

IMAGES

NEWS

PROPERTIES

NATURE

HISTORY

EVENTS



IMAGES

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

PHOTOGRAPHS & ILLUSTRATIONS

Cover photo, *Grassy Top*, Simone Baring-Gould

Tree cutting, Cathy Thiltgen

Homestead Cabin, Natalia Bayon

Bald Eagles, Graham Fowler

NATURE DETECTIVES

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volume 38, number 4

A Day in the Life: URBAN FORESTRY TEAM

by Cathy Thiltgen

When we tell people what we do for a living, the two most frequent responses we hear are, “Wow that must be so exciting,” and “It must be great to work outside everyday.” We have to admit, our jobs on the urban forestry team are not boring.

CHAINSAWS AND CHIPPERS

Yes, we are in an exciting, yet challenging profession. The urban forestry crew provides all aspects of tree care to the department’s urban parks and trail systems. Working in a bucket truck, wielding a chainsaw, and feeding wood through a limb chipper certainly keeps us busy. However, as with most jobs, there can be times when work becomes monotonous, so we constantly look for ways to improve our performance and maintain a safe work environment while challenging ourselves to broaden our knowledge and experience.

Recently we learned a new technique called “rigging,” which is the use of ropes and equipment to take down trees or remove heavy limbs. Rigging allows us to safely remove large branches, maintain control of the descent speed and direction, all while avoiding ground obstacles.

The basic components of a rigging system include high tensile strength rope, pulleys and blocks, slings, and friction devices. The block or pulley is attached to a strong anchor point in the tree, usually a tree branch junction.

A rope is run through the pulley and attached to the limb that is to be cut. The ground worker attaches the end of the rope to a stationary object on the ground through a friction device, allowing the descent to be controlled while managing the heavy load. The limb is then cut below the rope attachment point and the ground worker lowers it to the designated landing zone.

KEEPING IT IN-HOUSE

Learning how to implement the rigging technique will enable the urban forestry team to accomplish more work in-house rather than hiring a licensed contractor. We will be able to challenge ourselves while problem solving how to rig each situation, tree and branch. With our new skills, we will be able to flex our mental and physical muscles, using brain and brawn.



The urban forestry team at work cutting trees at Hall Ranch

Community Partners: Look What We Accomplished

By Karen Imbierowicz

Our partners have accomplished an amazing amount of important stewardship work over the last eight years. Under the leadership of our dedicated volunteer projects team, our Partnership Program businesses and organizations participated in conservancy projects.

This work is extremely valuable to the county. In fact, almost 36,000 volunteer hours have been performed by our partners since 2009—a value of over \$848,000!

In addition to the financial savings, involving our partners in inspirational and educational experiences is important. These one-day projects enhance appreciation of environmental stewardship among county residents. Our volunteer coordinator team—Arie Addes, Carrie Cimo, Shane Milne and Craig Sommers—along with rest of the department staff are incredibly grateful to the devoted employees and members of our partner groups who participate in the work projects which help keep our public lands flourishing and our community engaged.

WHO ARE OUR PARTNERS?

Groups participating in at least one volunteer project each year since 2008: ABT Associates (formerly Stratus Consulting), Backpacker Magazine, Boulder Area Trails Coalition, Boulder County Horse Association, Boulder Mountainbike Alliance, Boulder Trail Runners, Boy Scouts of Boulder County, Corden Pharma, Geocachers, Mapleton School Districts, New Vista High School, Redstone Cyclery, Smartwool, and the University of Colorado – MBA Program.

Organizations participating in annual volunteer projects after 2008: Alexander Dawson School, Alpha Phi Omega, Behind the Red, Boulder Climbing Community, Boulder Country Day School, Defenders of Wildlife, EMC2, Foothills United Way, Google, Lefthand Outdoor Challenge, Level 3 Cares, NetApp, Olde Columbine High School, Oncore Manufacturing, Qualcomm, Rally Software, Singletrack Mountain Bike Adventures, Tetrattech, Thornton Youth Volunteer Corps, Ultrarunners, University of Colorado – Program for Writing & Rhetoric, vAuto Stockwave, Volunteers for Outdoors Colorado, WILD Foundation, Wildland Restoration Volunteers, and Zeal Optics.

New Partners: We welcomed the following new businesses and organizations to our program in 2016: Community United Church of Christ, Emerson – Micro Motion, Recurly, Sam's Club Longmont and SOVRN.

THE VISION

...we embarked upon this journey to involve businesses and organizations in experiencing a more intimate connection with our public land—we look forward to engaging more people in the future.

EMC², a company located in Louisville, at a trail project.



