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IMAGES

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

PHOTOGRAPHS & ILLUSTRATIONS

Cover: Flying Geese, Pascale Fried

Tucker Cabin, Carnegie Branch Library for Local History

Montane Life Zone, Lucas Ainsworth

Mourning Cloak, Jerry A. Payne, USDA

Agricultural Research Service, Bugwood.org

Agricultural Heritage Center, Jim Drew

Nesting Eagles, Howard Witkin

**Uncredited photos from POS Collection*

NATURE DETECTIVES

Cindy Hutchins and Pamela Sherman

Illustrations, Carol Tuttle

IN CLOSING

Pascale Fried, Michelle Marotti, and Raquel Robles

EDITORS

Rachel Gehr and Pascale Fried

Suggestions and comments are welcome.

Please contact us at 303-678-6201 or

pfried@bouldercounty.org. Non-credited articles are by the editors.

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Volume 44, number 4



Fire Regimes of Life Zones in Boulder County

By Patrick Morgan

Boulder County is home to a diverse array of landscapes. The dramatic rise in elevation results in a variety of ecosystems, each with its own unique characteristics. These ecosystems, or life zones, have a specific relationship with fire, or what is called a fire regime. Understanding the fire regimes across the different life zones of Boulder County can help residents become more adept at living in this unique region of the world.

The major life zones that most Boulder County residents live in are the Plains, Lower Foothills Ecotone, and Montane. Each of these life zones has its own fire regime. A fire regime is a summary of fire occurrence, behavior, and fire effects within a specified area. Some characteristics of a fire regime are frequency, intensity, and severity. Each of these aspects create a picture of how fire has behaved historically in each location.

THE PLAINS LIFE ZONE

In the Plains Life Zone, located in the eastern portion of the county below 5,300 feet in elevation, fires occur at an interval of one to five years. They typically burn at a low severity, which is characterized by some consumption of woody material and the renewed growth of grasses from their root system. They are often caused by lightning strikes or spread from the forest to the west, though Indigenous people occasionally started grassland fires to attract game with new growth. Today, the fire regime of the Plains is mostly absent, as the presence of urban development and agriculture has severely altered it. It is not completely gone, however, as evident in the disastrous Marshall Fire of 2021.

LOWER FOOTHILLS ECOTONE

In the Lower Foothills Ecotone, located at elevations between 5,300 and 6,400 feet, the character of fire changes as the vegetation transitions from grasses to shrubs and scattered trees. The fire regime is highly variable depending on slope, aspect, and fuel conditions. Fires carried by the grasses occur as frequently as every few years, while the shrubs and trees burn more infrequently when conditions are favorable. Severity and intensity are also highly variable, from a low intensity grass fire to higher severity where shrubs dominate. This varied severity allows for a diverse mix of plant and animal species to utilize

this life zone. Because of fire suppression in the 20th century, this life zone has become less dominated by grass and shrubs as higher density ponderosa pine forests have been allowed to take over. This change has led to higher severity fires occurring in a life zone that is located just west of the major population centers of the county. An example of a Lower Ecotone fire is the east portion of the Cal-Wood Fire of 2020.

MONTANE LIFE ZONE

The fire regimes of the Montane Life Zone are much more diverse. This ecosystem is located at elevations of 6,000 to 9,000 feet and tends to become wetter at higher elevations. The variety of trees found here means that certain areas burn in different ways. Ponderosa pine forests dominate in the lower elevations while Douglas-fir and lodgepole pine tend to dominate in the higher elevations. The drier forests burn roughly every five to 30 years with mixed severity. These drier forests are more open with a grass understory, resulting in a lower severity fire, mainly on the ground. The wetter forests at the higher elevations are denser, which means there can be some severe burns in these areas. On the extreme end of fire behavior is the lodgepole pine forest. These forests burn infrequently (about every 75 to 250 years), but at a high intensity and severity. The long fire interval means these trees grow up very dense, and when they burn, it typically wipes out the entire lodgepole forest. A recent example of one of these fires is the Cold Springs Fire of 2016.

UNDERSTANDING THE ROLE OF FIRE

Fire has always played a significant role in the life zones of Boulder County, but until recently its impact has not been fully understood. Since fire suppression was the dominant management practice of the 20th century, many of the fire regimes in these ecosystems are highly altered. Now when fires start in these altered systems, the fire behavior can be unpredictable. As more people move into these fire-adapted landscapes, the risk of destructive fires becomes even greater. With climate change potentially increasing the frequency of wildfires, adapting our lives and property to living in these zones can help us coexist with fire in the years to come.



