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IMAGES

The mission of the Boulder County Parks & Open Space Department is to conserve natural, cultural and agricultural resources and provide public uses that reflect sound resource management and community values.

PHOTOGRAPHS & ILLUSTRATIONS

Cover photo: Land of Giants - Cardinal Mill Site, Michael Lohr

A Day in the Life, Vanessa McCracken

Bark Patrol, Sue Cullen

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Watch out for These Weeds

Jessie Berta-Thompson

It's fall, and the weeds are on the move. Scotch thistle flowers transform into starry masses of windborne seeds—up to 14,000 per plant fly from as high as 12 feet above the ground. Diffuse knapweed, a tangle of white flowers and prickles, forms tumbleweeds, rolling across the landscape spreading seeds along the way. When myrtle spurge seeds ripen, they are launched from plump capsules, landing yards away, trying to start a new patch of the toxic perennial. Whatever the method, the spread of noxious weeds like these presents a serious problem to native plants, wildlife, livestock, and cropland.

WHAT IS A NOXIOUS WEED?

A weed is a plant in a place we don't want. Many weeds are disturbance-adapted, taking advantage of openings when vegetation is cleared, like chicory on roadsides or bindweed between garden rows. Our invasive weeds often come from other continents. Some arrived accidentally, in feed or packing material; others were intentionally planted for use or beauty. Once here, they are released from their co-evolved controls, diseases and hungry mammals and insects, potentially growing unchecked.

A *noxious* weed is a nonnative plant causing economic or environmental harm that has been given a legal designation requiring action. The State of Colorado sorts its official noxious weeds into three lists to prioritize weed-fighting efforts.

- **List A species**, like Mediterranean sage, are still rare across the state, so the goal is to eradicate them before they take hold.
- **List B species**, like oxeye daisy, are more common but only found in some counties, so landowners must work to stop their spread.
- **List C species** are already widespread, like cheatgrass, but problematic enough to warrant state research and education to support local suppression efforts.

All noxious weeds are illegal to sell at nurseries. The species on these lists can be poisonous to livestock and wildlife, like houndstongue, or aggressively invasive, forming dense stands that displace native plants, like common teasel in wetlands.

Luckily, Boulder County Parks & Open Space (BCPOS) has a team of experts working to control our weeds to meet the requirements of noxious weed laws on open space and county roadsides. Weeds don't care who owns land, and they are good at hopping barbed wire, so our professionals also work with private landowners and other agencies to control infestations across the county.

WHAT ARE WE DOING ABOUT WEEDS?

The department's approach to weeds aims to integrate the most ecologically sound, safe, effective, and economically feasible methods. Reducing the load of harmful weeds on the landscape requires deep knowledge of each plant's

biology—understanding the longevity of the soil seed bank, propagation and dispersal mechanisms, and intervening at just the right moment in the life cycle for maximum effect. We also have to know the land. The weed team scours the county with GPS units to make detailed maps of which weeds grow where. The big problem of invasive species requires a big toolkit.

The most familiar methods for controlling weeds, to home gardener and county crew alike, are mechanical, such as mowing plants down or pulling them up by the roots. All paved county roads get their edges mowed about three times a year to keep visibility up and fire risk down, but this is also a key part of weed management. Weeds love roadsides. They are sunny, disturbed areas that collect rain runoff. Roads also serve as corridors for weeds to spread. Mowing favors native perennial grasses over broadleaved weeds, and schedules are set to mow specific patches before they set seed. Within a careful plan, prescribed burns can also reduce weed populations.

Herbicides are another way to reduce noxious weed populations, but require balancing the value of these tools against their environmental risks in several ways. Crews keep tabs on sensitive species of plants and animals to set protected zones. Minimum effective amounts are always used. Large scale spraying is only used where infestations are larger than an acre. Otherwise, chemicals are applied by hand-spraying individual stands of weeds. Our team keeps up with the latest science on herbicide safety and specificity, reevaluating approaches yearly.

Another method that requires careful environmental consideration is biological control, which is the release of insects to combat weeds lacking the natural controls of their native habitat. For example, a stem-boring weevil has been released to combat Dalmatian toadflax, with promising results. Though some are already established, the county no longer releases the seed head feeding weevils that target thistles because we have native thistles that are also susceptible. Specificity for target species is critical in controlling these interactions.

PREVENTION PAYS OFF

One of the best approaches to tackling weeds is prevention. Our native plant and weeds experts work together to maintain healthy plant communities across county open space properties, which discourages the spread of weeds, especially after major disturbances like flood or fire, or smaller ones like herbicide application or trail construction. By planting native species, we can prevent the invasion of more weeds.

WHAT YOU CAN DO TO HELP

Our plant experts do not advocate vigilante weeding on county open space properties, in part because some noxious species have native look-alikes, including thistles, cinquefoils and willowherbs. However, there are many other ways to help. This summer, we installed boot brushes at several trailheads to encourage park visitors to remove weed seeds from shoes before and after a visit. Volunteers contribute significantly to weed mitigation, from hand weeding sessions to collecting native seed for restoration. At home, you can help fight the spread of noxious weeds by learning to recognize them and keeping your own yards and sidewalks clear of weeds. This time of year, that means trying to catch them before they release seed. Boulder County and the Colorado Department of Agriculture maintain websites with lots of information about noxious weeds, including identification guides, and the CSU Extension program provides support for landowners and educational opportunities for anyone ready to go deeper into the weeds.

Boulder County Parks and Open Space has a team of experts working to control our weeds to meet the requirements of noxious weed laws on open space and county roadsides.



Common teasel is a List B noxious weed, aggressively invasive, displacing native plants.



It may look pretty, but oxeye daisy is an invasive plant.



Myrtle Spurge is a Class A noxious weed. It must be eradicated to prevent it from spreading.

Farmer: A Day in the Life

by Nick Zuschneid



Baling hay, inspecting fields, and fixing equipment are just a few of the many tasks Keith Batemen takes on during a typical day.

Maneuvering along a busy highway in a large swather, Keith Bateman answers his phone, accepting his 48th call on a sweltering day in mid-July. Keith's line of work is not bound to an office, and multitasking is essential for a business that relies on delegating chores that are dispersed throughout Boulder County.

