

images

OF BOULDER COUNTY PARKS AND OPEN SPACE



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Images

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

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NATURE DETECTIVES

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DISCOVER BOULDER COUNTY

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Tracking Down Mines of the Past

by Matt Adeletti

North of Fourmile Canyon, and up a narrow and rocky road that eventually just disappears, I parked my 4-wheel drive truck and conferred with my aerial photo of the area. The photo showed the old road bed I was on surrounded by thick forest, rock outcroppings, valleys and hillsides. I was looking for a remote mining claim in the area, located somewhere in the steep hillsides above me. It was one of many the county purchased in the late 1990s. Like most mining claims, it looked like a long skinny rectangle; 1500 feet long, 150 feet wide.

I put on my pack and started hiking up into the trees, brush, and loose rock. In several places it was so steep and loose that I slid right back down for every step I took. Using my compass and map, 30 minutes of hiking lead me to the mining claim known as the "Evening Star Lode." It is completely indiscernible from the forest around it. Back in the late 1800s the miners had to know where all four corners were. Sometimes they used descriptions like, "From the large pile of rocks, head east 150 feet to the tree with the can in it, then proceed..." I came across one of these trees and found the very old can which had old surveys papers in it. On a similar trip last summer, I found a tree that had the bark cut out of it and a miner had carved the name of the mining claim into the tree.

I looked at my aerial map again and within the Evening Star Lode boundary was a tiny splotch of yellow and gold. It was probably 200 yards on the slope above me. As I hiked to it, the rocks underfoot were getting looser and the slope steeper. This meant I was getting close. I soon came across the yellow and gold from my aerial photo. It was lots of small loose rocks that were tossed down this very steep part of the hillside. They turned yellow and gold from being exposed to the elements. This rock is known as wasterock. I scrambled up the loose rock slope to where it quickly leveled out, and right before me was a mine-shaft, 15 feet long, 10 feet wide and about 25 feet deep. It had timbers down along the sides of it to keep it from collapsing. The historical survey and field notes for the Evening Star Lode that I brought along (originally deposited with the Clerk and Records Office by miners who worked this mining claim in 1880) confirmed I had found the right mine shaft. I recorded this location on my GPS and took several photos.

Finding the Mines

When the Boulder County Parks and Open Space Department buys property, an environmental assessment report that details environmental hazards is done on the property, which would include big open mineshafts. However, locating mining claims is not as easy as you would think. Many of them overlap each other like a bundle of sticks, so knowing which open mineshaft belongs to which mining claim is difficult to figure out. We didn't know if the Evening Star Lode had a mining claim on it, but my site visit now proved it. Some mining claims, like this one, were purchased in the winter. Accessing them in the snow is extremely dangerous, as the snow covers open shafts and falling into one is a very real threat. Open mine shafts get overgrown, and branches and debris fall into them and can cover them up. Over the years they slowly collapse in on themselves so the opening (if you can find it) seems small, but they are actually quite large underneath.

Jim Daus, a Land Officer with the department, and I researched historical and current mining records and compiled a list of properties that have open mineshafts. We had to take a few trips to mining claims where our research did not show if there was an open mine shaft on it or not. We also had to determine other facts, like their size and depth, remoteness, and whether they could be reached with a truck or ATV or only by hiking. One mineshaft that was closed last summer was so difficult to reach that contractors used ropes tied to trees along the steep slopes to haul their gear to the site. One horizontal mineshaft had a table and a rudimentary kitchen set up in it. Apparently some folks were living there last summer.

We completed the list which has about 100 open mineshafts. Working with the great staff at the Department of Reclamation and Mine Safety, (DRMS) we decided which mine shafts should be closed, and broke this list into three phases to be completed by 2013. The project completed last year was

called Nugget Gulch; this summer it is the Eagle Nest. The DRMS has wildlife biologists, engineers and other staff visit each open mineshaft to decide which type of closure is required. They have to determine if bats are using them, how unstable they are, and a list of other things. They close them by either filling them in with the wasterock around the mineshaft, hauling material to the site, or installing a bat grate which allows bats to fly in and out. If the mineshaft is very deep, then poly-foam is sprayed in the mineshaft creating a plug and wasterock is piled on top of it. The DRMS then hires a contractor to close these open mineshafts. Last summer 30 of them, located along the Peak-to-Peak Highway, in the Nugget Gulch area and on Spencer Mountain near Eldora were closed. The DRMS has been doing this throughout the state for years, and we are happy to be working with them in this program.

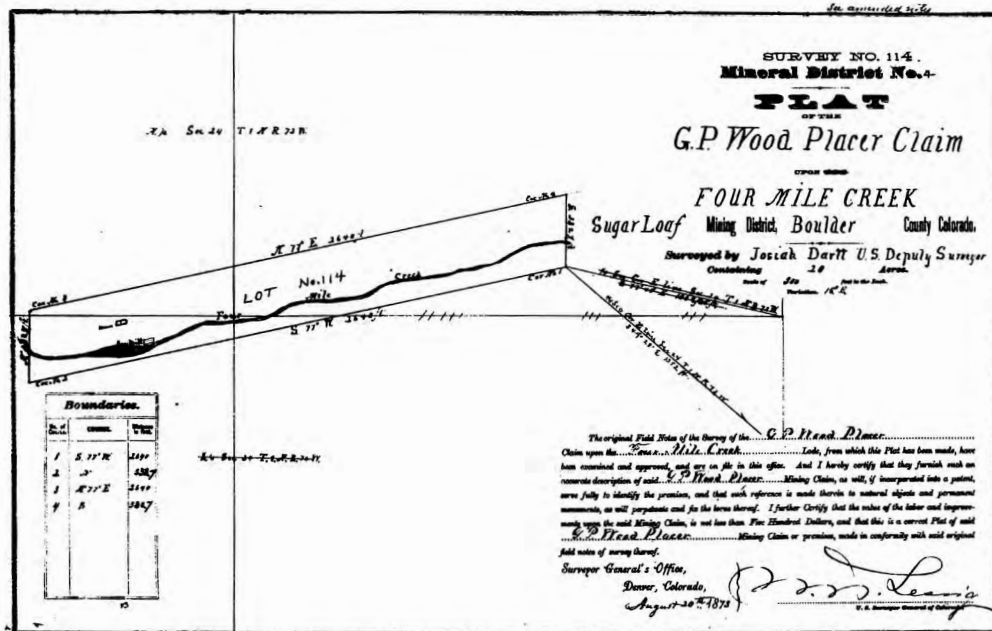


Dangers of Open Mines

On March 5, 2011, a 28 year old father of five fell into an open mineshaft in Nevada and the rescuers had to abandon efforts to get him out because the shaft was so unstable. He died soon after. On June 7, 2011, in Filabusi, Zimbabwe, a man fell to his death into a mineshaft almost identical in size and shape to Evening Star Lode mineshaft. Many open mineshafts in Boulder County are very close to trails and roads that people use for hiking, biking, and horseback riding. Three of them on open space are right along an old road bed near Gold Hill that gets a lot of public use. They were a high priority and were closed last summer.

Above: Boulder County Parks and Open Space ranger, Chris White, logs the GPS coordinates of a mine. A bat grate covers the entrance to the mine.

A historical survey map dated August 20, 1873. The G.P. Wood Placer Claim was near Sugarloaf Mountain.



Cardinal Mill Now on National Register of Historic Places

by Carol Beam



Cardinal Mill Extreme Makover: Before and after pictures of phase II of the restoration which included repairs to the hopper roof, the lower north and east elevation walls, the south elevation roof, numerous interior columns and beams and rebuilding the east retaining wall.