Plains Life Zone



Lower Foothills Ecotone



Montane Life Zone

2022 Conservation Awards

On Oct. 6, the Boulder County Parks & Open Space Department held the annual Conservation Awards ceremony to celebrate the 2022 award winners for their outstanding contributions made to the conservation, preservation, and protection of land-based environmental resources. Here are highlights from the special gathering for this year's recipients:

Land Conservation Award recognizes notable achievements in preserving Boulder County's open space lands through the sale or donation of land or conservation easements, donation of funds, or through significant activities resulting in the preservation of open space. Charlie Stromquist, Dorothea Ekx, and Lorraine Stromquist accepted the award for having recently sold the former Laber property to the county so it could be farmed in one piece with the rest of the county's open space land between N. 119th St. and East County Line Rd. from Oxford Rd. The Stromquist family has been farming in Boulder County for more than 100 years and helped jump start Boulder County's open space program in 1987 by selling some of the family's land and irrigation water to the county for open space. The family made a significant financial donation keep the family's land in agricultural production as part of county open space.

Environmental Stewardship Award recognizes contributions and activities that have made a significant impact on the conservation, preservation, and/or protection of Boulder County's land-based environmental resources through on-the-ground actions or program management. Becca Gan Levy is the Director of Boulder Jewish Community Center's Milk & Honey Farm. In addition to providing experiential education to involve families and the community in agriculture, the farm also donates thousands of pounds of fresh food to organizations to address food security needs. Levy manages an intensive agriculture system on a small parcel of land. She oversees a community volunteer

workforce to overcome staffing challenges. She also uses low-water and no-till methods to align her farming practices with the dry Colorado ecosystem and to promote native pollinators.

Cultural and Historic Preservation Award recognizes contributions that preserve Boulder County's heritage through historic and cultural preservation projects. Marina LaGrave helped start Explorando Senderos de Boulder, a group that organizes trail and outdoor experiences for Latinx families. These experiences bring participants closer to nature and promote physical and mental well-being. Started in 2020, Explorando Senderos explores a new trail (sendero) every month. From a modest start of approximately 10 families, it has grown significantly to more than a thousand members on their Facebook group. With Spanish as the main language, the program hopes to support and encourage Latinx families to seek out the outdoors, reconnect with nature—and themselves.

Outstanding Volunteer Award honors individuals whose leadership and support of the Parks & Open Space volunteer programs have enhanced our community partnerships and improved public service. Peggy Sass has been a volunteer at the Agricultural Heritage Center for five years. When she first started, Sass lived in Denver and helped on the farm once a week, feeding livestock and removing weeds from the garden. Since moving to Boulder County, Sass has taken on more responsibility with planning, planting, watering, weeding, harvesting, and coordinating efforts with other volunteers. Sass also does one to three livestock feeding shifts per week, and occasionally orients visitors when staffing is short. Sass does all these things tirelessly and with a smile on her face. Her generosity is endless. In her time with Boulder County, Sass has truly become a "renaissance volunteer," having her sharing her skills in countless areas!



Top row: Marlon and Claudia Meza, and son David
Bottom row, left to right: Commissioner Marta Loachamin, Becca Gan Levy, Marina LaGrave, Peggy Sass, Dorothea Ekx, Lorraine Stromquist, Charlie Stromquist, Commissioner Matt Jones, Commissioner, Claire Levy, Therese Glowacki

Tucker Cabin—Road to Restoration

by Carol Beam



Circa 1949 Assessor photo of the Tucker cabin

In June 2022, History Colorado's State Historical Fund awarded Boulder County Parks & Open Space (BCPOS) a \$13,500 grant to complete an historic structure assessment for the 1871 cabin on the Tucker Open Space, located west of the Town of Nederland.

The assessment is an in-depth physical examination of a historic building's condition conducted by a licensed architect and a structural engineer. The assessment is comprised of historic background research, an examination of structural components (e.g., foundation, framing, walls, and roofing), as well as the building systems (e.g., mechanical and electrical).

Once completed, the project architect prepares a report that prioritizes the work with cost estimates. Repairs on the Tucker Cabin will be completed over several years, as funding becomes available and the future use of the building is determined. The historic structure assessment project embodies the county's long-standing vision to preserve the rural character and cultural resources of unincorporated Boulder County by identifying and protecting significant historic properties and protecting them from destruction or harmful alteration.

TUCKER—A SHORT HISTORY

The Tucker cabin is an enduring symbol of the Nederland area's European-American history. Alfred Tucker was born on Nov. 30, 1820, in Tennessee. Like many others, Tucker was lured to the West, most likely because of the discovery of gold in Colorado. He made his way to Denver City, then part of the Kansas Territory, in May 1859. Tucker's arrival, along with 17 others from Clinton County, Illinois, on May 28, was noted in the *Rocky Mountain News*.

Although most often identified as a farmer or rancher in public records and newspaper articles, Tucker is also linked to numerous

mining location claims that include the Sampson, Flagg, Ross, Grand Tasora, Plow Boy, Nellie Grey, and Sitting Bull lodes. Tucker was one of the organizers of the Magnolia Consolidated Gold Mining and Concentration Company, incorporated in 1876, as well as one of the founding trustees of the Jefferson Ditch Company, formed for the purpose of irrigating, manufacturing, and mining.

