#### **BOULDER COUNTY PARKS AND OPEN SPACE**

### Spring 2019



## I M A G E S

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: Rabbit Mountain, Pascale Fried Currants, Dave Hoerath Rabbitbrush, Janet Cooper Lagerman Reservoir, Kat Chen Altona School, Carnegie Branch Library for Local History, Boulder Historical Society Collection Columbine, Cathy Bryarly Sunset at Rabbit Mountain, Leslie VanCleve

#### NATURE DETECTIVES

Katherine Young and Deborah Price Illustrations, Carol Tuttle

CALENDAR OF EVENTS Larry Colbenson, Jim Drew, and Sheryl Kippen

#### PRINTING

**Boulder County Printing Department** 

#### EDITORS

Rachel Gehr and Pascale Fried Suggestions and comments are welcome. Please contact us at 303-678-6201 or pfried@bouldercounty.org. Non-credited articles are by the editors.

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Volume 41, number 1

## **Essential Shrubs**

#### By Jessie Berta-Thompson

A faint scent on the air pulls you forward until you turn a corner to face a glorious wall of buzzing bees and creamy white blossoms, a wild plum thicket in spring. A note of birdsong rings out, you turn, but you catch only a flash of gray disappearing into a dense threeleaf sumac. In the lengthening shadows, the branches of a mountain mahogany bush start moving, curious behavior for a plant, until an enormous mule deer appears, quietly nibbling through the stand.

As you've probably noticed on the trail, shrubs supply vital resources to Front Range wildlife. A shrub is a woody plant smaller than a tree (a hazy distinction) with more than one main stem (bushy growth instead of a single trunk). Our native shrubs are tough perennials that often inhabit harsh, exposed places too dry, too rocky, or at elevations too high for trees, making them essential sources of food and shelter for animals in these spots. Where shrubs mingle with trees, like in ponderosa pine parkland, they build up the diversity of resources.

Animals, from flies to black bears, know to visit shrubs in late summer for the fruit. Local species that produce fruit with high value for wildlife include the chokecherry, wax currant, golden currant, serviceberry, and elderberry. Birds enjoy ninebark and three-leaf sumac seeds, and the snowberry has the added convenience of holding its berries on the branch late into winter, a handy slowrelease bird feeder.

For deer and elk, bitterbrush and mountain mahogany are two of the major forage species in the foothills. In winter, their relatively tender and nutritious twigs provide food when nothing leafy is available. Moose are particularly fond of the willow shrubs that flourish in their high elevation wetland habitat. You can see evidence of ungulate foraging on shrubs in the shape of plants, torn twig ends, and branches with stubby growth from frequent pruning.

Shrubs blooming at the margins of wildflower season, like rabbitbrush in September or wild plums in April, are critical sources of pollen, with each large plant supporting many pollinators at a sensitive time. Like other native plants, many shrub species are involved in the network of interactions necessary to complete insect life cycles, from egg to larvae to adult. Look for delicately cut leaf margins as evidence of insect eating. Twinberry honeysuckle, currants, and kinnikinnick bear nectar-rich blossoms that feed hummingbirds and butterflies.

#### SHELTERING SHRUBS

Beneath their leaves and dense branching structure, shrubs provide shade, ideal nest sites, and safe routes through the landscape unwatched by predatory eyes. Many shrubs, growing at deer-level, have thorns or sharp twigs to deter browsers. Prickly shrubs in this region include the hawthorn, wild plum, Fendler's buckbrush, and Woods' rose. This same feature improves fortification of nests and hiding places for small birds and mammals. Look for nests deep in the center of a shrub before leaves flush out. On many slopes in the foothills, shrubs and rocks provide the only sources of shade in summer sun for animals large and small, as well as some delicate wildflower seedlings. Along the deer paths in shrub stands, you can find large worn out bedding spots where deer rest in the shade.

#### SUPPORTING SHRUBS

With so much value for so many species, Boulder County Parks & Open Space takes particular care of local shrubs. One function of prescribed burns is the regeneration of aging shrub stands. For species that can survive fire and regenerate from roots, like three-leaf sumac, vigorous new growth appears after a fire. Before a burn, county biologists will mark stands of fire-sensitive shrubs to preserve—no need to deprive wildlife of a Boulder raspberry unnecessarily. As part of the study of the impact of elk on Ron Stewart Preserve at Rabbit Mountain, wildlife biologists and volunteers routinely measure stands of mountain mahogany, comparing high and low elk usage areas (a volunteer activity that sparked my personal enthusiasm for the shrub). Shrubs are also an important part of restoration projects, like the wire-fenced ranks of native shrubs planted along the flood-devastated St. Vrain. The shrubs will help hold bank soil in addition to their other ecosystem functions. Gardeners, consider planting a native shrub this spring, for beauty and high wildlife impact.

Next time you're out in open space, take a moment to notice and thank the shrubs for their part in supporting the abundance of wildlife here. The species mentioned above are plentiful along trails and easy to get to know if you haven't already. As the year unfolds, watch as their flowers bloom, leaves unfurl, fruits ripen, and colors change, and look for signs of the many animals among the shrubs.