As a Boulder County Parks & Open Space agricultural tenant, Keith's experience offers an excellent insight into the daily fortunes and failures encountered by the agricultural community. His ancestry on these lands dates back to 1859, when his great-great grandfather, Adolph Waneka, acquired land in the county. The Bateman family comes from a line of six generations of farmers, including operations run in collaboration with his son, Cory. Keith has expanded the land he oversees to more than 50 times than his initial land investment, which he undertook at the age of 16.

Having dealt with development pressures from the start of his career, Keith remains keenly aware of the frequency and magnitude of conflict with residential/commercial inhabitants. Many of Keith's previously farmed assets have been converted to development, bringing his existing leases closer to the urban confluence. "I have and have had many farms in the area surrounded by sub-divisions, both residential and commercial," he says. "[If you make changes

to an operation], some people can get upset, and no matter what you do from that point forward, they will look at it as being wrong."

EVERYDAY OBSTACLES

Still, Keith's commitment makes it apparent that he would farm more land if it was possible. For now, his sights remain fixed on recovering a crop yield devastated by hail in June—a storm that another tenant referred to as the worst he'd seen since the early 1970s, with an estimated 50 percent

loss on affected croplands. It was clear that any field day presents a host of such unforeseen obstacles: vehicle hindrances, problematic dirt roads, fencing damages, machine breakdowns, navigating water limitations/diversions, neighbor issues, escaping livestock, harsh weather, and access to labor.

Accordingly, the first task of the day was met with complications: a large center-pivot irrigation sprinkler was misaligned, and its electrical generator was stalled. After contacting the generator company for help, Keith goes quickly over to his nearby "Eddy" property where he discovers numerous leaks in a pipe pumping out of the supply pond. To accommodate the lost water, he adjusts the flow to the sprinkler while coordinating efforts to repair the piping holes at a later juncture.

While completing these errands, Frank, one of Keith's four full-time workers, happily completes ditch maintenance and livestock supervision at the Warembourg-Louisville property. Here, Frank has been moving the irrigation channels to establish optimal water flow into the pasture—a labor-intensive task when the technology available is confined to a shovel. Luckily, the ditch was watering properly, and the cows grazing blissfully.

On the Bailey-Kenosha property, Keith is found baling hay, monitoring the knot-tying mechanism that holds the bales together (approximately 700 pounds each). After finishing the field, it was time to move the baler to another of Keith's properties. Following lunch, Keith again had to move heavy equipment down Highway 287. Many Boulder County farmers do not live on their farmed properties, or farm lands not contiguous with their home dwellings, so moving machinery on busy roads is a dangerous necessity.

Keith soon arrives with the swather at a private landlord's property to mow their field, during which stray tree branches and trash blown-in from the nearby neighborhood impede continuous movement. To complicate matters, the swather suddenly stops cutting—likely due to a blown out fuse or relay failure. More

mechanical failures follow: another baler, along with a tractor, would experience debilitating problems. Though Keith would later deem these issues less pervasive than they appeared, these calamities consistently upended productive work time. However, good news would soon arrive. A serviceman repaired the electrical generator powering the center-pivot, allowing it to function properly for the first time since the hailstorm.

As the day draws to a close, Keith's phone call count climbs above 80. His workday extended past 9 p.m., totaling 15 hours. For most, this is an unsustainable rate of working. Indeed, the profession suits those who are physically and mentally versatile, who can balance

political and social pressures, retain their personal values, and withstand the tribulations of systemic impediments.

THE APPEAL OF FARMING

This all begs the question: what is the reward in farming? It seems profit is not the main attraction. Rather, pride in the process of farming and the creation of an important product itself is the real appeal. "In agriculture, you have to be very flexible," says Keith. "Years of farming and being close to town have taught us how to deal with all of the unforeseen circumstances that might come up." Indeed, dealing with circumstances that arise seems to be the way of the farmer.

RESEARCH ON OPEN SPACE

The Boulder County Parks and Open Space Department offers grants for research on county open space lands each year. All proposals are reviewed by a team of resource specialists, and awarded research projects are monitored during their activities on open space. The following is a summary of a 2017 study conducted by Sarah E. Reed and Jeremy Dertien with the Wildlife Conservation Society and Department of Fish, Wildlife & Conservation Biology at Colorado State University. Their research project focused on the potential effects of human recreation activity on Abert's squirrel and dusky grouse in Boulder County

Abstract: Many protected land networks, including Boulder County Parks and Open Space (BCPOS) and Boulder Open Space and Mountain Parks (OSMP), operate under a dual mandate to provide public access for outdoor recreation while also protecting natural resources. However, there is growing evidence that recreation activity can negatively affect wildlife communities, and land and wildlife managers are seeking solutions to balance the benefits of outdoor recreation for human communities with its impacts on species and ecosystems.

We conducted a pilot study of the potential effects of recreation on Abert's squirrel (*Sciurus aberti*) and dusky grouse (*Dendragapus obscurus*). The objectives of the study were to: (1) Test the effectiveness of survey methods for the target species; and (2) Examine relationships between the types and intensity of recreation use and target species detections. We selected 24 sampling locations in a factorial design among permitted activities (mountain biking and hiking, or hiking only), domestic dog policy (off-leash, on-leash, or excluded), and variation in recreation use intensity.

We surveyed for Abert's squirrels using feeding-sign surveys, we surveyed for dusky grouse using dropping counts and acoustic monitoring, and we monitored recreation activity using remotely-triggered cameras. Detections of Abert's squirrels were positively

associated with the density of large trees and negatively associated with the density of Douglas fir (*Pseudotsuga menziesii*). We did not find evidence for an effect of permitted activities, domestic dog policy, or recreation use intensity on Abert's squirrels. However, dusky grouse were detected less frequently in recreation areas where mountain bikes are permitted and in areas with greater visitation levels by cyclists, and we were unable to identify another characteristic of the sampling locations (e.g., vegetation characteristics) that could explain these relationships.