WORK ACCOMPLISHED SINCE THE PROGRAM'S INCEPTION IN 2008:

- Agriculture: 6,000 feet of irrigation ditches cleaned, 10 acres of rangeland restored, and 2,200 pounds of food gleaned and donated to Community Food Share
- Wildlife-related Projects: 25,000 feet of prairie dog barrier and fence constructed and maintained, 395 tree cages installed, and almost 18,000 feet of fence removed
- Weeds: 652 invasive Russian olive trees removed, and 35 acres of weeds eradicated
- Forestry: 522 slash piles built from forest thinning projects, 437 slash piles restored after winter burning, eight acres of forest floor raked in preparation and 14,500 feet of fire road restored for controlled burns, 42 acres of forest and trail area restored, and 14,500 feet of fire road restored after controlled burns
- Facilities: 113 acres of debris cleared, 300 tires removed, 17 tons of trash collected, 30 tons of fill moved, and 4,800 feet of buildings painted
- Plant Ecology: 27,000 grass, sedge, perennials and trees planted, 140 pounds of native seed collected, 60 tree cages removed, 200+ bushes and trees lopped and 47 acres of land restored
- Trails: 23 miles of trails maintained, restored and improved

For information about how your organization can partner with us, please visit BoulderCountyOpenSpace.org/partners.

Winter Walking Guide

by Rachel Gehr

Popcorn, hot cocoa and Netflix might beckon you to the couch during cold winter months. But on some days, blue skies and crisp, cold air can beckon you to venture outside for a walk. And if the cold air isn't enticing, your fitness tracker may be reminding you that the distance from the couch to the fridge doesn't add up to 10,000 steps.

Sidewalks might seem like the only option for a winter sojourn, but many Boulder County open spaces have trails that can be enjoyed year-round and don't require spending two hours gathering skis, snowshoes or avalanche beacons.

TRAILS TO TRY

We picked these trails because the snow typically isn't too deep, the terrain is mostly level, and the properties are easy to reach.

Property	Trail name	Miles	Approximate steps
Carolyn Holmberg Preserve at Rock Creek Farm	Cradleboard Trail	1.3	2,600
	Mary Miller Trail	1.5	3,000
Hall Ranch	Antelope Trail	1	2,000
	Nighthawk Trail	4.7	9,400
Lagerman	Lagerman Loop	1.6	3,200
Rabbit Mountain	Eagle Wind Trail	2.5 (loop)	5,000
	Indian Mesa Trail	2.2	4,400
	Little Thompson Overlook Trail	1.5	3,000
Regional trails	Mayhoffer Trail (W. Thomas St. to S. 66th Street, Superior)	0.69	1,380
	Meadowlark Trail (Caolton Trailhead to W. Thomas St., Superior)	2.8	5,600
	Aquarius Trailhead to South Public Rd Trailhead in Louisville	2.5	5,000
	South Public Rd Trailhead in Louisville to Flagg Park Trailhead in Lafayette	2.3	4600
Twin Lakes		1.4 (loop)	2,800
Walden Ponds Wildlife Habitat		2.9 (loop)	5,800
Walker Ranch	Meyers Homestead Trail	2.5	5,000

STABILITY ON THE TRAIL

Traction helpers: When conditions seem slippery, using metal cleats or coils that strap to the bottom of your shoe can help your shoes or boots grab the snow.

Another option is crampons which resemble little ice axes on the tips of your shoes. I thought crampons were only for mountain climbers, but less extreme, lighter-weight versions are available for those of us not climbing Everest.

Walking poles can help with balance, and as a bonus, offer a little upper-body workout.

RESEARCH ON OPEN SPACE

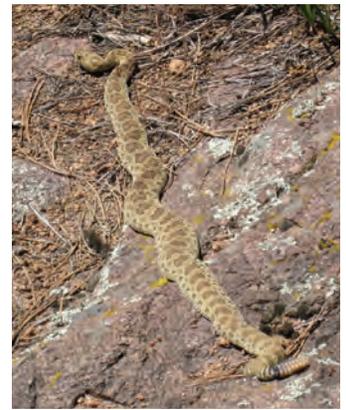
The Boulder County Parks and Open Space Department offers grants for research on county open space lands each year. All proposals are reviewed by a team of resource specialists, and awarded research projects are monitored during their activities on open space. The following is a summary of a 2015 study conducted by Rocky Mountain Biological Services in Fort Collins, Colorado. The research project focused on the identification of winter dens of prairie rattlesnake on Rabbit Mountain Open Space.

Introduction: For rattlesnakes to survive the winter at higher latitudes they must locate hibernation sites belowground beneath the frost line. Winter hibernacula are a critical habitat resource serving several functions, including avoidance of freezing temperatures and predation, reducing body water loss and use of fat stores (Costanzo 1989), and contributing to sociality behaviors (Clark et al. 2008, 2012). Availability and type of hibernacula may vary greatly with geologic characteristics of the habitat. Hibernacula of Prairie Rattlesnakes (*Crotalus viridis*) throughout its range may be located in talus slopes, caves, fissures in south-facing canyon walls or rock outcrops, prairie dog colonies, and deep burrows constructed by other animals (Ernst and Ernst 2012). The number of Prairie Rattlesnakes within a single hibernaculum may vary from a single snake up into the hundreds (Hirth et al. 1969, Klauber 1972, Parker and Brown 1975, Macartney et al. 198, Leonhardt and Brown 1990), but communal denning is considered the norm for the species. These communal dens are not exclusive to conspecifics and may contain other reptile, amphibian, and mammalian species (Ernst and Ernst 2012; Kissner and Nicholson 2003).