Top photos: currant (left) and kinnikinnick offer blossoms that feed hummingbirds and butterflies. Lower left: Rabbitbrush is a critical source of pollen each large plant can support many pollinators.

## From Desert to High Plains Oasis

#### by John Reed

On October 14, 1820, Ong-pa-ton-ga (Chief Big Elk) made the following speech to 400 of his tribesmen and explorer Stephen Long concerning lands on the Front Range "....some think that you [Long] have brought all these soldiers here to take our land from us, but I do not believe it. For although I am a poor Indian, I know that this land will not suit your farmers." Long, for whom Long's Peak and Longmont are named, concluded in his reports

that this land was "unfit for cultivation and uninhabitable by a people depending upon agriculture."

On the map Long made of his explorations, he called the area a "Great Desert...the scarcity of wood and water, almost uniformly prevalent, will prove an insuperable obstacle in the way of settling the country." For decades, Long's statement kept many west-bound explorers from considering the area suitable for agricultural development and settlement. Because Colorado's Front Range was considered



Lagerman Reservoir

Within 10 years, a significant number of ditches were dug in the Boulder Valley. The ditches served not only farmland, but also domestic water supplies carrying water to many establishing towns. In 1863, Charles Pancost created the first reservoir (present site of Xcel Energy's Valmont Power Plant) in Boulder County, increasing his farmland's irrigation season and productivity. He also raised fish which he sold to miners, turning a tidy profit.

> Thus began the great watering of the Front Range desert and transition from thousands of years of nomadic hunter gatherer culture to mining, agriculture, and city development. The abundant snowpacks of western Boulder County has, for a millennium, melted in the spring, running quickly through the desert via three major water sheds: the St. Vrain, Left Hand, and Boulder Creek to their receiving water, the South Platte River. Over the past 150 years or so, each of these drainages has been increasingly tapped for their limited resources by which they all support life in Boulder County.

#### FOR MORE THAN IRRIGATION

Besides irrigation, these waters have been diverted and stored for mining, hydroelectric generation, municipal water supplies, flood control, and recreation. From almost no known plains lakes in 1820, save a few oxbow depressions on rivers, Boulder County now has approximately 197 reservoirs and 293 ditches east of the foothills. The land you see today would be unrecognizable to indigenous tribes and early settlers.

Water in Boulder County has never been abundant. Its availability fluctuates depending on droughts and mountain snowpack—feeding streams and rivers and thus ditches and reservoirs. Experts predict a future of greater extremes: longer and hotter heat waves in the summer, less snow, more rain, and more severe droughts that will place greater stress on water users.

Wise allocation, conservation, and protection of the reservoirs and ditches that helped create our oasis will be especially important in the near and distant future unless we revert to a time and land that "will not suit our farmers"....a land "uninhabitable by a people depending upon agriculture."

undesirable, the area became one of the last strongholds of independent American Indians. Only trappers and a few gold prospectors visited the area.

#### **GOLD CHANGES EVERYTHING**

All that changed in 1858-59 when gold was discovered on the Front Range including at Gold Run near Gold Hill in Boulder County. Once gold was found, mining activity and travel to the area increased dramatically. These newcomers created an insatiable demand for food and goods. One of the newcomers, Marinus Smith, was a veteran of the California gold fields who decided to spend his time *supplying* miners, not being one. In 1859 he acquired 220 acres along Boulder Creek. With a few partners, he dug the Smith-Goss Ditch, the very first diversion of creek water that began the transformation of Boulder County from desert to oasis. That same year he sold a load of hay to miners in Black Hawk for \$400, an amount of money that could then buy a house! With free creek water and a shovel, he struck it rich indeed. The demand for vegetables, flour, meat, and dairy grew exponentially.

## **Acquiring the Future**

#### by Aimee Graeber

Boulder County protects approximately 104,339 acres of land composed of open space properties, conservation easements on both private and public lands, and leases. With so much property you may wonder how Boulder County was able to acquire the land over time. Let's start at the beginning.

Boulder County began acquiring land for open space in 1973 by obtaining access to Bald Mountain Scenic Area through a lease from the Colorado State Land Board. The same year, Betasso Preserve became the first property purchased by the department.

#### **CONSIDERATIONS BEFORE PURCHASE**

When acquiring land for protection, Boulder County Parks & Open Space (BCPOS) has numerous elements to consider, including the mission statement for BCPOS: to conserve natural, cultural, and agricultural resources and provide public uses which reflect sound resource management and community values. In a nutshell, the Real Estate Division staff look for land that is threatened by development near or adjacent to existing open space, prime agricultural land, wildlife habitat, riparian and scenic corridors, or land that is useful for trail connections. These land acquisitions are completed through two main avenues, regulatory and monetary.

