

# OF BOULDER COUNTY PARKS AND OPEN SPACE



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

#### COVER PHOTO.....

View from a conservation easement in Boulder County. Photo by Janis Whisman

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Restored Grasslands	David Hirt
Weeds	Steve Sauer
Doc Teegarten	POS Collection
Mountain Home	Ryan Ludlow
Seed Storage	.Erica Christensen
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Volunteer Group	.Erica Christensen
Conservation Easement.	Janis Whisman
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# Back to a Natural State: **Grassland Restoration**

by David Hirt

Boulder County Parks and Open Space (BCPOS) engages in many restoration projects large and small. But it is really exciting when the project is so large you can see the changes over time on your computer by looking at Google Maps. Such is the case with 270 acres of grassland just south of Rabbit Mountain. The area, known as Dowe Flats, is bisected by North 53rd St. To the west lies the mining operations of Cemex. East of the road is some gently sloping land that was historically farmed by one of the founding families of Lyons.

### To Preserve and Restore Natural Resources

One of the Parks and Open Space mission goals is to preserve and restore natural resources for the benefit of the environment and the public. To that end, we have been actively converting marginal dryland agricultural fields back to native prairie. If you have seen tractors criss-crossing the fields on your way to Rabbit Mountain, you have witnessed the restoration process unfold. Because of the scale of the project, we split the area into manageable sections ranging from 23 to 110 acres. Beginning in 2006, BCPOS staff began restoring the north 60 acres back to native grassland, and four years later we are seeding natives on the last sections of the southwestern part.

The work to restore native grasslands on this scale typically requires multiple years of work. We start with soil preparation, plowing the ground to reduce compaction and provide a good seed bed. In early summer we plant a cover crop of milo/sorghum. This competes to keep weeds down and provides a standing stubble that will hold the soil and snow during the winter months. It also provides some shade for seedlings the following spring.

Cool season native grasses, such as western wheatgrass, needle and thread grass, Indian rice grass and others start their growth in early spring and will have gone to seed by the end of June or early July. Cool season

Any time from late October until March, weather permitting, we plant the natives. Typically this is a mix of six to ten native grasses, both cool and warm season, and a few forbs (wildflowers) and shrubs.

grasses are dormant during the hot summer months, but may resume growth in the fall if moisture allows. Warm season grasses like blue grama, big bluestem, and buffalo grass on the other hand, start actively growing in the early summer when temperatures reach the 70's. Warm season grasses use water more efficiently and are more drought tolerant. They flower and set seed in late August or September. By utilizing a seasonal niche, these grasses are able to share the same habitat without directly competing for resources, namely water. By using both warm and cool season grasses in the restoration process we provide more diversity and a longer season of active growth, which benefits wildlife. Some of the seed used in our restoration projects is collected by volunteers on BCPOS properties. Winterfat and big bluestem were two of the species seeded at Dowe Flats that were collected nearby by volunteers.



**Above**: A tractor with a seed drill plants native seed into a sorghum cover crop near Rabbit Mountain (Feb. 2006). The previously planted sorghum crop provides a standing mulch to hold snow, prevent wind erosion, and shade the new native seedlings.

**Right**: By June 2007, the results of a successful restoration planting are apparent with a diversity of native grasses established.



## The Role of Mother Nature

Even after the seeding is finished, our work is far from over. Perhaps the most important element for successful germination and establishment is Mother Nature herself. Seeding is done in during the dormant period, so the seeds are in the ground ready to take advantage of our spring moisture and warmer temperatures. Typically, most of Boulder County's precipitation falls between March and May. Another reason to plant in the late fall to early spring is that many native seeds require a stratification period of low temperatures to break any inherent dormancy in the seed itself.

Our native seeds aren't the only seeds to be found, however, especially on a site that has been disturbed by agriculture for so many years. Weed seeds are abundant as well, and the same factors that encourage native species growth also encourage weeds. In the years following a restoration project, weed control is our number one priority. Typically early seral annual weeds such as kochia and Russian thistle will come up in dense stands following the disturbance of plowing and seeding. Control of these species is accomplished with mowing or herbicide applications. After a few years without continued soil disturbance, these species tend to be out competed by the perennial grasses. Long term, however, native grasslands require some type of disturbance to maintain their vigor and health. This can be accomplished through the use of prescribed fire or grazing.

Another compounding issue is that of prairie dogs. While many of the prairie dogs in the area died from a plague outbreak in 2006, some survived nearby, and are encroaching on the restoration area. Managing their numbers is another facet of restoration success.

# Blending In: A Sign of Success

A final effort is monitoring. BCPOS accomplishes this using staff, and beginning this year, qualified volunteers in the field. An assessment of the area, using permanent transects or plots provides data that shows us which species worked well, which didn't, what weeds are a problem, how diverse a site is, as well as tracking changes over time. Further monitoring could also look at wildlife use in the area. In the end, perhaps the best complement from the public, is none at all. If the site doesn't look much different from the natural areas surrounding it, we have done our job.

# The Impact of Weeds

by Sharon Bokan

Have you ever stopped to consider the impact of weeds beyond just the flat bicycle tire, herbicide costs, or loss of your time spent pulling weeds in a pasture or garden?

Over the last 30 years, total loss estimates due to weeds range from \$6 to 18 billion yearly. Currently in the United States, there are 100 million acres infested with noxious weeds and this is growing by at least eight percent each year. Only about 1,400 introduced plants are designated scientifically as pests with 94 Federal Noxious Weeds and a few more listed on state noxious weed lists.

## Competing for Resources

Weeds have traits that allow them to out-compete native vegetation such as earlier spring growth, more extensive root systems and higher seed production. Mustard family plants need two times the nitrogen and phosphorus and four times the potassium and water than oats. Nitrogen, phosphorus and potassium can be reduced by 40 to 90 percent in spotted knapweed infested areas.