Tucker and his wife, Margaret, amassed substantial agricultural land holdings in Jefferson, Boulder, and Larimer counties during their lifetime. The 324 acres of land surrounding the Tucker cabin is referred to as the "Mountain Ranch." Evidence suggests that the Mountain Ranch remained a secondary property to the Jefferson County "Home Ranch" where the Tucker family resided.

The Mountain Ranch remained in the Tucker family for 148 years (from 1871-2020), most likely serving as a livestock ranch, a place to harvest peat, and a summer residence for the family.

Upon his death at the Home Ranch in 1880, Alfred Tucker was identified as one of the oldest citizens of Jefferson County. Alfred, and his wife, Margaret, are both buried at Mt. Olivet Cemetery in Wheat Ridge, Colo.

Boulder County purchased the 324-acre Tucker property from the M.A. Tucker Investment Company in 2020, and the Board of County Commissioners landmarked the cabin and outbuildings in 2021 for their historic significance. The cabin is not currently open to the public, and its future use has not been decided.

Weaving Tucker's mining past into an interpretation opportunity, BCPOS is considering making the cabin a stop on the seasonal Hard Rock Mining van tours where participants could view the outside of the cabin and learn more about the very interesting 59'er, Alfred Tucker.

A Show Below the Snow: The Subnivium

by Noelle Nicholson

Many descriptions of the subnivean zone make it sound idyllic—a balmy and peaceful refuge from the ravages of winter. If it were only about temperature, I'd agree, but if you're a mouse or vole, the subnivium is more like the Wild West than Palm Springs.

Before we dig into the perils of this microclimate, let's indulge in a moment of Latin to get our bearings. "Sub," means below and "nivium," means snow, so we're talking about what's going on below the snow, and it turns out there's way more than you could imagine.

FORMATION OF SUBNIVIUM

First off, a few things have to happen to form the subnivium. Around six to 10 inches of snow have to accumulate on top of irregularly shaped vegetation. When these grasses and branches bend under the weight of the snow, they form little arches that keep the snow from touching the ground, resulting in pockets of open air. The earth emits warmth that fills up these pockets, eventually heating the bottom layer of the snowpack until it transforms the snow into water vapor in a process called sublimation. This process creates an icy and insulating roof, so that even when the temps are way below freezing outside, it's a relatively comfortable and continuous 32 degrees in the subnivium.

DANGER FOR WILDLIFE, A BOON FOR PLANTS

There's a high price for this luxury though; the risk of murder, drowning, starvation, as well as home theft and destruction. All sorts of beings spend time here: insects, rodents, small mammals, even a bird or two—but mice and voles are the stars at the center of this drama. They're not only the masterminds behind the tunnel system, expanding the original air pockets into a long and elaborate network of tunnels, they're also some of its most popular prey.

The slender ermine, a weasel in his winter coat, is perfectly designed to slide into their tunnels—and boy are they hungry (they must eat about half their body weight daily). After getting their fill on mice or voles, sometimes the ermine thinks the digs

are so nice they decide to make them their own. If the rodents manage to escape the ermine, they still have to contend with threats from above. Owls, foxes, and coyotes can hear mice and voles scurrying under the snow and will attack their prey with much success, despite the inability to see it.

If the mice and voles manage to survive attempted murder and house theft, they still have to contend with starvation and drowning. As we get closer to spring, temperature fluctuations cause melt and freeze cycles, which can trap the tiny mammals away from their food caches and even their families. They might have some seeds, roots, or bark where they get stuck, but those resources can last only so long. Then, when spring finally arrives, the end of season snow thaw, along with spring rains, can cause water to surge through the tunnel system like a flash flood, drowning its inhabitants.

Is the subnivium a safe place for mice and voles? No, but there's no such thing as a safe place (except maybe your garden!). But is it safer than the alternative? Yes.

The subnivium is plenty safe for plants, though. The subnivium is nature's winter greenhouse: it not only protects plant roots from freezing, it also allows sufficient light for low level photosynthesis. As if that weren't plush enough, plants also get mice and voles running around and pooping on their soil, fertilizing their root systems. For alpine plants with a short growing season, the enriched soil is a real boon; they can start growing before the snow melts.

Given the inevitable buildup of carbon dioxide as the lucky plants "exhale," you might be thinking I missed the peril of asphyxiation. It was previously thought that CO₂ poisoning was a threat to mice and voles, and that's why they built air shafts to vent the poisonous gases, but recent experiments suggest that they actually don't give a rat's behind. Given the challenges they face, I think they deserve a win.

If you want to lay your eyes on the subnivium, poke around the edges of tree wells and big rocks and you might discover a tunnel entrance or two, just don't fall in!

NATURE DETECTIVES

Winter 2022



Who lives out there in the Snow?