On December 22, 2011, the National Parks Service listed the Cardinal Mill on the National Register of Historic Places. Cardinal Mill is located a few miles outside the Town of Nederland and was purchased by Boulder County in 2003 with the intent to preserve the building for future interpretation of the county's hard rock mining history. The building was locally landmarked in 2001.

Hard rock mining began in Boulder County in January 1859 as a result of the discovery of gold along the banks of Gold Run Creek, near the present day town of Gold Hill. Within a short period of time of that discovery, mining became the foundation of Boulder County's economic activity. Small mining camps began constructing their own mills to process the ore from the mines. Cardinal Mill was one of these mountain mills.

Cardinal Mill was completed in 1902 to process ore from the adjacent Boulder County Tunnel. Initially, gold and silver were the primary metals extracted, but when Boulder County became one of the leading producers of tungsten, the mill was converted to process the highly sought after metal. For nearly 40 years Cardinal Mill processed vast quantities of ore and frequently made local newspaper headlines demonstrating its importance to the mining community. The mill ceased operation in 1942 and has been vacant since.

Cardinal Mill is the oldest intact mill in Boulder County and with most of its milling equipment remaining in place, is perhaps one of only three similar mills left intact in Colorado.

When Boulder County purchased the dilapidated mill it was on the verge of collapse. Since that time, Boulder County

has been working to save the building through planned phases. A large amount of work was completed over the past six years with the financial assistance of several State Historical Fund grants and a Colorado Department of Public Health Brownfield's Fund grant. The final phase of work is planned for the summer of 2012.

The building is currently used for education and interpretation purposes to bring awareness of the importance of historic preservation and the role the building served in the county's hard rock mining history.

The National Register of Historic Places is the official list of the nation's historic places worthy of preservation. Authorized by the National Historic Preservation Act of 1966, the National Register of Historic Places is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect America's historic and archeological resources. For more information about the National Register, visit www.nps.gov/nr.

Check Out the Virtual Hard Rock Mining Tour!

Go online and explore the fascinating history of hard rock mining in Boulder County. The web-based tour explores the history of Boulder County's hard rock mining through historical and present-day photos, videos, oral histories and an interactive map that includes mining and milling sites, and the Switzerland Trail Railroad line.



Visit www.BoulderCountyOpenSpace.org/hrmt

Research on Boulder County's Open Space Lands

*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 2011 study conducted by Joseph Arehar. His project focused on using the lichen *Xanthoparmelia* to monitor concentrations of nitrogen in urban and wilderness environments*

Abstract: In Colorado, there is a need to monitor and establish baselines to describe the normal concentrations of different pollutants in the atmosphere. By establishing baselines throughout different environments, we can monitor the impact of human activity on the atmosphere.

While monitoring these changes can be done in many ways, the use of geographic information systems (GIS) makes monitoring levels of pollutants easier. Lichens have been used as bioindicators to monitor pollutants in the atmosphere as lichen absorb chemicals through wet (from precipitation) and dry (from the ambient air) deposition. Through a chemical analysis of nitrogen concentrations in the tissues of the lichen genus *Xanthoparmelia*, I compared the total percentage of nitrogen in lichen from both urban and wilderness environments to see if the geographic setting and distance from an urban center affects the levels of nitrogen found within lichen samples. Foliose lichen samples (n=86) were collected from rocks in both the Indian Peaks Wilderness Area (wilderness), as well as from the Boulder County Open Space Areas (urban).

After samples were collected and prepared, chemical analyses for nitrogen were conducted using a carbon-hydrogen-nitrogen (CHN) analyzer. The average total nitrogen levels contained in the lichen of the wilderness sites (1.116%) were

significantly lower than those of the urban sites (1.422%, $p < 0.001$). However, the urban vs. wilderness differences were not readily explained by the factors of urban distance and elevation (a proxy for precipitation which accounts for the wet deposition in an area). These results established a preliminary baseline which can be used to monitor changes in Boulder County's "nitrogen footprint" over time.

Conclusion: This study quantified the levels of nitrogen in urban and wilderness areas within Boulder County. The results showed significantly higher levels of nitrogen in the seven urban sites sampled versus the three wilderness sites samples. The results establish a preliminary baseline that can be used to monitor changes in Boulder County's "nitrogen footprint" over time. Such monitoring is important to determine if anthropogenic sources of nitrogen continue to adversely affect Rocky Mountain ecosystems or if the effects are being mitigated through efforts such as the Rocky Mountain Nitrogen Deposition Reduction Plan.

In addition, other monitoring needs to be done in other places in Colorado and the western United States. Since reactive forms of nitrogen are highly mobile and can travel great distances, deposition along the Front Range might not only be caused by local anthropogenic sources but also sources from California and Nevada. Limited conclusions from this study can be made at this time, so more extensive monitoring needs to be done to test for changes in nitrogen and other elements in Boulder County and across the Western United States.

If you want to read the full report, or other funded research, visit the department's website at www.bouldercounty.org/openspace/resources/res_funding/res_fund.htm.

Burrowing Owls

by Francesca Giongo



“That prairie dog looks different ... it’s there at the entrance of a burrow but...wait! Those are not prairie dog legs, they are too long! And those big yellow eyes look like owl eyes. I did not know owls can live on the ground, I thought they only lived on trees.” These were my thoughts when I saw my first burrowing owl during a visit to the Rocky Mountain Arsenal.

It turns out that the burrowing owl, *Athene cunicularia*, has several characteristics that set it apart from other owls. To begin with, true to its name, it nests underground using abandoned burrows of prairie dogs and ground squirrels. Unlike most owls, it is commonly seen on the ground and during the day.

This tiny but long-legged owl is 9 inches tall, and has a brown back and wings with white spotting. The chest and belly are white with variable brown spotting or barring. It does sport the characteristic large yellow eyes of owls, but it lacks ear tufts.

Burrowing owls live in grasslands, rangelands, agricultural areas, deserts, or any other dry open area with low vegetation in the western portion of North America, in Florida and the Caribbean Islands, and in the eastern part of South America. In Colorado they are migratory, arriving in late March to early April for their breeding season and leaving in October.

Pairs of owls sometimes nest in loose colonies. They are mostly monogamous, but sometimes the males have two mates. They lay on average seven to nine eggs which are incubated by the female for three to four weeks while the male brings her food. After the eggs hatch, both parents feed the chicks. When alarmed, young owls make a hissing call that sounds like a rattlesnake.

A wide variety of materials are used to line the nests. The most common material is mammal dung, usually from cattle. It was originally thought that the dung helped to mask the scent of the juvenile owls, but researchers now believe it helps to control the microclimate inside the burrow and to attract insects.

Given that large insects, like dung beetles, are a considerable part of this owl diet, I would say that is a smart owl!

Insects represent roughly one third of the burrowing owl diet; the rest is made up of small mammals, and occasionally birds, reptiles and even fruit and seeds. After spotting their prey from a perch, the owls swoop down on it or catch insects in flight. They are also often seen walking or running after their prey on the ground, another unique trait that sets them apart from other owls and provides very entertaining viewing opportunities for birdwatchers.

Burrowing owls were first described in 1872 by a Chilean Jesuit priest, Juan Ignacio Molina. Before European colonization, these owls probably inhabited every suitable area of the Americas, but in North America their distribution has shrunk due mostly to control programs for prairie dogs and loss of habitat.

In Boulder County, nine nests were reported in 2010, and seven in 2011. The Boulder County Parks and Open Space Department has been monitoring these owls for many years including a volunteer monitoring program in 2008. The program was expanded in 2009 thanks to a partnership with Boulder County Audubon Society. When nests are found on county open space properties, adjacent trails are temporarily closed to the public (typically from May to September) so as not to disturb the nesting pairs.