Weeds alter the environment in several ways. First, by reducing the plant, animal, insect and microorganism biodiversity. Even if they don't create a monoculture they can eliminate





Weeds commonly found in Boulder County during spring and early summer. Clockwise from top: Mediterranean sage, Myrtle spurge and Canada thistle

## How Weeds Cause Damage

- Increase crop production and processing costs
- Increase equipment wear, tear and fuel costs
- Increase seed cleaning costs
- Reduce product/crop quality
- Increase water and nutrients required for crop production
- · Act as alternate hosts for insects and diseases
- Decrease land values (up to 50 percent)
- · Affect human and animal health (allergies, poisonings)
- · Decrease wildlife habitat
- · Increase soil erosion by wind and water
- · Decrease water quality and damage watersheds
- · Decrease recreational opportunities
- Displace native, threatened and endangered species
- Increase fire danger

# How Can You Control Weeds?

- Clean equipment when leaving known infested areas, check clothing and animals for seeds, and follow weed free forage guidelines
- · Control or contain existing infestations
- Use integrated weed management techniques to get infestations under control or eradicated
- Minimize soil disturbances that often encourage weed seed germination
- · Detect and control new infestations early
- While walking around your property, look for weeds and take action to control them
- Plant and establish competitive vegetation
- Don't overgraze

certain species critical for the survival of other species. Infested area soils tend to have less organic matter due to increased erosion by both water and wind. This reduces water infiltration and availability to other plants. Noxious weeds have different growth habits and growth structures that alter how wind and rain are handled. Grass structures absorb rain energy preventing erosion plus their fibrous root systems hold soil. In areas with spotted knapweed, which has tap root and less dense vegetation, runoff is 1.5 times higher and sediment loss is three times higher than in uninfested areas. They also alter plant community composition for wildlife by reducing forage, altering thermal (due to reduced canopy) and escape cover, altering water flow and availability to wildlife and may reduce territorial space available for survival. Noxious weeds cause more extreme soil temperatures due to lower water levels, soil exposure to sunlight (from a reduced canopy) and poorer soil aggregation and organic material content. In riparian areas, native plants reduce stream bank erosion by absorbing and dissipating floodwater energy and also filtering water along with providing wildlife habitat. Some weeds such as tamarisk require more water (hundreds of gallons a day) which reduces water available for wildlife, municipal and agricultural use.

Weeds impact us also by reducing final product quality. Crops are of lower quality due to receiving less water and nutrients or the crop has been infected with a disease harbored by weeds or damaged by insects harbored by the weeds. Weeds affect human and animal health from mild allergies to poisonings. Noxious weed roots and plant debris may leach compounds inhibiting native seed germination rate. Weeds, including cheatgrass, alter historic fire cycles. Native plants cannot survive the more frequent fires fueled by weeds. Also, roadside and utility right of ways must be kept noxious weed free. Agricultural and utility area control costs are passed along in prices of food, clothing etc.

Landscape and building contractors, hunters, anglers, hikers and other outdoor enthusiasts should practice good control methods such as not spreading seed or vegetative matter via animals, clothing and equipment. Report any suspected noxious weed infestations to Steve Sauer, Boulder County Weed Coordinator at ssauer@bouldercounty.org or 303-678-6110.

# **Q&A:** Dick Miller, Boulder County Agricultural Tenant

Dick Miller is an agricultural tenant on Carolyn Holmberg Preserve at Rock Creek Farm. The nearly 1,000-acre farm is located in the southeast of the county. It was purchased in 1980 as a buffer between developing communities. Under current management Rock Creek Farm is most famous for their U-Pick-Em Pumpkin Patch. Every October thousands of people come to enjoy the pumpkin patch, corn maze and farm animals.

Q: How long have you been operating your agricultural operation at Rock Creek Farm for Boulder County Parks and Open Space?

A: Since 1995.

#### Q: How many acres do you lease and what crops are you producing?

A: Currently leasing approximately 960 acres, producing pumpkins, corn, barley, hay, wheat and we also have some acreage also used for grazing cattle.

#### Q: How did you get involved in pumpkin production?

A: Started producing pumpkins for Safeway on Mapelli Farm in Ault, CO in 1989.

#### Q: How many acres of pumpkins do you produce each year?

A: 100 acres

#### Q: Do you have any other agricultural property that you manage or own?

A: Currently have four other agricultural properties including: Lafayette home farm, Escalante Ranch cow calf operation, Whiting Ranch and Denny & Hawkins Farms which are all outside of Delta, CO.

#### Q: How does your county-leased land work into your private operation?

A: The county lands helps to provide diversification.

#### Q: How long have you been involved in the agriculture industry?

A: 48 years

#### Q: Is agriculture a family affair for you?

A: Yes, son Scott lives and manages Rock Creek Farm and daughter Megan and husband Mike manage the home farm and the East Slope cow herd and help at Rock Creek Farm.

#### Q: Why do you think agriculture is an important resource for Boulder County?

A: It provides income and revenue streams for 100's of farm families while utilizing the land for its highest and best use.

# In Memoriam: Doc Teegarden, A Life Well Lived

Most of us meet thousands of people during our lives, and every now and then, we encounter someone who truly stands apart from the rest. This is the story of just such a man.

# A Witness to Change

Born Dorse Myron Teegarden on September 7, 1919, "Dock" saw the world change around him over the course of his 90 years. As a young boy, he recalled listening to stories being recounted by Civil War veterans sitting on benches along Pearl Street (still a dirt road at the time) and as an octogenarian, by Tom McMichen and Brent Wheeler



Dock Teegarden (left) and his lifelong friend Jim Walker. This photo was taken in 2003 at Walker Ranch where Jim grew up.

he witnessed the election of America's first black president. His earliest memories of vehicular traffic in Boulder included a mix of automobiles and horse-drawn wagons. He saw our national economy in upheaval on both ends of his life starting with the stock market collapse of 1929 and the resulting "Great Depression," and similar financial events of recent years. Dock was undoubtedly affected by many of the amazing things he saw and experienced during his life, and he certainly managed to leave some indelible marks of his own along the way.