Prairie Rattlesnakes commonly occur on Rabbit Mountain Open Space (Ehrenberger et al. 2015), a 4,793-acre property containing six miles of public hiking trails. Despite being the most commonly encountered species of snake on the property, there is only one putative den location (Ehrenberger et al. 2015). Our primary objective was to identify locations of winter dens of Prairie Rattlesnake on Rabbit Mountain Open Space. Our second objective was to determine whether this species prefers denning in rocky outcrops, as widely reported in the literature (e.g., Hill 1943, Ludlow 1989), vs. burrows in prairie dog colonies (Shipley et al. 2013). Prairie dog burrows are said to be used by this species in Colorado when rocky areas are unavailable (Hammerson 1999). Rabbit Mountain Open Space offers an ideal setting to evaluate this question of preference because there are numerous rock outcroppings on the property and Black-tailed Prairie Dog (*Cynomys ludovicianus*) colonies occur in and around these rocky areas. Our third objective was to collect as much movement and habitat data as possible on individual snakes prior to their entering into hibernation. Knowledge of den locations, areas of use for individual snakes, and microhabitat selected within these areas of use, will help managers develop management guidelines for this species and inform decisions on recreational use and public safety (e.g., Gardiner et al. 2013).

Results - Timing of Entrance into Hibernation and Winter Den Identification: Despite loss of transmitters from five snakes during the study, we were able to recover all transmitters and reattach them to new snakes before they selected winter dens

(Table 1). By November 9, 2015 all 15 Prairie Rattlesnakes (n = 6 male, n = 9, female) were considered to be at their winter dens. All snakes selected different dens. There was only one den site where we observed snakes other than the transmitterd individual (CR213). The hibernaculum used by snake CR213 was an unoccupied prairie dog burrow in the reintroduced colony located on the north central section of the property. On November 9, 2015 while confirming that snake CR213 was within a prairie



dog burrow that it had been using previously, we observed an additional adult rattlesnake and a neonate at the burrow entrance. On September 21, 2015 we experienced the first instance of a snake being belowground beyond transmitter range (Figure 2. A). This date coincides with the first substantial decrease in the fraction of the 15 transmitterd snakes that were visible (Figure 2.A., i.e., because they were belowground). These events coincide with a substantial decrease in daily maximum air temperature (Figure 2. B.). Daily minimum air temperatures during this period were uninformative other than they exhibited a steady decrease since late September. Freezing nighttime temperatures first arrived on November 5, 2015. We interpret the behavior of a snake going belowground deep enough to cause complete attenuation of the transmitter signal as investigative behavior to discern whether it could get far enough below ground to avoid freezing winter temperatures. All such cases (n = 9, different individuals) occurred in prairie dog burrows, and in each case the previously undetectable snake was detected at a later date at the same burrow. These observations indicate that in November some snakes are moving upwards and downwards within den passageways.

Call for 2017 Studies

The department is currently accepting proposals for 2017 funding. Grants are awarded up to \$10,000 per project. There is no minimum amount that will be awarded for a project. The deadline for proposals is Friday, January 13, 2017. Department staff have identified priority needs for research including these four topics:

1. Study that identifies barriers to aquatic species (especially native fishes of concern) habitat connectivity in the transition zone of St. Vrain Creek.
2. Literature review that examines best practices for outreach and communication with the Latino and Hispanic community.
3. Study that demonstrate the effective benefits of using biochar or other wood fiber products in restoration efforts, reclamation, agricultural production, forestry, etc.
4. Study to determine most effective herbicides for control of invasive plants that also minimize impacts on pollinator plants.

Other research proposals will be accepted. For more information or to read the full report visit the department's website, BoulderCountyOpenSpace.org/research.

Parks & Open Space Strategic Vision

by Tina Nielsen

“As trusted stewards of Boulder County’s future, we provide the best in public service.” So states our inspiring Boulder County mission. But as we go about our everyday work, how do we know if we’re hitting the mark?

Many years ago, the Boulder County Parks and Open Space Department developed goals and objectives to guide how we provide the best in public service in all our activities. In July, the Board of County Commissioners approved the 2020 Strategic Vision.

DEVELOPING THE 2020 VISION

Staff and members of the public had a voice in crafting the 2020 Vision. Staff input began with a brainstorming session at the spring 2015 all-staff meeting, and public opinions were sought through surveys and public meetings. Managers refined the concepts at a retreat in the winter of 2015.

PUBLIC INPUT

Park visitors are an important constituency, and to find out their priorities for county open space, staff included a question on the five-year visitor use study deployed at 19 county open space properties during the summer of 2015. Visitors were asked to write one thing that they wanted Boulder County Parks and Open Space to achieve in the next five years. Not surprisingly, the most common responses relate to more trail access, whether that is to build more trails, or more trail connections between properties and communities. The next most common responses were to acquire more open space and to maintain and manage the properties we already own. The top ten response categories are listed in the table on opposite page.