#### **ACQUISITION METHODS**

Regulatory land acquisitions usually involve Boulder County's Land Use Department. The four main regulatory methods are intergovernmental agreements, subdivision dedication, transfer of development rights, and transferable development credits. Intergovernmental agreements are limits on growth agreed upon by the county and municipalities within the county. Subdivision dedication occurs when a developer dedicates land from a subdivision for county parks or open space. For example, a landowner may qualify for double density, two homes instead of one, if the homes are clustered in less than 25 percent of the total property acreage. Transfer of development rights move development so homes are not scattered on the landscape and instead are clustered together or next to cities. Transferable development credits (TDCs) limit the size of homes in rural areas and allow homes in more urban areas to be larger. Bonus TDCs can be awarded to a landowner when BCPOS determines the property has open space features worth protecting. A public marketplace for selling TDCs is available on the county's website.

Boulder County also uses monetary resources to purchase land only from willing sellers. Monetary acquisitions include joint purchases, full price purchases, and bargain sales. Joint purchases occur when the county partners with municipalities to acquire land,

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OPEN	SPACE	BY	THE	NUN	IBERS	

County Open Space properties	approx. 62,271 acres
Conservation easements on privately-owned land	approx. 39,023 acres
Conservation easements on publicly-owned land	approx. 2,136 acres
Trail easements and leased land from Colorado State Land Board	approx. 909 acres

water, and mineral rights through property-specific agreements, using county funds and municipality funds. The county can also acquire land, water, and mineral rights on its own through full price purchases. Landowners can decide to sell their property to Boulder County for partial payment and donate the rest of the value, resulting in an overall land acquisition below market value, known as a 'bargain sale.' Land donations for open space purposes are also accepted by the county.

Each acquisition results in an ownership interest, including fee title (outright county ownership and management), conservation easements (privately owned and managed, but with agreed upon restricted use and development), trail easements, management agreements, and access easements. Not all of the mentioned land acquisition scenarios cost money, but many do. So, where does the money come from?

#### FUNDING SOURCES

Boulder County receives funding for BCPOS through many avenues, including sales and use taxes. The first voter approved sales and use tax for Parks & Open Space passed in 1993, providing Boulder County with more monetary resources to acquire land. Residents have passed additional sales and use tax resolutions for open space, with the current county-wide open space sales and use tax at 0.6 percent. Property taxes provide approximately \$4 million per year for open space acquisitions. Additional funding comes from the State Lottery Fund and various grants like Great Outdoors Colorado and the Land and Water Conservation Fund. Private monetary donations to BCPOS can also be designated by donors for land acquisition use.

With ongoing community support, Boulder County can continue conserving the county's rural character, preserving natural resources, protecting cultural resources, providing passive recreation opportunities, and protecting land and water resources for agricultural use.

*Questions about open space land acquisitions? Contact Janis Whisman at jwhisman@bouldercounty.org.* 

## **Historic Altona School**

by Carol Beam and Sheryl Kippen



The Altona School in 1888. The Altona School became a Boulder County local landmark in 2013.

In 2012, Boulder County purchased the 210-acre Heil Valley Ranch-2 property for \$6,000,000. The property is located in north central Boulder County. The Altona School is located on the southern boundary of the property and faces Left Hand Canyon Drive.

The Altona area operated as a supply and transportation center in the mid-to-late 19th century. It served the needs of miners and others, who following the mining boom utilized Left Hand Canyon as their major transportation route. Where the community got its name is a mystery. There are other regions called Altoona, so perhaps this community was named as a variation on that.

#### SCHOOL AND COMMUNITY

As with many growing communities at this time, a formal place of education soon became a priority. In Colorado between 1861 and 1876, school districts were governed by territorial law, each operating independently. Ten school-aged children needed to be living in a proposed district before a petition for official recognition could be submitted. By 1873, the Altona community met the minimum student number requirement and on October 9, 1873, Altona became Boulder County's School District No. 22.

In 1880, the Altona community completed the one-room stone schoolhouse that we see today. The schoolhouse is a perfect example of a utilitarian design—it lacks stylistic details and reflects the use of locally available materials. The schoolhouse featured one open room, a stove, student desks, a teacher's desk, and a chalkboard. Light filters through six tall glass windows and a transom window over the entrance door. A privy, located to the north of the building, remains. During the first school year in 1880, 18 boys and 22 girls, ranging in age between six and 21, attended 60 days of school. In subsequent years, records show the student population fluctuating from a low of 19 to a high of 41, numerous teachers, and a range of school days from 60 to 139.

By the 1930s rural education across Colorado, faced with the devastating effects of the Depression and Dust Bowl, began to decline. After World War II, school districts across the state began consolidating because of the compounded effects of declining rural populations, deteriorating schools, and improved highways. Although the areas around Altona began consolidation steps in 1948, the Altona school district voted against consolidation since the district high school would be located at the Ryssby School (located on 63rd St, just north of Prospect Rd) and not in Boulder.

The official end of the Altona School District came at a special election held in 1950 at the Left Hand Service Station. Altona's 20 voting citizens, by a margin of 16 to four, voted for consolidation with the Altona Consolidated School District since they were offered the option to send their children to Boulder for a small tuition fee.

#### **BACK TO SCHOOL**

After the school closed, the Heil family purchased the building from the school district and converted it into a residence. The Boulder County Parks & Open Space Department is restoring the building back to its period of significance as a schoolhouse.

