

IMAGES

NEWS



PROPERTIES



NATURE



HISTORY



EVENTS



IMAGES

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.

PHOTOGRAPHS & ILLUSTRATIONS

Cover Photo, David Hirt

Day at Mud Lake, Geoff Goss

Equestrian, Sue Cullen

Arrowhead, Dr. Kevin Gilmore

Excavation, Carol Beam

Bee, Gabriele Paul

Lichens, Gary Stolz USFWS and Erin Tripp

Walker Ranch, Michael Lohr

Abert's squirrel, Michael Bauer

Sandlily, Janette Cooper

Walker Ranch Volunteers, Pascale Fried

Rocks at Rabbit Mountain, Kristin Turner

Turtle, Brad Milley

NATURE DETECTIVES

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DISCOVER BOULDER COUNTY

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volume 38 , number 1

Parks & Open Space 40 years in the future

by Jeff Moline, Resource Planning Manager

We often equate time scales to our own lives, and as Boulder County Parks and Open Space (BCPOS) just concluded its 40-year anniversary, this “middle-age” is a natural time to look ahead. What do we expect the county to be like over the next 40 years?

Well, before we look too closely at tea leaves and crystal balls, a couple of points will help us visualize the future.

First, the past 40 years will be a bellwether of the trends we can expect in the next 40 years. Of course we look at the past to understand the present and generally predict the future, but studies predict that the fundamental changes that have occurred in Front Range population trends and climate conditions since 1975 will consistently continue into the middle of this century.

Second, what has occurred in the past 40 years here in Boulder County is a microcosm of national and global population and climate trends. While Boulder County is unique, we're subject to some of the same massive forces shaping the state, the nation, and the planet. Reduced to bumper sticker sound bites, our actions are both global and local, and we have been the change in the world! The good news for Boulder County is that generally, we have been able to accommodate to these changes thus far.

CONTINUING TO ADAPT AND FACE CHALLENGES

We'll need to remain adaptable in order to survive and thrive in the future. As we reach climate change thresholds, as extreme weather events become more common, and as habitat destruction erodes the diversity of life, this will become more and more challenging, especially if we continue to fail at limiting our carbon footprint. However, if there is a place that can remain a source, not a sink, for our interconnected natural and cultural communities, this is it—Boulder County. And, our landscape and open space program helps reduce our vulnerability to the changes that will be facing us. Here's why:

Climate Change Our diverse topography and environment provide climatic range for species and ecosystem adaptability. As

Boulder County warms, our relatively cooler, higher elevation areas could provide refuges of temperature ranges for species. By mid-century, our temperature averages will make Boulder feel like the Pueblo of today (a 3.5-5.0 degree F increase), but Jamestown will feel like the Boulder of today. While the wholesale movements of ecological communities and species will be complex and unpredictable, at least in Boulder County with intact, protected, and connected habitats rising to 14,000 feet, we have a geography that is receptive to change and less vulnerable than other places, such as counties in eastern plains. However, warming will



The importance of public land and open space in this county is difficult to overestimate.



Visitors spend a fall day at Mud Lake Open Space

lead to other climatic shifts—generally drier conditions, but more extreme precipitation events that will change the way our natural systems receive moisture (e.g. more rain, less snow, early snow-melt-runoff, decreased annual streamflows, more wildfires, etc.).

What will the county be like environmentally in 40 years? Perhaps our grassy plains will contain more southern species while the western part of the county will have a younger forest (due to more frequent wildfires) that has begun to migrate a thousand feet up in elevation. Tundra species, such as pikas, may be squeezed up and off of mountains, disappearing along with our relic, “little ice age” glaciers.

Population Growth The county has been able to accommodate a population growth analogous to that of the planet as a whole. There were just over 4 billion people on Earth in 1975 and we are currently just shy of 7.4 billion. In the county, we grew from 167,000 in 1975, to nearly 310,000 this year. This has come at some effect and cost, but we have been able to control it—in no small part due to the numerous open space programs in Boulder County. How well are we situated to accept another near-doubling of our population in the next 40 years? Well, here’s where our county’s attention to this dilemma will change the trajectory we have inherited. One caveat as we discuss future population—the State only projects the county population out to 2040, and at that point, they estimate Boulder County to be at 396,000. So, instead of nearly doubling as we have the last 40 years, Boulder County and the Denver Metro area are projected to grow by another 27 percent. However, the northern metro area is anticipated to continue growing rapidly according to Denver Regional Council of Governments (DRCOG), especially Weld County that is likely to double in size from 284,000 to 569,000 in 2040.

Many of us who have lived here are acutely aware, the last 40 years has seen one of the greatest periods of population growth at all scales—globally, statewide, and locally. Some of the plains towns such as Lafayette and Louisville experienced exponential growth in the last 20 years as they grew from populations of around 5,000 to nearly quadruple those sizes now. But thanks to the county’s open space program that worked in cooperation with these and other towns, the Boulder County portion of these places are not expected to grow much more, as there is little land remaining to be developed. Most of the developable properties are within the cities. This is the fruit of the visionary comprehensive planning from the 1970s and it is what we anticipated our sales-tax funded open space program of the 1990s would do as it preserved the county’s remaining agricultural lands and large foothill properties. It’s almost a necessary consequence that as our cities face growth,

transportation, and affordable housing challenges, they have become more densely developed. But, there are limits and open space has shaped those and will continue to do so in the next 40 years. That said, an ongoing challenge will be how our county reacts to continued population growth envisioned just to our east.

THE IMPORTANCE OF OPEN SPACE IN THE FUTURE

The importance of public land and open space in this county is very difficult to overestimate. The value of open space, recognized here over 40 years ago, is now becoming a statewide concern (e.g. Colorado the Beautiful initiative). Our cost of living and housing reflects this singular aspect of the place and, as the demand has risen, the economic value of this quality and character has followed suit. Even though our mobile devices and interior spaces will be ever-alluring, the outside world has an infinite ability to create experience and offer places for essential physical activity and a connection to the environments that sustain us.

Often we wonder what we can do in the face of all these trends. The creation of an open space program 40 years ago was certainly something that has made a difference, and will continue to do so for another 40 years! And, when I look at the tea leaves and crystal balls, I see that open space programs will have left an impression on Boulder County’s landscape that will still be easily recognizable in 2100.

Open Space on Horseback

by Sarah Andrews

TIPS FOR A SAFE, FUN TRAIL RIDE

- Always carry a cell phone and let someone know where you are going.
- Be sure your horse is comfortable being away from home.
- Ride with a buddy or group until you and your horse feel comfortable riding alone.
- Communicate with other trail users.
- Travel at a safe speed for the trail and conditions.
- Practice loading and unloading your horse from the trailer before heading out to the trail.
- Check your tack for wear and tear before each ride.
- Wear a riding helmet. You will never see a ranger without one!

If you have any issues on the trail, please contact a ranger through the Sheriff's Office non-emergency number: 303-441-4444.



As a park ranger with Boulder County Parks and Open Space, I have a lot of unique opportunities to explore our wonderful county properties. While I spend a good deal of time patrolling on foot and bike, my favorite patrol mode is on horseback. I have been lucky enough to be part of the mounted patrol group for about five years and have been riding in Colorado for over 25 years. I thought I would share a few of my favorite places to ride in Boulder County, as well as a few tips for having an enjoyable day in the park.

