claasen—2 years



Terry Srodawa—1 year



Kryss Reishus—1 year



Brett Calhoun—1 year



Brenda Stone—1 year



Jessica Sweeney—1 year



Keana Wininger—1 year



Some-of-the-Crew-Plus-Two—lower left, Lori Berry, Park Tech and “Gracie”

Our Summer Adventures



The staff at Celebration Park enjoyed a guided tour of the **Anne Frank Human Rights Memorial** in Boise on July 15th. The memorial is a powerful testament to the cruelty humans are capable of as well as the power of the human spirit to triumph over adversity. It was a powerfully moving as well as educational experience.



Idaho Power Archaeologist, Ty Corn, graciously led the Celebration Park staff on a guided tour of Swan Falls Dam on August 22nd. The dam was completed in 1901 to provide power to mines in the Owyhee and Canyon County area and has had several updates since then. It is still in service and provides power to the area. The historic portion of the dam has been preserved and is currently a museum. We got a full tour of the dam and learned a great deal about the history of the area thanks to Ty's expansive knowledge. On the way back from the dam we stopped at Dedication Point overlook to enjoy the view.

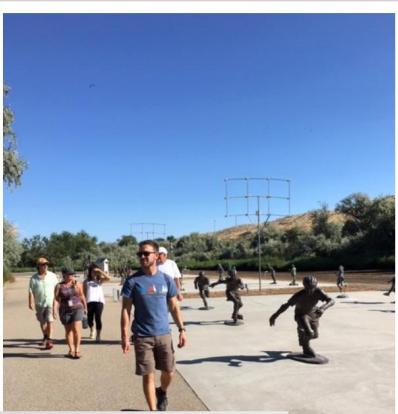




We had a great time hiking to the **Halverson Bar and Lake** area upstream from Celebration Park where 2 large bags of trash were collected. We also located the elusive “second lake” which, due to the time of year, was actually just a dry lake bed. We did find a bunch of trees that made us think we were in the right place. The entire area looks so much nicer as well!



Celebration Park visitors are always asking about the ruins of **stone houses** along the Snake River in the Halverson Bar area. In an effort to provide better information, we continued our hike and located the ruins about 3.5 miles upstream from the Celebration Park Visitor Center. The area’s sandy soil made for a pretty tough hike but we all made it! Now we’re able to give our visitors a lot more information about the area.



The staff enjoyed a fun outing to **Our Memories Museum** in Caldwell on July 30th. The museum has a unique and interesting collection of items related to the history of Caldwell. The items were collected by a local dentist and his wife over many decades. We also enjoyed coffee at the new Flying M coffee shop in downtown Caldwell and explored Indian Creek Plaza.

Our adventures included a visit to **Cleo's Fairy Crossing**—another place about which visitors often ask. Most of the staff had never been so we had a great time enjoying the fun, quirky walking path displays. We were also treated to a rare visit into many of the buildings by the caretaker, Bob. The buildings house many fascinating items collected by the property owners, Dr. and Mrs. Swain (Cleo), over the course of their lives.



What better way to celebrate the end of a very successful field trip season than with a little Halloween fun!



The archaeological field trip now known as "Stories in Stone", has been enjoyed by nearly 250,000 students, teachers and parents. Begun almost three decades ago, this field trip program established Canyon County Parks as a leader in educational field trip programming.

Schools from all over the Treasure Valley, and as far away as Baker City, Oregon and Hollister, Idaho have visited our Snake River canyon location to experience the great outdoors and connect with a place that has historic, scenic and recreational significance.

Stories In Stone programming includes:

- Exploration of ancient petroglyphs;
- Walking tour of the Historic Guffey Railroad Bridge;
- Presentation about Native American lifeways; and
- Fun with the Atlatl (picture, below).

Fall 2019

Stories In Stone





The success of "Stories in Stone", created demand for more educational field trips. The Wildland Fire Field Trip was added in 2010 at Celebration Park. At that time, we had been working with the Bureau of Land Management on wildland fire public awareness and education. A school field trip program regarding wildland fire fit right in with the campaigns we had put together.

Designed for 5th and 6th grade students, the programming is aimed at developing an understanding of the wild fire occurrences that have become prevalent in the west.

The field trip includes these learning modules:

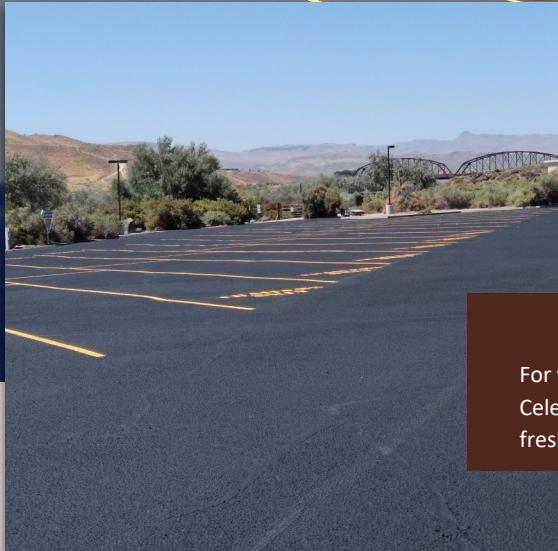
Physics of Fire—Understanding Fire
Fire Ecology —fire effects on flora & fauna;
A Fire History Lesson; and
Fire Fighting Equipment Demonstration

Fall 2019

Wildland Fire



WHAT'S NEW



PARKING LOT REHAB

For your parking pleasure—from Lake Lowell to Celebration Park, our parking lots are sportin' fresh asphalt and bright yellow striping!