Winter is here in Boulder County, the temperatures have dropped, and you're probably wearing boots, a coat, cap, and mittens some days to stay dry and warm.

What about the wildlife you see in the winter? What happens to them? What do they do to manage the cold season?

Unlike animals like bears, ground squirrels and chipmunks who generally curl up into a cozy den and sleep the winter away in hibernation (or torpor-- a lighter state of sleep), some animals stay active to some degree throughout winter. Let's talk about some of the wildlife you might see and how they are adapted to cold Boulder County weather.

Pull Out and Save

Oh deer...and elk and maybe even a moose

You could see a member of the deer family- deer, elk, or moose- in the winter. Like most other animals you see in the winter, they are less active when it's cold in order to save energy and stay warm. The vegetation (such as grass, moss, twigs, aquatic plants-even fruits and flowers) that is plentiful in spring through autumn is more challenging to find during the winter. In a really snowy cold winter the deer family has to be flexible about what they eat- maybe more twigs than soft grass and greens.

The deer family (like many other mammals) eat a lot in the fall to build up fat stores (meaning energy) to get them through the winter season when food is less available. They grow VERY thick coats. Imagine if you were wearing 5 layers of shirts, sweaters and coats each time you went out in the winter! Deer species spend much of the winter in protected areas where they can avoid cold temps, wind and predators as much as possible.



Bundle up in your fur coat and head out, it's time to eat



Foxes and coyotes are more active in the winter than some other animals. They need to hunt often, and unlike browsing deer family members, foxes and coyotes have to chase their food most of the time! They eat prairie dogs, rabbits, mice, voles, birds, and other small to medium-sized animals. They are opportunistic- meaning they will eat almost anything that they come across- carrion (dead animals), garbage, fruit, eggs, pet food.

Being more active means they may be easier to see across a snowy field. Keep a lookout for them on your nature walks!

They, like the animals we've already talked about, also grow a thick coat to keep them warm in the cold months; foxes use their big bushy tails, wrapped around themselves to help insulate them. When you're wearing a big fleecy warm coat and hat can you imagine you're a warm snug fox?

They can fly...but they choose to stay

As the temperatures dip, heading into winter, many birds migrate, but some birds stay. There are more birds around but let's focus on the strategies of two of our winter bird residents.

One of our smallest birds in winter is the black-capped chickadee- weighing less than half an ounce. To help you understand how tiny that is, a grape or two weighs about the same as a chickadee! How does such a tiny creature survive winter?



Part of the answer- their feathers! They have denser feathers than other birds their size, giving them more insulation. They also "puff up" their feathers, trapping air in order to keep body heat in. Sometimes if it is particularly frigid they shiver in order to create more heat, while tucked in a crevice at night. Do you ever shiver when it's cold?

A chickadee's diet in the summer is primarily insects, but changes dramatically during the winter as there aren't many insects available. They rely much more on seeds, nuts and suet when they find feeders. Chickadees dig into crevices of bark for insect larvae. Another winning approach to eating throughout winter is caching food in the fall to find later. They tuck food into bark crevices all over their territory and can remember where to find hundreds of their "*winter pantries*" later.

From the smallest to the biggest

Eagles are our largest birds to see in Boulder County in winter. We have bald eagles and golden eagles. Let's discuss the bald eagle, pretty easy to identify-you can see the dark bodies contrasting with snow white heads and tails of mature birds, often in the tops of deciduous trees on a winter day.

Interestingly, eagles don't change physically. They don't put on extra fat or grow a thick coat. Instead, they change their behavior.

First, they become more scavenger than hunter-- conserving energy by being opportunistic- eating carrion and going to open water for fish and injured or sick animals.

Second, eagles become more communal-- roosting in larger groups in trees where they get protection together from cold and wind. They can also lower their body temperature a bit just enough to fend off the cold until the rising sun begins to warm them.



Summary

We've learned that each species has its own way of surviving the cold. We now know there are general requirements to surviving winter that our resident animals are suited to in some way. Remember these?

Some kind of **insulation system**- fur, feathers hollow bones

Being less active in general to conserve energy

Building up fat reserves prior to winter for extra/emergency energy

Environmental protection from cold temperatures and wind: dens, cavities, and wind breaks, like trees or sunny slopes

Food availability- either stored or available without spending all the animal's energy

Winter Day Activity

Go to one of your favorite nature spots, open space, parks, or even your backyard on a cold day when there is snow on the ground. Take a nature journal or notebook to write down or draw your thoughts and discoveries.

Choose one of the animals we've talked about. Imagine what it would be like to be one of them. Look around, decide what you would need if you were a deer, coyote, bird... Write in your nature journal what animal you chose.



Are you warm enough? Do you need a warmer coat than you did a couple months ago?

Is the sun out? Do you feel warmer in the sun than in the shade? What does your animal have in winter to help stay warm?