A broader perspective on public opinions comes from the telephone survey conducted by Talmey-Drake Research & Strategy, Inc. in June of 2016. The 2016 Boulder County Issues Survey was designed to test the idea of extending the existing open space tax on the 2016 ballot. Registered voters were asked to rate the importance of five overarching reasons (see table opposite page) to support the extension of the County’s open space tax. Among this constituency, the top three reasons to extend the open space tax are to preserve wildlife habitat and corridors, manage existing open space, and restore wetlands and areas damaged in the 2013 flood.

Following a meeting with stakeholders in March 2016, managers refined strategic categories and fleshed out objectives. Staff then presented the 2020 Strategic Vision to the department’s citizen advisory committee (POSAC) in June and to the Board of County Commissioners in July for approval and adoption.

The strategic focus will guide our daily work as well as planning efforts to navigate shifts such as climate change and demographic trends. Under Goal G, Adapt to Climate Change, objective G-4 states “Become a leader in carbon sequestration through land management.” Objective E-1: “Create a diversity plan to engage new, diverse and underrepresented populations and partners” will ensure that we meet the needs of diverse populations in our outreach and educational programming.

2020 STRATEGIC VISION GOALS:

- A. Complete Flood Recovery
- B. Improve Public Access to Lands and Information
- C. Protect and Restore Habitat and Species
- D. Acquire Significant Properties
- E. Plan for Demographic Shifts
- F. Foster Dynamic Agriculture
- G. Adapt to Climate Change
- H. Care for Cultural Assets
- I. Engage Volunteers in Stewardship

Some objectives reflect important planning that has been delayed in recent years due to staff and resources being devoted to flood recovery. Examples include the Wildlife Policy (C-1), Visitor Use Policy (C-1) and Cultural Resource Management Policy (H-1).

One new and exciting project, C-4: Reintroduce Black-footed ferrets, reflects public sentiment about the importance of wildlife habitat and species. Objectives B-2, B-3, B-4 will add 13 miles of new trails at the Toll, AHI, and other properties, and B-5 addresses regional trail connectivity.

Objective F-1 would convert 25 percent of agricultural land to organic practices by 2020, which stretches the original 20 percent goal set forth in the Cropland Policy.

The full list of 2020 Strategic Vision goals and Objectives are on the county open space web page: BoulderCountyOpenSpace.org/2020.



Photos from top:
Black footed ferret

Damage at Pella Crossing from the 2013 flood. Restoration work has begun at this property.

Volunteers from Pearl Izumi at work on a trail project

Data gathered from surveys of Boulder County residents helped shape the 2020 Strategic Vision.

What Residents Want in the Next Five Years	
	Response Rate
Build more trails	14%
Build/open more bike trails	10%
Build off-road connector trails between properties and communities	9%
Don't know or don't live in area	8%
Buy/acquire more open space	6%
Maintain/manage land/preservation and stewardship of land	6%
Keep up the good work	4%
Flood repairs/re-open closed properties and trails	4%
Improve and maintain current trails	3%
Increase access to current land/open properties.	2%
<i>2015 5-Year Visitor Study Results (59% or 1348 responses)</i>	

Reasons to Extend Open Space Tax	
	Response Rate
Preserve and maintain wildlife/habitat corridors	65%
Manage and maintain existing open space	62%
Restore open space wetlands and areas damaged by 2013 flood	60%
Purchase remaining targeted lands	40%
Construct more trails on or connecting to open space	39%
Results based on 605 telephone interviews; margin of error is +/- 4%.	



Horseshoes—As Luck Would Have It

by Dave Pence



The horseshoe is considered very lucky and used to be hung in homes to protect it and attract good fortune for the family residing inside. As with many superstitions, contradictions can be found with the beliefs associated with the horseshoe.

For instance, many believe that to hang a horseshoe with the ends pointing upward, is good luck as it acts as a storage container for any good luck that happens to be floating by, whereas to hang it with the ends pointing down is bad luck because all the good luck will fall out.

Others believe that no matter which way you hang the horseshoe, good luck will come. According to this superstition, ends pointing down simply means that the good luck is able to flow out and surround the home. If the horseshoe is hung over a doorway with ends up, it will catch good luck. Hung over a door with ends down, it will let the good luck spill over the door and stop evil from entering. Perhaps a combination of the two was used so that after a few days, when the horseshoe was filled with good luck, it would be emptied so residents could benefit from that luck—then the process would repeat until the end of time.

POWERS OF A BLACKSMITH

Historically, horseshoes were *also* considered lucky because they were made by blacksmiths, which is considered a very lucky trade. Because they worked with elemental fire and magical iron, they were thought to have special powers. It was believed that a blacksmith could heal the sick and if a couple was married by a blacksmith, their marriage would be a happy one. Their work with horses also brought them much power and prestige, not just because they made the lucky horseshoe, but because they were the keepers of the Horseman's Word (the basis for the movie, *The Horse Whisperer*).

An upside-down horseshoe above a doorway is a common sight in a smithy. A superstitious blacksmith and apprentice believe that the luck from the horseshoe will flow toward him or her, their tools, and eventually to whatever project they are working on. Perhaps there might even be some luck left over to keep a steady flow of paying customers to the door of the blacksmith shop.