# A Varied Career

Dock wore many different hats over the years. He was a decorated veteran of WWII in which he served with the U.S. Army Air Corps in Europe and North Africa. He was an accomplished gunsmith, a law enforcement officer, and a retiree of the U.S. Postal Service. He loved the outdoors, and spent many happy hours hunting, fishing, camping, skiing, snowshoeing, and just generally enjoying the natural world.

He served as a volunteer for over 25 years, first with the City of Boulder Open Space and Mountain Parks Department, and later with Boulder County Parks and Open Space. Unbeknownst to those with whom he initially began volunteering, Dock had a wealth of knowledge, experience, and talent to offer. This must not have been clear at first, or else he likely wouldn't have been tasked with shoveling horse manure when he first showed up to volunteer. His expertise was ultimately allowed to shine through though as he played a key role in many projects.

To start, Dock was largely responsible for the development of the City of Boulder's first Open Space Cultural Resource Guidelines. He also built the stone interpretive display at the Doudy-DeBacker-Dunn house, and served as a living history interpreter during tours at Marshall Mesa. In addition to his important cultural resource contributions, he also inspected and developed mileages for all of Boulder's Open Space trails, and conducted extensive wildlife monitoring and research.

His interest in archaeology led Dock to assist with identification and recording of prehistoric sites around Boulder County, and excavation on several important digs. He was also an avid historian and cartographer. One of the things he left for future generations was a series of maps depicting many of the old wagon and stage roads that wound their way through Boulder County. Although he had help from a few different people over the three-decadelong map project, Dock did the

lion's share of the work. Early in 2009, he entrusted the care of these maps to the Boulder County Parks and Open Space Department. They will remain a valuable resource for researchers and others.

# A Rich Legacy

Too modest to "blow his own horn," Dock would likely have recoiled at the idea of an article being written about him. But this effort was intended more for those of us who knew and loved Dock, as well as for those who never knew him but will find his story fascinating and noteworthy nonetheless.

He leaves a legacy of a life well lived and an example worth following. Probably as important as anything else he shared, Dock challenged us all to be keen observers and to recognize the natural world as a dynamic force that is in a perpetual state of change. He said, "I think that after all is said and done, it is a fact that this country [e.g. Boulder County] is old, and over a period of thousands and thousands of years, forests have come and gone. This country has been desert. It has been forest. At the breakup of the Ice Age, I've been told that this country was covered by boreal forests, where the elephants were at home." When asked if given enough time, if we could expect this area to look different yet again, he just smiled and said, "If it keeps burning and the bugs keep biting the trees!" It's probably a safe bet that there will continue to be forest fires, and one bug or another will keep "biting the trees."

Thanks for everything dear friend. Our lives are richer for having known you.

Tom McMichen coordinates the cultural history programming for Boulder County Parks and Open Space. He knew Dock as a friend, and worked with him as a cultural history volunteer for several years. Brent Wheeler is the Operations Manager for Boulder County Parks and Open Space. As a former employee of the City of Boulder Open Space and Mountain Parks, he frequently worked with Dock from 1984 until 2001.

# Research on Boulder County's Open Space Lands

The Boulder County Parks and Open Space Department offers grants for research on county open space lands each year. All proposals are reviewed by a team of resource specialists, and awarded research projects are monitored during their activities on open space. The following is a summary of a 2009 study conducted by Matthew Willey and Dr. Rick A. Adams of the University of Northern Colorado. Their research project focused the Effects of elevation and associated environmental conditions on the roosting behavior of five species of myotis bats at Heil Valley Ranch and Caribou Ranch.

Abstract: Habitat degradation and climate change are two critical factors predicted to negatively affect the size of regional bat populations in the future. In Colorado, habitat loss due to increasing human populations and development increases yearly, and with the addition of apparent rapid climate change (Adams and Hayes, 2008), we predict wildlife populations, including bats, could be negatively affected. Therefore, close monitoring of populations is critical to effective management. However, to understand how habitat loss and climate change will affect bat populations in the future, we first need to understand how species are utilizing habitat under current conditions. Although much research has been conducted on bats at elevations below 2250 m. in Boulder County, Colorado, almost nothing is known about bat populations residing at higher elevations under different seasonal climates. I hypothesize that as elevation increases, female abundance and species diversity will decrease. I also hypothesize that as elevation changes, habitat and roost characteristics will also change. During June, July, and August 2009, we netted 33 nights at 19 different locations in the Front Range of Colorado, ranging in elevation from 1800 meters to over 3300 meters. We captured 43 females, and 115 males. Of the 43 females, 23 were reproductive. No reproductive females were caught above 2500m, and only 6 reproductive females were captured above 2150m. Using preliminary capture data we saw a Simpson Index of 0.254 at low elevation (below 2285m), 0.511 at mid elevation (2286m to 2699m), and 0.431 at high elevation (above 2700m). Four reproductive females (2 C. townsendii, 1 M. thysanodes and 1 M. volans) were tagged and tracked, but never found. This data suggests that with cooler than average temperature and less than average precipitation in summer 2009, reproductive females tended to occur at lower elevations, and species diversity was higher at lower elevations. Bat reproduction in 2009 was the highest recorded since 2000.

**Discussion**: Although this is the first year of a two year study we are starting to see some interesting patterns. As we predicted we did see a higher proportion of reproductive females at lower elevations. Because reproductive females

are under greater thermoregulatory pressure during reproduction, they may be restricted to certain elevational limits. Selecting a warmer microclimate can help reduce the need to enter torpor, which has been suggested to increase gestation and reduce milk production. A warmer climate can also help facilitate a greater passive warming and help to reduce the costs associated with re-warming after a torpor bout. It is important to understand where reproductive females may be roosting in order to incorporate management plans. Although we were unsuccessful finding any roosts in 2009, we can predict that a higher proportion of females are roosting in the lower elevations and only a small proportion are roosting at higher elevations. Protecting these roosts becomes even more important because it is likely that reproductive females may be restricted to the lower elevations where temperatures are warmer. If habitat begins to disappear in the lower elevations roost sites will also disappear and reproductive females may be hardest hit. It is important for resource managers to know and understand where bats are roosting in order to reduce potential disturbance. For Boulder County, natural roost sites for myotis species consists of cliff-face rock-crevices, rock-crevices within boulders, and under boulders at ground level (Adams, 2006). In areas where roosts are likely it may be important for managers to reduce foot travel, in order to reduce disturbance. However, little is still known, and future research may need to focus more on the impacts of disturbance and degradation on reproductive females and roost sites.