Rabbit Mountain, Lyons: The multi-use trails at Rabbit Mountain are rocky, so be sure your horse's feet are in good condition. The Eagle Wind Trail has wonderful views of Longs Peak and much of the St. Vrain Valley. All of the trails allow dogs and bikes, so be sure your horse is accustomed to sharing the trail. Rabbit Mountain can get very hot during summer months; mornings and fall days are a great time to explore this property.

Coalton Trail, Superior: If you are looking for a longer ride, the Dirty Bismarck loop starting at the Coalton Trailhead is a great option. This 12-mile, multi-use trail runs through both the City of Boulder and Boulder County Open Space properties, providing amazing views of the Flatirons and the Indian Peaks. Much of the loop trail runs through grassland, and you have a good view of other trail users approaching. It is a very popular trail for runners and cyclists. There is little shade or water along this trail, so be sure your horse is in good condition for a longer ride and avoid the hottest parts of the day.

Hall Ranch, Lyons: This open space is known as a mountain bike destination, but it is also a fantastic place to ride horses. The Nighthawk Trail is a pedestrian-and-equestrian-only trail that connects to the multi-use Nelson Loop. The scenery and views at Hall Ranch make it a great place to ride. The climate at Hall Ranch makes it possible to ride there 12 months out of the year, just be sure to check for closures due to muddy conditions on the department's website before you go. Dogs are not allowed at Hall Ranch.

Caribou Ranch, Nederland: OK, I may be partial to this property because I am the resident ranger, but it is truly a great place to ride! Caribou Ranch is best ridden from July 1 until the snow starts to fly up high. Wildflowers and green meadows make the property shine in the summer and the changing aspen leaves are a must see in the fall. Horse trailer parking is at Mud Lake Open Space, and you can enjoy winding through Mud Lake's multi-use trails before heading up the connector trail to Caribou Ranch. Dogs and bikes are not allowed at Caribou Ranch, making it a very peaceful place to ride. (Note: As you plan your ride, keep in mind that Caribou Ranch is closed annually from April 1 through June 30 to protect spring migratory birds and elk calving and rearing.)

Preserve and Protect: Boulder County's Prehistoric Past

by Carol Beam and Claudia Hallock-Druss

After a series of transactions between 1993 and 1995, Boulder County purchased the Zaharias-Thomas property located along the south county line (Hwy 128), west of McCaslin Boulevard. The 366-acre property consists of gently rolling plains, native grasses, intermittent drainages, and a section of Rock Creek that crosses a portion of the property. The property is under an agricultural lease for livestock grazing and therefore closed to the public.

In 2008, Boulder County Parks and Open Space staff discovered a prehistoric hearth eroding out of the creek bank during a field visit for a proposed Urban Drainage and Flood Control District project along Rock Creek. As good stewards of its cultural resources, and following the Boulder County Comprehensive Plan that "every effort shall be made to identify and protect prehistoric and historic sites which meet national, state and local criteria for historic designation from destruction or harmful action," staff moved into action to identify, evaluate, and protect the prehistoric site.

A SPECIALIZED SITE: GAME PROCESSING

An archaeological survey, testing, and excavation in 2009 and 2010 located cultural materials including stone and bone artifacts, and plant and animal remains. No ceramics were found. Archaeologists identified this site as a specialized game-processing location where early inhabitants processed the meat of large and medium-sized mammals which were later transported to a main base camp located elsewhere.

Inhabitants at the Zaharias site processed bison, elk, deer and pronghorn. They butchered larger game and cracked the bones to extract marrow, an important source of fat for hunter-gatherer groups during times of stress. Modified animal bone tools found at the site include an awl fabricated from a deer foot bone, a split rib tool fragment, a polished flat bone fragment, and a bone bead debris fragment.

The site also consists of small quantities of ground and flaked stone including two projectile points, a chopper or core tool, and an anvil. The formal tools consist of a triangular corner-notched projectile point made of clear quartz, and a second similar projectile point base of Dawson Petrified Wood. A stream bed cobble from Rock Creek formed a large chopper or core tool. Fire-cracked rock found with the remains of hearths were probably used in the cooking process as heating rocks for roasting meat or rendering bone grease.

PREHISTORIC TIME FRAME

Radiocarbon tests date the Zaharias site's occupation at multiple times beginning with the Early Ceramic Period, AD 650, and continuing to around AD 1150. During the site's earlier years of occupation, the inhabitants focused on processing medium-sized mammals like deer and elk, while later, the focus shifted to bison. Archaeologists suggest that site inhabitants relied on low quality tool-making materials and on intensive processing of their limited food resources, possibly because they were under pressure from increasing population numbers and decreasing resources during the Early Ceramic period.

In 2009, the Office of Archaeology and Historic Preservation determined the Zaharias site officially eligible for the National Register of Historic Places. Urban Drainage and Flood Control District completed their channel realignment project that same year avoiding any adverse effect to the Zaharias site by stabilizing and covering the site with soil in order to allow for the possibility of future archaeology projects.

Dr. Kevin Gilmore, Ph.D., Registered Professional Archaeologist (RPA) carefully excavates the hearth feature. Kevin served as the principal investigator on the Zaharias-Thomas property.



A quartz crystal projectile point excavated from hearth feature. The hearth dates from AD 650 to AD 1150. The point measures approximately 1.5 centimeters wide.



Parks & Open Space Makeover: A New Look for Publications

By Vivienne Jannatpour

Parks and Open Space has been sharing information with Boulder County residents since the department was formed in 1975. We try to provide many different types of information through various publications and online sites. Our goal is to provide useful information in a format that residents can easily access.

During the past decade, communications technology has changed dramatically. The department has experimented with some of these new tools to reach out to residents (for example, Facebook and Twitter), but we weren't sure how that was working. What we really wanted was to have relevant and consistent information throughout the open space program that park

visitors recognize and appreciate, and rules and regulations posted clearly to help to increase compliance.

We decided to get help from an outside marketing firm to ask Boulder County residents what they thought. Are we giving them information in a format they can use and in a location that's easy to find?

COMMUNICATIONS STUDY GOAL

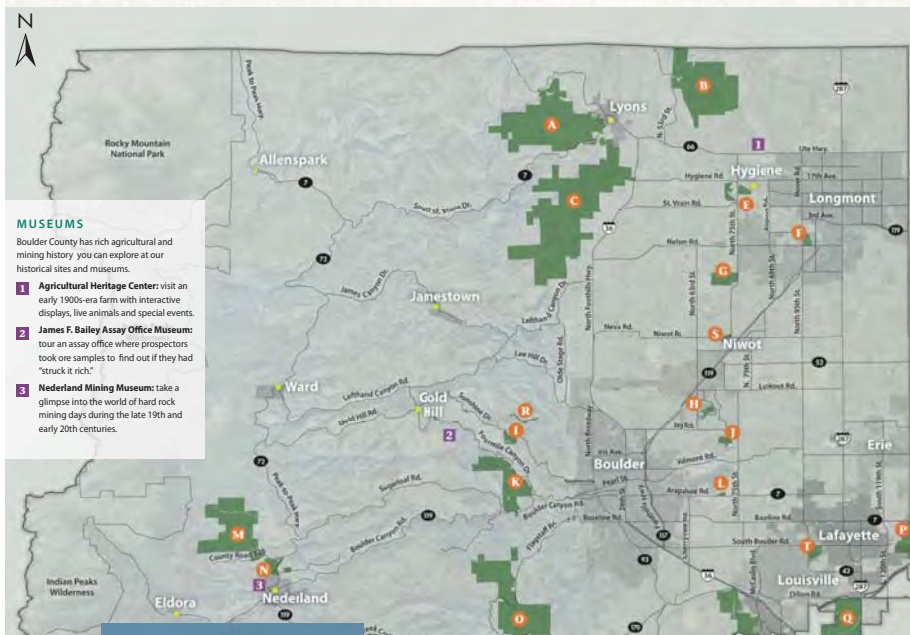
To enhance the general public's knowledge, understanding, and appreciation of open space properties and the rules and regulations through better communication and consistency of communications tools.