Thus, we recommend that BCPOS and OSMP continue to monitor the potential effects of recreation on dusky grouse in future years. To do so, we recommend altering the research design to focus on sampling locations with habitat characteristics associated with dusky grouse (e.g., mixed conifer forests), switch from a plot-based to a point-transect survey design, employ acoustic monitoring as a primary survey method, and increase the total number of sampling locations. We also recommend that dusky grouse surveys be paired with community-level surveys for other species groups (e.g., point counts for passerine birds) to identify additional species that may be sensitive to recreation disturbance, and to account for possible interactions among species. Results of this research would help to balance the recreation and conservation goals of protected lands by informing ongoing management of recreation and supporting decisions regarding designated use of new acquisitions.

Visit the website at www.BoulderCountyOpenSpace.org/ research to read a full report.

Call for 2019 Studies

The department is currently accepting proposals for 2019 funding. Grants are awarded up to \$10,000 per project. There is no minimum amount that will be awarded for a project. The deadline for proposals is January 14, 2019.

Volunteer Ranger Corps: All in a Day

by Lisa Brandt & Wier

An Adventure on the Eagle Wind Trail

Seven-thirty Sunday morning, and I'm checking the forecast before heading out to the Ron Stewart Preserve at Rabbit Mountain for a Volunteer Ranger Corps (VRC) patrol. Rain is in the forecast, so I pack rain gear in addition to the usual essentials. After I finish packing, I hit Highway 66 to begin my road to adventure. There is an overcast sky above the mountains to the west, and only a few raindrops on my windshield, so I figure my patrol will be completed long before the wet weather hits.

I pull into the entrance at the open space and assess the parking lot. Cars are parked in the appropriate stalls; no illegal parking to be seen in the section marked for trailers. This is a good start to my patrol. I park my car, gather my patrol gear, and approach the kiosk at the trailhead only to observe a furry canine friend off leash. The owner of the dog is nearby with a retractable leash in her hand. I greet the owner, introduce myself as a member of the VRC, and explain the leash regulation to her. We chat for a few minutes (turns out she is visiting from out of state), and then I start my patrol on Eagle Wind Trail.

As I start my patrol, I notice the birds are unusually vocal and prairie dogs suspiciously silent, probably due to the impending weather. The weather is also affecting the number of hikers on the trail, with only a handful to be seen. Then the wind picks up, urging me to pick up my pace before the rain arrives. I heed the wind's urgency, hoping to reach a sheltered area before the storm hits.

I reach a pine-sheltered area just as the storm breaks, and a light rain begins to fall. The light rain hasn't deterred a dog owner who stops for a chat. She is concerned about dog waste along the trails, asking me who to contact about placing dog waste stations in accessible areas. I suggest that she check the kiosk at the trailhead for a contact phone number. The pet owner thanks me for the suggestion and my service as she hurries to get out of the rain.

The wet weather forces me to stop and dig out my rain gear. Just as I finish putting on my rain gear, a lone hiker notices my VRC arm band and asks me about the program. I am more than happy to answer the hiker's questions, as well as letting her know the VRC will soon be seeking new recruits. The hiker inquires about contact information for the VRC program, then continues her journey. The rain becomes a downpour, compelling me to hurry along on my own journey back to the trailhead.

Slogging along in the rain on the trail back to the trailhead, I remind myself it's only water, and I will dry out eventually. No complaining while on patrol duty! I arrive at the trailhead, drenched but happy. As I toss my wet rain gear into my trunk, I wonder where my next adventure will take me.

I can't wait for another Volunteer Ranger Corps adventure to begin!

JOIN THE VOLUNTEER RANGER CORPS

Give back to your community while enjoying time in the beautiful parks of Boulder County.

Volunteers hike, bike, run, walk a dog, or ride a horse on some of Boulder County's most scenic trails while providing park visitors with information about recreational opportunities, facilities, local resources, and regulations. Volunteers are also trained to lead and assist staff with community outreach and education, visitor studies, and emergency operations.

Volunteers must attend five academy training sessions (one day each month) from January until May in 2019.

Application deadline is November 16. For more information, please contact Michelle Marotti at mmarotti@bouldercounty.org or 303-678-6219.



Volunteer Ranger Corps members spend time on the trails and assisting Boulder County Parks & Open Space staff on a variety of projects.

NATURE DETECTIVES



Fall 2018



Bats Are Super Flyers and the Only Flying Mammal

Little Brown Bat stretched her wings then fluttered into the air as more bats began to stir around her in their roost. She woke up thirsty as usual. She and other little brown bats headed for the pond. Most evenings she flew the same route, dodging branches through a stand of trees. At the pond she zigged and zagged over the water, dipping down to take little sips.

Pinpointing Things as Thin as a Human Hair

Little Brown Bat yelled as loudly as a smoke alarm as she flew. Her high-pitched, echolocation sounds, which human ears can never hear, bounced off of a flying mosquito. With a skill honed by lots of practice, she smacked the insect with her wing tip and bounced it back toward her tail. Her tail and back legs are connected by a skin membrane. Little Brown Bat curved her tail and back legs toward her belly to form a catcher's mitt for the incoming mosquito. Then she tipped her feet and tail toward her mouth and gobbled down her meal. She tumbled in the air for an instant as she dined.

She would repeat her *hit, catch and eat* routine until her stomach was full. Each bug capture and swallow was as quick as you can blink your eyes. In fifteen minutes she'd eaten 140 mosquitoes, quite a nice bellyful.

Fly, Eat, Rest, Repeat – The Nightly Little Brown Bat Routine

Ready for a break, she headed to her usual nearby roosting spot underneath some loose bark on an old cottonwood tree. A few other little brown bats were flying to that same tree. With a back flip that would make a gymnast happy, she landed upside down with her toes gripping the edge of the bark.

Lots of energy had gone into bug catching. Little Brown Bat cleaned her fur, rested and waited for digestion to empty her stomach. Then off she flew, zigzagging back on her usual path until she'd eaten enough to last her until the next evening's hunt. On some nights she would eat as many as 1,200 mosquitoes or similar tiny insects!



Big Brown Bat Flies Straight

At sunset **Big Brown Bat** left his roost earlier than the little brown bats, but he didn't head for water. Most nights he and several of his kind visited the same pond as the smaller bats, but the big brown bats quenched their thirst toward the end of their food foraging.