During summer 2009 we also saw that the greatest diversity of bats was at the lowest elevations. Again this is important for managers to know in order to protect populations. It is even more important because several species are of special concern to Colorado. As climate change and habitat degradation continue to destroy suitable habitat for these species, they may be forced to move and some populations may see decline. Loosing suitable roosts and habitat may also increase competition and may have a negative effect on populations. With the increase in habitat degradation and climate change it becomes even more important to continually monitor these populations for any changes, and management practices should be implemented based on population trends. Capture data trends showed more reproductive output in 2009 than in the 3 years previous. Throughout Boulder County, about 73 percent (34 of 47) adult females captured were reproductive. In addition, 22 juveniles were captured in 2009, the highest number since 2000 in which 28 juveniles were captured. This is likely due to a cooler/wetter spring/ summer than in previous years.

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

# The Great Bark Beetle Outbreak: Our Changing Forests

by Ryan Ludlow

One hundred years from now, Front Range Coloradans will look back and think about what it must have been like to live through the Great Bark Beetle Outbreak of the 21st century. Forests throughout the Rocky Mountain West are ending their lifecycle and beginning again as a sea of new seedling trees. In Colorado more than two million acres of mature lodgepole pines have succumbed to attack; Montana has lost almost the same amount and in British Columbia, beetles have impacted more than 35 million acres of pine forest. This bark beetle outbreak is a continent-wide phenomenon. The forests you see today may never look the same in your lifetime. Nature has given us a unique opportunity to witness the end of an old forest and the development of a new one.

Despite the scope and intensity of this bark beetle outbreak, our western forests will return and over time re-establish into hillsides of mature green trees. However, before our forests can return, communities, recreational visitors and forestry businesses need to deal with the challenges that bark beetles have brought us. Land management agencies are adapting to the changing landscape by developing long-term plans to re-establish the natural systems that keep our forests healthy.

## **Recreationists Take Care**

Over the coming years, visitors to Front Range forests will see many pine trees succumb to beetle attack. As trees die they quickly become a hazard and pose a tremendous risk of falling on trail users. Avoid travelling though sections of dead trees, especially on windy days. Land management agencies won't be able to clear every hazardous tree. Trees will fall across trails, especially during days of high wind, but if you maintain awareness of conditions, you can avoid being hit. As you plan your trip to the mountains, check with local land management agencies to ensure your favorite trails and campgrounds are open. And as you venture out onto the trail, expect to hear the sounds of chain saws and chippers working to clear the dead trees from recreation areas.

# Homeowners: You Are the Steward of Your Land

As this outbreak continues to unfold, landowners will face the challenge of removing dead, red trees from their property. Beetle killed trees are falling hazards—homes, driveways, power lines, propane tanks and roads are at risk of being hit. Removing dead trees makes our communities safer from falling trees and future wildland fire.

This outbreak will generate awareness around the need for active management in our disturbance-driven forest ecosystems. Disturbances like fire and bark beetles are vital components of a healthy forest ecosystem. When they are excluded, forests quickly become overcrowded and highly susceptible to insect and disease outbreaks. This bark beetle outbreak is an opportunity to change our views of the forest and create plans today that will positively influence the health of our future forests.

# Our Ecosystems are Changing—How Will You Respond?

There is no question that the Great Bark Beetle Outbreak of the 21st century will go down in the history books! The big question is if it will be seen as tragedy or an opportunity. What I hope comes out of this outbreak is a new found sense of place and a realization that our forests are not static. Bark beetles are nature's way of revitalizing and starting forests over again. I hope that in 100 years Coloradoans can look around at their green healthy forests and realize that the forests they see in the 22nd century were shaped by individuals and land management agencies that saw the great bark beetle epidemic of the 21st century as an opportunity to become active stewards of the land.

If you have questions about bark beetle management, forest ecology or want to learn more about becoming an active steward of your land, feel free to contact me directly at pinebeetle@ bouldercounty.org or 720-564-2641.



*Trees affected by mountain pine beetle surround a home in Boulder County.* 



# Dabbling and Diving into Spring



Pretend you are a water bird living on a

near-by pond, or design your own water bird on paper. What kind of waterfowl would you like to be or draw? Would you prefer to be a dabbler or a diver? Do you want to squirt water out your bill or snatch fish with your beak? Do you want to fly more like a helicopter or an airplane?



Dabblers and divers are two categories of ducks. The terms describe two different ways many ducks make their living. Dabblers are sometimes called puddle ducks for their ability to find food in very small and shallow waters. Mallards are dabblers and so are northern pintails and green-winged teals, to name a few puddle ducks that spend time in Boulder County.

Redhead ducks and lesser scaups are among the divers. They prefer big water and avoid walking around on land more than necessary.

Diving ducks sometimes dabble but dabbling ducks rarely or never dive.

If you would like to dabble and also dive, you might choose to be a coot. Coots are funny birds that look like a cross between a chicken and a duck. Swimming on top of a pond they resemble a toddler's pull-toy. They dabble and dive and walk on land.

# Finding Food in All the Right Places

Whatever kind of bird you choose, its body is well adapted for the particular job it does. By having body shapes fitted to different ways of gathering food from the water, species of ducks and other types of birds avoid competing with each other for precious resources. Different body shapes specialize in finding food in different parts of wetland habitats. Turn the page for more information on dabblers and divers to help you choose which bird you might want to pretend to be or to draw.





Duck Foot

# Walk like a Duck

Duck toes are long with skin stretched between them. These webbed feet are great for swimming and diving and walking on soft mud. Ducks waddle because their feet are wide and set fairly far apart, forcing them to wobble from side to side in the classic duck waddle.