OBJECTIVES

- Evaluate public communication tools for providing relevant, desired, and necessary information
- Identify specific terminology for area closures to increase understanding, appreciation, and compliance
- Develop consistent standards for branding and messaging across all communication tools

Methodology

- Five focus groups
- 436 surveys at five popular properties
- Professional review of communications materials
- Literature review of current best practices



MUSEUMS

Boulder County has rich agricultural and mining history; you can explore at our historical sites and museums.

- 1 **Agricultural Heritage Center:** visit an early 1900s-era farm with interactive displays, live animals and special events.
- 2 **James F. Bailey Assay Office Museum:** tour an assay office where prospectors took ore samples to find out if they had "struck it rich."
- 3 **Nederland Mining Museum:** take a glimpse into the world of hard rock mining days during the late 19th and early 20th centuries.

Walden Ponds Wildlife Habitat

Flora & Fauna

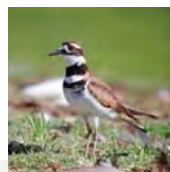
Wetland habitats, nestled within the surrounding Great Plains, support aquatic plant and animal life and attract large numbers of migrating bird species. The 100 acres of grasses, wildflowers and trees surrounding these wetlands, are biologically diverse both in and out of the water.

Animals you might see:

- American white pelican
- Beaver
- Bluegill
- Bullsnake
- Channel catfish
- Garter snake
- Great blue heron
- Killdeer
- Largemouth bass
- Muskrat
- Painted turtle
- Red fox
- Red-winged blackbird
- Striped chorus frog

Plants you might see:

- Blue grama
- Bullrush
- Cottonwood
- Milkweed
- Peachleaf willow
- Rabbitbrush



Clockwise:
American white pelican, Killdeer,
Blue grama

Various bird and animal species show up each year, depending on the water level of the ponds and the year's climate.

Some examples of the redesigned publications. At the top is a map showing all of Boulder County. It is featured in our Guide to County Parks brochure.

To the left is an example of our new property brochures—this one for Walden Ponds. New brochures offer more information about plants and animals to be found on each property as well as information about history and geology.

KEY FINDINGS:**WHAT DID PEOPLE TELL US?**

- Park users primarily go to the website and trail signs for information about most topics
- People are generally very satisfied with communications from Parks & Open Space
- To a large extent, the experience at the property matches the information provided about the park or trail

Top information people want to see:

- Trail map
- Plants, wildlife, and sights to see at the property
- Trail length and difficulty level
- Allowed property and trail uses
- Information they want to see on closure signs is the reason the area is closed and a map of the closed area.

SO WE LISTENED!

You may have noticed this issue of *Images* has a new look, and the brochures and kiosks have also received a facelift! Here are some of the changes:

Images Magazine

- Updated contemporary design
- More photos and graphics
- Interactive online version:
www.BoulderCountyOpenSpace.org/i

Maps

- Updated four-color design
- Photos of must-see destinations
- Clear distinction of open recreation areas and closed areas with the closure type/reason clearly stated
- New trail elevation graphs showing trail difficulty
- Trails more prominent in vivid white

Property Brochures

- New colorful design
- New map is bigger
- Higher quality photos
- Highlights: common plants & wildlife, and views or structures that shouldn't be missed
- Icons for the rules and regulations for at-a-glance reading

Park Kiosks

- Bigger map is prominently featured
- Icons for the rules and regulations for at-a-glance reading

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 2015 study conducted by Erin Berryman, Michael Battaglia and Chad Hoffman. Their project focused on fire effects for different slash management techniques in lower montane ponderosa pine forests.

Abstract: The need to reduce forest densities and surface fuel loads to reduce fire hazard and reintroduce fire in lower montane ponderosa pine forests has been recognized by Boulder County Parks and Open Space (BCPOS) and other agencies across the western United States. Often mechanical treatments are used to manipulate the forest density to achieve success in reducing crown fire hazard and provide an opportunity to reintroduce prescribed fire. However, the amount of slash material generated from these activities can increase the surface fuel loadings on site resulting in increased surface fuel loads available for combustion during subsequent prescribed fire activities. Different methods of slash management produce fuelbeds with unique characteristics (e.g. loading, depth, SAV) which influence fire behavior and effects. For example, masticated fuelbeds typically result in higher surface bulk densities, which is thought to lead to slower rates of spread, and increased fire residence burnout times. In contrast, lop-and-scatter fuelbeds often have lower surface fuel bulk densities but contain large spatial heterogeneity within the fuels complex. In general lop and scatter fuel beds are thought to result in faster rates of spread compared to masticated fuel beds.

Our objective was to compare the impact of mastication versus lop-and-scatter slash management techniques on the key fire effect of soil heating. A prescribed fire was conducted November 2014 at Heil Valley Ranch northwest of Boulder, Colorado. Twelve 1 m² fuelbeds were constructed with three different fuel loadings out of two types of fuel: lop-and-scatter ("slash") and masticated. Underneath each fuelbed, thermocouples were buried at three different depths to measure the heating front into the soil during the burn.

Overall, we found that soil heating was low for all fuel type-loading combinations and the heating duration was very short (only a few minutes). Based on these results, it is expected that soil damage from this prescribed burn was minimal. Future fires that burn in similar fuel types during similar conditions are not expected to cause damage to fine roots or soil nutrient cycling.

Summary of Conclusions:

- Burning either slash or masticated fuel at fuel loadings of up to 27 tons per acre did not cause soil temperatures to exceed thresholds of soil biological damage.
- There was no difference in soil heating between masticated and slash fuels.
- Fuel loading did have a small but significant effect on soil heating, suggesting that if the burn had exhibited more extreme fire behavior due to weather, the highest fuel loading may have resulting in damaging soil temperatures.

To read the full report, or other funded research, visit the department's website at www.bouldercounty.org/os/culture/pages/posresearch.aspx

Butterflies, Beetles and Bees

by Vanessa McCracken

The Agricultural Resources Division of Boulder County Parks and Open Space (BCPOS) and many Boulder County residents realize the importance of insect pollinators. That's why we are actively working with our agricultural tenants and pollination experts to protect this precious natural resource.

BCPOS has created a cross-departmental team known as the Pollinator Action Team (PAT). The PAT consists of CSU extension agents and county experts from the weeds, plant ecology, wildlife and agriculture divisions. The goals of the PAT are to:

1. Protect pollinators without impacting crop production
2. Enhance and improve healthy pollinator populations through environmental stewardship.
3. Develop baseline information for pollinator species, populations, and trends in Boulder County.
4. Use the best available science to make fact based decisions that protect pollinators and support sustainable agricultural practices.

DATA COLLECTION—TWO WAYS

Collection of baseline data for Boulder County pollinators is being approached on two fronts.