After restoration is completed this year, the Altona School will be furnished with items typical of an 1880-1900 schoolhouse. The Longmont Questers (Saun Seeray chapter) donated a vintage teacher's desk similar to a desk once found in the schoolhouse. Because student desks were procured from several sources, an eagle scout project led by Josh Schultheis in 2018 refinished all of the oldfashioned desks.

The site is well-suited for local school field trips. Students will be able to experience what it was like to go to a one room school during different historical eras. Field trips will tie into local, state, and national school curriculum standards. Field trips can also be extended to include a nature hike on nearby Heil Valley Ranch trails.

More information about scheduling a field trip can be found on the department's webpage at www.BoulderCountyOpenSpace.org.



## **Thirteen-lined Ground Squirrels Plus Arithmetic**

Add 6+7 and your answer is the number of light and dark stripes on ground squirrels with an *odd* name. The name truly is **thirteen-lined ground squirrel**. In addition to thirteen cute stripes, their fur has orderly little spots. The cream-colored spots are more squarish than round, and they march in a line up the middle of each dark stripe. The spotted dark stripes and thinner light stripes stand out against a furry tan background. What a fancy coat on a tiny mammal!

Thirteen-lined ground squirrels spend most of their time underground, out of sight. In late summer or early fall, the critters enter their winter burrows and plug the entrance shut. The burrows are deep so the temperature in their winter quarters never drops below freezing, no matter how frigid it is above ground. The little squirrels snooze through the winter, barely breathing.

### **Ground Squirrel Spring**

Once spring arrives, their internal clock signals it is time to wake up. At first, like some sleepy kids on a school morning, the squirrels barely stir. They might visit their toilet room, but they snuggle back to sleep. While school kids may snatch a few minutes extra sleep, ground squirrels may doze for a few more days. But as the spring air grows warmer, the squirrels finally get excited to be out doing their squirrel work.

The male squirrels are the early risers. Their first spring job is getting their digestive system working. The next task is finding mates. Some males already know the whereabouts of female neighbors' burrows, and they hope to be ready and waiting when those neighbors wake up. Males will sometimes tussle with other males over territory or mates.





The squirrels communicate with other thirteen-lined ground squirrels by vocalizing (including alarm calls) and by scent-marking. There are scent glands around their lips so a bit of their odor is left on rocks or whatever they rub their chins against.

A friendly greeting between these squirrels is made by touching noses and lips. It looks a little like a kiss, but it's more like a sniff.



### **Digging into Work**

In their prairie grassland habitat, thirteen-lined ground squirrels prefer open spaces with short or mowed grasses. The habitat has few hiding places and many predators. A wide variety of grassland animals would eat a thirteen-lined ground squirrel caught out in the open. These predators include snakes (such as bull snakes and rattlesnakes) swift foxes, coyotes, weasels, badgers, and many kinds of raptors (such as red-tailed hawks, and Cooper's hawks). Dogs and cats are predators too. To find shelter from danger and from intense summer heat, ground squirrels dig and dig.

They dig lots of short tunnels all around their home turf. These short runs are hideouts used for a quick escape from danger. The females also dig longer tunnels with nest space for their babies. All ground squirrels, including the youngsters born in the spring, must dig their

own deep winter quarters before it is time to hibernate. The nest burrows and winter burrows have a food storage space and a side room for use as a toilet.

#### Watch Them Being Squirrelly

Because much of the prairie has been converted to buildings and farms, wide-open habitat for ground squirrels is limited. Search for thirteen-lined ground squirrels in old cemeteries, on golf courses, in parks, empty lots, yards, or weedy areas around farms. They need spaces where they can find food and room for digging. Some even live in prairie dog colonies.

Thirteen-lined ground squirrels are fun to watch when they are standing on their hind legs for a better view of their surroundings, or busily digging, or grooming, or nibbling the seeds off a tall stem. Like all squirrels, they are merely acting squirrelly while keeping an eye out for predators. Nice mornings and late afternoons are often the best times for observing their activity.

During the hot summer mid-days, the squirrels rest in the cool shade of a burrow. When you add hiding and resting to seven or more months hibernating, it equals a lot of time spent underground in a variety of tunnels. To make their burrows less visible to predators, they flatten the dug-out soil with their feet and the top of their head to avoid a tell-tale mound around the hole.





#### **Gathering Food**

Adult thirteen-lined ground squirrels weigh about as much as a stack of twenty nickels. Their diet includes vegetables such as grasses, weeds, and seeds. Bird and insect eggs are a treat when found. Sometimes, squirrels munch on corn, oats, wheat, and sunflower crops, but they may help farmers and ranchers by eating grasshoppers and other insects that are farm or ranch pests. They also eat moth and butterfly larvae, beetles, crickets, and ants.

They choose quite a varied menu, which is necessary for adding weight during the limited hours they spend above ground. Food that doesn't spoil quickly can be carried in the squirrels' inside cheek pouches for later munching. If they have the opportunity, thirteen-lined ground squirrels are known to prey on tiny mice and snakes.

Male squirrels have little to do except eat all summer long. They get chubby before youngsters and females, and they will be ready to hibernate earliest.