Is the wind blowing? Can you find a spot that you think could shelter your animal from wind and cold? If you can, how do you think it impacts them? Maybe words like warmth, rest, safety, come to mind.

Do you see any of the wildlife foods we've mentioned? If not, can you scrape away some snow and find a bit of green grass or moss? Are there any bushes around? Do they have berries? Or maybe twigs you think could be munchable to your animal? Are there any seeds in grasses?

Check out a tree. Do you see any bugs/larva in the bark? Write down or draw what you find that your animal can eat. If you don't find anything, think about how far they may have to go to find food.

Spend some time "*being your animal*." What would it be like for them on a day like this? Write down or draw and color: where are you? What's going on around you? What are you doing? Who are you with? What does it feel like to be this animal? What are your thoughts about this? What is your favorite thing about this animal?

Now say goodbye to your animal. Wish them a good winter and head in for some hot cocoa or warm soup. Stay warm!

Text by Cindy Hutchins & Pam Sherman
Illustrations by Carol Tuttle

See You in Spring— Overwintering Insects

by Andrea Van Sambeek

Many of our winter narratives about animals involve creatures like hibernating bears or migrating birds. We tend not to think too much about creepy crawly animals until they return in great numbers come springtime. How do these creatures survive the harsh conditions of winter?

Insects have diverse strategies for ensuring survival. Typically, only one of the life stages (egg, larva, pupa, or adult) is adapted to overwinter—starting the cycle back up again in spring. Most hibernate in their chosen form, and many take advantage of natural antifreeze chemicals in their bodies.

OVERWINTERING EGGS

Insects that overwinter as eggs will often lay these eggs below ground, under leaf litter, or inside the stems and nuts of plants. These placements provide insulation for the eggs, and the addition of snow on top increases that insulation through the coldest months. The tent caterpillar moth lays its eggs on the stem of a tree or shrub. The eggs are surrounded by foam, which hardens, to attach them to this future food source. Although they remain fairly open to the elements, the eggs contain glycerol (a chemical used in car antifreeze) and remain viable until spring when the glycerol is released and larva emerges.

Another strategy is to overwinter as a larva, like the woolly bear caterpillars. Legend has it that these tiger moth larvae can be used to predict the length and severity of the coming winter. In reality, they change color as they molt, becoming less black and redder with age. When winter starts to set in, they burrow under the leaf litter and can survive unfrozen up to 22 degrees below 0, Fahrenheit, thanks to the glycerol and sorbitol in their bodies and the slow process of supercooling.



SURVIVING ADULTS

Other insects, like the mourning cloak butterflies, snow fleas, and convergent ladybugs survive winter as adults.

Mourning cloak butterflies are the first we spot in early spring feeding on tree sap, as there aren't enough flowers in bloom to sustain them. You may even see them emerge on a sunny day in late winter. They are the first butterflies on the scene because they survived the entire winter inside hollow trees

and other hidey holes. These amazing butterflies can live up to 10 months. Antifreeze in their bodies helps them to survive, and they also bulk up by feeding in the fall after resting through the summer months.

Snow fleas aren't actually fleas at all—they aren't even insects. They are a type of springtail—hexapods that have been around since before dinosaurs. They look like tiny jumping bits of dust or ash on the surface of snow. Their dark color keeps them camouflaged the rest of the year when they hang out in the leaf litter—decomposing organic material. On sunny winter days, they come up to the surface to sun themselves or look for mates.

Convergent ladybugs gather in the thousands to overwinter all together. (Their name does not come from this behavior but rather from the two white lines found on their bodies.) These little beetles fatten up by consuming lots of pollen and then blow up into the mountains to aggregation spots. When massed together their warning colors and scents ward off many predators. Humans, however, take advantage of these massive gatherings to collect these predators for sale at garden centers as natural pest control. Ladybugs enter diapause, a state similar to hibernation, to wait out the inhospitable conditions of winter.

Insects (and their arthropod relatives) may be tiny, but they are capable of incredible feats of survival. Each species has found a way to ensure the generations cross through the winter months to find spring on the other side.

DISCOVER BOULDER COUNTY

Calendar of Events

WINTER ON TOP!

Thursday, Dec. 15, 1-3:30 p.m.

Near Nederland. Space is limited. Location provided when registering.

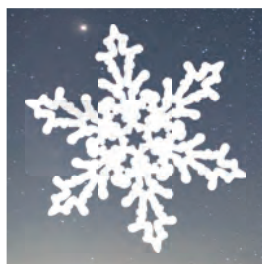
Learn how wildlife adapt to winter in the high country. Volunteer naturalists will lead this hike to explore and learn about the different winter strategies employed by wildlife that live year-round in montane and alpine ecosystems. Ski or hiking poles are recommended because of possible icy trail conditions. Register at boco.org/discover.

THE WONDER OF WINTER SLIDESHOW PROGRAM

Saturday, Dec. 17, 2-3:30 p.m.