The burrowing owl is on Boulder County’s Species of Concern list, and it is a state threatened species in Colorado. It is protected under the Migratory Bird Treaty Act in Canada, the United States, and Mexico. It is also included in CITES (Convention on International Trade in Endangered Species) Appendix II, which lists species “that are not necessarily threatened with extinction, but may become so unless trade in specimens of such species is subject to strict regulation.”

Field Notes

A Day in the Life of a Youth Corps Team Leader

This past summer I had the opportunity to work with Boulder County Parks and Open Space as a Youth Corps Team Leader. With the help of Historic Preservation's Tim Zych and Ari Addes, a crew of 10 young folk stabilized the lower barn at the Walker Ranch homestead. It was a big job. A really big job. Every day we hiked down to the barn, tools in hand, and proceeded to dig out rotten support beams, mix and set cement for the beams, build shutters, steps, and even a bridge to cross the stream.

The job got done by summer's end amidst the rolling thunder and occasional complaint about the heat. It was the best summer job I have had. I saw one of my corps members one afternoon on Pearl Street and she told me that she still thinks about those days up at Walker. They were good memories for her. Something she thinks about when things get tough. As I walked away, I thought to myself, I guess she forgot about the four times I made her fix those barn steps...



Youth corps members work to stabilize the lower barn at the Walker Ranch Homestead. Ben Hesse is in the top photo, fourth from the left. Ari Addes, who works in historic preservation, is in the bottom right photo.



Article by Ben Hesse, who is a Park Technician I.

BECOME A NATURE DETECTIVE



Just in Time for Spring Break!

What are you doing over spring break? Get outside and explore the Nature Detectives Club, a free, fun, engaging experience for children and their families.

Kids 11 years and younger enjoy the Nature Detectives Club, an interactive way to foster children's appreciation of nature while enjoying a visit to a county park.

Families join the club by participating in self-guided tours and activities on Boulder County Open Space.

Each Nature Detectives Mystery Guide takes participants on an exploration of a specific trail. The guides include activities that highlight the natural surroundings and history of each location. Kids don't need any special knowledge or equipment — just curious minds, a sense of adventure, and a pencil.

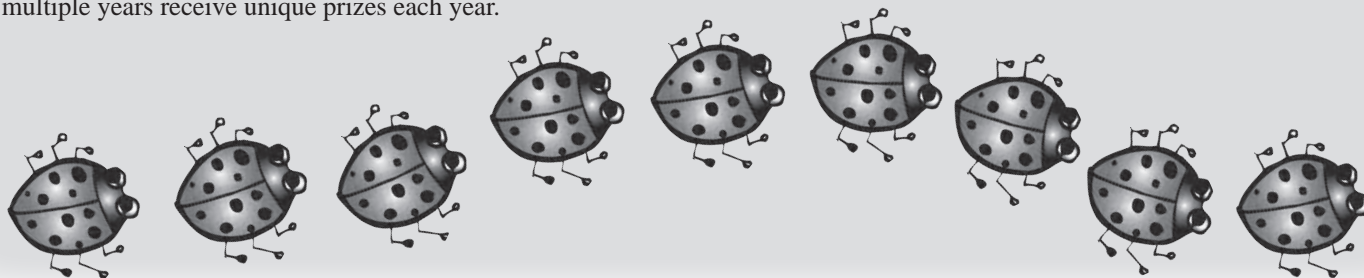
Mystery guides can be picked up and returned at Nature Detective Club mailboxes at trailheads. Families can also request mystery guides to be sent to them by calling 303-678-6201 or visiting the Nature Detectives Club online at www.BoulderCountyOpenSpace.org.

When kids complete three mystery guides, they receive a prize and a certificate. The prize will be something they can use for their future outdoor explorations. Members of the Nature Detectives Club who complete the series for multiple years receive unique prizes each year.

NINE PLACES TO BE A NATURE DETECTIVE!

- Heil Valley Ranch - NEW!
- Mud Lake - NEW!
- Betasso Preserve
- Caribou Ranch
- Carolyn Holmberg Preserve at Rock Creek Farm
- Meyers Homestead Trail at Walker Ranch
- Walden Ponds Wildlife Habitat
- Agricultural Heritage Center
- Pella Crossing

These places represent the wide variety of wildlife, plant life and cultural history found throughout Boulder County.



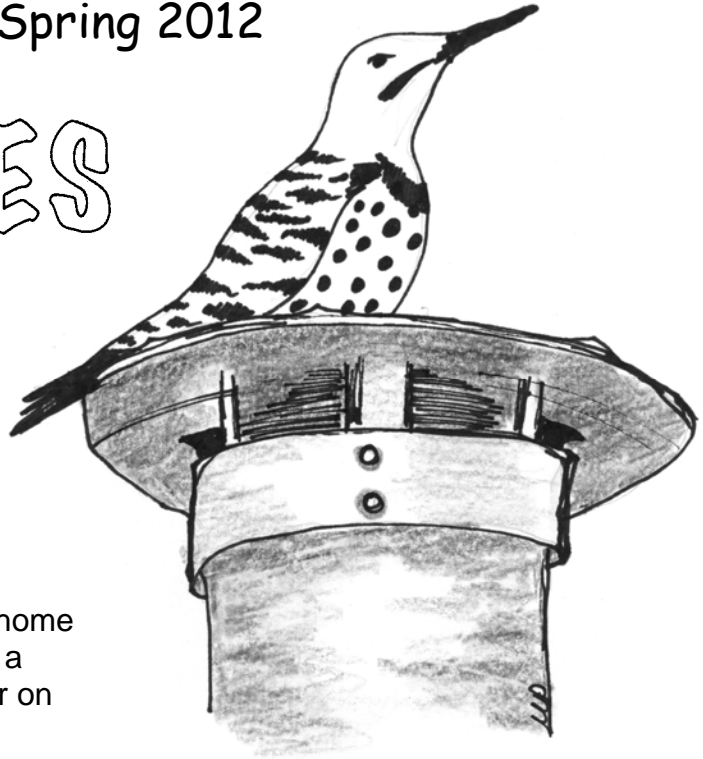
NATURE DETECTIVES

Spring 2012

Drums of Spring

Ahhh, spring...when the early morning is filled with a lullaby of bird songs....

What?!!! Suddenly you are startled wide awake as **rata tat tat tat tat** fills your house with an explosion of sound. No, the noise does not come from some home appliance about to shatter. The racket is a **northern flicker** using a metal vent cover on your roof as its drum.



Most birds sing to claim their space and attract a mate in spring. Flickers have no songs to sing. Instead, male and female flickers drum. They drum to say, "This is my territory." They drum to tell last year's mate or a new partner, "It is time to lay some eggs."

Using their bills they drum on trees or houses or fences. High spots are favorites. They want to make the most noise possible – which is why they often drum on metal parts of your roof.

Flickers are quick drummers. Their bills can hit as fast as 22 beats per second. They repeat their rhythms as often as 6 times a minute. And, if they find a good drumming spot, they will use it over and over. Since they are drumming to communicate, they usually make only dents, not holes, in their drums. They drum like this in the spring. Whew! By summer, flickers will not disturb you in the early morning. They will be busy quietly stalking ants in your grass.

Neighborhood Clowns

Although noisy flickers might be annoying at times, they do give us beauty. Flickers are pretty birds and fun to watch. A flicker looks like it is wearing a soft brown and gray sweater that has dark stripes in back and black polka dots in the front. Black feathers below the flicker's throat look like a black tee shirt showing above the sweater neckline. Feathers above the eyes are a soft orange color. The males sport bright red patches on each side of their bills. From the front, it looks like a dramatic mustache. From the side, it looks more like a clown.

Flashy Takeoff



Sudden drumming isn't the only surprise about flickers. They flap/glide to fly, flapping their wings then folding them against their sides. Their flight has a distinctive up and down pattern as they flap up and glide down, and that saves them energy.