#### May is Baby Month

By the time May rolls around, female ground squirrels have instinctively prepared a grass-lined nest for around six to eight babies. A food supply room for the mom's snacks is close by and a toilet room is just down a short tunnel.

The naked babies (called pups) are born blind and helpless. Newborn pups need constant mothering, but they grow fast. By the time they are four to six weeks old, they are exploring outside the burrow. The pups stick close to the nest tunnel for about a week, but they gradually venture further and further away.

Before long, they find their own space for digging burrows and acting squirrelly. The squirrels do not live together in family groups, but more ground squirrels can be found in places with safe tunnel-digging space and plentiful food.



The young pups, especially the young males, are not as careful as their more experienced elders, and that makes them an easy target for predators. Long life for any thirteen-lined ground squirrel is not likely to be more than seven years.

The *Nature Detectives* article on pikas in the 2018 winter IMAGES magazine was missing some text and other text was misaligned. The corrected **Pikas Squeak and Scurry on Rocky Slopes** is available online in the Nature Detectives Library and can be printed from the Library site: <a href="https://www.bouldercounty.org/open-space/education/nature-detectives/">https://www.bouldercounty.org/open-space/education/nature-detectives/</a>.

### Shapes—Nature's Geometry

Thirteen-lined ground squirrels have very specific patterns in their fur—things like straight lines and circles. It almost looks like someone drew them in! Patterns in nature are not that unusual. Your dog may have random spots on his coat, but many things in nature follow patterns. Go outside to your yard, a park, or an open space, and look for these patterns in nature—in leaves, grass, fur, feathers, trees, flowers, water, and more. Draw an example of what you find:



### **Hibernation Numbers**

Like lots of animals, thirteen-lined ground squirrels hibernate in the winter. This allows them to survive when food is less available. Their body temperature drops to just a little warmer than freezing and their heart rate slows way down. This means they don't need much energy to stay alive.

During summer activity their heart beats about 200-300 times a minute. During hibernation it only beats 15-20 times a minute. Instead of 150 breaths a minute when they are active, they only breathe about four times a minute in hibernation.

To measure your regular breaths and heartbeat, set a timer for one minute. Relax and count how many times you breathe in that minute. Then find your pulse by placing your hand on your chest or putting two fingers on the inside of your wrist. Count how many times your heart beats in a minute. Think how few those counts would be if YOU were hibernating!

> Text by Katherine Young and Deborah Price Illustrations by Carol Tuttle



## From Bad Bananas to Good Plastic

#### By Simone Kirkevold, Kayla Barton, and Bruno Gallegos Sanchez

How many times have you wondered to yourself, "Can I save the world?" Due to the current state of climates and oceans, the world is in dire need of saving. According to the U.S. Department of Commerce and the National Oceanic and Atmospheric Administration, temperatures are rising exponentially, oceans will have more plastic than fish in them by 2050, sea levels are rising, and more and more animals go extinct every day.

Surveying the data showed one of the antagonists of the world was plastic. A group of three middle school students asked the question, "Well, what can we do?" We ended up deciding that forming a plastic entirely made out of materials accessible in almost all countries and easy to make would be a good start. After researching common allergies and accessibility, we found bananas would be the best foundation for this plastic. We created our plastic by pulverizing banana peels and heating them at high temperatures for extended periods of time. Finally, we laid them outside to dry.

Once the plastic mimic was made, phase one of our project had begun. We placed it out in two locations, Heil Valley Ranch and McIntosh Lake, to observe how it biodegraded when emerged in nature. It was also placed in tubs to observe the changing pH and color, as well as other varying qualitative data. From these locations, we found our material steadied the pH out to a 7, which is an ideal level for drinking water. Also after only a couple of weeks being emerged in nature, it had begun to decompose and become a part of the water. After three months of being placed in nature, all of the plastics had completely decomposed. Following the first successes of our biodegradable plastic in water, we took it a step further and placed it on land to further examine how the plastic affected soil quality. Once it was completely decomposed, we planted three pea seeds, and found no changes among the soil quality because the pea seeds grew at an average rate.

#### SEEING RESULTS

From watching the plastic decompose in the two locations, water quality impacted the results greatly. Heil Valley Ranch had very clear, clean water, while McIntosh Lake water was murky. The plastic placed at Heil Valley Ranch took a longer time to completely decompose—three months—while at McIntosh lake it took 2.5 months. McIntosh Lake also showed more acidic water quality, where Heil Valley Ranch was more neutral. We speculated why McIntosh Lake water was more acidic, causing us to ask more questions regarding water quality.

Once we had organized all of our data collected over a five-month period, we made a scientific poster and traveled to

CU-Boulder to present our findings at the May 2018 Colorado GLOBE Research Symposium, where we received first place among our peer reviewers!

Through the journey, the group's interest in water quality related to sustainability cultivated into something more than a desire to save the world; it cultivated into the desire to learn. We expanded our questions and curiosity to new ideas for gasoline alternatives, more ways to make natural plastics, and ways to advocate for these ideas. Throughout this project, we have been drafting and researching ideas for sustainability that we may eventually pursue as a group.

The more we learned, the more we wanted to help, and the more our curiosity about the world around us grew.