His keen ears picked up the sound of a moth and his echolocation shouts pinpointed it precisely. Moth wings fluttered to the ground as he chewed his snack. He caught many more moths as he continued his hunting. The moths were flying to a nearby farm to lay their eggs. Big Brown Bat's feasting meant fewer larvae would be eating plants on the farm.

Big Brown Bat flew on a straight course, and he flew higher in the air than the little brown bats. He hunted in open spaces surrounded by houses. He mostly ate beetles but also moths and other night-flying insects.



Little Brown Bats, Big Brown Bats, A Dozen Kinds of Bats, Oh My!

Bats have been adapting to different environments all over the world for at least 55 million years. About a dozen species of bats summer in Boulder County or live here year-round. Many bats live in the foothills, but some bats live at lower elevations or as high up as tree line. Bats need safe roosts for sleeping. Different species roost under bridges, or in holes in trees, or crevices in rocks or in hiding places on buildings. Some species roost in groups and some roost alone.

At dusk when most birds go to bed, bats begin to fly. Watch for bats while a little light remains in the sky. All Colorado bats eat insects. Little brown bats are common in Boulder County and so are big brown bats. Both species are known to fly near towns, and both spend all year in our area.

No Bugs to Eat Means Can't Wait to Hibernate



Hibernation sites need to have the right combinations of temperature, humidity, and safety so bats can sleep without freezing or drying out or being disturbed. Big brown bats hibernate in Colorado in places such as old mines, caves, rock crevices and even storm sewers. There is still a lot unknown about where little brown bats choose to spend the winter in Colorado. Caves and mines are likely choices.

If bats are awakened during hibernation, they may use up vital energy needed to survive until spring. For insectivores there is no food available during the cold months to restore the body fat wasted by being active during a disturbance.

Baby Bats are Pups

Little brown and big brown bat moms give birth to one pup at the very beginning of summer. Like dog pups, bat pups are born with closed eyes. A baby bat's eyes open in two days. Mother bats recognize their pup's call and scent so they can find their baby in crowded bat nurseries. Pups can cling to their mom in flight if escape from the roost is necessary. Baby bats learn to fly on their own in three weeks! **Bats are the only mammals with true flying ability.**

Bat Predators and Other Dangers

As nighttime flyers, bats avoid competition with daytime insect eaters such as frogs and many birds. Darkness and echolocation also help them avoid predators. There are still many dangers from the air and at their roosting sites. Predators may include owls, hawks, snakes, weasels, raccoons and house cats. Misinformed people who fear bats sometimes kill them. Insecticides meant to kill bugs can harm bats too.



Survival is toughest for young bats. They need to learn to fly, to hunt and to avoid danger. It is hard for young bats to store enough fat to make it through migration or hibernation. Bats with good skills and luck can live to be over 30 years old.

Factoids About Bats

Bats are amazing at avoiding obstacles and catching prey by using echolocation, so people used to think bats were blind. In fact bats have vision on par with human sight. Echolocation certainly helps find stuff in the dark. Humans have yet to invent a machine that can function with the complicated ability of bats. These awesome flyers can send out different sounds for different purposes then correctly interpret the returning echoes in their brains.

Grooming keeps bats clean. Cat-like, they lick and groom themselves and their relatives in the bat colony.

Bats are pretty smart, maybe similar in intelligence to dolphins. Scientists studying bats have trained them to do simple tasks.

Bats are not rodents so don't believe it when someone says they are flying mice.

Some other common bats in Boulder County include: long-eared myotis, silver-haired bat, long-legged myotis, hoary bat, and small-footed myotis. Use a library book or the Internet to see what these bats look like and the habitats they prefer.

Sherlock Fox says: Don't be afraid of bats. It is not true that rabid bats fly around ready to attack. Rabies is rare and bats are no more likely than other mammals to carry disease. Bats avoid people so a bat within reach may be sick, and bats will bite defensively.

The rule with all wild animals is the same. **Never** try to touch one, even if it is dead.

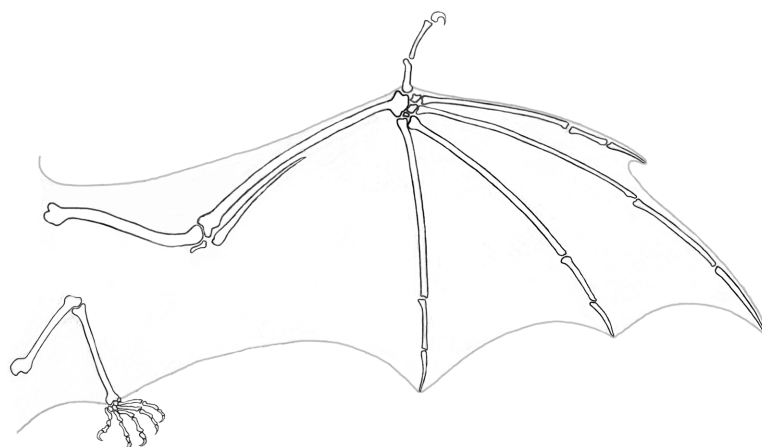


Bat Wings are Hand Wings

You use your hands in many different ways. Bats use their wings in many ways too!

Try this: Stand with your elbows at your sides. Bend your arms so your hands are next to your shoulders. Hold your hands straight out to each side and spread your fingers out. **If you were a bat, your fingers would be the bones in your wings!** You just have to imagine

that your fingers would be MUCH longer. Your thumb would be used to help you crawl around on cave walls, up trees, or on the ground. The webbing on bat wings is made of a very thin skin.



Play an Echolocation Game

Humans can't hear the echolocation sounds that bats make. Sometimes you may hear a bat squeak, but that's not the same thing. We can see how echolocation works by playing a game:

Needed: Blindfold, plastic insects, fanny pack or paper bag

Gather friends or family together. Choose one person to be the bat. The "bat" wears the blindfold. Others spread out around the room or your backyard silently so the bat doesn't know where they are. These people are the "insects" and each one holds a plastic insect. When it's time to start, the bat faces a certain direction and says "beep." If there is an insect in front of the bat, that person has to beep back! (This is like the echolocation signal that the bat sends out – it hits the insect and bounces back to the bat's ears.) The insect can take only one step in a certain direction and as long as the bat keeps beeping, the insect has to beep back. If the bat gets close enough, it can "catch" the insect and put the plastic insect in the fanny pack (which you can pretend is the bat's stomach). See how many insects the bat can catch, and then take turns being the bat.