When they take off they flash unexpected colors.

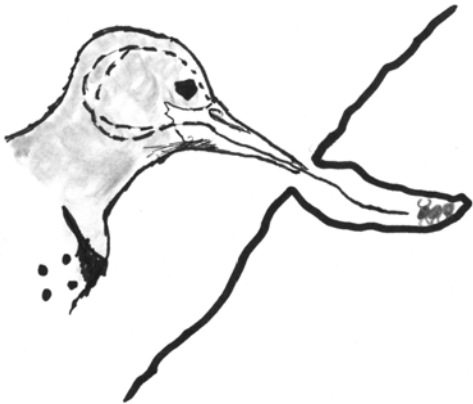
Their bright, white rump - which is their lower back - is hidden by their folded wings until they fly.



They also show reddish colors on their wings and tails in the air. That's why our flickers are called **red-shafted**. Northern flickers farther east are called yellow-shafted. Can you guess why?

Flickers have calls as attention grabbing as their flying and drumming. They have both a high-pitched "keew" and a loud, repeating wik-wik-wik-wik-wik call they make for up to 15 seconds.

Flicker Menu



What if your tongue didn't end at the back of your mouth but wrapped around the back of your skull and even into your right nostril?

If it did, you'd have a tongue like a flicker.

A flicker's tongue is so long, the bird can stick it out almost two inches to capture the insects and their larva that it eats. The end of the tongue has little barbs that snag soft bugs. A flicker also has very sticky saliva on its tongue to stick to hard-bodied insects.

Unlike other woodpeckers, flickers spend much of their time on the ground searching for food rather than mostly pecking their dinners out of tree bark. If they are pecking on your house, the wood on your house could be full of carpenter ants.

Ants may be a flicker's favorite food. Flickers are the champion ant-eating birds of North America. Scientists have found as many as 5,000 ants in one flicker's stomach. When you see them pecking into the ground with their long, slightly curved bills they are looking for ants or beetles or digging up ant or beetle larvae.

When tasty ants and grubs are less available in winter, flickers put more berries and seeds on their menus. They sometimes visit backyard birdfeeders.

Homes By **Flicker Construction Company**

Flickers excavate new tree holes every year. A flicker pair pecks out more than one hole because the males and females sleep each night in separate roosting holes.

Flicker Construction signs ought to be tacked beside many critter nest holes. Chickadees, nuthatches, bluebirds, wrens, kestrels, owls, tree swallows, buffleheads, squirrels and other animals don't have bills designed to dig big holes in trees. They use old flicker holes for their own nests. Flicker holes make dry, secure shelters for raising young. It is no wonder so many animals nest in flicker holes.

Squirrels and other animals don't always wait for the flickers to vacate their homes. Starlings are non-native birds with a bad habit of kicking flickers out of their newly built nests. Some scientists think starlings are one reason there are fewer flickers now.

The evicted flicker pair will likely excavate a new nest, but the loss of a home site is a big setback in raising a family. It can take two or three weeks for the flicker pair to excavate a new nursery even when they start with a roosting hole.

Parenting Duties

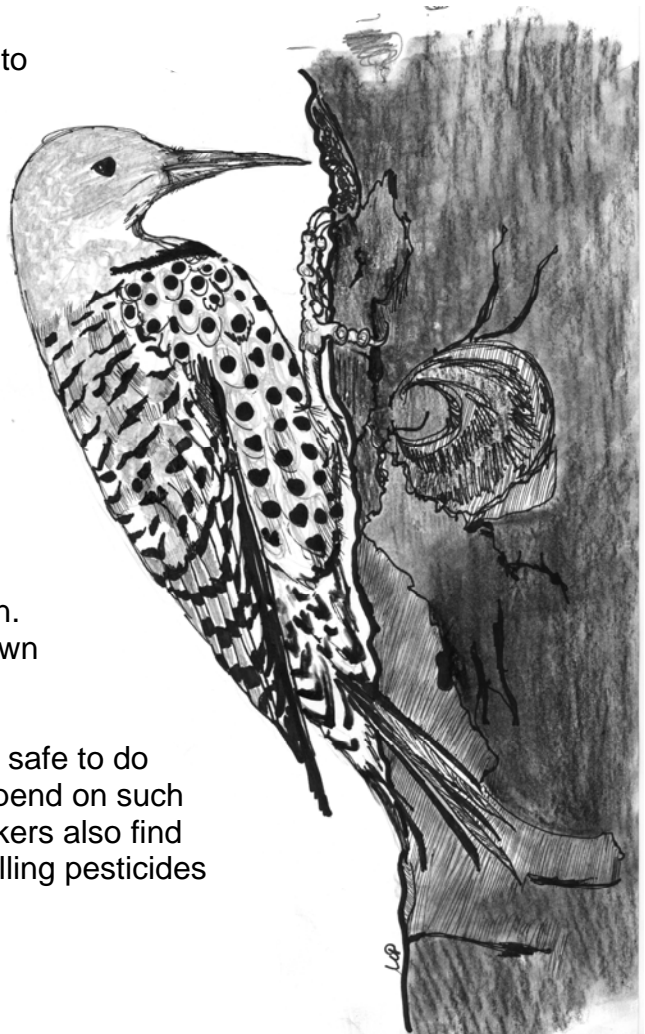
Usually the male and female birds work together to enlarge the bottom of the male flicker's roosting hole to make space for baby birds.

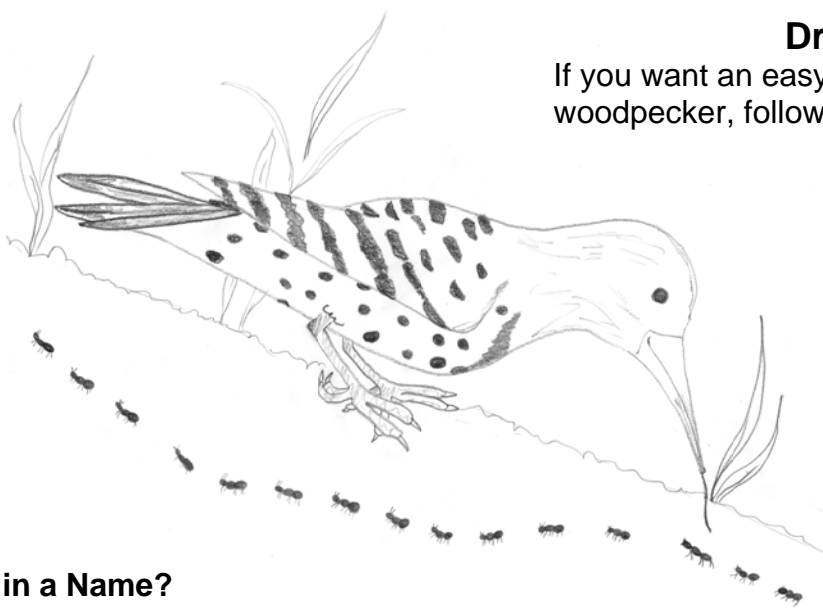
The pair take turns caring for the eggs and baby flickers, but the male flicker usually spends the night with his brood. Maybe that is because he was used to sleeping there before he had kids. The female sleeps in her own roosting hole nearby.

Habitat Loss

Another reason there may be fewer flickers in some places is that flickers prefer dead or dying trees as the easiest trees for nest hole excavation. But people favor healthy trees and tend to cut down diseased trees and dead trees.

Leaving sick and dying trees in places where it is safe to do so helps flickers and many other animals that depend on such trees as sources of food and shelter. Hungry flickers also find food more easily when people resist using bug-killing pesticides on lawns.