Diving ducks tend to have larger feet and shorter legs than dabblers because they need strong feet propelling them when they dive and swim underwater. The legs of the diving ducks are placed toward the back of their bodies. This makes them powerful swimmers, but they have a slow and awkward waddle on land. Dabbling ducks have their longer legs more centered on their bodies. They walk more easily on land, and they use their longer legs to duck-paddle along while floating on the water's surface.

Ducks don't have to worry about cold feet while swimming in icy water because they don't have nerves in their feet to sense temperature.



Coots have long toes too; but instead of webbed feet, they have bumpy toes with flaps or lobes of skin to help them swim, dive and walk on mud without sinking deep. When they swim, their heads bob back and forth; and the faster they swim, the faster their heads bob. When they dive, they might go down as far as 25 feet. They look clumsy when they walk on land to graze on grass or seeds.

# Helicopter Take-off or Airplane Taxi

Dabbling ducks have large, broad wings and are slow flyers. Kind of like feathered helicopters, they can jump straight up into the air into flight and land in tight spaces.

Just as airplanes have to taxi down a runway to pick up speed, diving ducks have to get a running start for their short wings to take them airborne. Once in the air, they fly faster than dabblers, but they land with a splash and slide that looks practically like a crash landing.

Chicken-like, coots are heavy, ungraceful fliers. They have to patter along on the water surface to gain enough speed to fly.

Dabblers, divers and coots flap their wings continuously in flight.





Typical Duck Bill



Coot Head

# A Scoop and Squirt Bill or A Seize and Hold Beak

Duck beaks are usually called bills, and they are soft yet strong with hard hooked tips for grasping food. Bills lack true teeth but some have edges like saw blades or comb teeth.

Dabblers use their wide beaks to suck up mud and water. They separate out the insects, worms and other tiny animals, plants and seeds by feel then squirt the water back out through the sides of their bills. With mouths open, they scoop up food particles from the water surface. They duck under shallow water to reach pond weeds and grasses and tiny animals such as insects in the mud. On land, they graze on plants and forage on farmers' fields for leftover grain and seeds.

Northern shovelers are dabblers named for their wide bills.

Foraging well under the water's surface in deeper water, diving ducks tend to seize more underwater animals such as insects, snails and fish than dabblers, though they eat plants too.

# Duck Hunting in the Spring

Spring is one of the best times to see ducks and other waterfowl because many stop on their way to nesting sites further north.

Expect to see dabblers sitting high in the water or with tails tipped up and heads down, feeding in shallow ponds. Also look for them waddling around in search of food on land.

Expect to see divers sitting low on deep water where they have plenty of room for their long, pattering, take-off runs on the water surface.

Look for them suddenly plunging underwater then shortly popping to the surface a few feet away.

Expect to see coots floating in noisy groups on the water. Grouchy with each other, the comical coots find something to squabble about frequently and loudly.



**Duck with Ducklings** 

# Go On a Duck Walk

Grab your sketch pad and get outside! Boulder County Open Space properties are home to many of the ducks you just read about, and more. This spring, make a visit to Pella Crossing, Walden Ponds, Twin Lakes or Stearns Lake. Be a duck detective - take a walk, watch carefully, and see how many ducks you can find dabbling, diving, and waddling around. Note how they take off or land and what they are eating, and listen to their calls.



#### Across

- 1 duck foot
- 2 duck type that finds food in deep water
- 4 way ducks walk
- 7 puddle duck with long tail (2 words)
- 8 puddle duck
- 9 something ducks eat

- 11 water bird that dives and dabbles
- 10 season when many ducks migrate north
- 6 beak
- 5 most common puddle duck
- 4 habitat where water birds live
- 3 diving duck (2 words)

- Down
- good place to view ducks (2 words) 1

spring, waddle, Walden Ponds, webbed, wetland bill, coot, dabbler, diver, insects, mallard, northern pintail, redhead duck,

# **Possible Answers:**

# **Field Notes**

## A Day in the Life of a Volunteer Coordinator



Clockwise from top left:

- Erica greets volunteers during a project at Twin Lakes.
- Volunteers collect perennial blue flax at Cemex Stone Canyon property in July.
- Seed is stored in a temperature and humidity controlled room.

It's a sunny January day and I've been working in the office most days for the last two months. They call this the "slow" season but I've found that volunteer management is a year-round job!

Our last project was on November 14th—despite the cold and snowy weather, eight hearty volunteers and one enthusiastic volunteer crew leader joined me at Rabbit Mountain to collect the seeds of *Krascheninnikovia lanata* (commonly known as winterfat or white sage). These seeds will be dried in paper bags, cleaned by volunteers, stored until ready to use, then planted at grassland restoration projects. Seed cleaned by volunteers is essential for the restoration process—these seeds possess a local "genotype" that is specific to a region. In other words, seed that is produced by plants at Rabbit Mountain has adapted over time to succeed in the specific heat, moisture, temperature, and elevation of Rabbit Mountain, and in turn is more likely to succeed in a planting in that area.

Since this last project of 2009, I've been spending my days completing winter tasks, including organizing one of





our first projects of the year to clean the seeds collected by the November 14th volunteers. Other "slow season" tasks have included cleaning our shop space, inventorying tools and materials, creating a guideline document for volunteer management, and attending lots and lots of trainings, conferences, and seminars. I have particularly enjoyed compiling the 2009 volunteer work project information into our annual reports, and acknowledging what amazing results these volunteers accomplished! The "busy" season doesn't allow for much beyond survival, so this winter has proved to be a welcomed opportunity to regroup, build, and improve.

Preparations for the 2010 volunteer season will soon include picking out dates for specific projects, preparing our spring newsletter, recruiting volunteers for our crew leader positions, and planning crew leader training classes. Soon the "slow" season will turn back into the "busy" season, and I can't wait to see all of my great friends, the volunteers! Everyday I reflect on how fortunate I am to have a job that is so fulfilling and I have the volunteers to thank!

Erica Christensen is one of three staff who coordinate outdoor volunteer work projects.