Students were awarded first place honors at the GLOBE research symposium at CU.



Westview Middle School students collected data at Heil Valley Ranch.



Editors' note: Students from Westview Middle School in Longmont worked with BCPOS staff last year on various citizen science projects. This is a report on the results of one of their projects.

# DISCOVER BOULDER COUNTY Calendar of Events

#### **BIRDS OF PREY DRIVING TOUR**

#### Saturday March 9, 9 a.m.-noon

#### Near Longmont. Location provided to those registered.

Join volunteer naturalists for a driving tour to view birds of prey. We will carpool from our meeting place to learn about habitat and work on identification skills. Bring lunch, water, binoculars, a spotting scope, and field guide if you have them. Tour is geared for adults and older children. Register at www.BoulderCountyOpenSpace.org/register

#### THE HIDDEN WORLD OF BIRD NESTS

#### Sunday March 17, 1-3 p.m.

#### Near Boulder. Location provided to those registered.

Bird nests range from a scrape on the ground to intricately woven hanging baskets. Join volunteer naturalists for an easy end of winter walk in search of these diverse structures created by avian architects. Bring binoculars and a bird field guide if you have them. Register at www.BoulderCountyOpenSpace.org/register

#### **SPRING HAS SPRUNG HIKE!**

Saturday March 23, 1-3 p.m.

#### Near Boulder. Location provided to those registered.

Join volunteer naturalists on a leisurely 2-mile hike and celebrate the beginning of spring by looking and listening for signs of new life along the trail. Learn the importance of the sun at equinox. Register at www.BoulderCountyOpenSpace.org/register

#### **BIRDING THROUGH THE SEASONS SLIDE PROGRAM**

#### Thursday March 28, 7-8:30 p.m.

#### Longmont Public Library Room, 409 Fourth Ave., Longmont

This slide program will explore where to go and how to identify some of our local birds, from the plains to the alpine. You will also learn about challenges birds face and how they adapt to a range of ecosystems and habitats.

#### SPRING AWAKENING—BEARS IN OUR BACKYARD

#### Saturday March 30, 1-3 p.m.

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

In spring, adult bears and their cubs emerge from winter dens. Join volunteer naturalists for a picnic shelter program to explore how bears survive winter and become active again in the spring. We'll also learn how to live safely in bear country.

#### PELLA CROSSING: HISTORY AND HABITAT

#### Saturday April 6, 1-3 p.m.

## Pella Crossing Open Space, about 1 mile south of Hygiene on the east side of North 75th Street

Join volunteer naturalists Joyce Costello and Marsha Williams to learn about the agricultural and mining history of this area and the development of the ponds for wildlife habitat.

#### GEOLOGIC HISTORY OF BOULDER COUNTY

Wednesday April 17, 7-8:30 p.m.

#### Louisville Public Library, 951 Spruce Street, Louisville

The geologic history of our landscape goes back nearly two billion years! Rocks contain a record of earth's history that can be read like the pages in a book. Join volunteer naturalists for this slide program and learn how to read this story in the rocks.

## **Senior Fish-off**

Friday, April 19, 6:30-10 a.m.

Wally Toevs Pond at Walden Ponds Wildlife Habitat, 75th St, between Valmont Road and Jay Road, Boulder

The trout have fattened up and are biting! Prizes will be awarded for heaviest rainbow trout, most experienced (oldest) angler, best fishing hat, and first to catch the limit.

- Open to seniors 64 years and older.
- All anglers must sign in—no fishing before 6:30 a.m.
- Valid 2019 Colorado fishing license required.
- Live bait and artificial flies/lures permitted—bring your own fishing gear.
- Wheelchair-accessible fishing pier is available.

For more information, contact Michelle Marotti at mmarotti@bouldercounty.org or 303-678-6219.

#### **RATTLESNAKE HIKE**

Saturday April 20, 10 a.m.-12:30 p.m.

Near Lyons. Location provided to those registered.

On this moderate 2-mile hike, volunteer naturalists will share information about the prairie rattlesnake and how to be safe in rattlesnake country. Bring water and wear closed-toe shoes. Register at www.BoulderCountyOpenSpace.org/register

## Calendar of Events

#### NATURE ON YOUR CELL PHONE!

#### Saturday April 27, 10 a.m.-noon

Ron Stewart Preserve at Rabbit Mountain, NE of Lyons on north 55th Street, meet at group picnic shelter

Join volunteer naturalists for a short, moderate hike to explore phone apps that help you learn about nature. You will also learn how to contribute photos to the iNaturalist Citywide Challenge and how to use iNaturalist to identify any organism your camera can capture.

#### **I SPY BEAKS AND FEET!**

Tuesday April 30, 10-11:30 a.m. Near Boulder. Location provided to those registered.

Birds eat a variety of foods. Join volunteer naturalists to learn how a bird's beak and feet help them find and eat their favorite foods. We will watch for local birds and find out where they live, eat, and have babies. This program is for preschool and early school-aged children and their families. Register at www.BoulderCountyOpenSpace.org/register

#### GOATS GALORE-MEET AND GREET

Saturday May 4, 10:30 a.m.–12:30 p.m.