Draw It

If you want an easy way to draw a woodpecker, follow the steps along this page.



What's in a Name?

When flickers are communicating quietly with near-by flickers, they make a sound like "wika wika wika," sometimes described as "flicka flicka flicka."

The sound may have led to their common English name, flicker.

Some people call flickers "wake-ups" or "red-hammers."

With a friend you could think up other creative names for flickers.

Fitting names might express what flickers do or what they look like.

Search for the Biggest and the Littlest

Spend some time outdoors watching for robin-sized flickers. Flickers are the biggest woodpeckers in Boulder County, and they are the most common woodpeckers in our area year-round. They don't mind being around people so they are fairly easy to observe in open forests and in parks and backyards from the plains to the mountains.

Our littlest woodpeckers are the sparrow-sized downy woodpeckers.

Like flickers, they are in parks, backyards and forests.

Downy woodpeckers are black and white with petite bills, shorter than the width of their heads. Males have a red patch on the backs of their heads.

Drum like a Flicker

After every line of this little rhyme, tap a drum or clap your hands like a flicker.

How does he know where to dig his hole,

The woodpecker there on the telephone pole?

X x x x x x x x / X x x x x x x x

Is he looking for an aspen limb to use for a drum or to dig in?

X x x x x x x x / X x x x x x x x

How does he find where the young bugs grow? I'd like to know!

X x x x x x x x / X x x x x x x x

Surprising Survival Strategies of Boulder County Snakes

by Ellen Orleans

Perhaps more than any other reptile, snakes are entrenched in symbolism. Much of the western world knows the Garden of Eden story in which a snake persuades Eve to eat from the Tree of Knowledge, an act that—depending upon your interpretation—dooms mankind to lives of hardship or graciously bestows knowledge upon humanity.

In Chinese culture, people born in the Year of the Snake are said to be wise, mysterious and compassionate. In India, a coiled snake signifies *Kundalini*, a life-force energy that rises from the bottom of the spine. The circular Ouroboros, an image of a snake swallowing its tail (the word itself is Greek for tail devourer) is found world-wide, from ancient Egyptian funerary texts to depictions of the feathered Aztec serpent god Quetzalcoatl. The Ouroboros is associated with infinity, wholeness and cycles of rebirth.

It is not surprising that snake mythology is rich—without arms, legs, wings, or fins, these remarkable creatures mate, attack, devour prey, shed their skins, and dart quickly in and out of view.

Beyond Rattlesnakes

Snakes (order *Squamata*, suborder *Serpentes*) are descendants of lizards. Colorado is home to 26 snake species, about 12 of which can be found in Boulder County. The prairie rattlesnake is probably our best known (and only poisonous) snake. Since rattlesnakes are frequently in the limelight, this article focuses on five non-poisonous snakes.

Sometimes mistaken for a rattlesnake, the bullsnake is Boulder County's biggest snake. This strapping reptile has earned its title, as it ranges from 48 to 100 inches long. It varies from yellow to orange brown, with dark squares running along its back and sides. Many open space hikers encounter bullsnakes, sometimes sunning in the middle of a trail! (Snakes, like all reptiles, are cold-blooded and shuttle between sun and shade to moderate their body temperature.) When you see a bullsnake, watch from a distance. If a bullsnake feels threatened, it may imitate the sound of a rattlesnake by striking its tail against dry grasses. It also may coil, hiss and flatten its head to appear like a rattlesnake.

When hiking with a group, never surround a snake; give it plenty of room to escape. As it slips away, you may wonder how this limbless creature propels itself. For snakes, it's all about belly muscles and contact with a surface. Naturalist Mary Taylor Young describes it this way: "Snakes move by slithering, using the rhythmic contractions of their long muscular bodies and pushing off against the ground." Employing this method of locomotion, snakes move through grasslands, over sand and rocks, and even up trees.



A young bullsnake at Rabbit Mountain

By slithering, snakes can also swim. The northern watersnake, a shy, tan or brown banded snake, lives in or near water. Generally less than 40 inches long, it eats fish, frogs, tadpoles, and crayfish. While most snakes lay leathery-shelled eggs, northern watersnakes' offspring mature internally in a membranous sac, emerging alive. While watersnakes can swim, plains hog-nosed snakes can dig! This 16- to 20-inch long snake derives its name from its upturned shovel-like snout, which it uses to unearth dinner—mostly toads and lizards. When attacked, some toads inflate themselves, hoping to be too big to swallow. The hog-nosed counters this tactic with large teeth at the back of its mouth, which it uses to deflate toads.

It is not surprising that snake mythology is rich—without arms, legs, wings, or fins, these remarkable creatures mate, attack, devour prey, shed their skins, and dart quickly in and out of view.

How do hog-nosed snakes detect underground prey? Like other snakes, a hog-nosed has a keen sense of smell. It juts out its tongue to pick up airborne odors, then retracts it to make contact with the chemically-sensitive vomeronasal organs—paired, sac-like structures that open into the roof of the mouth.

Along with digging up prey, the hog-nosed has another unique trait. If it cannot fend off an attacker by hissing or striking, it feigns death.

Colorful Creatures

While many local snakes are muted in tone, Boulder County is also home to dramatically-colored ones. The smooth greensnake is, true to its name, grass green which is good camouflage in lush vegetation. (Smooth greensnakes are rare in Boulder County so if you see one, please contact wildlife biologist Dave Hoerath at 303-678-6204.) Milksnakes are boldly-patterned with bands of red outlined in black, alternating with bands of white or cream. Yet, like all snakes, the greensnake and milksnake also have a pair of transparent, colorless scales called spectacles, covering each eye. Since snakes lack moveable eyelids, these special-

ized scales protect the snake's eyes, giving rise to the myth that a snake never sleeps. Of course, snakes do sleep, sheltering alone or in groups under rocks and logs. In fact, smooth greensnakes have been discovered hibernating with up to 150 other snakes at a time.

The Coalton Trail Tourist

by Rachel Gehr

First off, I admit that I am NOT an advanced rider. I can't brag about my weekend bike adventures around the water cooler on Monday morning — especially around here where everyone seems to have summited Everest on Saturday and then done something "challenging" on Sunday.

However, my husband and I like to ride our mountain bikes most weekends and seek out new trails. Late last fall our search brought us to the recently opened Coalton trailhead on McCaslin Boulevard just south of Highway 36.

The trailhead is easy to find, there is plenty of parking and there is a restroom at the trailhead (yea!). The trail is a combination of a few trails in the foothills, managed by various agencies. The total circle is about 10 miles.

Riding Along

We started our ride on the path heading directly west. The trail begins with a fairly long uphill (I readily admit to walking about 100 feet of that hill). It levels out at the top of a ridge and you are rewarded with sweeping views of the Front Range.

From here you have a nice level ride on a wide trail that eventually narrows to single track. It's a roly-poly landscape with some fun swooping downhills as you wind your way among the foothills.

About one hour into the ride, we came upon grazing cows. It's odd, but I am fearful of these large animals. Behind a fence they are wonderful to look at. However riding between them when they are close enough to have to move off the trail as I go by is unnerving. As expected however, they paid no mind, looking up in a bored manner as I rolled past.

The Worst Obstacle

After the harrowing encounter with livestock it was more single track until we encountered the most dangerous hazard on the ride - the braggart mountain biker. At the junction



Riding through the dreaded livestock, unscathed.

where you turn onto the Community Ditch Trail, a couple of men asked us for directions, and then argued with us about our answer. And as they were getting ready to ride off they loudly mentioned riding off of Loveland Pass, "remember, there was no trail and we just went anyway – a lot like that really tough ride we took . . ."