IRON MAGIC

Horseshoes were originally made from iron, which may also account for the superstitions that are associated with this object. Iron was considered magical because it withstood fire and was much stronger than other metals. The superstitions for iron are thought to originate in prehistoric times. It was used as a charm to ward off evil spirits.

LUCKY 7

Another aspect of the horseshoe that added to its good luck was that it was commonly held in place by seven iron nails. Since ancient times, the number seven has been considered very important. Life was divided into seven ages; a rainbow has seven colors; astrology once held that seven planets made up the universe; there are seven deadly sins; a seventh child was thought to have special powers; there are seven days in a week; the moon changes from one phase to another every seven days; and a long-held belief states that the body goes through a radical change every seven years.

So the next time you stop by the smithy at Walker Ranch or the Agricultural Heritage Center, look up and take notice of our good luck charms. And make sure to take a bit of luck home with you!



A farrier crafts a horseshoe at the Agricultural Heritage Center during Barnyard Critter Day.

NATURE DETECTIVES



Winter 2016



Ptalking...um, that is...Talking About Ptarmigans

Ptarmigans can be quite startling for the people or animals that unknowingly come near them. Skiers, hikers, even prowling coyotes can get very close to the birds without noticing ptarmigans are there. When the birds suddenly take flight, the astonished person or predator often jumps back in alarm. Surprise! **White-tailed ptarmigans** were here and gone.

The ptarmigans escape from people and predators by appearing to be chicken-size rocks or small mounds of snow that suddenly explode. Their camouflage coloring makes them champions at hiding in plain sight. In summer they blend in with the surrounding rocks, and in winter they appear to be bumps of snow.

Pull Out and Save

Tracking Ptarmigans Is Tough

Getting to white-tailed ptarmigan **habitat** is really difficult. You have to go beyond the tall forest to where few trees grow. Climb to where trees are short and gnarly, twisted from the recurring gusty winds. Here and up higher on the **alpine tundra** watch for ptarmigans. Study areas of soft snow around willow bushes for the birds' three-toed tracks. Listen for their clucking sounds. The easiest time to look for the birds is in late summer and early fall. Few people tackle the drifted snow and extreme cold of the alpine tundra in winter.

Home at the Top

Hearty ptarmigans feel at home in the alpine zone where trees cannot survive the harsh conditions. They are the *only* birds that live in the alpine all year round. Other birds move in for the short mountain summer, but they leave before winter arrives to avoid the freezing cold winds, biting snow and scarce food supply. Ptarmigans have special ways of coping with the challenges of this habitat. Their color changes are just one way they have adapted to life at the top of the world.



How To Look Like Rocks and Snow

Ptarmigans are good at hunching down and holding perfectly still until danger goes away or until they sense it is time to beat their wings in sudden escape.

They molt their feathers almost continuously from late April until early November so their feathers match the look of the mountain terrain. Depending on the season, ptarmigans look like snow mounds or rocks setting in melting snow or setting amid summer flowers.

All year long, white-tailed ptarmigans have white tails, of course. They also have white wing feathers. During winter, their body feathers are snow white.

At the end of April, brown and gray speckled feathers start showing among their white feathers. Now the birds begin to look like granite rocks on melting patches of snow. As the real snowpack melts, more mottled brown and gray feathers cover the birds' bodies, matching the bare, rocky land.

The alpine summer is short and soon patches of new snow dot the ground. White feathers emerge among the ptarmigans' darker granite-colored feathers. By the time the ground is completely snowy, the birds are wearing their full white, feathery coat.



Who Are They Hiding From?

Coyotes, foxes, weasels, dogs and humans are dangers on the ground. Eagles hunt ptarmigans from the sky.



How Ptarmigans Dine in the Alpine



willow

The food needs of ptarmigans are simple. In winter they thrive on the buds and stems of willow bushes. Summer brings a varied diet of new leaves, alpine flowers, seeds and some fruits plus insects nibbled now and then.

The birds swallow rocky grit to grind against the tough vegetable matter in their gut to aid in digestion.

Ptarmigan Tidbits

The **silent p** at the beginning of ptarmigan is a mystery. Someone named the birds hundreds of years ago and the reason for the **p** has been lost in history.

Ptarmigans dislike heat. They take **snow baths** to cool off on days when the air temperature rises above 70 degrees F.

White-tailed ptarmigans are about the size of footballs with small heads and rounded tails. Ptarmigan are in the **grouse family** – as are wild *turkeys*.

Babies Hatch Ready To Go



Ptarmigans keep their same mates as long as both show up at the place where they nested the year before. The male struts around and expands the flashy combs over his eyes, which look a little like red eyebrows. He will chase off other males and she will chase off any wandering female from their chosen territory.

Snow melt means nest time so the male watches for predators while the female scratches a shallow depression and pulls dry plants around her for a nest rim. She will lay about six eggs here and sit on them for over three weeks in all kinds of weather. Summer above tree level is a mix of cool breezes and sunshine followed by intense thunderstorms or sudden snow squalls and dropping temperatures. Finally, fuzzy-feathered chicks hatch from the surviving eggs. Only a half-day later, the wide-eyed babies will follow their mother's soft clucking to find food.