#### Agricultural Heritage Center, 8348 Ute Highway, Longmont

Join the Goats Galore 4-H club for a drop-in program all about goats. Why do people raise goats? Do goats really eat tin cans and tennis shoes? Learn about raising goats, different breeds, housing and feed requirements, and see a live milking demonstration.

#### NORTH FOOTHILLS GEOLOGY HIKE

#### Saturday May 4, 9 a.m.-12:30 p.m.

Near Lyons. Location provided to those registered.

Join volunteer naturalist Roger Myers and others on a moderate 2-mile hike where you will learn about the unusual geology of the area. We'll also watch for spring wildflowers, soaring raptors, and other wildlife. Bring water, sunscreen, closed-toed hiking shoes/ boots, and binoculars if you have them. This program is geared for adults. Register at www.bouldercountyopenspace.org/register



#### WILDFLOWERS OF BOULDER COUNTY

SLIDE PROGRAM

Monday May 6, 6-7:30 p.m. George Reynolds Branch Library, 3595

Table Mesa Drive, Boulder Join volunteer naturalists for a slide program to kick off the wildflower season! You'll learn about a diversity of wildflowers and where and when to look for them.



## THE MYSTERY OF BIRD MIGRATION SLIDE PROGRAM

Thursday May 9, 6-7:30 p.m. Lafayette Public Library, 775 west Baseline Road, Lafayette

Join volunteer naturalists Larry Arp and Vicki Braunagel to explore these mysteries surrounding the world of bird migration.

#### SPRING MIGRATION BIRD WALK

#### Saturday May 11, 8-10:30 a.m.

Near Boulder. Location provided to those registered.

Join volunteer naturalists to explore the joys of bird watching and learn to recognize different types of birds and raptors. Be prepared for a slow-paced walk of up to 2 miles. Bring water, walking shoes, and binoculars and a bird field guide if you have them. Register at www.BoulderCountyOpenSpace.org/register

#### MOTHER'S DAY WILDFLOWER HIKE

Sunday May 12, 10 a.m.-noon

Ron Stewart Preserve at Rabbit Mountain, NE of Lyons on north 55th Street, meet at group picnic shelter

Join volunteer naturalists for a moderate 2-mile hike that will take you from grassland to ponderosa pine shrubland in search of early bloomers.

#### FOSSILS AND FLOWERS HIKE

Sunday May 19, 9:30 a.m.-noon

Near Boulder. Location provided to those registered.

Join volunteer naturalists Sue Hirschfeld and Linda Boley for a short, moderately-strenuous hike to explore a landscape created by folding and faulting and see evidence of the seas that once inundated this area. Bring water and hiking shoes. Register at www.BoulderCountyOpenSpace.org/register

#### WETLAND WADERS BIRD WALK

Saturday May 25, 8-10:30 a.m.

Near Boulder. Location provided to those registered.

Learn tips for recognizing different types of wading birds and their nesting preferences. Be prepared for a slow-paced walk of up to 2 miles. Bring water, walking shoes, and binoculars and a bird field guide if you have them. Register at www.BoulderCountyOpenSpace.org/register

#### All Programs:

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



#### **ANCIENT BEACH WALK**

Sunday May 26, 9-11:00 a.m.

Near Niwot. Location provided to those registered.

Visit an ancient beach in our backyard! Join geologist and volunteer naturalist Sue Hirschfeld on an easy walk to see the fossils and unusual geologic features formed in this near-shore marine environment. Please wear hiking shoes—there's lots of prickly pear cactus! Register at www.BoulderCountyOpenSpace. org/register



#### NATURE DETECTIVES IN THE FIELD: GROUND SQUIRRELS

Thursday May 30, 10-11:30 a.m.

Near Hygiene. Location provided to those registered.

Discover the underground lives of these little animals and learn about the different species that live here through exploration and hands-on activities. For children ages 5-10 with accompanying adult. Register at www.BoulderCountyOpenSpace.org/register

## **Nature Hikes for Seniors**

#### **Prairie Hike for Seniors**

#### Thursday March 28, 10 a.m.-noon

Carolyn Holmberg Preserve at Rock Creek Farm, north of Broomfield at the junction of South 104th St and Dillon Road, meet at the Stearns Lake Trailhead

Join volunteer naturalists for an easy hike to learn how grassland plants and wildlife respond to the arrival of spring.

#### **Foothills Hike for Seniors**

Thursday April 25, 10 a.m.-noon

Ron Stewart Preserve at Rabbit Mountain, NE of Lyons on north 55th Street, meet at group picnic shelter

Join volunteer naturalists for a moderate hike to learn about this area's unique geology, as well as history, plants, and wildlife.

#### **Wetlands Hike for Seniors**

Thursday May 30, 10 a.m.-noon

Walden Ponds Wildlife Habitat, 75th Street between Valmont Road and Jay Road, (meet at shelter near Cottonwood Marsh) Join volunteer naturalists for an easy hike to explore and learn how wetland ecosystems come alive in springtime.

**Note for all programs:** No registration is necessary. For more information or directions to open space properties, please visit www.BoulderCountyOpenSpace.org, or call 303-678-6214.