First, a volunteer pollinator monitoring program has been established on Boulder County agricultural properties. The volunteer program began two years ago. In 2015, 10 volunteers made over 100 visits to 44 plots on 11 different properties. Plots included crop field edges, riparian areas, weedy sections bordering irrigation ditches, revegetated rangeland, and the county native seed garden. Volunteers identified pollinator insects and the plants they visited. Plots were monitored once a month from May through September.

Second, local researchers Drs. Carol Kearns and Dianna Oliveras from the University of Colorado, conducted a research project titled, "*Agricultural practices on BCPOS: Implications for bee conservation.*" Drs. Kearns and Oliveras monitored bee communities on 12 agricultural properties and two revegetated properties. No differences were found between the number of bee species present near conventional versus

organic fields. They also found the number of bee species present correlated with the number of flowering plant species, specifically native plants. We hope to have Drs. Kearns and Oliveras back during the summer of 2016 to continue their rigorous scientific research specific to Boulder County's agricultural properties.

During the past two years, members of the PAT have installed 10 bee blocks, or nesting blocks, on agricultural properties. In 2015, PAT members planted four 30' X 30' plots of native flowering habitat on the margins of agricultural properties. The PAT is actively pursuing grants for pollinator habitat surveys and training opportunities through the Xerces Society of Invertebrate Conservation.

To better understand the impacts on pollinators, the department's Agricultural Resources Division has begun a program to test soil samples on agricultural properties for the presence of pesticides and test corn pollen for the presence of neonicotinoids. The Cropland Policy, adopted in 2011, also requires the implementation of an Integrated Pest Management (IPM) Program. What Is IPM you ask?

"Integrated Pest Management a science-based, decision-making process that identifies and reduces risks from pests and pest management related strategies. IPM coordinates the use of pest biology, environmental information, and available technology to prevent unacceptable levels of pest damage by the most

economical means, while minimizing risk to people, property, resources, and the environment." (USDA National Road Map for Integrated Pest Management, 10/1/2013)

Every agricultural tenant is required to complete an IPM checklist each year for every crop grown. Our Boulder County-specific forms also track the Environmental Impact Quotient with the goal of minimizing the use, volume and toxicity of pesticides.

In the future, under the guidance of the PAT and Cropland Policy, the department will use the best available science to make fact based decisions that protect pollinators and support sustainable agricultural practices.

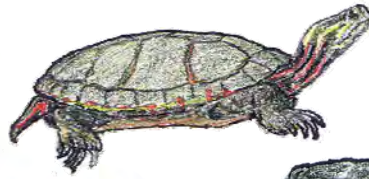


If you are interested in joining our growing team of pollinator monitors on agricultural properties, we would love your help!

Find out more at: www.bouldercounty.org/volunteer

NATURE DETECTIVES

Spring 2016



Wake Up Turtle, It's Spring

Snapping turtle had been dozing for months. Last November the turtle dug into soft mud under a rotting log at the bottom of Duck Pond. It's his favorite spot for hibernating.

But now it is spring. The pond water is gradually warming and turtle is stirring. His muscles are stiff and slow, but he pulls himself from the mud and begins a labored swim to the surface. Turtle works his way to the basking log. The old log sticks out of the water in the middle of the pond providing a safe place to rest in the sun.

Other turtles will soon pile onto the same sunlit perch. Sunlight heats the turtles' cold blood. As their bodies warm, turtle muscles regain strength, and body wastes - built up during hibernation - begin to break down. After the turtles are warm, they will enjoy their first meal since last fall.

Pull Out and Save

Turtle Competition

The turtles arriving earliest on the basking log are the guys. They are first to awaken in order to build the strength they need to plod around and battle other male turtles. The strongest males claim the choice spots on the paths that female turtles will travel as they move to their traditional nesting areas. Soon turtle spring will be in full swing.

Turtle ancestors have lived on earth for millions of years. When dinosaurs walked on our planet, snapping turtles roamed here too. Dinosaurs died out, but snapping turtles have remained pretty much the same.

Sometimes slow and steady does win the race, at least for turtles.

Size Comparison

dinosaur foot



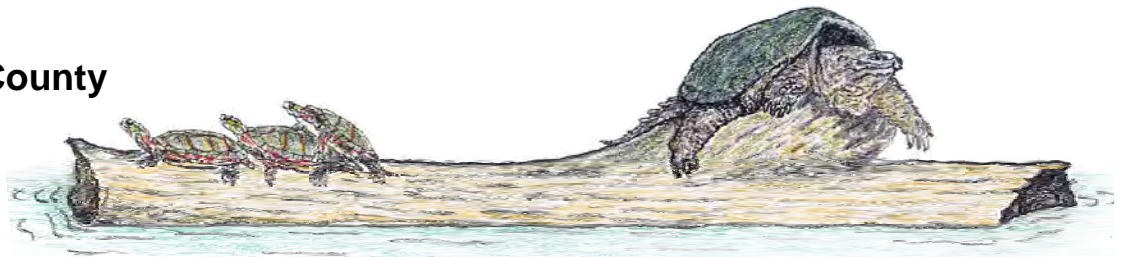
snapping turtle



Turtle Types of Boulder County

Two kinds of turtles jostle for space in the sun on the

basking log. The mud-colored **snapping turtle** looks almost dinosaur-like. Its flattened top shell ends with a saw-toothed edge, and spiky scales continue down its long tail. Its legs and neck are thick, wrinkly and rather bumpy looking.



Several **painted turtles** crowd onto the narrow end of the log. Their smooth-edged shells and bodies are marked with red and yellow lines and patches. Compared with the dull colors of the larger snapping turtle, their bright colors look hand-painted and give the turtles their name.



snapping turtle

Nest Eggs

Female snapping turtles choose their mates after wrestling with them. Perhaps this helps them find mates that are healthy and strong.

The female turtles swim and slog up shallow waterways and lumber over land on a solo journey back to the nesting area they remember. Maybe they nested in that easy-to-dig spot before or maybe it is where they hatched as a tiny girl turtle.

Returning to a good nest site can take several days of travel, and the trip often starts during rain. Rain helps soften dirt, especially if the soil isn't sandy. The female turtles dig a nest hole where the developing eggs will be warmed by sunshine. They lay the leathery eggs one by one in the hole, cover them up and head back to their home pond or river. The mom turtles do not hang around to protect their eggs.

Easy Prey

Turtle eggs are appealing to many kinds of hungry hunters. Hognose snakes, skunks, raccoons, foxes and minks may detect a nest and eat the eggs. The egg eaters will also gobble newly hatched turtles. Hatchlings dig out of their nest into a whole new world of predators. Crows, herons and opossums snatch tiny turtles during the hatchlings' scramble to find underwater shelter. Wandering dogs and cats can also harm baby turtles.

Camouflage color helps some survive – baby snapping turtles look a bit like dead leaves. Once they reach water, the youngsters must hide among underwater plants for safety. More predators lurk here such as bullfrogs, big bass fish and water snakes looking for a turtle meal. As the turtles grow, their shells gradually harden making them much less easy prey. A painted or snapping turtle may end up living 30, 40 or even 50 years.

painted turtle



Turtles Fight Back

Claws, a hard beak-like mouth, and top and bottom shells offer turtles a good defense for survival. Webbed feet help them swim away. Painted and snapping turtles can release a gross, stinky fluid to ward off attack. Snapping turtles - as their name suggests - can lash out with a vicious bite.



Adult turtles occasionally become coyote food, but only rarely. During their hibernation, when turtle body functions are shut down, river otters sometimes prey on them.