GREASEWOOD REMOVAL

In anticipation of future firewise landscaping in the area surrounding the Crossroads Museum, some shrub removal was required to make room for other desirable native plants.



Greasewoods are thorny, many branched shrubs which grow three to seven feet tall. It is a native plant that is fond of saline soils. This plant is foraged by livestock and wildlife, but in large quantities it can be poisonous and the sharp spines can cause problems in the mouth of the animal. When the plant gets thick and tall it can outcompete more desirable plants.



INFORMATION KIOSK

The kiosk now provides everything you need to know for an enjoyable Celebration Park visit! A few Informational signs are shown here but always check for new postings!

CELEBRATION PARK EMERGENCY SIREN INFORMATION

In the event of a fire, the Celebration Park Emergency Siren will be activated to warn our visitors of fire threat. Your safety is our first consideration. Please be aware of the following:

Emergency Siren Testing

Regular, periodic testing of the siren occurs on a quarterly basis.

Second Tuesday of these months:

February, June, September, December at 9:00 a.m.

If you hear a short siren blast during the planned testing,

there is no need to take any action.



**Canyon Crossroads Museum
at Celebration Park**

Canyon Crossroads Museum—

- Is a "non-collecting" museum—it has no permanent collection; educational and visual art exhibits are featured.
- Includes a well-appointed classroom that functions as a lecture hall, laboratory and studio space.
- Provides an environment where ideas can germinate and grow; where students can develop a sense of place. Our mission is to offer quality, consistently excellent academic opportunities with content that is constantly changing.
- Offers a place for management research and/or scientific investigation by partner universities, agencies and corporations who share in our educational mission of protecting the southwest Idaho and Snake River canyon environment.

Canyon Crossroads Museum supports and expands the academic standard that has been established at Celebration Park. As an educational gallery, it produces:

- Daily Interpretive Programs
- Scholastic Field Trips
- University Course Work
- Special Presentations, Seminars and Conferences.

Current events/exhibits at Canyon Crossroads Museum are posted on this board. You can also visit our website, www.canyonco.org/crossroads-museum for more information.



WHAT'S NEW



VISITOR CENTER DISPLAY...

The old display case had seen better days. It was retired in favor of a beautiful, new replacement built by a talented duo from the **Canyon County Building Maintenance Department, Brandon Barker and Lance Campbell**. More of their fine work is seen on this page, below, and the next page.



...AND WORK CENTER

The “office” in the Visitor Center is now more efficient and can accommodate the staff in comfort. More fine cabinetry from Brandon and Lance!



MUSEUM DISPLAY CASE

For about 1/3 the cost of a retail display case, Brandon and Lance were able to produce this beauty. Their amazing work will eventually showcase special artifacts or other art pieces.



WHAT'S NEW

GIRL SCOUTS

It's really not new for Celebration Park to host groups of scouts—both Boys and Girls but these recent visits seem worth shouting about.

Scout Tour - Troop 202

Barb Malone

Wed 9/11/2019 1:48 PM

To: Juli McCoy <jmccoy@canyonco.org>

Hi Juli,

I just wanted to let you know what a wonderful time our troop had last Saturday at Celebration Park! The crew working that day were absolutely terrific! Larry and Terry did an awesome job with the Lifeways presentation and engaging the children. The gentlemen at the atlatl range is an excellent and patient instructor. After we ate our picnic lunch we thought we were on our own but Larry offered to give us a tour of the petroglyphs. Then we hiked to the bridge and he met us there for more wonderful stories and historical facts. We had 10 children attend plus 10 adults and siblings. We left with wonderful memories and thankful that Canyon County has worked so hard to develop this extraordinary outdoor experience!

Thank you for all your hard work.