Instinctively, chicks know how to peck at insects, the food they need for their growing bodies. As summer ends and insects disappear, the now-big chicks will gradually begin to eat seeds and fruits. They will join with other flocks of ptarmigans by winter.



Surviving Winter

Grown chicks and adult ptarmigans have feathers on eyelids, nostrils, toes and legs to keep them warm. Feathers on their feet also act as snowshoes so they walk easily atop the snow. On sunny days, they bask out in the sun and shelter from the wind beside a shrub or rock pile. They scabble into soft snow to roost under its insulating blanket on freezing cold days and colder nights. Completely covered by the snow, they look like little plops of snow under the willow shrubs.

When deep snow covers the willow buds they eat, the birds move to taller willows or thickets swept free of snow by the wind. Often such willows are further down the mountain, closer to tree line or even a little below.

Walking saves valuable energy for ptarmigans. Strolling short distances, just far enough to find food, and flying only when necessary are key to the birds' survival.



Feathers Are a Bird's "Fur" Coat

Feathers look fragile and thin, but they are designed to keep a bird warm -- especially the small and fluffy feathers, called down feathers. This is important to a ptarmigan that spends the whole winter sleeping in the snow. Long ago, people already knew that feathers help keep in warmth. They stuffed pillows and blankets with feathers for this reason.

Feather Warmth

See how feathers keep a ptarmigan warm! Give this a try:

Get two sealed plastic baggies, 2-3 ice cubes, and some feathers, preferably down feathers. (You can get down feathers at a hobby store.)

- Put ice cubes in one baggie and lots of feathers in the second baggie.
- Place the bag with ice cubes in one hand. How long does it take before your hand gets really cold?
- Now place the bag with feathers on top of your hand. Put the bag of ice on top of the feathers. Can you feel the cold of the ice cubes?
How long does it take before any of the cold gets through to your hand?

Camouflage Is King

Ptarmigans depend on camouflage to blend in – with brown feathers in the summer and white feathers in the winter. Try this:

- Get several fuzzy craft sticks (or pipe cleaners) of different colors, including brown, white, black, red, and green.
- Cut the sticks into one-inch pieces.
- Go outside where there is grass, dirt and rocks. Spread the pieces around on the ground. Have a friend, brother, or sister go out and pick up as many pieces as they see in 20 seconds.



What colors did they find first? Last? Not at all?

- Now spread the pieces around on something white, like a driveway or sidewalk or snow. Be sure you spread them around a large area and don't let your friends see where you hid them. Have your friends go and pick up pieces again for 20 seconds.

Did they find different colors first this time?



Sherlock Fox says, "Do you want to blend in?"

Try wearing colors that match something in your house. See if you can blend in without someone noticing!

Text by Katherine Young and Deborah Price
Illustrations by Roger Myers

NATURE HIKES for SENIORS

Join us for monthly nature hikes just for seniors. Unless noted, hikes take place the last Thursday of the month. Programs begin at 10 a.m. and end by noon.

- Hikes include information about the area's history, wildlife, and plants.
- Meet at the park entrance kiosk, unless noted below.
- For more information call 303-678-6214. Please call in advance if you plan to bring a group so we can provide enough naturalists to lead the hike.

January 26, Heil Valley Ranch Open Space
(meet at shelter near the Lichen Loop Trailhead)

February 23, Carolyn Holmberg Preserve at Rock Creek Farm
(meet at Stearns Lake parking lot on South 104th St.)

March 30, Walker Ranch Open Space (meet at Meyers Homestead Trailhead)

April 27, Walden Ponds Wildlife Habitat Area
(meet at the picnic shelter at Cottonwood Marsh)

May 25, Agricultural Heritage Center

June 29, Mud Lake Open Space

July 27, Bald Mountain Scenic Area

August 31, Caribou Ranch Open Space

September 28, Betasso Preserve (meet at the group shelter)

October 26, Heil Valley Ranch (meet at shelter near the Lichen Loop trailhead)

November 30, Pella Crossing Open Space

December 28, Ron Stewart Preserve at Rabbit Mountain Open Space

Wildlife and Winter Hike

Saturday December 10, 10 a.m.-noon

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

Join volunteer naturalists for a late fall hike to observe seasonal changes and discover how wildlife in the foothills prepare for winter. You'll learn about behavioral and physiological adaptations to the shortening days and cooling temperatures, and also look for signs of wildlife that are active year-round.

great
for kids!

Nature Detectives in the Field: Ptarmigans Pteach about Camouflage

Thursday December 29, 10-11 a.m.

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

Ptarmigan are interesting ground-dwelling birds that know a few things about camouflage. No matter the season, they are ready to blend in. Take a break from the holiday schedule and learn how ptarmigan and other animals survive in the high mountain environment. Designed for children ages 4-10 with adult companions. Please register by sending an email to dprice@bouldercounty.org or call 303-678-6215.