Watch for Bats!

Summer is a good time to look for bats, especially if there is some type of water source nearby. Near dark, when birds have stopped flying, look for small, flitting mammals in flight. Bats have many muscles inside their wings. They can bend and shape their wings in ways birds can't. They make much sharper and quicker turns than birds. Think about all the insects they are catching!

Text by Katherine Young and Deborah Price
Bat Illustrations by Roger Myers



Heil Valley Ranch—2019 Preview

by Riley Dixon

You may have hiked the memorable trails at Heil Valley Ranch such as the Lichen Loop, Wapiti Trail, and the new Overland Loop. You've created memories in the vast pine forests, peered over the sharp-cut canyons, and felt the crisp cool breezes on your face. You might have even taken a selfie or two in the open meadows full of wildflowers. And if you think it could not get any better than that, think again...there will be even more to enjoy in 2019 when the department opens Heil Valley Ranch 2.

Before you visit Heil Valley Ranch to enjoy the new trails opening on Heil 2 in 2019, we want to share a few things.

A FAMILY AFFAIR

Bud Heil and his family owned the land beginning in 1949 and it served as a working ranch, where they raised cows and horses. Heil Ranch hosted frequent paintball games, the annual Beer and Steer event, hayrides, and military trainings. In 1996, Boulder County purchased 1,214 acres of the property to create Heil Valley Ranch Open Space. The Heil family continued ranching operations on another 210 acres of the space, but the remainder of the property was purchased by the county in 2012.

Among this year's Youth Corps working at Heil Valley Ranch was Zachary Heil who grew up visiting the ranch as a child. After his grandfather, Bud Heil, passed away in 2016, Zachary decided to preserve his grandfather's legacy by pursuing a career in environmental science, and in 2018 he applied to work for the Boulder County Youth Corps. As a member of the corps, Zachary hopes to share his love of Heil Valley Ranch with other teens.

The Youth Corps gives teens, like Zachary, ages 14 to 17 an opportunity to help in open space management activities, develop leadership skills, and foster a strong work ethic, all while admiring and respecting the natural beauty around them. In fact, Zachary specifically requested to be assigned to building new trails at Heil Valley Ranch and contributed to the construction of the not-yet-named east side trail.

WHAT'S TO COME

After a public open house and several revisions, the "Heil 2 Small Area Plan" was completed in 2016. This plan provides Boulder County residents with a guide and provides instructions to completing the management goals of the property. It also provides "do and do not" outlines for how to protect the scenic quality, the ecosystem functions, the various wildlife



Members of Boulder County Youth Corps work on trail construction at Heil Valley Ranch 2.

communities, and the potential outdoor recreation and cultural interpretation opportunities that do not impact sensitive resources.

By spring of 2019, a trail will be constructed on both the west and east side of the newly acquired property. Connecting to the existing Overland Loop, the Altona Schoolhouse and the accompanying Schoolhouse Loop are undergoing restoration on the west end. The Schoolhouse Loop is a beginner trail for new mountain bikers. School groups can arrange a field trip to go back in time and experience an old fashioned school day inside the historical schoolhouse, just like multiple generations of Boulder County children did from 1880 to the late 1940s.

On the east side, a pedestrian and equestrian trail is being constructed to connect the corral area with the Altona Schoolhouse and the current Heil Valley Ranch trailhead. All will be able to get a closer look at the Grindstone Quarry, as well as witness two rare plant alliances. Vegetation at Heil Valley Ranch has been strongly influenced by former ranching operations. However, despite human impact, weeds, and the effects of invasive plant species, plant diversity has thrived and an unconventional alliance between natural perennial bunchgrass and feathergrass has taken hold.

A lot is happening at Heil Valley Ranch and we hope to see you in 2019.

Look for official trail openings in the coming months at www.BoulderCounty.org.

DISCOVER BOULDER COUNTY

Calendar of Events

great
for kids!

ASTRONOMY: MODERN REFLECTIONS

Friday September 7, 7:15-9:15 p.m.

Near Lyons. Space is limited. Location provided to those registered. Harry Potter characters, car brands, and satellite companies take their names from the sky. Discover how the modern merges with the past, followed by sky gazing with telescopes. For ages 5 and up with accompanying adult. Register at www.BoulderCountyOpenSpace.org/register.

GEOLOGY WALK AT SANDSTONE RANCH

Saturday September 8, 10:30 a.m.-noon

Sandstone Ranch - The Visitor Center is located south of Highway 119, one mile east of Weld County Road 1. Take the east entrance to the Sandstone Ranch area, turning south on Sandstone Drive. Follow the signs to Upper Visitor Center parking lot.

Join volunteer naturalist Roger Myers to learn about the geology of Sandstone Ranch and Boulder County. From an overlook, we will see the landscape from the Great Plains to the Continental Divide. After a short and easy walk you can visit the historic Sandstone Ranch house to learn about the human history associated with this site.

RATTLESNAKE HIKE

Saturday September 15, 10 a.m.-noon

Ron Stewart Preserve at Rabbit Mountain, NE of Lyons on north 55th Street, meet at group picnic shelter

Enjoy a moderate 2-mile hike to learn about this fascinating reptile found in the plains and foothills. Volunteer naturalists will share information about the prairie rattlesnake, and how to be safe in rattlesnake country. Please bring water and wear closed-toe shoes.

Great
for kids!

FUN ON THE FARM: SEED STARS

Discover "Stars" of the Garden

Friday September 14, 9:30 a.m. and 10:30 a.m.

Friday September 28, 9:30 a.m. and 10:30 a.m.

(Each session is identical.)

Agricultural Heritage Center
8348 Highway 66, Longmont

Bring your 3-6 year olds to the farm to learn about animals, plants, and agricultural life. Programs include a short story time, hands-on activities, and a take-home craft. Afterwards, explore the farm. Children must be accompanied by an adult.



fun for
all
ages!

Crafts and Trades of Olden Days

Sunday September 9, 10 a.m.-3 p.m.