## **Astronomy Programs**

#### **DROP-IN ASTRONOMY: SEE THE STARS!**

Saturday March 16, 7:30-9:30 p.m. and

Saturday April 13, 8-10 p.m.

Near Lyons. Location provided to those registered. Join county volunteers and the Longmont Astronomical Society to view the sky in the dark surroundings of open space!

#### **ASTRONOMY: THE MOON AND MORE**

Saturday May 11, 8-10:30 p.m.

Near Lyons. Location provided to those registered.

Learn fascinating moon facts as we approach the 50th anniversary of the moon landing, and get a perspective of our planetary neighborhood with interactive demonstrations. Followed by skygazing with telescopes provided by the Longmont Astronomical Society. For adults and families with children ages 6 and up.

#### WALK IN THE LUNAR LIGHT

Saturday May 18, 7:30-9:30 p.m.

Near Boulder. Location provided to those registered.

Enjoy a walk by the light of the moon, and celebrate the 50th anniversary of the first human lunar landing! For adults and families with children ages 6 and up.

**Note for all programs:** Register at www.BoulderCountyOpenSpace. org/register.

#### **Picturing Open Space: Photography Sessions**

These sessions are held to encourage people to participate in the 2019 "Land through the Lens" photography exhibit.

#### **Sunset Photography Session**

Saturday, April 6, 6:30–8:30 p.m. Ron Stewart Preserve at Rabbit Mountain

#### **Sunrise Photography Session**

Saturday, May 4, 6–9 a.m. Mud Lake Open Space

**Please note that registration is required for all programs:** Register at www.BoulderCountyOpenSpace.org/register.

See page 11 for more information.

## Opportunity for Boulder County Youth

Jobs

for

Teens

Each spring the Boulder County Youth Corps gears up for its busy summer season. Sponsors are planning many projects that Corpsmembers will be working on during the 8-week employment program for Boulder County youth ages 14-17. Teens can apply online. Applications will be accepted through Wednesday, April 3. Leader applications from those 18 and older will be taken online until all of the positions have been filled. Challenge yourself this summer by joining the Youth Corps! Find more information and apply online at www.BoulderCounty.org/ YouthCorps.

> The Boulder County Youth Corps Improving Ourselves, Improving Our Community



Corpsmembers celebrating their first paycheck last season!



## Spring Out for Spring Break

Welcome the spring season by getting outside! During spring break visit a Boulder County Parks & Open Space location, take a selfie or a photo with your friends or family, and submit it to Facebook, Twitter, or Instagram with the hashtag #BoCoSpringOut. After spring break, we'll do a random drawing and award five outdoor prizes to the winners!

- Visit www.BoulderCountyOpenSpace.org/trails for a full listing of county parks and open space.
- Up to five photos can be submitted, but they must be at five different parks.
- In your submission, be sure to include the name of the park where the photo was taken.
- Each photo must include at least one person who is a student, teacher, or school administrator.
- A photo must be defined as "public" in your social media platform in order to be viewed and submitted.
- Contest open March 23-31
- Five grand prizes will be awarded: daypack (child or adult size), trekking poles (child or adult size), mtn. bike repair kit/pump, fishing tackle box, monocular with cell phone photo adapter, or dog cooling vest

Visit www.BoulderCountyOpenSpace.org/springout for more information.

### Land through the Lens

#### A Boulder County Juried Photography Show

If you are a photographer or know someone who is, please visit our www.BoulderCountyOpenSpace.org/photoshow to learn more about submitting work for consideration.

Deadline for submissions: Wednesday, June 19

**Eligibility**: Anyone may submit up to five photographs for a \$30 entry fee. Profits are contributed to the Boulder County Parks & Open Space Foundation (www.PreserveBoulderCounty.org). The entries must feature Boulder County Parks & Open Space land. Be sure that you visit the "Photo Show" website for a map and list of properties.

**Exhibit opening and dates**: The exhibit will be held at The Great Frame Up – Longmont from Friday, August 9 through Friday, September 6. Cash prizes will be given to exhibitors.

**Photography sessions:** We will hold group photography sessions on county open space properties. More details on page 10.





Parks & Open Space 5201 St. Vrain Road, Longmont, CO 80503 www.BoulderCountyOpenSpace.org 303-678-6200



- A Hall Ranch
- B Ron Stewart Preserve at Rabbit Mountain
- C Heil Valley Ranch
- D Coalton Trailhead
- E Pella Crossing
- F Boulder County Fairgrounds
- G Lagerman Reservoir
- Twin Lakes Н
- I Bald Mountain Scenic Area
- J Walden Ponds Wildlife Habitat
- K Betasso Preserve

- L Legion Park
- M Caribou Ranch
  - N Mud Lake
- 0 Walker Ranch
  - P Flagg Park

at Rock Creek Farm

- R Anne U. White (closed)
- S Dodd Lake
- Harney Lastoka Т
- Agricultural Heritage Center 1
- 2 James F. Bailey Assay Office Museum
- 3 Nederland Mining Museum

- **Q** Carolyn Holmberg Preserve