On the Community Ditch Trail the landscape becomes less open and you're treated to some greenery and running water (depending on time of year, of course). I pulled up to a man in a red shirt and said, "Well, this is my favorite part of the trail so far." Then I looked up and realized he wasn't my husband, but another man in a red shirt. We shared a laugh and he said that this stretch was also his favorite part of the ride.

After the Community Ditch Trail you're back into the grasslands and packed-dirt singletrack. Towards the end of the ride we encountered the final long uphill (which also took us among cows). But what goes up must come down, and after cresting the ridge it's a fun downhill back to the trailhead.

Timely Matters

It took us about two hours to complete the trail. I am a slow rider (and have the most patient husband in the world) so the trail could be done much faster – at least based on the people swooshing by me.

Coalton is now at the top of my list of trails to ride. Along with easy access, it is a nice mix of road bed and single track and none of it is technical.

Notes:

- Trailhead amenities include a shelter with two picnic tables, restrooms, bike racks, trash cans, a dog station, and an information kiosk. The parking lot accommodates 27 cars, two handicapped spaces and three horse trailers, two with horse hitching rails.
- There is NO shade - plenty of water and sunscreen is advisable (on any ride of course, but this one in particular).
- It is an easy trail to follow and there are maps along the trail, but on the City of Boulder property, the maps don't show Boulder County's trails. If you are not familiar with the area (or not good at trail-finding in general, like me) it might be helpful to bring a little trail map.

Discover Boulder County

A CALENDAR OF NATURAL AND CULTURAL HISTORY EVENTS

Wildflower Hikes and Slideshows

Spring Wildflower Slide Programs

Wednesday, April 11; 6:30pm to 8:00pm
REI Store, Community Room, 1789 28th Street, Boulder
--and--

Tuesday, May 15; 7:00pm to 8:30pm
Louisville Public Library, 951 Spruce Street, Louisville
Join volunteer naturalists for a slide program to kick off the wildflower season! You'll learn about the variety of wildflowers, where and when to look for them, and some interesting facts about our native plants.



Spring Wildflower Hikes

Wildflowers of Legion Park
Sunday, May 6; 10:00am to noon
Legion Park Open Space; east Boulder on Arapahoe Road; 0.5 mile west of 75th Street

Join volunteer naturalists for a leisurely spring stroll through the pinyon and ponderosa pines at Legion Park. Besides having a great view of the Continental Divide, this park is a wonderful place for early season wildflowers.

Wildflowers of Rabbit Mountain
Saturday, May 19; 10:00am to noon
Rabbit Mountain Open Space; NE of Lyons on north 55th Street; meet at group picnic shelter

Rabbit Mountain is a great place to view spring wildflowers. The transitional foothills zone is home to Easter daisies, Nuttall's violets, Pasque flowers, spring beauties, cacti, and more. Join volunteer naturalists for a moderate 2-mile hike that will take you from grassland to ponderosa pine and mountain mahogany shrubland in search of early bloomers.

Wildflowers of Heil Valley Ranch
Sunday, May 27 10:00am to noon
Heil Valley Ranch; north of Boulder off Lefthand Canyon Drive; meet at group picnic shelter

Join volunteer naturalists for a spring wildflower hike at Heil Valley Ranch in the beautiful foothills. We will hike a leisurely 1.5-mile loop through forest and meadows in search of spring wildflowers, enjoying some beautiful vistas along the way.

Forest and Fire Ecology Hike
Saturday, March 10; 10:00am to noon
Bald Mountain Scenic Area; 5 miles west of Boulder on Sunshine Canyon Drive (Mapleton Avenue in Boulder city limits)

Join volunteer naturalists for an easy one-mile hike to learn about the natural role of fire in ponderosa pine ecosystems, and some of the forest management practices that can lessen the effects and scale of wildfires. You will also see evidence of the recent Fourmile Canyon Fire, learn about some of the rehabilitation efforts that have been employed, and observe how the landscape recovers over time.

FOR KIDS!

Junior Ranger Winter Adventure
Saturday, March 10; 10:00am to Noon
Mud Lake Open Space; 2 miles north of Nederland on County Road 126; meet at parking lot kiosk

Join county rangers for a day of winter fun and adventure. During this two hour event kids will learn how proper preparation makes playing outside in the winter fun and safe. Kids will have the opportunity to check out a snow shelter, try on a pair of natural snowshoes and make a frozen treat. Designed for kids from 6 to 11 years old, but all ages are welcome. Space is limited and reservations are required. If you have questions or would like to sign up, please contact Ranger Sarah Holton at sholton@bouldercounty.org or 303-258-0543.

Registration deadline is Wednesday March 7, 2012.

Discover Boulder County

A CALENDAR OF NATURAL AND CULTURAL HISTORY EVENTS

Who are the Owls?

Tuesday, March 13; 7:00pm to 8:30pm

Longmont Public Library, Meeting Rooms A & B, 4th Avenue and Emery Street, Longmont

Owls have been regarded with fascination throughout recorded history and across many cultures. Over half of the owls recorded in the U.S. have been seen in Boulder County, and most of those owls nest here. Join volunteer naturalists to explore these fascinating creatures and learn about the diversity and special adaptations that make them expert hunters.

The Hidden World of Bird Nests

Saturday, March 17; 10:00am to noon

Walden Ponds Wildlife Habitat Area; 75th Street between Valmont Road and Jay Road; meet at group picnic shelter near Cottonwood Marsh

Bird nests appear in an almost infinite variety of forms, ranging from a mere scrape in the ground to intricately woven hanging nests. Join volunteer naturalists for an easy walk in search of some of these structures. We will also talk about breeding bird behavior you may see this spring. Bring binoculars and a bird field guide if you have them.

Spring Has Sprung!

Saturday, March 24; 10:00am to noon

Heil Valley Ranch; North of Boulder off Lefthand Canyon Drive; meet at group picnic shelter

What's blooming? Who's singing? Who's having babies? How are these events connected and what does the position of the sun in the sky have to do with it? Join volunteer naturalists on a 1.5-mile hike to look for signs of new life along the trail. Learn the importance of the sun at equinox in linking and timing these vibrant displays of new beginnings.



Story in the Rocks - Geologic History of Boulder County

Wednesday, March 28; 7:00pm to 8:30pm

George Reynolds Branch, Boulder Public Library, 3595 Table Mesa Drive, Boulder; additional parking is available across Table Mesa Drive in the King Soopers parking lot

The geologic history of Boulder County goes back over 1.7 billion years. Ever wonder where the rocks came from, how they formed or what the earth was like back then? Join geologist and volunteer naturalist Sue Hirschfeld for this PowerPoint program and learn to read the story in the rocks and interpret the landscape.

Spring Awakening—Bears in our Backyard

Saturday, March 31; 10:00am to 11:30am

Betasso Preserve; Boulder Canyon (Highway 119) to Sugarloaf Road; follow signs to Betasso Preserve; meet at group picnic shelter

Black bears have always been a part of our landscape. In springtime, as daylight hours get longer and air temperatures warm, black bears and their cubs emerge from their winter dens. Join volunteer naturalists to explore how bears survive the winter and become active again in the spring. We'll also learn how to live safely in bear country with Colorado's largest omnivore. Be prepared for early spring weather.

Visit the Champion Cottonwood Tree

Saturday, April 7; 10:00am to noon (drop-in)

Champion Cottonwood Site: On the east side of Crane Hollow Road, just north of the intersection of Crane Hollow and St. Vrain Roads in northern Boulder County near the town of Hygiene. Please park along Crane Hollow Road near the entrance gate.

The majestic plains cottonwood stands out in the landscape. Larger than most of its deciduous companions, this water-loving tree has long been treasured for food, shade, and habitat on the western Great Plains. Since 1967, Boulder County has been home to the largest plains cottonwood tree in America, according to the National Register of Big Trees. This stately tree, over a century old, is 95 feet tall and 36 feet in circumference. Join volunteer naturalists to see and learn more about the story of this sentinel of the plains. No hiking is required.