Prairie Winter Hike

Saturday January 7, 10 a.m.-noon

Carolyn Holmberg Preserve at Rock Creek Farm, Stearns Lake Trailhead, South 104th Street, ½ mile south of Dillon Road, Louisville

Learn how grassland and wetland wildlife respond and adapt to winter on the prairie along the Colorado Front Range. 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.

The Wonder of Winter Slide Program

Wednesday January 18, 7-8:30 p.m.

Louisville Public Library, 951 Spruce Street, Louisville

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.

ALL PROGRAMS:

All ages are welcome unless otherwise noted. NO PETS PLEASE! Be prepared for winter temperatures. Bring drinking water and wear closed-toe walking/hiking shoes.

For more information about these programs or to arrange a volunteer-led program for your group, contact Larry Colbenson at 303-678-6214 or lcolbenson@bouldercounty.org.

BIRDS OF PREY SLIDE SHOWS

Wednesday January 11, 7-8:30 p.m.
Longmont Public Library, Meeting Rooms A & B, 4th Avenue and Emery Street

—and—

Monday February 6, 6-7:30 p.m.
George Reynolds Branch Library, 3595 Table Mesa Drive, Boulder

Learn how 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.

BIRDS OF PREY DRIVING TOURS

Saturday December 17, 9 a.m.-noon

Saturday January 14, 9 a.m.-noon

Saturday January 28, 9 a.m.-2 p.m. (extended tour)

Saturday February 11, 9 a.m.-noon

Saturday February 25, 9 a.m.-2 p.m. (extended tour)

Space 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. We will carpool from our meeting place, searching for raptors, learning about habitat and behavior, and working on our observation and identification skills. Bring water, a snack or lunch, binoculars, spotting scopes, and a bird field guide if you have them. Older children are welcome.

To register, call 303-678-6214, or email icolbenson@bouldercounty.org no later than the Thursday before each Saturday tour.



High Country Winter Hike

Saturday January 21, 10 a.m.-noon

Mud Lake Open Space, 2 miles north of Nederland on County Road 126, meet at parking lot kiosk

Winter is a wonderful time to get outdoors to enjoy brilliant sunshine, and a blanket of snow in the high country. Join volunteer naturalists on a winter hike to explore the many properties of snow and to learn how plants and animals have adapted to life in the cold. Ski or hiking poles are recommended due to possible icy trail conditions.

Winter Heritage Day at Walker Ranch Homestead

Sunday January 29, 1-3 p.m.

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

Pioneer settlers had a lot to do preparing for and surviving Colorado's long winters. Learn about typical winter chores when you explore the Walker Ranch Homestead. You'll see a working demonstration in the blacksmith shop and smell food being prepared on the wood stove. Be prepared for cold, windy weather, and to walk in snow. Please note: Dogs are not permitted at the site. For more information, contact Sheryl Kippen at skippen@bouldercounty.org or 303-776-8848.



Trickster Tales

Saturday February 4, 10 a.m.-noon

Carolyn Holmberg Preserve at Rock Creek Farm, Stearns Lake Trailhead, South 104th Street, ½ mile south of Dillon Road, Louisville

Coyotes live throughout most of North America and coyote tales are found in many native cultures. Join volunteer naturalists for a moderate 2-mile hike to learn more about this clever, adaptable character.

Wildlife in Winter Hike

Saturday February 18, 10 a.m.-12:30 p.m.

Caribou Ranch Open Space, 2 miles north of Nederland on County Road 126, meet at parking lot kiosk

Join volunteer naturalists for a hike in the high country to look for signs of wildlife activity, including tracks, scat, feathers, fur, and browse marks on trees. We will also learn about the many ways that wildlife survives winter in the Rocky Mountains. Ski or hiking poles are recommended due to possible icy trail conditions.

The Crusty Rocks of Rabbit Mountain

Saturday, February 25, 9:30 a.m.-noon

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

Join volunteer naturalists Megan Bowes, Roger Myers, and Linda Boley for a moderate 2-mile hike to discover the geology and lichens of Rabbit Mountain. We'll learn about the unique location and orientation of the rock layers, as well as what lichens are made of and how the sandstone and other erosion-resistant rocks support their growth.

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.



on sale
now!



2017 Parks & Open Space Calendars on Sale

The 4.75" x 5.5" calendar features 14 beautiful photos highlighting some of Boulder County's most significant natural and historic areas. These calendars make memorable holiday and birthday gifts for your family, teachers, coaches, friends, co-workers, and neighbors.