# Boulder County's Conservation Easement Policy

by Janis Whisman

Boulder County has long been a leader among local governments in Colorado and across the nation in efforts to protect open space. Since 1976 when Boulder County acquired its first conservation easement, the county has provided leadership to other local government open space efforts along the Front Range of Colorado and beyond. The conservation easement program (CE Program) arises from the Parks and Open Space Department's mission and the goals outlined in the Boulder County Comprehensive Plan.

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While Boulder County's policies and practices are longstanding, some have not previously been summarized in writing. This document makes the county's policies and practices more transparent to landowners and other constituents. The CE Policy can be viewed or downloaded from this internet link: www.bouldercounty.org/ openspace/general\_pdfs/CE\_ Policy.pdf.

Boulder County's policies and practices closely follow guidance from 'best practices' developed for local government open space

# **CE Program Statistics**

Boulder County's conservation easement program currently includes approximately 800 properties, and that number continues to grow. In rounded numbers, about 80 of those properties are owned by Boulder County and are encumbered by conservation easements that have been granted to municipalities or land trusts. Boulder County, by itself or jointly with one or more municipal partners, holds conservation easements over the remaining 720 properties. Of those 720 properties, approximately 100 are encumbered by conservation easements that have been fully or partially donated to Boulder County. The remainder have been purchased or acquired through regulatory means. Altogether, approximately 39,000 acres are subject to conservation easements held by the county. This represents about 39 percent of Boulder County's current open space holdings. Approximately 24,000 acres are agricultural land and 15,000 acres are mountain land.

Conservation easements are voluntary agreements between landowners and Boulder County that protect important agricultural land, wildlife habitat, and scenic open space. The land remains privately owned and the landowner retains all management responsibilities and the right to use the land, subject to limitations on development and allowable uses that protect the property's conservation values.

# **Conservation Easement Policy**

Boulder County's Conservation Easement Policy (CE Policy) compiles all of the policies and practices that guide acquisition and stewardship of the county's conservation easements. programs in Colorado. These best practices are being printed in a handbook that will be available in the spring of 2010 through the Colorado Open Space Alliance (COSA).

The County's CE Policy is also based on guidance from the Land Trust Alliance. The Alliance is a national support organization that has published formal standards and practices for conservation easement programs.

The CE Policy is needed for Boulder County's application to the State of Colorado for certification to accept full and partial donations of new conservation easements. The county must apply for certification in early-mid 2010. If Boulder County is not certified by December 31, 2010, we will not be able to accept any new conservation easements involving donation value, unless certification occurs at a later date.

If you have any questions about Boulder County's CE Program or CE Policy, contact me at 303-678-6263 or jwhisman@ bouldercounty.org.

# **CE Program Mission and Goals**

- 1. Acquire new conservation easements to preserve significant lands as open space.
- 2. Work diligently to fulfill Boulder county's legal stewardship responsibilities for properties protected by conservation easements.
- Work collaboratively among county departments and cooperatively with landowners to adhere to the purposes, terms and conditions of each conservation easement to protect the subject property's conservation values and resources.

Discover Boulder County

#### Wildlife, Wildlife Everywhere

Saturday, March 6; 10:30am to noon Meadows Branch Library, 4800 Baseline Road, Boulder (behind the Safeway store in the Meadows Shopping Center) Hey kids - bring your family and friends and discover the wild animals of Boulder County! We'll learn where they live and what they need to survive as we travel from the grassy plains to the high mountains. Using a huge floor map we'll explore Boulder County, visiting the highest and lowest places, following rivers and streams, and exploring the amazing diversity of wildlife that live in our area. This program is for children accompanied by an adult.

#### Whoo are the Owls?

#### Tuesday, March 9; 7:00pm to 8:30pm Longmont Public Library, Meeting Room A, 4th Avenue and Emery Street, Longmont

Owls have been regarded with fascination throughout history and across cultures. To some people they are symbols of wisdom, while to others they are harbingers of doom and death. Over half of the owls recorded in the U.S. have been seen in Boulder County, and most of those owls nest here. Come learn about the special adaptations that make them such expert hunters.

#### What's the Deal with Spring? Saturday, March 20; 1:00pm to 3:00pm Heil Valley Ranch; North of Boulder off Lefthand Canyon Drive; meet at group picnic shelter

What's blooming? Who's singing? Who's having babies? How are these springtime events connected and what does the position of the sun in the sky have to do with it? Join volunteer naturalist Larry Nygaard and others on a leisurely, two-mile hike and celebrate the first week of spring by looking and listening for signs of new life along the trail.

#### Spring Awakening: Bears in our Backyard? Saturday, March 27; 1:00pm to 2:30pm Foothills Nature Center; 4201 N. Broadway, Boulder (Wonderland Lake Trailhead)

Black bears have always been part of our landscape. In springtime, as days begin to lengthen and temperatures start to warm, black bears and their cubs emerge from their winter dens. Join volunteer naturalists Louise Alderson and Susan Holley to explore how bears live during each season – with a focus on springtime.

#### **I Spy Fabulous Feet**

Tuesday, April 6; 9:30am to 10:30am

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

Different animals use specially shaped feet to climb trees, balance, and swim. Help volunteer naturalist Diane Faigen track and match animals to their unique feet. There will be a short hike, hands-on activities and a fun craft is also planned. This program is for preschool children and their families.

#### All About Beavers

#### Saturday, April 10; 10:00am to noon Walden Ponds Wildlife Habitat Area; 75th Street between Valmont Road and Jay Road; meet at group picnic shelter near Cottonwood Marsh

The beaver is one of nature's most accomplished engineers. They build lodges, dam streams, and otherwise modify the environment to create their habitat. Beavers have periodically taken up residence at Walden Ponds over the years and left some of their handiwork behind.

While beavers are most active at night, we'll see signs of their hard work in felled shrubs and trees, and old lodges. Volunteer naturalists will lead this easy walk to learn all about these furry, water-loving mammals.