The turtle's shell is not a house but it is body armor against attack. The shell contains sixty bones and is connected to the ribs. Snapping and painted turtles can draw their heads under their shells by making their necks into an "S" shape, but that is no protection against cars or people that target them accidentally or on purpose.

Catch and Eat

Turtles themselves are predators of most anything they can catch. Snapping turtles prey on minnows, small frogs, crayfish, worms, snails and insects. Even baby ducks and other baby waterfowl may be grabbed, but not often. Turtles eat dead animals, small animals, snakes and eggs. Adult turtles eat lots of water plants and algae. Baby turtles look like their parents, but they eat less plant material. Hmmm, maybe like some human kids who eat fewer veggies.

Snapping turtles hunt for food night and day. Sometimes they bury themselves in the mud up to their eyeballs to ambush prey. Painted turtles are active in the day and rest at night.

Painted and snapping turtles like to eat in the water where it is easier for them to handle their food. They find food by smell, sight and feel. Their watery hangouts on the plains of Boulder County include ponds, reservoirs and larger streams. They like good underwater plants and branches for hiding and hunting. They need quiet water with soft muddy bottoms for resting and for hibernation. They prefer floating logs and warm shallow water for basking.

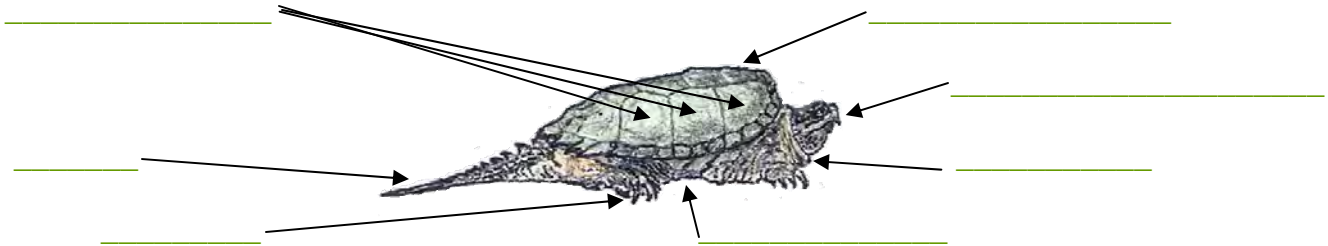
Basking Ectotherms

Like all reptiles, turtles are ectotherms. Ectotherms need external heat to warm their bodies so they can move and digest their food. Basking out of the water also helps kill parasites such as blood-sucking leeches.



Turtle Anatomy

A turtle's body parts are a bit different from ours. Look at the list below and label the body parts of this turtle:



scutes (bony plates that make up a turtle shell)

carapace (hard upper shell, connected to backbone)

beak-like mouth

neck

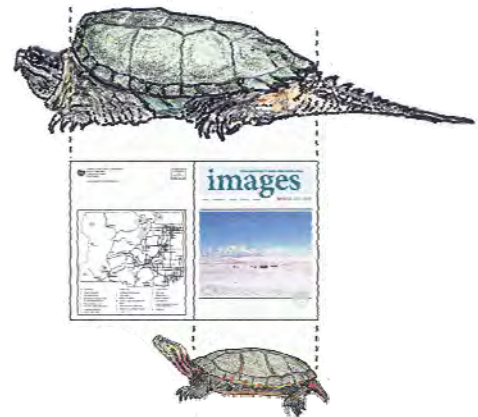
plastron (under part of shell—protects turtles organs and belly)

claws

tail

Turtles Big and Small

The page you are reading is 8 ½ inches across, from left to right. That's about as long as a painted turtle could grow. If you open *Images* up and lay it flat, it is 17 inches wide from the left side all the way to the right. Snapping turtles can grow to about 18 inches long—that's longer than the width of the side-by-side *Images* pages.



Look for Turtles

Walden Ponds Wildlife Habitat (off 75th between Valmont and Jay roads) is a great place to see live turtles. Follow the road to the Cottonwood Marsh parking lot. Walk down the trail to Duck Pond. On a sunny day, you may see painted turtles basking in the sun on the logs in the water or along the shore. Sometimes a snapping turtle may join them! Take binoculars with you so you can see them up close. Keep your eyes peeled for turtles in other ponds and lakes in Boulder County as well.

Reminder:

Turtles are wild animals and should not be handled or approached too closely. Snapping turtles especially can do damage to you with their strong beaked mouths if they feel threatened. Enjoy them from a distance in their natural habitat.



Text by Katherine Young and Deborah Price
Turtle illustrations by Roger Myers

Why Like Lichens?

by Cindy Maynard

On a recent hike in the foothills I took a short break and sat on a flat rock. It was an ordinary rock, but what's ordinary when you really take a good look at it? Idly, I started counting the types of lichens I could distinguish. There were five! Continuing on my walk I couldn't stop looking at the lichen diversity around me. They seemed to be the most common, prolific and ubiquitous part of the ecosystem. I started wondering about this often-ignored life form. As the tabloids say, "inquiring minds want to know," so I started investigating.

Lichens are fabulously interesting. They are a little like a three-layer cookie. The outer layer is a fungus, the middle layer is either a green or blue-green algae, and the lower layer helps it adhere to whatever surface it's on. And lichens can grow on nearly any surface, even some you'd never think of: rocks, trees, soils, even glass, metal, an insect or two and one species of tortoise.

ANY PLACE CAN BE CALLED HOME

Lichens grow in nearly every terrestrial environment from pole to pole. They grow in extreme conditions that preclude most other life forms. How do they accomplish this extreme biological feat? The complex relationship between the lichen's fungus and its alga provides the answer. The algal component photosynthesizes food for the lichen. The outside fungal layer shields the algal layer from too much sun exposure, filters water down to it and provides a habitat in which the algae can live.

This makes the lichen pretty self-sufficient. Lichens can colonize habitats that are too extreme or barren for any other organism, even rocks themselves. They are able to survive without water for long periods, and can attach to almost any substrate. Lichens carry their own food with them. They can reproduce sexually, asexually or both. Some lichens can live up to 4,000 years. No wonder they are everywhere!

LOW PROFILE, BIG ROLE

Though lichens fly entirely below the radar of most people, they nonetheless provide crucial benefits to the environment. They contribute to the first stage of weathering the rocks on which they live, creating tiny crevasses into which water's freezing/thawing action can permeate. Rock disintegration provides the raw material for building soil. In cryptobiotic soils, lichens bind soil particles together. These fragile, crusty soils trap blowing dust, prevent erosion, and add nutrients. The decay of dead lichens contributes nitrogen to the soil. Some even host nitrogen fixing bacteria.

Lichens can grow almost anywhere on earth. The lichens on this tree are a type of foliose lichen. The name refers to their leaf-like growth pattern, like foliage.



Various lichens on rock: Lichens are plentiful and very successful. Many different species share this rock. They have existed on earth for at least 400 million years, giving them lots of time to diversify.



Caribou, mule deer, mountain goats, moose, and pronghorn all use lichen for forage, especially in winter. Birds incorporate them into their nests. Some native tribes, especially in boreal areas have concocted many ways to prepare lichens for human consumption. Lichens have been used to make dyes for thousands of years, and they can be used in making perfume. Some have medicinal qualities. If that were not enough, scientists can even use lichen growth patterns for dating stone structures, similar to dendrochronology.