Barbara Malone
Girl Scout Troop 202



Scout Tour Sept. 7th

Barb
Yareltci
Fay
Doshi
Georgie
CJ
Abigail
Jordan
Ellie
Caley
From Troop 202



BOY SCOUTS

Boy Scouts of America

National Youth Leadership Training

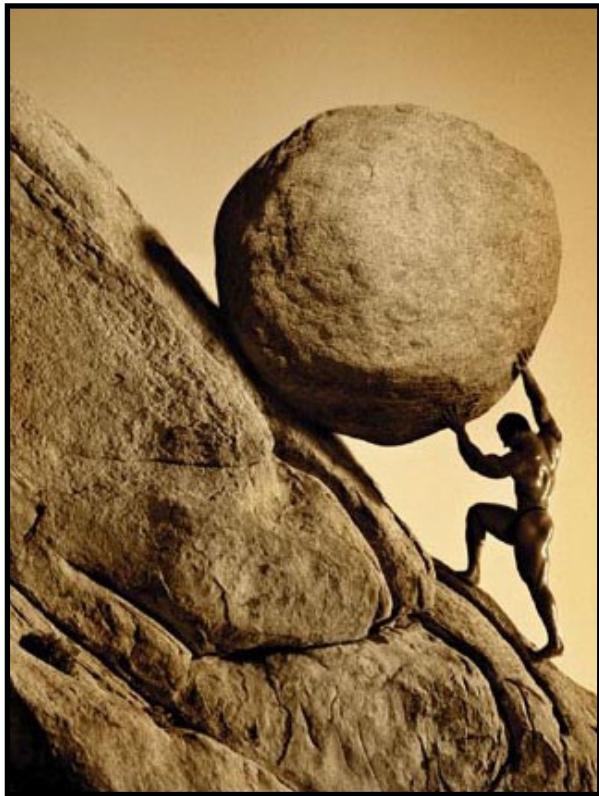
On June 21st, the Boy scouts of America again held a National Youth Leadership training event in Crossroads Museum classroom. This program equips high school age youth to take on leadership roles with their local scouting agencies. The scouts enjoyed camping at Celebration Park the night before their training.

BOISE STATE UNIVERSITY

BSU Anthropology Department Faculty Meeting and Retreat

Boise State University students and faculty are also frequent visitors to the park. On this occasion in October, faculty members and their families enjoyed a sunny day in the park.





Hire a professional!

DON'T BE ATLAS OR SISYPHUS...

CANYON COUNTY IS LUCKY TO HAVE A PLETHORA OF HISTORICAL SOCIETIES, MUSEUMS AND PEOPLE WHO CARE ABOUT THEIR COUNTY'S UNIQUE HISTORY.

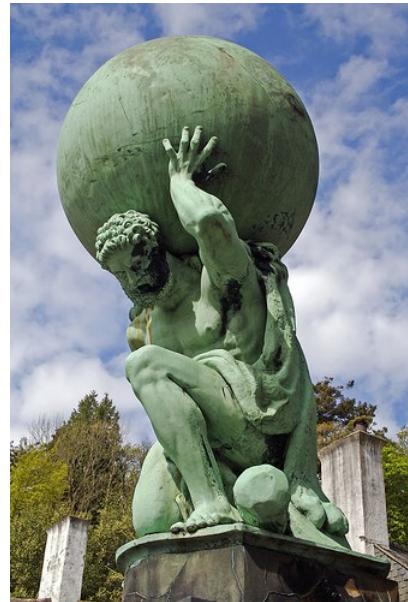
We know that in most cases, it is history enthusiasts and volunteers that operate the museums and historical societies and keep them running. We also know that when it comes to historic preservation, the list of things that need to be done is overwhelming and unending. It can feel like carrying the weight of the world, or like pushing a boulder up a hill. But It doesn't have to be that way.

WE ENCOURAGE EVERYONE IN THE HISTORIC PRESERVATION FIELD IN CANYON COUNTY TO CONSIDER HIRING A PROFESSIONAL TO DO SOME OF THE WORK FOR YOU.

You can even apply for a Canyon County Historic Preservation Grant Award to pay for the work too! This ensures a qualified professional who has proven experience in historic preservation takes a project off your hands, allowing your organization or museum to work on multiple projects at once.

Hire a professional:

Cultural Resource Identification, Evaluation, and Documentation
Rehabilitation Tax Credits & design Strategy Resolution
Preservation Program Development & Implementation
Historic Property Management
Heritage Tourism Development
Archaeological Surveys, Site Inventories, and Assessments
Historical Research
Building Histories Research
Downtown Walking Tours
Historic Resource Surveys
Historical Architecture
Nominations for historic buildings, structures, sites and district designations eligible for the National Register of Historic Places
Development of Interpretive Materials and signage
Architectural assessments, restoration plans
Historic Structures and Landscape Reports
Individual Property and site surveys
Resource Surveys - barns, schools, railroads, mining, irrigation, etc.
Historic Preservation Photography
History Services—water, transportation, land (i.e. ‘History of Water/Transportation/Land’)
Repair and restoration of historic properties, artifacts and documents



Atlas: In Greek mythology, Atlas was a titan condemned to hold up the celestial heavens for eternity, a punishment bestowed on him by Zeus. He is often depicted carrying the world on his shoulders.



Sisyphus: In Greek mythology, Sisyphus was a cruel king who was punished to push an immense boulder up a hill only for it to roll down when it nears the top,

THE CANYON COUNTY HISTORIC PRESERVATION COMMISSION EVEN HIRES PROFESSIONALS – BECAUSE WE CAN’T DO IT ALL BY OURSELVES!

We hired a professional to create our 2018 Canyon County Preservation Plan that helps guide our efforts. We are hiring a professional to do an Agricultural Resources and Rural Landscapes Survey of Canyon County and we will continue to hire professionals as long and as often as we can.

HOW DO YOU FIND PROFESSIONALS?

Check out the “Idaho Historic Preservation Professionals Consultants List” tab on the ‘Hiring a Consultant’ Page of the Idaho State Historical Society Web Page. This list includes companies and/or individuals with the qualifications to assist with Historic Preservation efforts.