Agricultural Heritage Center

8348 Ute Highway 66, Longmont

If you were a pioneer settler and there were no stores in the area, how would you get the things you needed for your family? Come learn about old-fashioned jobs and the traditional arts and crafts that went into making what was needed for life on the farm.

See demonstrations on blacksmithing, candle dipping, wool spinning and knitting, soap making, and beekeeping. There will also be make-and-take crafts for kids.



two
dates!

NATURE DETECTIVES: BATS ON THE WING

Tuesday September 11, 6:30-8 p.m.

Thursday September 20, 6:30-8 p.m.

Near Broomfield. Space is limited. Meeting location provided to those registered.

As nature's only flying mammal, bats zip through the air with great dexterity. Discover skills of a few bat species in Boulder County through exploratory activities. For ages 6-12 with accompanying adult. Register at www.BoulderCountyOpenSpace.org/register.

great
for kids!

OLD FASHIONED PLAYDATE

Sunday September 16, 10-11:30 a.m.

Walker Ranch Homestead, 8999 Flagstaff Mountain Road approximately 7 miles west of Boulder

Do you like to play outside and meet new friends? What about trying games and lawn bowling—games your great-grandparents might have played? Join us for a morning of fun, especially for ages 6-12, accompanied by an adult.

BEARS IN OUR BACKYARD

Sunday September 16, 10 a.m.-noon

Heil Valley Ranch Open Space, north of Boulder off Lefthand Canyon Drive, meet at group picnic shelter

Black bears are busy gorging on berries and other food in preparation for their long winter sleep. Join volunteer naturalists on a moderate one-mile hike to learn about the natural history of our local bruin and how people and bears can share our wild places.

Autumn Mining Programs

HARD ROCK MINING TOURS

Thursday September 20, 1-4 p.m.

Saturday October 6, 9:30 a.m. –12:30 p.m.

Nederland Mining Museum 200 N. Bridge Street, Nederland

Tap into the towns, tools, and characters of local hard rock mining heritage by visiting mining sites of years gone by. Tours are free and open to ages 10 and older. Some walking required. Register at www.BoulderCountyOpenSpace.org/register or call 303-258-7332.

great
for kids!

GOLD PANNING

Saturday September 1, noon-2 p.m.

Saturday October 27, noon-2 p.m.

Nederland Mining Museum 200 N. Bridge Street, Nederland

Try your hand at gold panning! This activity led to the settlement of Boulder County as people sought their fortunes. Do you have what it takes to travel back in time and search for gold? Programs are open to ages 5 and older. Registration required. Register at www.BoulderCountyOpenSpace.org/register or call 303-258-7332.

AN EVENING AT THE MUSEUM

Nederland Mining Museum, 200 N. Bridge Street, Nederland

Visit the Nederland Mining Museum after hours for a special guest speaker, along with coffee and dessert.

Friday September 14, 7-8 p.m. *Mountain Mining Women in the Colorado Women's Hall of Fame* by Alexis Anderten, Colorado Women's Hall of Fame Board Member

Friday October 12, 7-8 p.m. *Allies and Alloys: Tungsten from Nederland and the New Armaments and Tactics of World War I* by Benjamin White-Patarino, park ranger

GEOLOGIC HISTORY OF BOULDER COUNTY

Tuesday September 18, 6-7:30 p.m.

Lafayette Public Library, 775 West Baseline Road, Lafayette

The geologic history of our landscape goes back nearly two billion years! Join geologist and volunteer naturalist Roger Myers for this slide program and learn how to read the story in the rocks in our backyard.

SEEING OURSELVES THROUGH THE EYES OF NATURE

Saturday September 22, 9:30 a.m.-noon

Near Boulder. Space is limited. Location provided to those registered.

Join volunteer naturalist Linda Weber for a contemplative walk in nature. Experience nature and learn about the ways of earth and sky. Wear comfortable clothing and bring a notebook and pen. For ages 16 and up. Register at www.BoulderCountyOpenSpace.org/register.

great
for kids!

WALKIN' IN THE MOONLIGHT

Sunday September 23, 6:30-8:30 p.m.

Near Boulder. Space is limited. Location provided to those registered.

Enjoy open space after dark on a glorious walk, while exploring phases of the moon, moon stories, and wildlife interactions on a moonlit night. For ages 5 and up with accompanying adult. Register at www.BoulderCountyOpenSpace.org/register.

fun for
all
ages!

Autumn Heritage Day & Vintage Baseball Game

Sunday, September 30, 10 a.m.-3 p.m.

Baseball game begins at noon.

Walker Ranch Homestead, 8999 Flagstaff Mountain Road, approximately seven miles west of Boulder

See how autumn was spent on a working ranch in the late 1800s and watch the annual vintage baseball game. Costumed volunteers will demonstrate chores such as root-cellarling, sausage making, and doing laundry with a washboard and wringer. Watch the blacksmith make hinges, nails, and other hardware needed around the ranch, attend a one-room school session or take a guided homestead tour.

For more information, contact Sheryl Kippen at skippen@bouldercounty.org or 303-776-8848.

Please note: Dogs and bicycles are not permitted at the homestead.



BIRDING BOULDER COUNTY THROUGH THE SEASONS

Monday September 24, 6-7:30 p.m.

George Reynolds Branch, Boulder Public Library, 3595 Table Mesa Drive, Boulder

Join volunteer naturalists to learn about birding through the seasons. This program will explore where to find and how to identify some of our local and migratory birds and introduce you to an amazing range of ecosystems and habitats.



All Programs:

All ages welcome unless otherwise noted. NO PETS PLEASE! Be prepared for cool to warm temperatures. Bring drinking water and dress in layers. For more information or to arrange a volunteer-led program for your group, please call 303-678-6214.

Calendar of Events

CARIBOU RANCH PHOTOGRAPHY

Thursday September 27, 10 a.m. – 2 p.m.

Space is limited. Registration required.

Join a photography session to capture the fall colors and create work to submit to the 2019 Boulder County Parks & Open Space photography exhibit.

Register at www.BoulderCountyOpenSpace.org/register.

great
for kids!

SEEDS ON THE MOVE

Saturday September 29, 10-11:30 a.m.