Superior Community Center, 1500 Coalton Rd, Superior.
Space is limited.

Winter is a great time to explore the natural wonders of Boulder County! Join volunteer naturalists to learn about the many wonders of winter and how plants and animals adapt to snow and cold, from the Great Plains to the Continental Divide. Register at boco.org/discover.



WINTER ON THE PLAINS

Monday, Dec. 19, 1-3:30 p.m.

Near Lafayette. Space is limited. Location provided when registering.

Learn how grassland and wetland wildlife adapt to winter on the prairie. Volunteer naturalists will lead this easy walk to explore and learn about the different winter strategies employed by wildlife that migrate through or live year-round in prairie ecosystems. Register at boco.org/discover.

EVERGREEN EXPLOREEN!

Thursday, Jan. 5, 10 a.m.–12:30 p.m.

Near Boulder. Space is limited. Location provided when registering.

Spruces, pines, firs, and junipers stay green all year round. Join volunteer naturalists on a moderate hike around the high country to look at some of the evergreen trees you can find in the area and what helps them live in some of the harshest climates. Register at boco.org/discover.



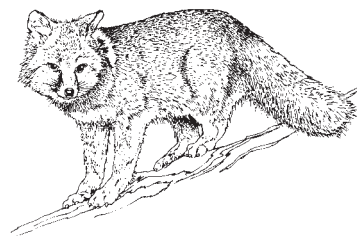
MOVE, SNOOZE AND GROOVE! KID'S WINTER PROGRAM

Saturday, Jan. 7, 10 a.m. – noon

Near Boulder. Space is limited. Location provided when registering.

Bears like to sleep winter away, swallows go on a trip down south, and foxes try to tough it out! Join us as we explore how backyard animals prepare for and survive winter. We will learn through games and activities and exploring our surroundings. For ages eight and older with an accompanying adult. Register at boco.org/discover.

great
for kids!



ALL PROGRAMS:

All ages welcome unless otherwise noted. NO PETS, PLEASE! Be prepared for cool temperatures. Bring water and dress in layers. For information about these programs or to arrange a private program, please call 303-678-6214.

Calendar of Events

SHORTGRASS PRAIRIE SLIDESHOW PROGRAM

Saturday Jan. 28, 1-3 p.m.

Near Lafayette. Space is limited. Location provided when registered.

Discover the quiet beauty of the shortgrass prairie, one of Boulder County's native ecosystems. Along with rainforests, prairies are our most important carbon-sequestration communities. They are home to threatened species such as black-footed ferrets, burrowing owls, and ferruginous hawks, as well as bison, elk, deer, antelope, prairie dogs, box turtles, and rattlesnakes. Register at boco.org/discover.



FROGSCILES! AMPHIBIANS AND REPTILES IN WINTER

Sunday Feb. 5, 10 a.m.-12:30 p.m.

Near Boulder. Space is limited. Location provided when registered.

Do you ever wonder what happens to all the amphibians and reptiles during the freezing winters? Walk through wetland habitat as you explore the question of where all the frogs, turtles, and snakes go when the winter comes and how these cold-blooded creatures survive the big drops in temperature. Register at boco.org/discover.

fun
for all
ages!

Winter Heritage Day at Walker Ranch Homestead

Sunday January 29, 1-3 p.m.

Walker Ranch Homestead, 7701 Flagstaff Rd., approx. seven miles west of Boulder

What did pioneer settlers do in the winter? Learn about winter chores and indoor games when you explore the Walker Ranch Homestead. You'll see a working demonstration in the blacksmith shop and smell food being prepared on the woodburning stove. Be prepared for cold, windy weather, and to walk in snow. Please note: Dogs are not permitted at the site.

Contact Sheryl Kippen at skippen@bouldercounty.org or 303-776-8848 for more information.



HIKES FOR SENIORS

Join volunteer naturalists for a moderate hike to learn about the unique geology, history, plants, and wildlife of these beautiful properties.

Space is limited. Registration required at boco.org/discover.

**Groups are encouraged to join!*

SOLSTICE AT THE PONDS

Wednesday, Dec. 21, 1-3:30 p.m.

Near Longmont. Location provided when registered.

Take a comfortable walk around the ponds during the winter solstice and learn more about the shortest day of the year and how it affects local flora and fauna.

WINTERING BUTEOS AND MORE!

Thursday, Jan. 26, 10 a.m.-12:30 p.m.

Near Lyons. Location provided when registered.

Ferruginous and rough-legged hawks abound! Hike around searching for wintertime hawks at one of Boulder County's raptor-viewing hot spots.

WINTER AT NEW HEIGHTS

Wednesday, Feb. 22, 10 a.m.-12:30 p.m.

Near Nederland. Location provided when registered.

(Limited transportation provided. Register for more information.)

Winter in the high country can be cold and harsh. Animals and plants at higher elevation have developed strategies, both behavioral and physical, to survive. Come up with us and see what it's all about!