<https://history.idaho.gov/section-106/hiring-a-consultant/>

DOUBLE YOUR EFFORTS IN HISTORIC PRESERVATION... HIRE A PROFESSIONAL TO HELP!

Planning Update: Water Trail Edition

The Idaho-Oregon Snake River Water Trail is updating our strategic plan. To learn more about the Water Trail project, visit snakeriverwatertrail.org. Email Laura at lbarbour@canyonco.org to join the steering committee and help guide our planning process.

Vision:

A 205 mile water trail on the Snake River between Three Island Crossing State Park, Idaho, and Farewell Bend State Park, Oregon, for people to explore, respect and enjoy.



Mission:

The Idaho-Oregon Snake River Water Trail promotes river access and recreational opportunities that benefit communities, tourism and preservation of natural and cultural resources through a network of partnerships.

Mission-Driven Goal Categories:

Marketing & Promotion

Conservation & Stewardship

Recreational Opportunities

Organizational Sustainability



2 states. 206 miles. 1 river

The Idaho Oregon Snake River Water Trail Coalition is a 206 mile water trail along the Snake River in Southwest Idaho and Eastern Oregon for people to explore, respect and enjoy. A water trail is a water route that provides recreational and educational opportunities for motorized and non-motorized boaters and commercial opportunities for river communities. This trail begins at Three Island Crossing State Park, Idaho and ends at Farewell Bend State Park, Oregon.

Water Trail Goals

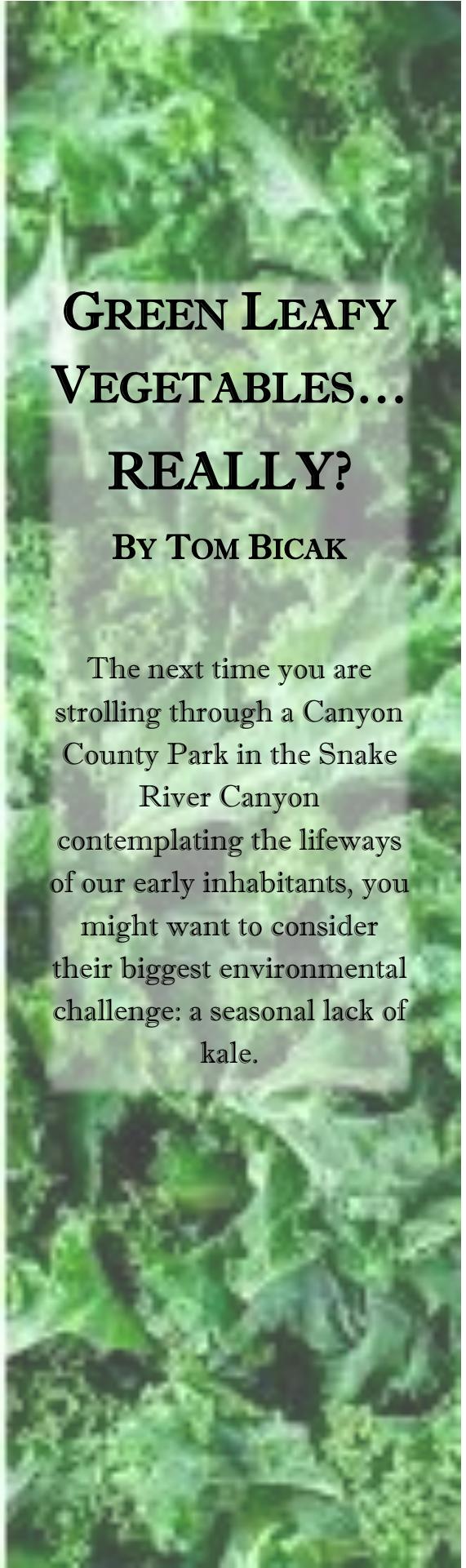
Marketing & Promotion	Conservation & Stewardship	Recreational Opportunities	Organizational Sustainability
<ol style="list-style-type: none">1. Create recommended trips for a variety of sites & user groups2. Create and promote programming (recreational & educational) for river access sites3. Expand outreach (with social media)4. Develop Water Trail App! Create bite-sized Trail maps & guides5. Create a Passport program with rewards for reaches and for accomplishing the entire trail6. Focused marketing (businesses with logo in windows)—both local & urban7. Develop Trail signage incorporates our logo; include QR codes for smartphone users	<ol style="list-style-type: none">1. Create an “adopt a reach” stewardship program2. Develop educational materials & signs (online, print, on-site)3. Seek conservation/stewardship grants to improve habitat and recreational opportunities along the Trail4. Develop a Junior Paddler program that teaches youth about stewardship & responsible recreation5. Act as a call to action and hub for volunteer opportunities and volunteer recruitment along the Trail	<ol style="list-style-type: none">1. Create an event experience of recreation along the Water Trail2. Develop user info, maps & navigational signs3. Network with recreational, health & safety providers on events4. Promote safety5. Market recreational opportunities in communities6. Seek grants to improve Trail facilities7. Increase awareness of river accesses and their condition8. Develop recreational equipment rentals; river shuttles9. Inventory & highlight camping opportunities and other services for recreational users	<ol style="list-style-type: none">1. Develop a sustainable revenue source (partner contributions, institutional memberships, business sponsorships)2. Identify and develop sustainable Water Trail leadership (consider meetings & organizational structure, and distribution of decision-making power and responsibilities)3. Consider an MOU (or some sort of buy-in) between jurisdictions and Trail partners, to ensure continued engagement with the project



**Idaho-Oregon
Snake River
Water Trail**

2 STATES | 206 MILES | 1 RIVER

Stay tuned in our spring edition of *Crossroads* (and at www.snakeriverwatertrail.org) for a special Water Trail announcement about an exciting new project, coming up in **June 2020**.