All About Beavers

Saturday, April 14; 10:00am to noon

Walden Ponds Wildlife Habitat Area; 75th Street between Valmont Road and Jay Road; meet at group picnic shelter near Cottonwood Marsh

The beaver is one of nature's most accomplished engineers. They build lodges, dam streams, and otherwise modify the environment to create their habitat. Beavers have periodically taken up residence at Walden Ponds and left some of their handiwork behind. We'll see signs of their hard work in felled shrubs and trees, and old lodges. Volunteer naturalists will lead this easy walk to learn all about these furry, water-loving mammals.



Discover Boulder County

A CALENDAR OF NATURAL AND CULTURAL HISTORY EVENTS

Rattlesnake!

Saturday, April 21; 10:00am to noon

Rabbit Mountain Open Space; NE of Lyons on north 55th Street; meet at group picnic shelter

Enjoy a moderate 2-mile spring hike to learn about this fascinating reptile found in the plains and foothills. Volunteer naturalists will lead this hike and share information about the western rattlesnake, including habitat, ecology, behavior, and how to be safe in rattlesnake country. Wear closed-toe hiking shoes/boots.

Pella Crossing: History and Habitat

Sunday, April 22; 1:00pm to 3:00pm

Pella Crossing Open Space; About 1 mile south of Hygiene on the east side of North 75th Street

Join volunteer naturalists Joyce Costello, Barbara Preese, and Marsha Williams to learn about past and present residents of Pella Crossing. Learn about the agricultural and mining history of this area and the development of the ponds for wildlife habitat. We will also keep an eye out for evidence of the birds and other wildlife. Be prepared to walk about 2 miles round trip on level trails.

The Mystery of Bird Migration Slide Program

Monday, April 23; 7:00pm to 8:30pm

Louisville Public Library, 951 Spruce Street, Louisville

Some birds are seen all year, some only in summer or winter, and some seem to only visit for a short period in spring or fall. Why do birds make seasonal journeys, what prompts them to leave, how do they know when and where to go, and what brings them back year after year? Join volunteer naturalists Larry Arp and Vicki Braunagel to explore these mysteries surrounding the amazing world of bird migration.

The Mystery of Bird Migration Bird Walk

Saturday, April 28; 8:00am to 10:00am

Walden Ponds Wildlife Habitat Area; 75th Street between Valmont Road and Jay Road; meet at group picnic shelter near Cottonwood Marsh

Join volunteer naturalists Larry Arp and Vicki Braunagel to explore the joys of bird watching during prime migration season! They will share tips for recognizing different types of birds, including songbirds, ducks and waterfowl, wading birds and raptors. The emphasis of this beginning-level bird-watching trip will be on practicing observation skills to help with bird identification. Be prepared for a slow-paced walk of up to 2 miles. Bring binoculars and a bird field guide if you have them.

Cultural History Happenings

**Spring Heritage Day at the Walker Ranch Homestead
Sunday, April 29; 10:00am to 4:00pm**

Walker Ranch Homestead; 7701 Flagstaff Mountain Road, approximately 7.5 miles west of Boulder on Flagstaff Road

Spring is the beginning of so many new things—garden planting, repairing buildings, bringing baby animals into the world—that was true for ranch families in the Victorian days also. Join us at the homestead for a peek into pioneer living in springtime. Get the garden ready, churn butter, and make shingles with costumed volunteers.



Kids can experience what school might have been like in the 1880s during Spring Heritage Day at the Walker Ranch Homestead.

Crafts and Trades of Olden Days

Sunday, May 20; 10:00am to 4:00pm

Agricultural Heritage Center, 8348 Ute Highway 66 west of Longmont

If you were a pioneer settler and there were no stores in the area yet, how would you get the things you needed for your family? Learn about old fashioned jobs and the traditional arts and crafts that went into making what was needed for life down on the farm. See blacksmithing in action, and try your hand at candle-dipping and working with a drop spindle!

Geology of Rabbit Mountain

Saturday, May 5; 9:00am to 1:00pm

Rabbit Mountain Open Space; NE of Lyons on north 55th Street; meet at group picnic shelter

Volunteer naturalist Dick Pratt and others will lead a moderately strenuous 3-mile hike, where you'll learn about the interesting geology of the area. We'll also keep our eyes out for spring wildflowers, soaring raptors, and wildlife. Bring lunch and binoculars if you have them. This program is geared for adults.

Discover Boulder County

A CALENDAR OF NATURAL AND CULTURAL HISTORY EVENTS

Birds of Boulder County Slide Program

Wednesday, May 9; 7:00pm to 8:30pm

George Reynolds Branch, Boulder Public Library, 3595

Table Mesa Drive, Boulder; additional parking is available across Table Mesa Drive in the King Soopers parking lot

Join volunteer naturalists to learn where to find and how to identify some of the birds that call Boulder County home. This slide program, geared to beginning birders, takes you from the grasslands to the alpine tundra to explore a range of ecosystems and habitats. You will also hear about migratory birds that return to or pass through Boulder County at this time of year.

Paper Trails: Tracking the Clues to a Life

Saturday, May 12; 10:00am to noon

Agricultural Heritage Center, 8348 Ute Highway 66 west of Longmont

Join Robin Branstator, author of the recently published biography, *At Home on the Range: George R. McIntosh, Western Everyman*, as she talks about how two early-19th century marriage certificates, a photograph of a house built in 1822 in Ohio and a 1926 "Decree of Final Settlement" of McIntosh's estate helped her reconstruct the saga of a man who lived from 1837-1924 on western frontier lands, but left only a meager paper trail behind as a record. Be ready for Colorado's chilly spring weather as this presentation will be held in an unheated historic farm building. Books will be available for sale and signing by the author.

Fossils and Flowers

Sunday, May 13; 9:30am to noon

Meeting location will be provided to registered participants.

Join volunteer naturalists Megan Bowes and Sue Hirschfeld for a short, moderately strenuous hike to explore a landscape created by folding and faulting as the Rocky Mountains uplifted 70 million years ago. You will see evidence of the Cretaceous seas that once inundated this area, as well as early-blooming wildflowers. **Register by calling 303-678-6214 by Thursday, May 10.**

A Butterfly's Life – A Beginner's Guide to Butterflies

Thursday, May 24; 7:00pm to 8:30pm

Lafayette Public Library, 775 west Baseline Road, Lafayette

Do you love butterflies? Have you ever wondered where Monarchs go during their migration? Enjoy this beginner's guide to butterflies that reviews the life cycle of butterflies, and covers information on behaviors, identification tips and the Monarch migration. We'll learn about the connection between plants and butterflies, give an introduction to local butterfly resources, and learn where to look for those flying flowers...the butterflies.



Geology Walk at Sandstone Ranch

Saturday, May 26; 10:00am to noon

Sandstone Ranch Open Space Visitor Center; located south of Highway 119, one mile east of Weld County Road 1. Follow signs to the visitor center parking lot.

Join volunteer naturalist Dick Pratt to learn about the geology of Sandstone Ranch and Boulder County. From a scenic overlook, we will learn about this diverse landscape, from the Great Plains to the Continental Divide. After a short walk exploring geologic history, visit the historic Sandstone Ranch house. Homesteaded in 1860, the ranch house was built in the early 1880s, using sandstone quarried from the cliff next to the house.