Lichens absorb whatever is in the air around them, including common pollutants like sulphur dioxide (produced by burning coal), fluoride, ozone, hydro-carbons and some heavy metals. This ability makes them very sensitive to changes in air quality and important indicators to what is in the atmosphere, making them the canary in the coal mine for atmospheric degradation.

HARDY, BUT NOT INVINCIBLE

Human activities have had devastating effects on lichen health. The usual culprits: urbanization, other types development, habitat fragmentation and pollution destroy their environments. Hiking, over-grazing, even rock climbing can have severely detrimental effects on lichens. In some areas lichens have been almost completely eliminated.

Next time you're out hiking, open your eyes and notice them. Take your hand lens with you on your next hike and pause to examine them up close. They are colorful, beautiful, and wondrous. There are so many reasons to like lichens.

Night Skies: Watch and Enjoy

by Deborah Price



The Milky Way
above the
Walker Ranch
homestead

Star light, star bright, what is that star I see tonight? Astronomy can be a bit intimidating. It's difficult to know where to start.

Appreciating the skies does take a little patience, and practice. But it's just like anything else. Start simple, learn some basics, and expand as you go. There are no age requirements—astronomy is a great hobby to enjoy with your family.

Imagine living hundreds of years ago. There were no computers, no electricity, and no city lights. When it got dark, it got dark. With no lights blotting out the star light, and no electronic distractions, people saw wonderful images in the sky, told stories about them, and shared in the wonder.

Today our skies aren't as dark and we have more distractions. Sometimes we forget to look up and remember that we're not the center of the universe!

LOOK FOR EASY TARGETS

There are millions of stars up there. Start by looking for a few major star shapes—most are not complete constellations. In the Northern Hemisphere, the Big Dipper is visible all year. If you can find the Big Dipper, you can use the two stars in the cup of the dipper (farthest from the handle end) to point straight up out of the cup to Polaris, our North Star. There is nothing outstanding about this star—it just happens to be above our north pole and serves as a direction finder.

The southern sky changes depending on the season. In winter and early spring, look for the three stars that make up Orion's

belt in the southern sky, surrounded by four stars that indicate his shoulders and feet. The summer horizon displays the curvy tail of Scorpius, one of the few constellations that looks like its name. To the left of the scorpion's tail is a large teapot, complete with handle and spout.

THE SKY IS A ROAD MAP

Constellations are fun to find, but beyond the variety of images that cultures from all over the world have seen, these dot-to-dot star patterns serve as a road map to finding more interesting objects. Astronomers have 88 official constellations that are recognized across the globe so they can communicate and discover together the wonders of the universe.

For instance, just below Orion's belt where you imagine his sword hangs, is the spectacular Orion nebula, a birthplace for new stars. Just looking at this spot with a good pair of binoculars reveals a magnitude of stars.

Betelgeuse, a large red giant star on Orion's shoulder, is one of the largest stars we know of in our galaxy. If it were placed at the location of our Sun, it would extend out beyond the orbit of Jupiter.

If you can find the teapot in summer, the Milky Way appears as steam coming out of the spout. Look just above the spout and you will be staring towards the center of our Milky Way Galaxy, loaded with countless stars and other celestial objects.

With a telescope, you can use the star roadmap in the sky to find beautiful nebulas, star clusters, and galaxies not visible to the naked eye.

Most importantly, look up and enjoy. Remember that you are part of something bigger.

LEARNING MORE

To enhance your discoveries, print out a star map like one you can find on www.skymaps.com. This website prints free maps each month that are fairly easy to use.

Another great way to spark your astronomy passion is going to a star party or astronomy program. Boulder County Parks and Open Space will offer several this year; visit the department's webpage for details at www.bouldercountyparkspace.org.

Spending time with others outdoors, especially with people who have telescopes, is a great way to learn more about the wonders hidden in the sky.



The constellation Orion

is one of the most recognizable in the sky. The large star Betelgeuse marks Orion's shoulder. (photo nasa.gov)

DISCOVER BOULDER COUNTY

Calendar of Events

BIRDS OF PREY DRIVING TOUR

Sunday, March 13, 10 a.m.-1 p.m.

Registration is limited; meeting location will be provided to registered participants

Join volunteer naturalists for a driving tour of some of Boulder County's best areas to view birds of prey, or raptors. We will carpool from our meeting place searching for raptors, learning about habitat, and working on our observation and identification skills. Dress for the weather, and bring lunch, drinking water, binoculars, a spotting scope, and a bird field guide if you have them. The tour is geared for adults and older children. To register, email icolbenson@bouldercounty.org, or call 303-678-6214 no later than Thursday, March 10.

WHOO ARE THE OWLS?

Monday, March 14, 7-8:30 p.m.

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

Owls have been regarded with fascination and awe 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 and diverse creatures, and learn about the adaptations that make them such expert hunters.

THE HIDDEN WORLD OF BIRD NESTS

Saturday, March 19, 10 a.m.-noon

Registration is limited; meeting location will be provided to registered participants

Bird nests range from a scrape on the ground to intricately woven hanging baskets. Join volunteer naturalists for an easy end of winter walk in search of some of these diverse structures created by amazing avian architects. Bring binoculars and a bird field guide if you have them. To register, email icolbenson@bouldercounty.org, or call 303-678-6214 no later than Thursday, March 17.



SPRING HAS SPRUNG!

Sunday, March 20, 10 a.m.-noon

Heil Valley Ranch Open Space (south trailhead); north of Boulder off Lefthand Canyon Drive; meet at group picnic shelter

What's blooming? Who's singing? Who's having babies? Join volunteer naturalists on a leisurely 2-mile hike and celebrate the beginning of spring by looking and listening 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.

great for
kids!

SPRING BREAK ADVENTURE: VIRTUAL MEETS REALITY

Wednesday, March 23, 9:30-11:30 a.m.

Heil Valley Ranch Open Space; (south trailhead); north of Boulder off Lefthand Canyon Drive; meet at group shelter —and—

Wednesday, April 6, 9:30-11:30 a.m.

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

Can't let go of technology? Bring your kids (with your smartphone) and discover new ways to use technology that encourages you to look beyond the screen. Learn to observe nature with your eyes as well as your camera lens. Designed for families with elementary-age children.

All Programs: All ages are welcome unless otherwise noted. NO PETS PLEASE! Be prepared for cool temperatures and muddy trail conditions. Bring drinking water and dress in layers. For information about these programs, or to arrange a volunteer-led program for your group, please call 303-678-6214.

Calendar of Events

SPRING AWAKENING—BEARS IN OUR BACKYARD

Saturday, March 26, 10-11:30 a.m.

Betasso Preserve; Boulder Canyon (Highway 119) to Sugarloaf Road; follow signs to Betasso Preserve; meet at group picnic shelter
Black bears are part of our landscape. In spring, as daylight hours grow longer and temperatures warm, bears and their cubs emerge from 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. Wear hiking shoes or boots if you wish to hike the trails before or after the program.

DYEING FABRIC 'N' EGGS

Saturday, April 2, 11 a.m.-12:30 p.m.

Walker Ranch Homestead; 8999 Flagstaff Mountain Road, approximately 7.5 miles west of Boulder on Flagstaff Road

Plunge into the world of natural and simple manufactured dyes. What plants make what colors for fabric and eggs? See dye being prepared on the wood stove. Make a little something to take home. For ages 10 and older; each youth must be accompanied by an adult also registered for and taking part in the program. Registration opens approximately two weeks before the event at www.BoulderCountyOpenSpace.org/register

RATTLESNAKE HIKE

Saturday, April 9, 10 a.m.-12:30 p.m.