#### **Rattlesnake!**

#### Saturday, April 17; 10:00am to noon Rabbit Mountain Open Space; NE of Lyons on north 55th Street; meet at group picnic shelter

Enjoy a moderate 2-mile spring hike and learn about this fascinating reptile. Volunteer naturalists will lead this hike and share information about the western rattlesnake, including habitat, ecology, behavior, and how to be safe in rattlesnake country.

#### **Beginning Birding**

#### Saturday, April 24; 8:00am to 10:00am Walden Ponds Wildlife Habitat Area; 75th Street between Valmont Road and Jay Road; meet at group picnic shelter near Cottonwood Marsh

Join volunteer naturalists to explore the joys of bird watching! They will share tips for recognizing different types of birds, including songbirds, ducks and waterfowl, wading birds and raptors. The emphasis of this beginning-level bird-watching trip will be on practicing observation skills rather than just bird identification. Please be prepared for a slow-paced walk of up to 2 miles. Bring binoculars and a bird guide if you have them.

Discover Boulder County

#### Pella Crossing: History and Habitat Sunday, April 25; 1:00pm to 3:00pm Pella Crossing Open Space; About 1 mile south of Hygiene on the east side of North 75th Street

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

#### The Lions of Boulder County:

#### From Persecution to Coexistence Tuesday, May 4; 7:00pm to 8:30pm George Reynolds Branch Library, 3595 Table Mesa Drive, Boulder

Despite urban development, Boulder County boasts a thriving population of mountain lions. The big cats, rarely seen 50 to 100 years ago, are now more frequently observed near trails and in yards, particularly in the foothills. How did this remarkable and once-maligned creature stage its stunning comeback? Volunteer naturalists David Baron and Cathy Koczela will share the history and natural history of Front Range lions.

#### Geology of Rabbit Mountain Saturday, May 8; 9:00am to 1:00pm Rabbit Mountain Open Space; NE of Lyons on north 55th St. (turn north on 53rd St. off Highway 66)

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

#### **All Programs**

All ages are welcome unless otherwise noted. NO PETS PLEASE! Be prepared for cool temperatures and muddy conditions on trails. Bring drinking water and wear closed-toe walking/hiking shoes. See the back cover for park locations. For information about these programs, or to arrange a volunteer-led program for your group, please call 303-678-6214.

#### Fossils and Flowers Saturday, May 15; 9:30am to Noon Meeting location will be provided to registered participants.

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

#### Grandparent and Grandchild Hike Saturday, May 15; 10:00am to noon Bald Mountain Scenic Area; 5 miles west of Boulder on Sunshine Canyon Drive (Mapleton Avenue in Boulder city limits)

Join volunteer naturalists Barbara Willis, Sue Cass, and Nancy Beaudrot and invite a special person in your life to discover signs of spring and enjoy our foothills. This moderate hike will be approximately one mile in length. We'll look for spring wildflowers, evidence of wildlife, and enjoy the view from the top of the mountain. Picnic tables are available near the parking lot if you want to plan a post-hike lunch. This hike is suitable for older preschoolers, elementary age children and grandparents of all ages.

#### Butterfly's Life – A Beginner's Guide to Butterflies Thursday, May 20; 7:00pm to 8:30pm

Louisville Public Library, 951 Spruce Street, Louisville Do you love butterflies? Are you curious about the life cycle and activities of butterflies? Have you wondered where Monarch butterflies go during their migration? Come experience this beginner's guide to a butterfly's life, presented by volunteer naturalists Cathy and Donn Cook. This program will review the life cycle of butterflies, and cover basic information on behaviors, host plants, identification tips and the incredible Monarch migration. We'll also talk about when and where to look for those 'flying flowers'...the butterflies.

Discoven Boulden County

# Fishing Derby—For Seniors Only

#### Saturday, April 24; 6:00am to 10:00am Wally Toevs Pond at Walden Ponds Wildlife Habitat; 75th Street between Jay Road and Valmont

Tell your parents, tell your neighbors, tell your friends. Boulder County and Broomfield County seniors (64 years and older) are invited to participate in Boulder County's annual fishing derby.

After the fishing derby, awards will be given to who caught the heaviest trout, the most experienced (oldest) angler and who wore the best hat. There will also be a fish fry picnic following derby.

The pond is stocked with rainbow trout – artificial and live bait are both permitted at the Wally Toevs Pond. Participants must have a valid Colorado fishing license.

For more information please contact Michael Bauer at 303-678-6219.



Geology Walk at Sandstone Ranch Saturday, May 22; 10:00am to noon Sandstone Ranch Open Space; the Visitor Center is located off Highway 119, one mile east of Weld County Road 1. Take the second (east) entrance to the Sandstone Ranch area, turning south on Sandstone Drive. Follow the signs to the Visitor Center parking lot.

Join volunteer naturalist Dick Pratt to learn about the geology of Sandstone Ranch and Boulder County. From a scenic overlook, we will observe and learn about this dramatic and diverse landscape, from the Great Plains to the Continental Divide. After a short and easy walk exploring geologic history, you can visit the historic Sandstone Ranch house to learn about some of the human history associated with this site.

#### Birds of Boulder County Slide Programs Wednesday, April 7; 7:00pm to 8:30pm Louisville Public Library, 951 Spruce Street, Louisville --and--

Tuesday, May 11; 7:00pm to 8:30pm

Lafayette Public Library, 775 west Baseline Road, Lafayette Join Boulder County volunteer naturalists to learn where to find and how to identify some of the birds of Boulder County. This slide program, geared to beginning birders, will take you from the grasslands to the alpine tundra to explore an amazing range of ecosystems and habitats, and the birds that live there. You will also hear about some of the migratory birds that return to or pass through Boulder County at this time of year.

# Spring at Walker Ranch

Sunday, May 30; 10:00am to 4:00pm Walker Ranch Homestead; 7701 Flagstaff Mountain Road, approximately 7 miles west of Boulder on Flagstaff Road

Join us at the homestead as costumed volunteers re-create one of the busiest seasons of the year as they demonstrate various chores associated with rural living in the late 1800s. Try your hand at beating a rug, planting potatoes, or churning butter.