Nature Hikes for Seniors

Boulder County Parks and Open Space hosts a nature hike for seniors every month. Programs include information about an area's history, wildlife and resource management projects. For more information, call 303-678-6214. Please call in advance if you plan to bring a large group so we have enough naturalists at the program. **Programs begin at 10:00am and end at noon.**

Thursday, March 29, Agricultural Heritage Center at the Lohr/McIntosh Farm

Thursday, April 26, Heil Valley Ranch Open Space (meet at the group picnic shelter near the Lichen Loop Trailhead)

Thursday, May 31, Betasso Preserve

All Programs

All ages welcome unless otherwise noted. **NO PETS PLEASE!** Be prepared for cool temperatures and muddy conditions. Bring drinking water and dress in layers. See the back cover for park locations. For information about these programs, or to arrange a volunteer-led program for your group, please call Larry Colbensohn at 303-678-6214.

Boulder County Trails iPhone Application Available

The official GPS trail map for Boulder County Parks and Open Space is now available on the App Store^{RM}. Let your iOS 4 (or later) GPS enabled iPhone find you on your favorite Boulder County trail and show you your options.

- Want to know your options? **List view** shows trails by park with their length in miles.
- Don't know where the parks are? **Map view** displays all the trails on the map. Touch **Locate Me** to find your current location.
- Want to extend your hike? The trail you select from **List view** is shown in purple, and connecting trails are shown in orange so you can see your options. Click on the hiker icon to see the name and length of the connecting trails.
- Want to see the landscape? Touch **Map Type** and select **Satellite** to see the landscape in incredible photographic detail.

Note: an application for Android phones is in the works!



Caribou Ranch Closed April - June

There is a permanent spring closure April 1 through June 30, to protect spring migratory birds, overwinter elk survival, and elk calving and rearing activities. Please respect wildlife needs for solitude.

Violators can be fined up to \$300 by the resident caretaker, park rangers and county sheriff deputies who patrol the open space property.

Come Out to the Farm!

Come visit the Agricultural Heritage Center for a glimpse into the history of agriculture in Boulder County and enjoy the rural surroundings.

Site Highlights

- Two barns
- Milk house
- Blacksmith shop (in use during special events)
- Livestock on site April through October
- Farmhouse is furnished with period furniture
- The big red barn contains interactive exhibits for all ages to enjoy—including a real tractor cab!

Schedule

The center will be open every Friday, Saturday and Sunday from 10:00am to 5:00pm, from April through October. Admission is free.

Tours of the site are offered on Fridays, Saturdays and Sundays at 11:00am. Groups can also arrange special tours of the site year-round.

The center is located at 8348 Ute Highway 66, west of Longmont. For additional information or to schedule a group tour, call 303-776-8688 or visit the department's website www.BoulderCountyOpenSpace.org.



Correction from Winter Issue

In the winter 2011-2012 issue we had a story reporting how Boulder County Parks and Open Space is doing on our five-year performance measures. We reported we had not quite met the goal below. However we exceeded the goal in 2011.

Goal: To provide quality recreational experiences while protecting open space resources.

Performance measure: Add 17 miles of new trail, bringing our total to 115 trail miles

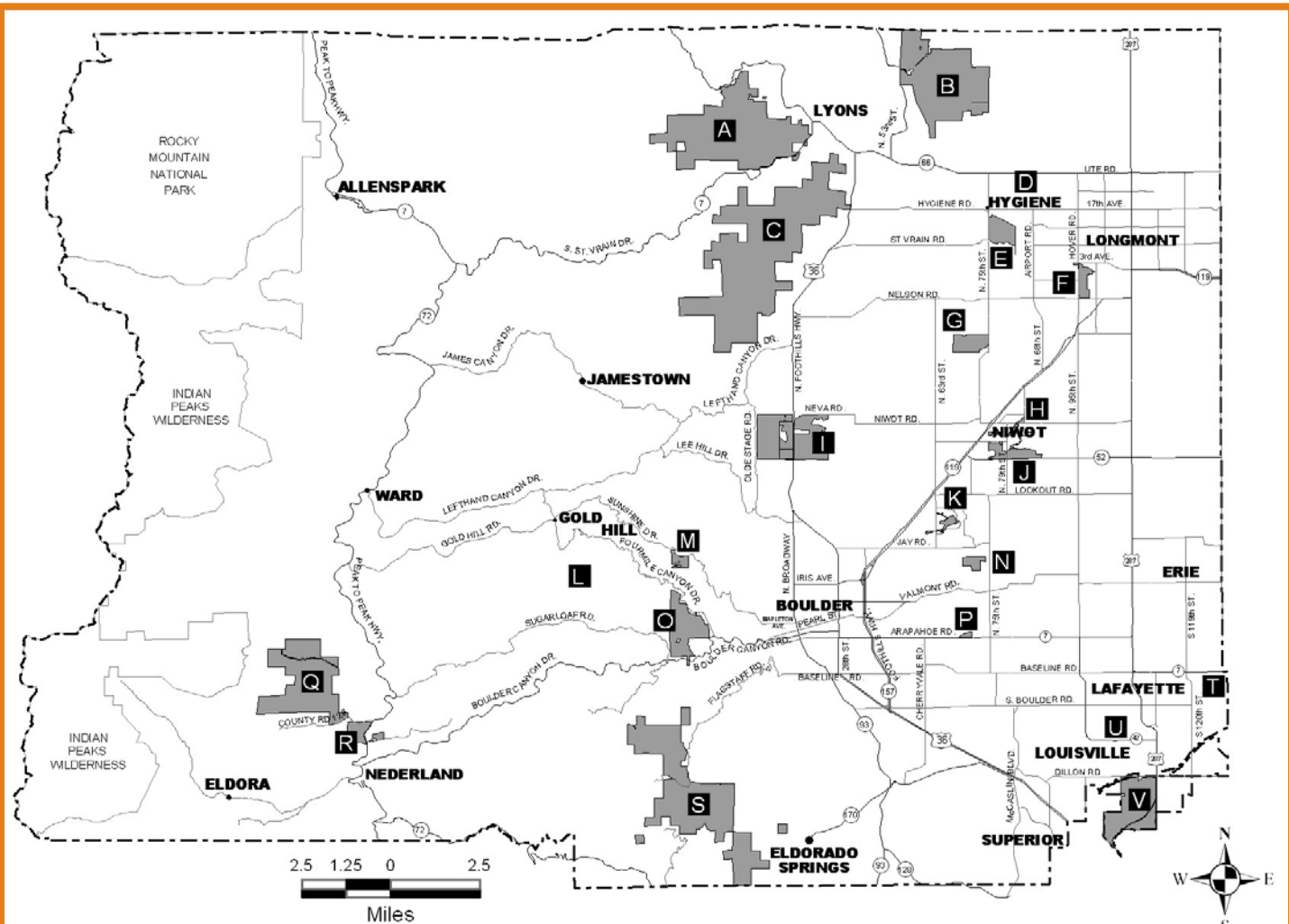
Performance results: Exceeded goal; we built approximately 20 miles of new trails



PARKS & OPEN SPACE DEPARTMENT
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www.BoulderCountyOpenSpace.org

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| A. Hall Ranch | H. Lefthand Valley Grange | P. Legion Park |
| B. Rabbit Mountain | I. Beech Open Space | Q. Caribou Ranch |
| C. Heil Valley Ranch | J. Niwot Loop Trail | R. Mud Lake |
| D. Agricultural Heritage Center
at Lohr/Mcintosh Farm | K. Twin Lakes | S. Walker Ranch |
| E. Pella Crossing | L. James F. Bailey Assay Museum | T. Flagg Park |
| F. Boulder County Fairgrounds | M. Bald Mountain Scenic Area | U. Coal Creek Trail |
| G. Lagerman Reservoir | N. Walden Ponds Wildlife Habitat | V. Carolyn Holmberg Preserve
at Rock Creek Farm |
| | O. Betasso Preserve | |