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

Enjoy a moderate 2-mile spring hike at Rabbit Mountain and learn about this fascinating reptile, which can be found in the plains and foothills of Boulder County. Volunteer naturalists will share information about the western rattlesnake, including habitat, ecology, behavior, and how to be safe in rattlesnake country. Bring water and wear closed-toe hiking shoes/boots.

LIONS AND ABERT'S AND BEARS

Saturday, April 16, 10 a.m.-noon

Bald Mountain Scenic Area; 5 miles west of Boulder on Sunshine Canyon Drive (Mapleton Ave. in Boulder city limits)

Join volunteer naturalists for a moderate one-mile hike to learn about some of the critters that call Bald Mountain home, including a handsome squirrel that lives only in ponderosa pine forests. Also see evidence of the 2010 Fourmile Canyon fire and learn a little about the natural role of fire in this ecosystem.



THE MYSTERY OF BIRD MIGRATION SLIDE PROGRAM

Monday, April 25, 7-8:30 p.m.

Louisville Public Library, 951 Spruce Street, Louisville

Some birds are seen year-round in Boulder County, some only in summer or winter, and some birds visit only briefly in spring or fall. Learn why birds make seasonal journeys, how they know when and where to go, how they find their way, and what brings them back year after year? Join volunteer naturalists Larry Arp and Vicki Braunagel to explore these and other fascinating mysteries surrounding the amazing world of bird migration.



Great for kids!

JOIN THE FROG CHORUS!

Tuesday, April 26, 10-11 a.m.

Walden Ponds Wildlife Habitat; 75th Street between Valmont Road and Jay Road (meet at the group shelter at Cottonwood Marsh)

It's fun to listen to the call of frogs in the spring! Young children and their adult companions will experience stories, activities, and exploration while learning more about western chorus frogs and northern leopard frogs from naturalists Katherine Young and Deborah Price. Designed for children ages 3-7 but other siblings are welcome.

WILDFLOWERS OF BOULDER COUNTY SLIDE PROGRAM

Tuesday, May 3, 6-7:30 p.m.

Lafayette Public Library, 775 west Baseline Road, Lafayette

Join volunteer naturalists for a slide program to kick off the spring wildflower season! You'll learn about the variety of wildflowers found in Boulder County, where and when to look for them, and some interesting facts about some of our native plants.

THE MYSTERY OF BIRD MIGRATION BIRD WALK

Saturday, May 7, 8-10 a.m.

Registration is limited; meeting location will be provided to registered participants

Join volunteer naturalists Larry Arp and Vicki Braunagel to explore the joys of bird watching during prime migration season! Learn tips for recognizing different types of birds, including songbirds, ducks and waterfowl, wading birds, raptors, and more. Be prepared for a slow-paced walk of up to 2 miles. Bring water, walking shoes/boots, binoculars and a bird field guide if you have them. To register, email icolbenson@bouldercounty.org, or call 303-678-6214 no later than Thursday, May 5.

Calendar of Events

great for
kids!

I SPY BEAKS AND FEET!

Wednesday, May 11, 10-11:00 a.m.

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

Birds eat a lot of different foods—seeds, insects, fish, and other animals. Come join volunteer naturalists to learn how a bird's beak and feet help them find and eat their favorite foods. We will watch for local birds and find out where they live, eat, and have babies. This program is for preschool children and their families.

FOSSILS AND FLOWERS

Sunday, May 15, 9:30 a.m.-noon

Registration is limited; 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 65 million years ago. You will see fossilized evidence of the Cretaceous seas that once inundated this area, as well as some of the earliest blooming wildflowers in Boulder County. Bring water and hiking shoes/boots. To register, email icolbenson@bouldercounty.org, or call 303-678-6214 no later than Thursday, May 12.

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, March 31, Walden Ponds Wildlife Habitat (meet at the group picnic shelter at Cottonwood Marsh)

Thursday, April 28, Walker Ranch (Meet at the Myers Homestead Trailhead at the lower parking lot.)

Thursday, May 26, Agricultural Heritage Center at the Lohr/McIntosh Farm

ONCE IN A BLUE MOON ASTRONOMY HIKE

Saturday, May 21, 8-10 p.m.

Registration is limited; meeting location will be provided to registered participants

In honor of Kids to Parks Day, bring your family to a night hike on open space! Discover the background and stories associated with a "blue moon," and hike 1-2 miles under the full moon. Find Mars, Jupiter, and Saturn in the night sky and brush up on some constellations. Register at <https://bluemoon1.eventbrite.com>.

SUNRISE PHOTOGRAPHY SESSION

Saturday, May 21, 5:15 a.m. – 9:00 a.m.

Join us for a sunrise photography session at the Agricultural Heritage Center. We are opening up the Agricultural Heritage Center early so people can take photos for the 2017 Land through The Lens Photography Exhibit. Registration opens one month before the event at BoulderCountyOpenSpace.org/register

Spring Heritage Day at Walker Ranch Homestead

Sunday, May 1 10 a.m. - 1 p.m.

Walker Ranch Homestead; 8999 Flagstaff Mountain Road, approximately 7.5 miles west of Boulder on Flagstaff Road

Spring is a new beginning—planting gardens, repairing buildings and bringing baby animals into the world. That was also true for local ranch families in the 1880s. Join us at the Walker Ranch Homestead for a peek into pioneer living in springtime. Smell what's cooking in the log house, chat with the blacksmith, and experience hands-on traditional activities with costumed volunteers.

For more information contact Sheryl Kippen at skippen@bouldercounty.org



GEOLOGY OF RABBIT MOUNTAIN

Sunday, May 22, 9 a.m.-12:30 p.m.

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

Volunteer naturalists Dick Pratt and Roger Myers will lead a moderate 2-mile hike at Rabbit Mountain, where you will learn about the unusual geology of the area. We'll also watch for spring wildflowers, soaring raptors, and other wildlife. Bring lunch, water, sunscreen, closed-toed hiking shoes/boots, and binoculars if you have them. This program is geared for adults.

Spring Wildflower Hikes

Mother's Day Wildflower Hike at Legion Park

Sunday, May 8, 10 a.m.-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.

Wildflower Hike at Rabbit Mountain

Saturday, May 14, 10 a.m.-noon

Rabbit Mountain Open Space; NE of Lyons on north 55th Street

Rabbit Mountain is a great place to view spring wildflowers. The transitional foothills life zone is home to Easter daisies, Nuttall's violets, pasqueflowers, 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.

Wildflower Hike at Bald Mountain

Saturday, May 28, 10 a.m.-noon

Bald Mountain Scenic Area; 5 miles west of Boulder on Sunshine Canyon Drive (Mapleton Ave. in Boulder city limits)

Join volunteer naturalists for a spring wildflower hike in the beautiful foothills west of Boulder. We will hike about 1.5-miles through forest and meadows in search of spring wildflowers, enjoying some beautiful vistas along the way.

Wildflower hikes are open to all ages, and are geared to beginners. Please wear hiking shoes, water, and bring a wildflower field guide if you have one.

BIRDING BOULDER COUNTY THROUGH THE SEASONS

Monday, May 23, 6-7:30 p.m.

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

Join volunteer naturalists to learn about birding year-round in Boulder County. This program will explore where to find and how to identify some of our local birds, from the plains to the alpine. You will also learn about the many challenges birds face and how they adapt. This seasonal story of birds takes you through an amazing range of ecosystems and habitats, and you will also learn about some of the migratory birds that return to or pass through Boulder County during the year.

great for kids!