Cost: \$2.00 each if you pick up at the Parks & Open Space office in Longmont (you must pay in advance via webpage below)
\$4.00 if we mail them to you via U.S. Postal Service

Order: Place your order at BoulderCountyOpenSpace.org/calendar

Questions? Send an email to parkscalendars@bouldercounty.org



Raptor News: Monitoring Summary 2016

During the 2015-2016 season, 24 volunteers monitored raptor nesting sites at 22 locations on Boulder County Parks and Open Space properties. Volunteers monitored bald eagle, golden eagle, red-tailed hawk, great-horned owl, osprey, and prairie falcon. Here is a summary of what our volunteers recorded:

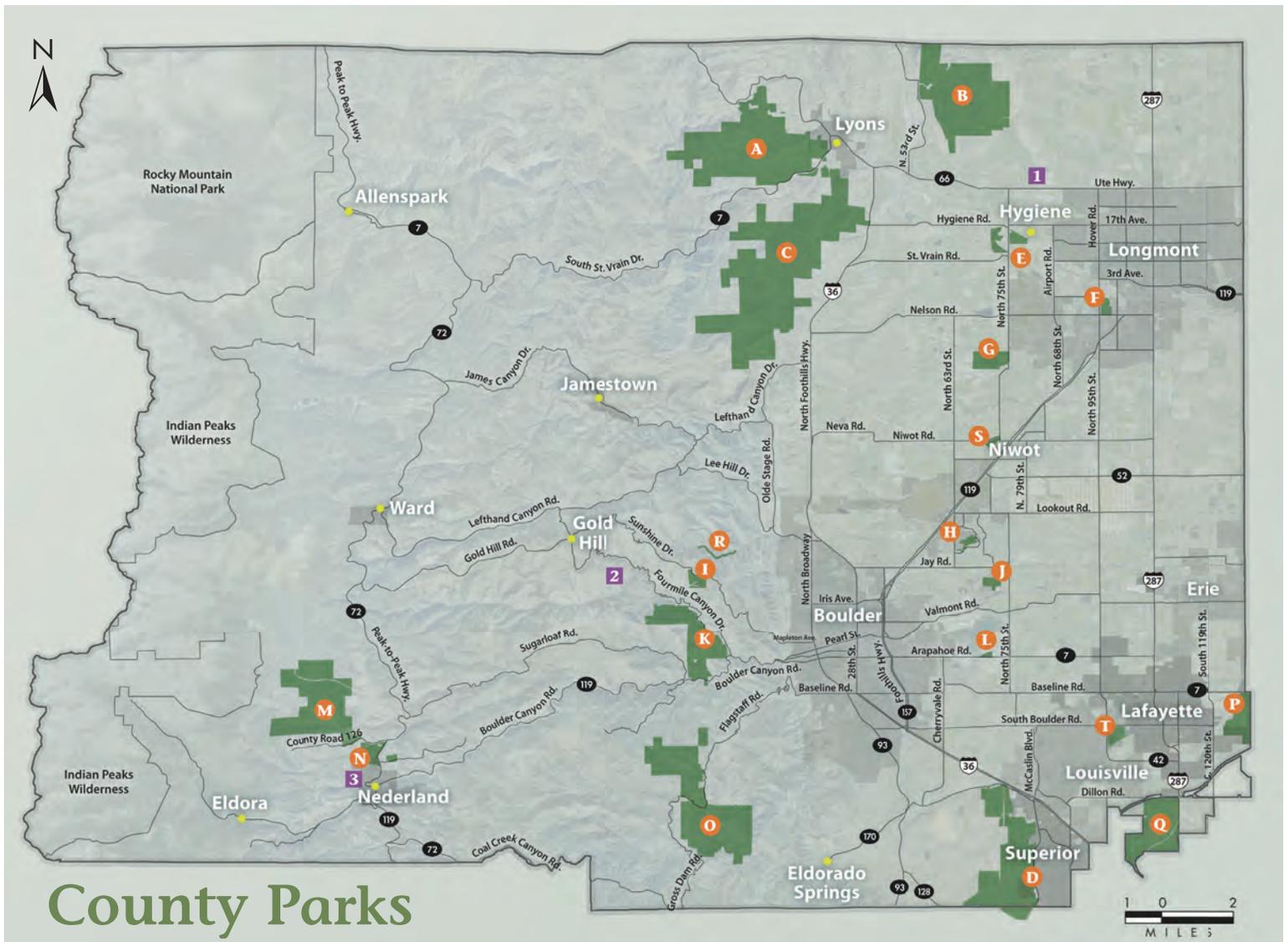
- The earliest recorded date of arrival on territory by a male or female of a mated pair was November 1, 2015 by bald eagles. The latest was March 24, 2016 by a male osprey at Lagerman Reservoir.
- Five bald eagle nests on county open space began incubation in February, with one commencing in March possibly due to extended courtship with a new mate. This was similar to the four bald eagle nests in Boulder County, all of which began incubation between February 12 and February 17, 2016. In total, the nests produced at least 12 young!
- Three osprey nests on county open space properties began incubation in late April.
- Boulder County has over 15 golden eagle nesting territories, with seven nest sites occurring on county open space properties. This year, two of those seven nest sites failed or were inactive, and five nests successfully fledged eight young.
- The greatest number of fledglings (four) produced at a single nest was by a prairie falcon pair at Hall Ranch Open Space.
- A pair of burrowing owls returned to a nest site for the fourth year in a row. The owls successfully reared four young on a diet of toads, mice, and insects.



Parks & Open Space

5201 St. Vrain Road, Longmont, CO 80503

www.BoulderCountyOpenSpace.org



County Parks

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

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