GREEN LEAFY VEGETABLES... REALLY?

BY TOM BICAK

The next time you are strolling through a Canyon County Park in the Snake River Canyon contemplating the lifeways of our early inhabitants, you might want to consider their biggest environmental challenge: a seasonal lack of kale.

I was a little shocked to realize that I am 90 years old this year. Well, precisely $\frac{1}{2}$ of my genes are 90 years old and the other $\frac{1}{2}$ are still in the advanced middle age range. Here is how that can be. In mammals, which you are if you are reading this, the ovum that the mother donates for an offspring is formed while she was in utero or gestating in one's grandmother. This would seem like a bit of interesting but useless trivia, but it is far, far from that. This process has profoundly complicated my view of the world. Now I am going to complicate yours.

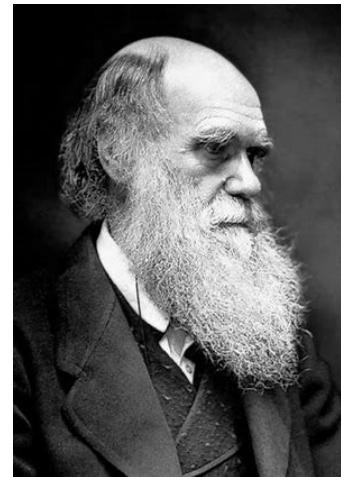
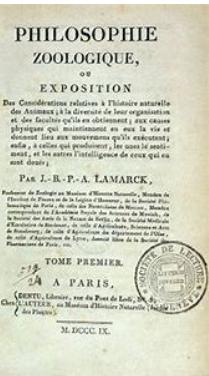
It starts for me with Jean-Baptiste Pierre Antoine de Monet, chevalier de Lamarck, we will call him Lamarck. He was born August 1, 1744, in Bazentin-le-Petit, Picardy, France and he died December 18, 1829 in Paris. Lamarck was a pioneering French biologist who is best known for his idea that acquired characteristics are inheritable. Of course, Lamarckism is controverted by modern genetics and evolutionary theory. He gained fame as a taxonomist. While working as a biologist in the Jardin du Roi (The King's Garden) he took a big gamble. He pulled a "Babe Ruth" and pointed to the mythical scholastic fence and boasted that he was going to create a classification of all French flora and invertebrates that would put Linnaeus (the father of taxonomy) to shame. But he did. He employed dichotomous keys, the same organizational tool we use today in modern Systematics for identifying and classifying organisms. His success got him notoriety and into not just a little ego problem. He started creating and eventually published huge, sweeping theories on geology, physics, chemistry and the history of the planet and life itself.

He began to characterize himself as a "naturalist-philosopher," a person more concerned with the broader processes of nature than the details. In his *Philosophie zoologique*, (pub.1809), he explained the origin of life and biodiversity as commencing with spontaneous generation (if horsehair is shed into water, it becomes worms, and rotting meat will spontaneously produce flies). More specifically, he hypothesized an ether that was the "power of life" and it tended to make living things more complex over time, but the environment kept it in check and trimmed back complexity. Lamarck offered that biodiversity came from different environmental elements acting at different places or times to the same stem creatures.

So, in Lamarckism, new characters acquired by organisms derived from "power"-environment interplay are passed on to the next generation if both parents of the offspring had undergone the same changes. Small changes that accumulated over great periods of time produced major differences. Lamarck explained why animals look the way they do because they maintained the habit of being themselves in the same environment for a very long time.



Painting by Tom—Grandmother and Mom, the maternal DNA for him and his brother.



Left to right: Lamarck, Van Gogh and Darwin

Here is Lamarck in a nutshell. Imagine a theoretical Vincent Van Gogh. He cuts off his ear, thus his phenotype is “one eared”. If he marries and cuts the same ear off his spouse and they have children that have ears removed and those children remove the ears of their spouses and their offspring and on and on... eventually the Van Gogh clan would be born one eared. The acquired characteristic would become hereditary. I love the ironically absurd.

Even after English naturalist Charles Darwin advanced his theory of evolution by natural selection, Darwin himself believed that acquired characters could be inherited. The idea was not seriously challenged until August Weismann took it on in the 1880s. Lamarckism has been discredited time and again throughout the 19th and 20th centuries. Should scientists have totally disregarded Lamarck’s contribution? Let’s see.

David Shenk, an American science writer with 5 best-selling books gave a brilliant TED lecture in Geneva Switzerland on the ability for animals (with heavy emphasis on the naked ape) to adapt to external pressures and needs or upgrade. Lamarck postulated a slow upgrade mechanism as we have just seen. Charles Darwin offered a slow mechanism as well, change in gene frequency through natural selection. It seems life on earth is characterized by and destined to slow upgrade.