NATURE DETECTIVES IN THE FIELD: TURTLE TRICKS

Thursday, June 2, 10-11:30 a.m.

Walden Ponds Wildlife Habitat; 75th Street between Valmont Road and Jay Road (meet at the group shelter at Cottonwood Marsh)

Learn about the cool survival tricks of two turtle species in Boulder County—the snapping turtle and the painted turtle—through stories, hands-on activities, and exploration. This program ties in with the Nature Detectives insert in *Images*. Designed for children ages 4-9 with adult companions.



Snapping turtle

Outdoor Creations

A Boulder County Juried Plein-Air Art Show

Paint-out period: May 1 – August 11

Deadline for submissions: August 11

Exhibit of chosen artwork: from October 10, through November 4, 2016 at the Great Frame Up, Longmont.

Painting events: Group paintings will be held on open space properties, including some properties usually closed to the public. Visit the department's website at www.BoulderCountyOpenSpace.org in May for details.

Entry fee: Submit up to four pieces for a \$30 entry fee. Prizes!

More information: Visit www.BoulderCountyOpenSpace.org/paintout or contact Karen Imbierowicz at kimbierowicz@bouldercounty.org or 303-678-6268.

Thanks for the support of The Great Frame Up-Longmont & Guillaume's European Catering.



"Cornfield – Swanson-Ludlow" by Jeannie DeMarinis, was exhibited in the 2014 Outdoor Creations Plein Air exhibit

NATURAL RESOURCE MONITORS NEEDED

Recruiting for 2016 Get outdoors and gain valuable research and field experience while collecting important scientific data.

Contact Michelle Bowie at 303-678-6219 or mbowie@bouldercounty.org for more details about the following monitoring programs:

Abert's Squirrels: monitor squirrel populations to assist in forest treatment planning and post-treatment effects on squirrel populations. Application deadline is March 4.

Pollinators: help us determine the types of native pollinators present on restored rangeland properties. Application deadline is March 18.

Soil Health: learn about local agriculture and food production, and collect information on agricultural lands about soil quality. Application deadline is April 15.

Forestry Sort Yards: collect data from visitors at the community forestry sort yards (Allenspark and Nederland) and educate people about forest ecology, wildfire mitigation, and forest restoration. Application deadline is April 28.

Rangeland: conduct photo monitoring site visits to agricultural land to assess current resources and trends. Application deadline is May 13.

BOULDER COUNTY YOUTH CORPS

IMPROVING OURSELVES, IMPROVING COMMUNITY

Spring is the time of year when the Boulder County Youth Corps gears up for the busy summer season. Sponsors are planning the many projects corpsmembers will be working on during the 8-week employment program for Boulder County youth ages 14-17. We are recruiting to fill 160 corpsmember positions and 34 leader openings.

Corpsmember applications will be accepted through Friday, March 25, and girls are encouraged to apply. Leader applications from those 18 and older will be taken until all of the positions have been filled. Challenge yourself this summer by joining the Youth Corps!

Find more information online at www.BoulderCounty.org/YouthCorps



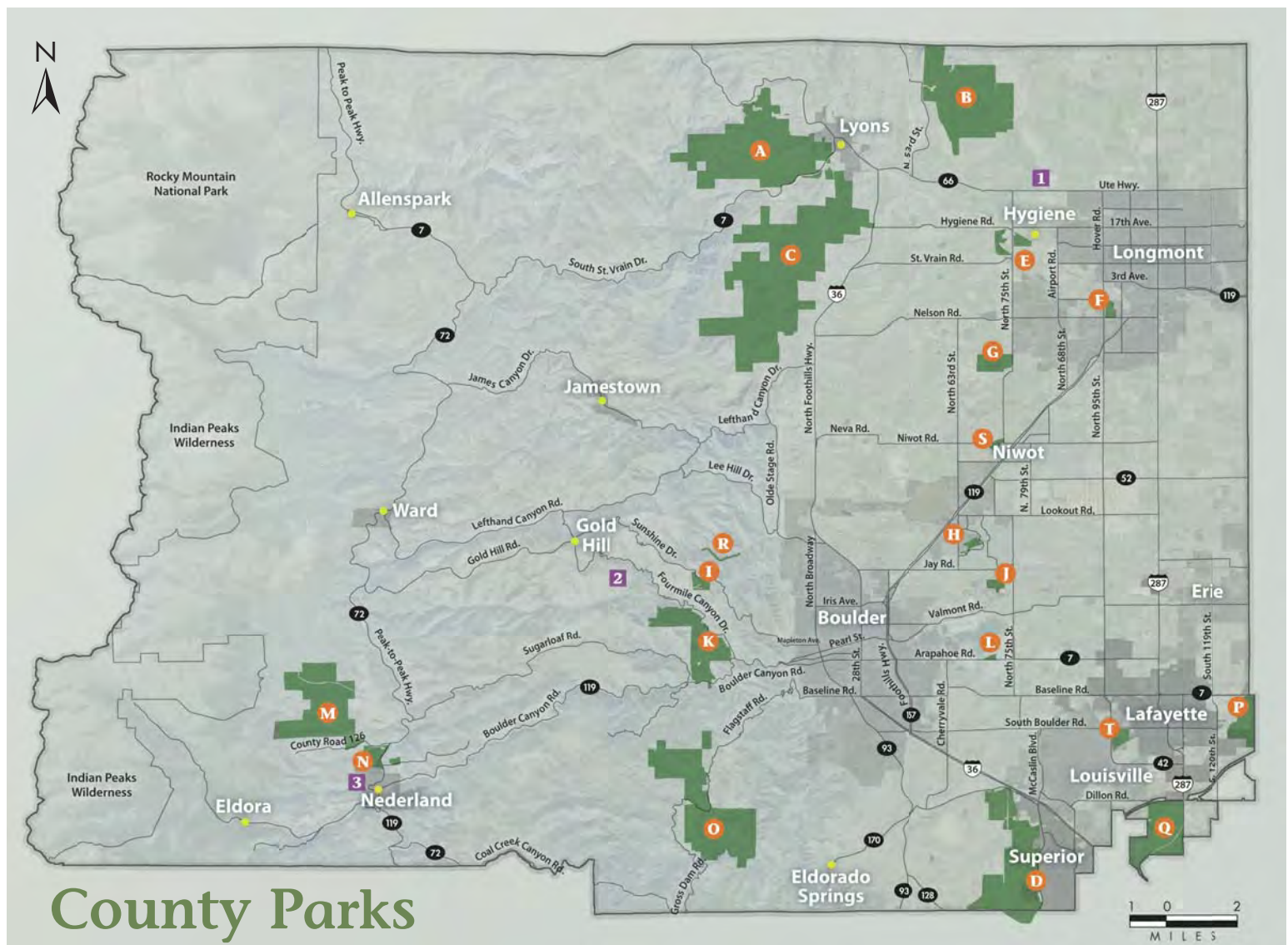
Members of the historic preservation team peek in the window of the Geer Cabin that they restored at Heil Valley Ranch during the summer of 2015.



Parks & Open Space

5201 St. Vrain Road, Longmont, CO 80503

www.BoulderCountyOpenSpace.org



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

Visit www.BoulderCountyOpenSpace.org/trails for information about properties that may be closed due to the 2013 flood.