Calendar of Events



BIRDS OF PREY SLIDE SHOWS

Tuesday, Jan. 17, 6:30-7:30 p.m., Lafayette Public Library, 775 West Baseline Rd. Lafayette

Thursday, Feb. 2, 6-8 p.m. Parks and Open Space Building, 5201 St. Vrain Rd., Longmont

Learn to recognize birds of prey, or raptors—hawks, eagles, falcons, and owls—in the winter skies above Boulder County. During this slide presentation, you'll observe and learn how to distinguish between different raptors by identifying common field marks. You will also learn about the habitat requirements, behavior, and ecology of these magnificent birds.

Space is limited. Register at boco.org/discover.



BIRDS OF PREY DRIVING TOURS

Near Longmont. Space is limited. Location provided when registering.

Hop in your car with friends & family and join us for a driving tour of some of Boulder County's best areas to view birds of prey. Follow the tour map to designated stops with volunteer naturalists and search the skies for raptors, learn about their habitat and behavior, and work on your observation and identification skills.

Space is limited. Register at boco.org/discover.

Driving tour dates:

- Saturday Dec. 10, 9 a.m.-noon
- Saturday Dec. 17, 9 a.m.-noon
- Saturday Jan. 14, 9 a.m.-noon
- Saturday Jan. 21, 9 a.m.-noon
- Saturday Feb. 11, 9 a.m.-noon
- Saturday Feb. 18, 9 a.m.-noon

BALDS, DOVES, AND OTHER LOVERS

Tuesday, Feb. 14, 2-4 p.m.

Near Lafayette. Space is limited. Location provided when registering.

It's the season of love! Join volunteer naturalists as you explore love in the animal kingdom. How do animals like bald eagles, coyotes, and beavers find their mates, build their homes, and raise their young. Observe eagles on the nest preparing for their journey as parents. Register at boco.org/discover.

STORY IN THE ROCKS SLIDESHOW PROGRAM

Saturday, Feb. 25, 2-3:30 p.m.

Longmont Public Library, 409 4th Ave., Longmont

Space is limited.

The geologic history of Boulder County's remarkable landscape goes back nearly two billion years! Rocks contain a record of earth's history that can be read like the pages in a book. Join volunteer naturalists for this slide program and learn how to read this fascinating story in the rocks. Register at boco.org/discover.

Be Prepared for Winter Weather

Make sure you have:

- Waterproof coat, hat, and additional layers
- Fully charged cell phone
- Extra food and water
- Sun protection
- Flashlight or headlamp

Bring supplies for your pet:

- Food, water, layers, and booties

Have in your car:

- Emergency kit, including snow shovel and jumper cables

Plan ahead:

- Visit www.BoulderCountyOpenSpace.org for more information, including trail closures, park maps, and regulations.

Call 303-441-4444 for non-emergency dispatch.

- Keep this number in your contacts

WINTER HOURS

Agricultural Heritage Center



8348 Ute Highway 66, west of Longmont
Open 10 a.m.-5 p.m. the first Saturday of each month
November through March

Come to the farm and learn about the rich agricultural history of Boulder County. The farm includes two barns with interactive exhibits, a milk house, blacksmith shop, and a furnished 1909 farmhouse.

Contact Jim Drew at jdrew@bouldercounty.org or 303-776-8688 for more information.

Sharing Snowy Trails

The air is cold and crisp. Snowflakes flutter gracefully to the ground, and trails are finally blanketed with snow. We know you are eager to strap on that new pair of snowshoes, head out to your local trail, and enjoy the crunch of snow beneath your feet. Follow these simple guidelines, communicate with your fellow visitors, and help reduce conflict on the trails in winter.

ETIQUETTE ON SNOWY TRAILS:

Before you visit these trails or others, make sure you know how to practice good winter trail etiquette.

- Snowshoers yield to cross-country skiers.
- Whenever possible, snowshoe along the edge of the trail and avoid walking on ski tracks. This may require you to travel single file.
- Before passing another visitor slow down, politely call out, and pass with care.
- Similarly, if you need a break, step off to the side so as not to block the trail.
- Where to go: consider visiting the Walker Ranch Meyers Homestead Trail, or Mud Lake and Caribou Ranch Open Space—all are great destinations for winter recreation.



Call for 2023 Research Projects

Each year, we award small grants for research and biological inventories on Boulder County open space lands. These research projects and inventories provide valuable data to monitor management practices and improve resources and park visitor experiences. We are accepting proposals for grants up to \$10,000 per project. **The deadline for proposals is Jan. 9, 2023.** Department staff have identified 17 priority needs, including these four topics:

- Historic range of variability study for the forest and fire resources on the newly acquired Wallace and Tucker sites.
- Research nesting bird populations in areas that have been treated by Rejuvra vs. non-treated.
- Investigate utilization of downed woody substrate by small mammals in lower montane and/or upper montane forests.
- Record and evaluate the authenticity of a possible Indigenous rock art wheel at Ron Stewart Preserve at Rabbit Mountain Open Space.