Our DNA, our genes, are incredibly stable. They don’t change very quickly. It takes eons, millions of years and, in rare cases, millennia to effect a change in gene frequency. We don’t get to see it in our lifetime, which contributes to the skepticism of some folks. But in fact, there are four upgrade mechanisms in animals, each working on a different time scale. Evolution by natural selection is the slowest.

The fastest upgrade is homeostasis; a physiological process maintaining a relatively stable equilibrium between interdependent elements. My mailbox is across the street. I walk out there every morning at 6:00 am for the newspaper. Occasionally a huge pickup, piloted by some guy drinking coffee straight out of his steel thermos races past coming way to close to me for comfort. In fact, when this happens, I undergo an acute stress response. For a few seconds blood rushes to my brain, heart rate, blood pressure, respiration rate, hearing ability and blood clotting abil-

ity all increase while blood leaves my digestive system and runs to my muscles after picking up lots of extra glucose from my liver. While my pupils are dilating to let in more light and information, my immune system starts to shut down, my salivation decreases and urine production ceases. It is unpleasant. However, by the time I am in the middle of my first expletive, all systems start to run back to normal. Remarkable.

The next fastest upgrade system is neuroplasticity; the ability for the brain to form new neural connections. When stuff happens to you, your brain changes shape and stores information through connecting cells. There are raft studies where musicians, artists, athletes, children, readers, almost any imaginable person performing some task being subjected to Brain MRI and demonstrating new connections and changes in brain architecture. This process of upgrade can take days, weeks or most likely years.

The time gap is decades, generations and centuries. What upgrade mechanism fits here? Until very recently the answer was, well nothing biological, culture kind of fills this gap. We adapt individually to the environment and society by experiencing culture. That might be true, but a very new biological process has been discovered that upgrades our biology in response to everyday experiences in this time frame and the upgrades are inheritable. It’s new, it’s spooky and it’s real. It is the epigenome. The study of the epigenome is epigenetics. Epi means on or near, hence epigenome is the stuff on or near the DNA molecule in our cells. Cellular and physiological non-genetic traits caused by environmental factors that switch genes on and off affect how cells read genes, but the epigenome does NOT change gene frequency or the code in any way.



Lamarck caricature

The process is very complicated, and the best mathematicians, biochemists, physiologists, geneticists, physicians and computer “geniuses” are working on this, the hottest topic in biology. This is a great simplification of how it works. Your DNA is a long string of encoded instructions. It has the same amount of information as 800 Bibles. Near that string are two proteins and some methyl ions. Eventually, these will attach to the DNA when they are directed to. There is also microRNA that transfer information from cell to cell about attaching proteins and methyl groups to places on your DNA. The first protein is a nucleosome. It is like a little spool that DNA wraps tightly around. The DNA reading complex cannot read any DNA wrapped around a Nucleosome so these are like stapling pages of a book together so you can’t read them...until you pull the staples. The second protein is a histone. DNA wraps around this protein too, but in doing so it spreads open; it unravels a lot so this section beckons to be read. Histones in the epigenome are like bright, neon pink, highlighter pens. You just must read the histone passages. Methyl ions attach to the stretches on DNA that constitute a specific gene. It methylates that gene. There are 30,000,000 places for methyl ions to attach on your DNA. When a single methyl ion attaches to a gene it renders the gene unreadable. You have two copies of every gene, so if your paternal gene is methylated, the maternal gene can still be read and vice versa. Your mother and fathers methylated, histoned, nucleosomed epigenome comes right along with their DNA when you are conceived. You may change some of the interpretive notation, but there are some genes that are imprinted; they will always be expressed regardless.

One more complication, methylation depends on your diet. Methylation of YOUR DNA depends on your mother’s diet. Oh, and methylation of YOUR DNA depends on your grandmother’s diet. When the sperm enters the ovum, its epigenome is wiped clean from the father’s DNA. Later some is replaced. Your mother’s DNA is wiped clean too but restored right away. The diet of the maternal line dictates your initial destiny. This methylation depends on having a lot of special nutrients. These are enzymes, co-enzymes and special proteins mostly found in enough quantity in green, leafy vegetables, especially kale. I am not kidding, kale. If you do not get your DNA methylated properly, it is a dismal life.



It is like sheet music. George Gershwin wrote the score for “Rhapsody in Blue”. That is the Rhapsody’s DNA, instructions for performing the piece. But it can be interpreted lots of different ways. So, pianissimo here, forte there, tacit when you get to here and don’t forget tempo variations. Someone else can play it differently and depending on your mood (literally) you can change the interpretation. The epigenetic proteins and the methyl ions are the interpretation notation of your genetic tune. Variations on the Rhapsody can be beautiful or horrible.

We can’t go back in time and see what is methylation our ancient Snake River peoples, but we can go to Gambia. Gambia is a little like the Snake River Canyon. There is a looong period when there are very few green leafy things to eat and a much shorter period when there is really quite a bit of edible green biomass to feast on. Green is the key.