Activities demonstrated also include doing laundry the old-fashioned way, woodworking, woodstove cooking, blacksmithing and children's games. Guided tours of the homestead will be offered each hour.

This program is free and open to all ages. For information, contact Tom McMichen at 303-776-8848 or tmcmichen@bouldercounty.org.



Read about volunteer opportunities at Walker Ranch on the last page of this issue.

Discover Boulder County

# Wildflower Slide Programs

#### Tuesday, April 20; 7:00pm to 8:30pm

George Reynolds Branch Library, 3595 Table Mesa Drive, Boulder (overflow parking available in King Soopers parking lot across the street)

--and--

#### Monday, May 17; 7:00pm to 8:30pm

Lafayette Public Library, 775 west Baseline Road, Lafayette

Join Boulder County 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.

# Wildflower Hikes

#### Wildflowers of Legion Park

#### Saturday, May 1; 1:00pm to 2:30pm Legion Park; east of Boulder on Arapahoe Road; 0.5 mile west of 75th Street

Join us 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.

#### Mother's Day Wildflower Hike

#### Sunday, May 9; 1:00pm to 3:00pm Rabbit Mountain Open Space; NE of Lyons on North 55th Street (turn north on 53rd Street off Highway 66)

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

#### Wildflowers of Heil Valley Ranch Sunday, May 23; 10:00am to Noon Heil Valley Ranch; North of Boulder off Lefthand Canyon Drive; meet at group picnic shelter

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

# Crafts and Trades of Olden Days

#### Sunday, May 16; 10:00am to 4:00pm

Agricultural Heritage Center; 8348 Ute Highway 66; west of Longmont

Blacksmithing, wool spinning, and candle dipping are just some of the activities that will be demonstrated as we celebrate traditional arts and crafts associated with rural living.

This program is free and open to all ages. For more information, please visit www.bouldercountyopenspace.org.



# Nature Hikes for Seniors

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

March 25, Agricultural Heritage Center

April 29, Heil Valley Ranch Open Space (meet at group picnic shelter near Lichen Loop Trailhead)

May 27th, Betasso Preserve (meet at group picnic shelter)

# Volunteer Opportunity: Make History Come Alive

Have you ever felt as though you were born in the wrong century or wished you could have lived in the old west? The next best thing may be just a phone call or e-mail away. With a little training and minimal time commitment on your part, you could be showing others how to churn butter, throw a calf rope, play old-fashioned children's games, and whitewash an old building.

We are looking for people with a passion for history, and a desire to share that passion with others. Volunteers dress in clothing styles of the late 1800s and tell the fascinating story of Walker Ranch and the family that lived there for three generations. Four times each year, we host special events and each spring and fall, school groups are invited to the ranch for special two-hour programs.

This is a great family volunteer opportunity (youth volunteers must be at least 9 years old). Training is required and will be conducted on Saturday and Sunday, May 1 and 2, from 8:30am until approximately 4pm each day. **The deadline to register for the training is Friday, April 23**.

For more information on how you can get involved, please contact Tom McMichen at 303-776-8848 or tmcmichen@bouldercounty.org.

# Caribou Ranch Closed April - June

The Boulder County Parks and Open Space Department wants to remind you there is a permanent spring closure, April 1 through June 30, to protect spring migratory birds, overwinter elk survival, and elk calving and rearing activities at Caribou Ranch Open Space. Please respect wildlife needs for solitude.

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

# Don't Miss a Program!

Get a monthly email that lists all of our events and programs! It's easy to sign up.

- 1. Go to www.bouldercounty.org/openspace
- 2. Click on Hikes and Events on the left side of the page.
- 3. Scroll to the bottom of the screen and there is a box to enter your email address.

That's it! You will receive only one email per month listing programs.

# Get Muddy!

Forget everything your parents told you about keeping your shoes clean and take a walk through mud.

#### Why Get Muddy?

- Wet ground is fragile. Winter snows and spring rain saturate and soften the ground, making it very susceptible to recreation impacts.
- Shortcutting switchbacks and bypassing mud puddles greatly increases erosion, widening trails and destroying vegetation.
- Avoiding mud causes many kinds of damage. Resource damage includes increased erosion, destruction of surrounding vegetation and widening of trails.

#### How You Can Take Care of Your Trails

- Stay on the trail and go through the mud. Don't go off the trail and around it.
- Read the meter! Please consider not using a trail if the meter is marked at "poor" trail conditions.
- Pick the Right Trail In wet conditions, consider using hard-surface trails at lower elevations like Coal Creek Trail, Boulder Creek Path or the St. Vrain Greenway Trail.



# Youth Corps Gets Going

The Boulder County Youth Corps provides opportunities for teens to develop a sense of community involvement through personal accomplishment, teamwork and service to Boulder County. Going strong since 1996, each summer we employ over 200 people – teens and corps team leaders—to improve trails, lands and facilities.

The spring season is gearing up for the busy summer season. Sponsors are planning their projects for corpsmembers during the 8-week employment program. Parks and Open Space staff is recruiting to fill 170 corpsmember positions and 36 leader openings.

Corpsmember applications will be accepted through **Friday, March 26**, 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.



PARKS & OPEN SPACE DEPARTMENT 5201 St. Vrain Road Longmont, CO 80503 303-678-6200



www.BoulderCountyOpenSpace.org



- A. Hall Ranch
- B. Rabbit Mountain
- C. Heil Valley Ranch
- D. Agricultural Heritage Museum at Lohr/Mcintosh Farm
- E. Pella Crossing
- F. Boulder County Fairgrounds
- G. Lagerman Reservoir

- H. Lefthand Valley Grange
- I. Beech Open Space
- J. Niwot Loop Trail
- K. Twin Lakes
- L. James F. Bailey Assay Museum
- M. Bald Mountain Scenic Area
- N. Walden Ponds Wildlife Habitat
- O. Betasso Preserve

- P. Legion Park
- Q. Caribou Ranch
- R. Mud Lake
- S. Walker Ranch
- T. Flagg Park
- U. Coal Creek Trail
- V. Carolyn Holmberg Preserve at Rock Creek Farm