Other research proposals will be accepted. Visit the department's website at boco.org/research for a full listing of research topics and proposal guidelines.

Cradleboard Trail Detour



At the Stearns Lake trailhead, the Cradleboard Trail detour protects the territorial bald eagles during breeding season. October to February is a critical timeframe for pair bonding and courtship prior to egg-laying in February-March.

Bald eagles prefer nesting near open water where they can feed their offspring with a steady supply of fish, though bald eagles also hunt prairie dogs at the open space property.

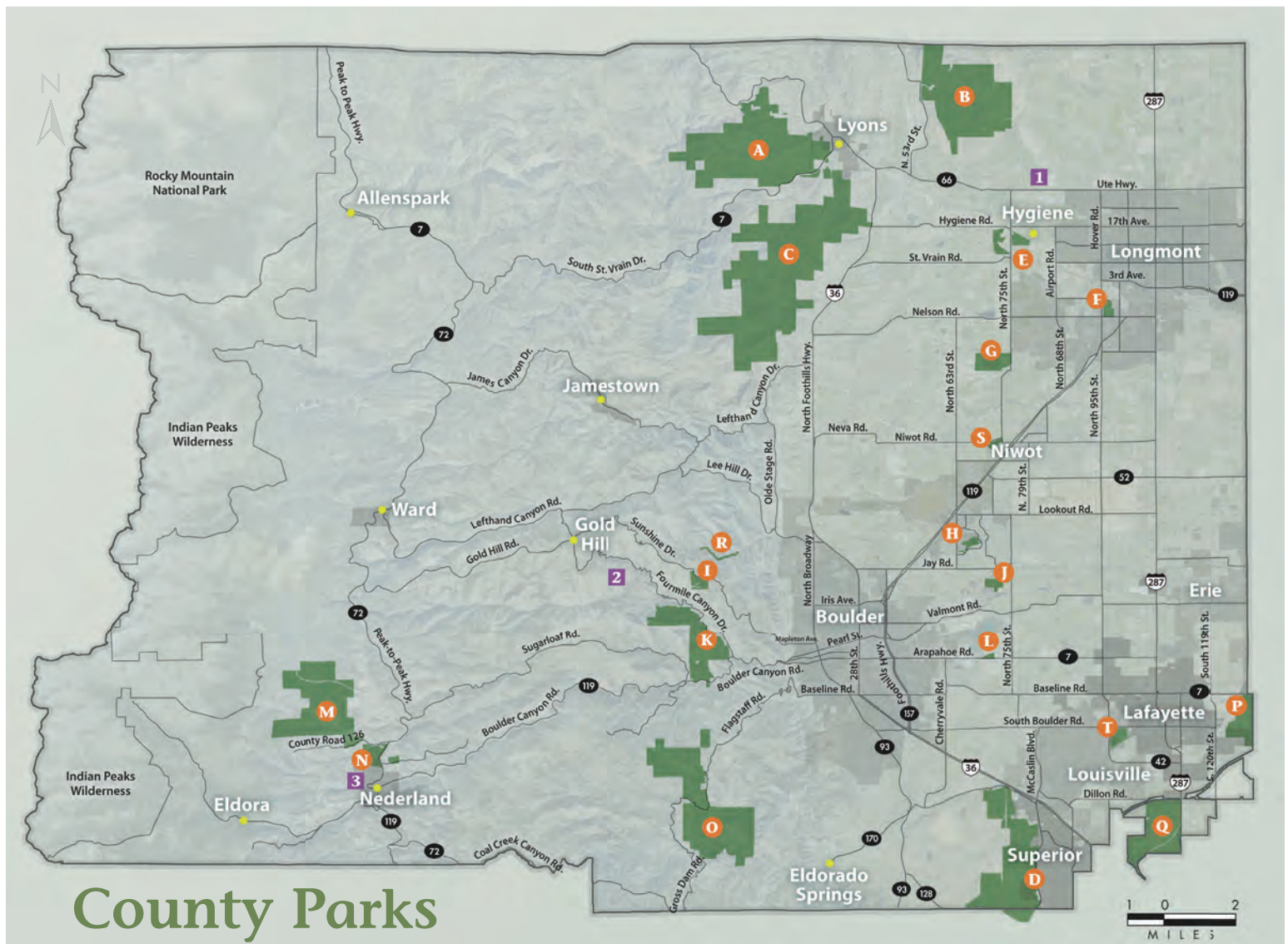
The detour will remain in place until the nesting status of the bald eagle pair is clearly confirmed for the 2022/2023 breeding season. The department also has "keep moving" (no stopping) zones along the Mary Miller Trail.



Parks & Open Space

5201 St. Vrain Road, Longmont, CO 80503

www.BoulderCountyOpenSpace.org



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