Andrew Prentice

Andrew Prentice founded the MRC International Nutrition Group in 1999. Born in Uganda, he studied in East Africa and the UK obtaining a BSc in Biochemistry followed by a PhD in Nutrition from Darwin College, Cambridge. He worked in the MRC Dunn Nutrition Unit’s rural field station in Keneba, The Gambia. He studied the lives of 3200 Gambians over many years and recorded that children born from the “hungry season” were 7 times more likely to die in infancy than children born of the “harvest season”. His team isolated the culprit in one gene, VTRNA2-1, a tumor suppressor gene. In the “hungry season” the mother’s gene is 100% methylated and the father’s gene is wiped clean, so no anti-tumor action. In the “harvest season” neither copy is methylated so the gene can be read, and anti-tumor mechanisms kick in. This is inheritance of an acquired non-genetic characteristic, just like Lamarck postulated. I am not going to give him any credit for being correct, although technically he was. He was interested in broad processes, not the details and this is the epitome of detailed.

The biological research community is pouring over all that is human, especially disease and discomfort searching for epigenetic connections to our existence. It is going to be an interesting future... and an interesting new window into the past. Right now, there is very promising lines of research that indicates that our physical and mental health are greatly influenced if not controlled by the epigenome. What you eat, your attitude, and your physical exercise regime dictate the constitution and configuration of the epigenome and hence your lifeway. The tasks of determining ancient diets and activity budgets are being performed right now. These data combined with epigenetic studies will give us a window into the mind of ancient man.

Next trip to the grocery store, I am going to buy kale, my first kale. But not a lot.



Hungry Season Harvest Season

Winter Desert Ecology Field Trip

<i>Schedule</i>			
	Time	Group 1	Group 2
	9:30-10:45	Arrive and unload buses, restroom break	
Cultural History	10:00-10:45	Petroglyph/Ecology hike	Native American Lifeways
	10:45-11:30	Native American Lifeways	Petroglyph/Ecology Hike
	11:30-12:00	Lunch	Lunch
Natural History	12:00-12:45	Owl Pellet Dissection or Birds of Prey	Atl-atl
	12:45-1:30	Atl-atl	Owl Pellet Dissection or Birds of Prey
	1:30-2:00	Restroom break, load buses and leave park	

The Winter Desert Ecology field trip at Celebration Park is a program brought to you by Canyon County Parks and the Bureau of Land Management's Morley Nelson Snake River Birds of Prey National Conservation Area. The field trip is offered on Thursdays and Friday in November, January and February to groups that do not exceed 50 students total. The field trip consists of a cultural history component and a natural history component and is structured so that students are indoors for 2 of our 45-minute programs and are outside hiking during the remaining two 45-minute programs. Be sure to dress in warm layers and come ready for a day of experiential learning and discoveries in Idaho's Celebration Park!

Grades: Upper elementary through high school

Timeframe: 10 am till 2 pm

Contact: Juli McCoy, Programs Manager, jmccoy@canyonco.org, 208-455-6022



Fall 2019 School Bus Scholarship*

Chief Joseph School of the Arts

Columbia High School

Desert Springs Elementary

East Canyon Elementary

Horizon Elementary

Idaho Arts Charter School

Marsing Elementary

Pierce Park Elementary

Regan Elementary

Riverside Elementary

Sherman Elementary

Sienna Elementary

Taft Elementary

Trail Wind Elementary

Valley View Elementary

*Announcement of Spring 2020 Field Trip scholarships

will appear in the Spring 2020 *Crossroads*.

Our bus scholarship fund is supported by grants and by generous contributions from local donors. Each year, over 10,000 students from over 100 schools reserve free field trips with Canyon County Parks, Cultural and Natural Resources. Our bus scholarship program helps provide teachers, schools and students with greater access to the unique educational opportunities offered by our parks and interpretive specialists.

The bus scholarship fund is intended to help defray the cost of travel to and from the field trip site for schools that would otherwise be unable to attend.

Our annual drawing for bus scholarships is held each September. If your school needs travel assistance, please indicate that you would like to be entered for the bus scholarship when you reserve your field trip online. If you have any questions regarding the bus scholarship please email Juli McCoy at jmccoy@canyonco.org

If you would like to make a donation to the bus scholarship fund, checks can be made out to Nichole Schwend/SWIRC&D.

*In June & July 2019,
42 kids from southwest Idaho
joined us...
To get outside
To experience adventure
To build community*



*...and to discover a landscape in their
own backyard...*

Canoe Science Camps at Lake Lowell

Brought to you by: Canyon County Parks
Partners: Deer Flat National Wildlife Refuge and the Southwest Idaho RC&D
Supported by: the Outdoor Fund



We served



Learned



Explored



Played

And (obviously), we canoed!