Hall Ranch Open Space, meet at the upper parking lot

Wildflowers and trees spring forth from tiny seeds. Discover the variety of ways seeds launch, fly, and hitch a ride to find places to grow! Program and hands-on activities, followed by a short walk. For ages 5-10 with accompanying adult.

great
for kids!

HANGING OUT WITH BATS

Friday October 5, 6:30-7:15 p.m.

Nederland Mining Museum, 200 N. Bridge Street, Nederland

Join volunteer naturalists to learn about bats, their habits and habitat, and their importance to humans. Also learn how mines can provide safe and stable habitats for our local bats. For ages 3-7 with accompanying adult.

OH DEER, ELK, AND MOOSE

Saturday October 6, 9 a.m.-noon

Near Nederland. Space is limited. Location provided to those registered.

Join volunteer naturalists for a moderate 3-mile hike to learn about the natural history, behavior, and ecology of mule deer, American elk, and moose. Register at www.BoulderCountyOpenSpace.org/register.

ANCIENT BEACH WALK

Saturday October 13, 9-11 a.m.

Near Niwot. Space is limited. Location provided to those registered.

Join geologist and volunteer naturalist Sue Hirschfeld on an easy walk to see the fossils and unusual geologic features formed in this near-shore marine environment. Wear hiking shoes—there's lots of prickly pear cactus! Register at www.BoulderCountyOpenSpace.org/register.

Two
times!

MESSAGES IN THE STONES

Monday October 15, 9:30 a.m.–12:30 p.m. & 1:30–4:30 p.m.

Near Longmont. Space is limited. Meeting location provided to those registered.

Cemeteries share people's lives long after they're gone. How do local ones represent women, religious faiths, ethnic groups, and organizations? Learn about iconography dealing with these groups and then visit local cemeteries to see examples in person. Bring a sack lunch to enjoy among the stones. Register at www.BoulderCountyOpenSpace.org/register.

Junior & Senior Fishing Derby

Saturday, October 13, 9 a.m.-noon

Wally Toevs Pond at Walden Ponds Wildlife Habitat
off of 75th Street between Jay Road and Valmont Road,
Boulder

Participants need one senior 64 or older and one junior 15 or younger, to fish together as a team. Prizes are awarded for the team that catches the heaviest trout, has the largest age difference, and are first to catch the limit.

- The pond is stocked with rainbow trout—artificial and live bait are permitted.
- Seniors must have a valid Colorado fishing license.
- A wheelchair accessible pier is available.

For more information contact Michelle Marotti at 303-678-6219 or mmarotti@bouldercounty.org.



GOATS GALORE – MEET AND GREET

Sunday October 14, 10:30 a.m.–12:30 p.m. Agricultural Heritage Center, 8348 Ute Highway, Longmont

Join the Goats Galore 4-H club and their goats for a drop-in program all about goats. Why do people raise goats? Do goats really eat tin cans and tennis shoes? Learn about raising goats, different breeds, housing and feed requirements, and see a live milking demonstration.

WHOO ARE THE OWLS?

Thursday October 18, 7-8:30 p.m.

Louisville Public Library, 951 Spruce Street
Louisville

Owls have been regarded with fascination throughout history. Over half of the owl species recorded in the U.S. have been seen in Boulder County, and most of those owls nest here. Join volunteer naturalists for a slide program to explore these fascinating creatures.



HIGH PEAKS AND SILVER DREAMS

Saturday October 20, 9 a.m.-noon

Near Nederland. Space is limited. Location provided to those registered.

Join volunteer naturalists for a hike to explore ancient mountain-building, alpine glaciation, and history of hard rock mining on a moderate 4-mile (round-trip) hike. Register at www.BoulderCountyOpenSpace.org/register.

STORY IN THE ROCKS—OUR CHANGING LANDSCAPE

Saturday October 27, 10 a.m.-noon

Near Lyons. Space is limited. Location provided to those those registered.

Join volunteer naturalists for a 1.3-mile moderate hike to learn how this landscape has changed over time. The stories in the rocks span over 200 million years, from ancient sand dunes to where dinosaurs roamed. Register at www.BoulderCountyOpenSpace.org/register.

WILDLIFE AND WINTER HIKE

Saturday November 3, 10 a.m.-noon

Near Nederland. Space is limited. Meeting location provided to registered participants.

Join volunteer naturalists for an easy one-mile hike to learn about the ways that animals prepare for and survive winter. We'll talk about migration, hibernation, and also look for signs of wildlife, including tracks, scat, and browse marks. Register at www.BoulderCountyOpenSpace.org/register.

BIRDS OF PREY SLIDE PROGRAM

Wednesday November 14, 7-8:30 p.m.

Longmont Public Library, Meeting Rooms A & B, 409 Fourth Ave.

Join volunteer naturalists and learn how to recognize birds of prey in the skies above Boulder County. During this slide presentation you'll learn how to distinguish between different raptors and learn about the habitat requirements and ecology of these magnificent birds.

BIRDS OF PREY DRIVING TOUR

Saturday November 17, 9 a.m.-noon

Near Niwot. Space is limited. Location provided to those registered.

Join volunteer naturalists for a driving tour of some of the best areas to view birds of prey. We will carpool from our meeting place searching for raptors, learning about habitat, and working on our identification skills. Please bring binoculars and a bird field guide if you have them. For ages 10 and older with accompanying adult. Register at www.BoulderCountyOpenSpace.org/register.

NATURE HIKES FOR SENIORS

Enjoy a guided nature hike for seniors every month. For more information, call 303-678-6214.

Programs begin at 10 a.m. and end at noon

Thursday September 27, Betasso Preserve, meet at shelter

Thursday October 25, Heil Valley Ranch, south trailhead, meet at trail kiosk

Thursday November 29, Pella Crossing Open Space, meet at kiosk

Volunteer
Opportunity

Be a Volunteer Naturalist!

If you enjoy nature and sharing your knowledge with others, apply to be a volunteer naturalist.

Volunteer naturalists lead hikes, present slide programs, and provide hands-on experiences to people of all ages. We are especially looking for people interested in sharing nature with school groups, both on trails and in the classroom. Topics range from wildlife and plants to ecology and geology. You will learn about interpretive techniques to connect with audiences.

TRAINING INFORMATION: Training classes take place on Thursdays, January 10 through March 14, 2019 from 8:30 a.m. to 4 p.m. in Longmont.