You can too



Summer 2020 Canoe Science Camp Dates:

June 15-19

June 22-26

July 6-10

Location:

Lake Lowell Park

12996 Iowa Avenue

Nampa, ID 83686

Age limits:

10-12 year olds

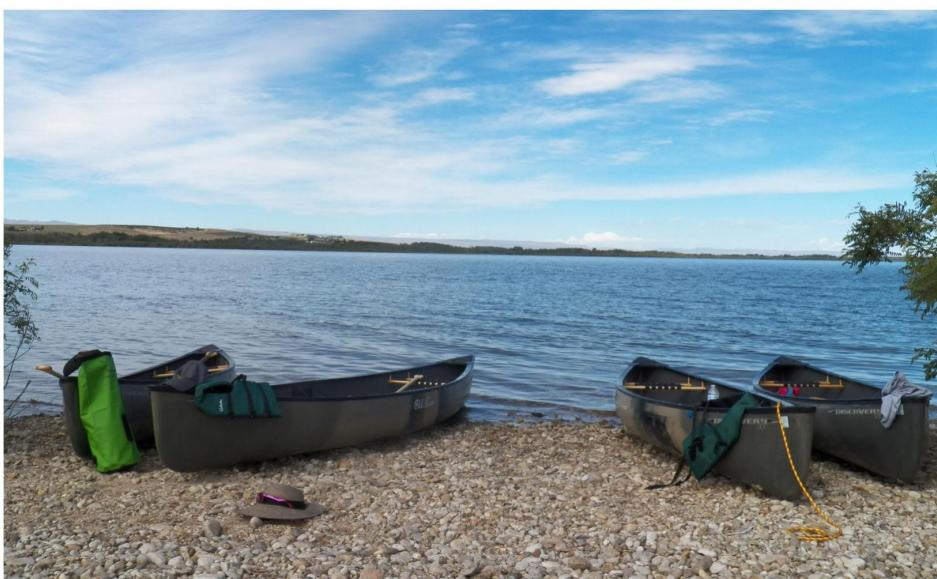
Registration details:

TBA

See you at the lake!

Summer 2020

Contact Laura at
lbarbour@canyonco.org for more
information about the Canoe
Science Camp program



Your field trip at LAKE LOWELL PARK

Brought to you by Canyon County Parks, Cultural & Natural Resources

Spring 2020 Field Trip Schedule

T	28-Apr	Lake Ridge Elementary
W	29-Apr	Highlands Elementary
Th	30-Apr	Ronald Regan Elementary
T	5-May	Centennial Elementary
W	6-May	Wilson Elementary
Th	7-May	Lincoln Elementary
T	12-May	Central Elementary
W	13-May	Star Elementary
Th	14-May	Kenneth Carberry Elementary
T	19-May	Star Elementary
W	20-May	Heritage Community Charter
Th	21-May	Owyhee Elementary
T	26-May	Silver Trail Elementary
W	27-May	OPEN
Th	28-May	OPEN



The 2020 Lake Lowell field trip schedule is almost full!

Online bookings can be made at

www.canyonco.org/field-trips Please

email Juli McCoy

(jmccoy@canyonco.org) or call 208-455-6022 with any questions.

We awarded over 45 bus scholarships to schools during our 2019-2020 field trip season—turn to page 31 for more information, or visit our website (www.canyonco.org/parks)



Your Spring 2020 field trip at CELEBRATION PARK

Brought to you by Canyon County Parks,
Cultural & Natural Resources



The spring 2020 Celebration Park field trip schedule only has a few openings left! Please email Juli McCoy (jmccoy@canyonco.org) or call 208-455-6022 for field trip information. We awarded over 45 bus scholarships to schools during our 2019-2020 field trip season—turn to page 31 for more information, or visit our website (www.canyonco.org/parks) for more information or to book in the “Field Trips” section.



M	30-March	Lake Hazel Elementary
T	31-March	Wilson Elementary
W	1-April	Whittier Elementary
Th	2-April	Snake River Elementary
F	3-April	Central Canyon Elementary
M	6-April	Cynthia Mann Elementary
T	7-April	Reed Elementary
W	8-April	St. Mary's Catholic School
Th	9-April	Vision Charter School
F	10-April	Homedale Middle School
M	13-April	Lowell Elementary
T	14-April	Greenhurst Elementary
W	15-April	Future Public School
Th	16-April	Midvale Elementary
F	17-April	Liberty Elementary Montessori
M	20-April	Middleton Middle School
T	21-April	Central Elementary
W	22-April	West Canyon Elementary
Th	23-April	Alameda Elementary
F	24-April	Mary McPherson Elementary
M	27-April	Nampa Christian Elementary
T	28-April	Lake Ridge Elementary
W	29-April	Birch Elementary
Th	30-April	Vale Elementary
F	1-May	Whitney Elementary
M	4-May	Willow Creek Elementary
T	5-May	Treasure Valley Homeschool
W	6-May	Liberty Elementary 4A/4B
Th	7-May	Hawthorne Elementary
F	8-May	Purple Sage Elementary
M	11-May	Sacajawea Elementary
T	12-May	Basin Elementary
W	13-May	Maxine Johnson Elementary
Th	14-May	Garfield Elementary
F	15-May	Castle Elementary
M	18-May	Monroe Elementary
T	19-May	Central Elementary
W	20-May	Shadow Hills Elementary
Th	21-May	OPEN
F	22-May	OPEN
T	26-May	OPEN
W	27-May	Syringa Mountain School
Th	28-May	Sage International School
F	29-May	Boise Parks and Recreation



Stories in Stone/Archaeology



Wildland Fire

CANYON COUNTY
Parks, Cultural & Natural Resources



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Caldwell, ID 83605**

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