PLEASE CONTACT: Larry Colbenson, Natural History Program Coordinator, at 303-678-6214 or lcolbenson@bouldercounty.org for information and application. **Application deadline is November 9, 2018 or until class is filled.** Since there is limited space, all applicants will be interviewed.

When to Visit Ron Stewart Preserve at Rabbit Mountain

The property will be closed to the public Monday through Wednesday from Sept. 17, 2018 through Jan. 31, 2019 for elk management through limited hunting. It is open to the public Thursday-Sunday from sunrise to sunset.

The property will be open with no restrictions from December 24 through December 30, 2018.

Visit www.BoulderCountyOpenSpace.org/elkmanagement for more information.

ART SHOW: 2018 OUTDOOR CREATIONS, A BOULDER COUNTY JURIED ART SHOW

Celebrate our county public lands at the Great Frame Up – Longmont October 12 – November 2.

Join us for the exhibit opening catered by Guillaume's European Catering, on Friday, October 12, from 5-8 p.m. at the Great Frame Up, 430 Main Street, Longmont.

Exhibit hours: October 12 through November 2, Monday–Saturday from 10 a.m.–5 p.m.

Visit www.BoulderCountyOpenSpace.org/paintout for more information.



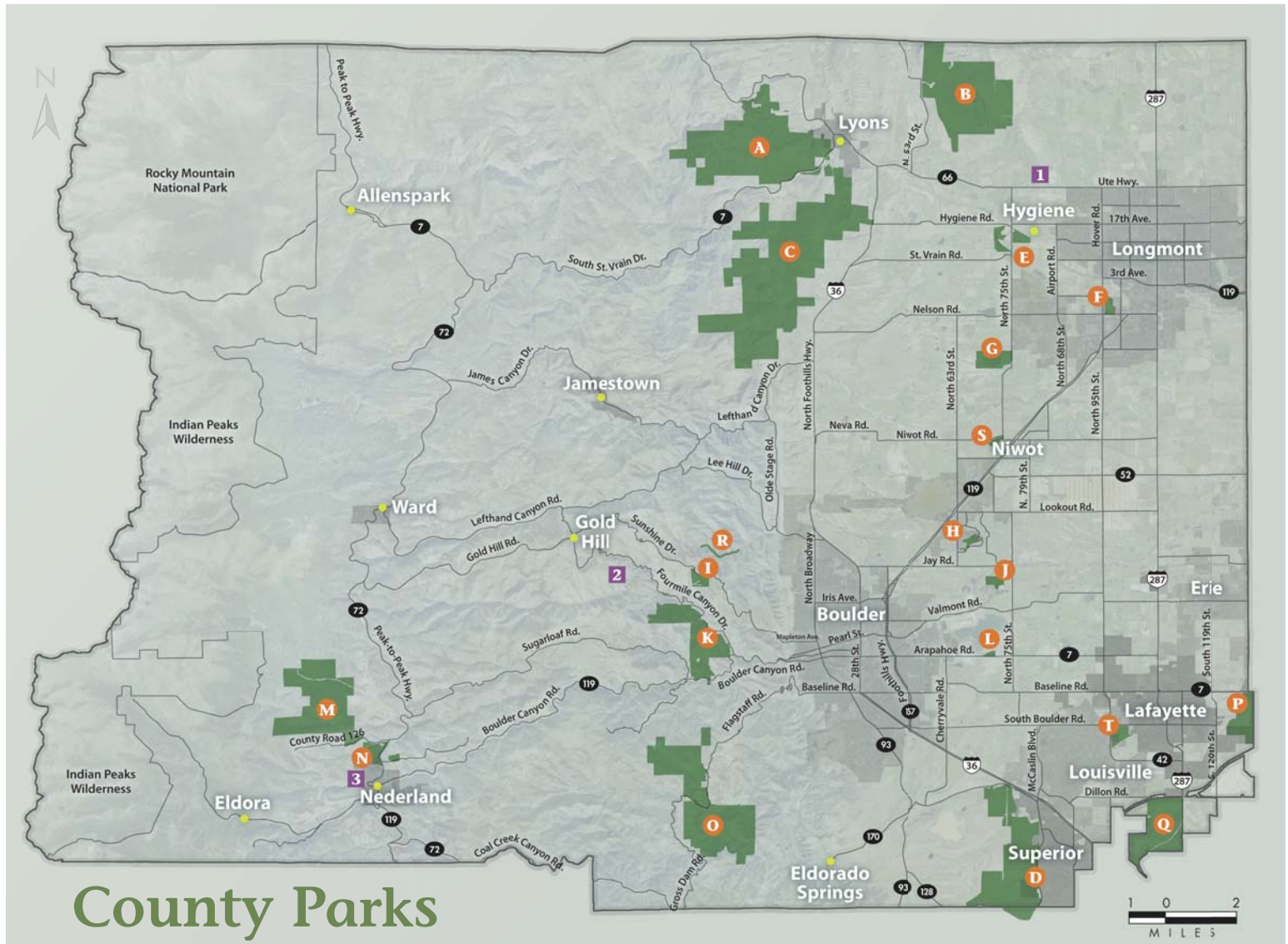
The Yuccas
at Heil Valley Ranch by
Cheryl Whitehall



Parks & Open Space

5201 St. Vrain Road, Longmont, CO 80503

www.BoulderCountyOpenSpace.org



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|--|---|---|---|
| A Hall Ranch | F Boulder County Fairgrounds | L Legion Park | R Anne U. White (closed due to 2013 flood) |
| B Ron Stewart Preserve at Rabbit Mountain | G Lagerman Agricultural Preserve | M Caribou Ranch | S Dodd Lake |
| C Heil Valley Ranch | H Twin Lakes | N Mud Lake | T Harney Lastoka |
| D Coalton Trailhead | I Bald Mountain Scenic Area | O Walker Ranch | 1 Agricultural Heritage Center |
| E Pella Crossing | J Walden Ponds Wildlife Habitat | P Flaggap Park | 2 James F. Bailey Assay Office Museum |
| | K Betasso Preserve | Q Carolyn Holmberg Preserve at Rock Creek Farm | 3 Nederland Mining Museum |