



Rocky
Mountain
Conservancy

QUARTERLY

Summer 2014

A CONVERSATION

by Mary Taylor Young

The front door welcomes us with an old-house squeak and, like three Alices through the looking glass, we step inside, and into another century—the Colorado of the 1940s.

Our Wonderland is the William Allen White cabin. I am here for two weeks as the Artist In Residence at Rocky Mountain National Park. Olivia and Emma—my 14-year-old and her friend—are with me for the first four days.

This classic “old Colorado” cabin perches on the mountainside at the eastern end of Moraine Park. Eagle Cliff Mountain is a terminal moraine, pushed up as the Moraine Park glacier expanded 20,000 years ago, scraping this valley like a plowing bulldozer. This massive geologic event, almost impossible for a human to imagine, had a wonderful result, creating a perfect vista point overlooking this scenic glacial valley. Below the cabin’s front porch, the oxbows of the Big Thompson River meander like a sleepy water snake, with the rock massif of Longs Peak looming beyond.

Our first exploration of the cabin—which was built in the 1880s, my research told me—is highlighted by many exclamations of “Cool!,” “Omi-god!,” “What is THAT?!” and “Eew!” The early 20th century furniture, the framed black-and-white photos, the curious, free-standing “Hoosier” pantry

in the kitchen, even the back screened porch with its cobwebs and evidence of chipmunks, don’t always meet with approval from 21st century teens. Nevertheless, we soon settle in. The girls discover board games in a built-in cupboard and become once again the kids they still are in many ways.

I explore the cabin more thoroughly. The sense of the man who once owned and loved this cabin is strong—in the comfortable arrangement of the wicker furniture, in the cushioned window seat that beckons from beneath an enormous picture window, in the rolltop desk in the corner with its framed photos of William Allen White himself. He is a rotund gentleman with a resemblance to cartoon character Elmer Fudd (also a mid-20th century personality). The smile in his knowing eyes, however, reminds me this small-town newspaperman from Emporia, Kansas, who became a prognosticator of national events and politics was no buffoon but an astute and influential man of his time.

The outdoors beckons and I plant myself in one of the two vintage twig-and-wicker rockers on the porch.

Now that I’m seated, slowed down, my eyes really look at the place. The cabin’s knobbly foundation and roof supports are of stacked fieldstone, each rock

(Conversation continued on page. 2)

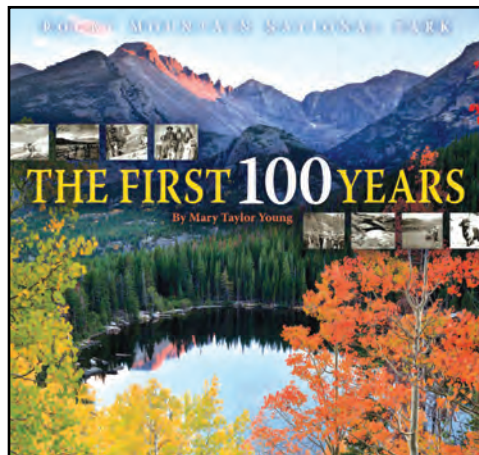


INSIDE: Membership Picnic at Hidden Valley

an individual—a jaw poked out here, a rounded rump there. Two eyes and a comical nose, or, in different light, a patrician profile. Stacked higgledy-piggledy, into a structure of enduring strength. This cabin, after all, has stood longer than a century. Whoever sited it on the hillside did it well—a gentle sweep down across fringed sagebrush and Indian paintbrush, around granite and mountain mahogany, to the lush park, then up the mountain beyond, up, up, to the boxy, unadorned top of Longs Peak.

As I watch, safe beneath the porch roof, a summer rainstorm gathers clouds like an invading army and soon encloses Moraine Park. Longs Peak stands now misty-veiled—hidden but always present. Beneath the clouds, glaciers stand on end against its rocky slope. The colors of the park change, saturated to richness by the rain—jade and sage and russet.

At the table inside, Olivia and Emma play the board game LIFE—“College career path,” “Get married,” “Buy a house,” “Have a kid,” “Have another!”—fourteen-year-olds passing the rainy afternoon like we did when I spent childhood summers in Rocky Mountain National Park 40-plus years ago. I flash back to rainy afternoons in the pine-paneled kitchen of my grandparents’ cabin on Deer Mountain, where my grandmother kept us entertained while Granddad sat on the deck smoking his pipe. He was a Chevy dealer from Kansas and brought his family out to Estes Park every summer for years—first my mom and her siblings when they were kids, then the next generation of his grandchildren—me and my sisters and cousins.



Mary's newest book, Rocky Mountain National Park: The First 100 Years, celebrates the history of the park. Available in Conservancy Nature Stores in the park.

As the rain shrouds the Moraine Park cabin, I sit in W.A.'s rocker, perched like a raven surveying the world below. A few cars motor past on the road, windshield wipers ticking in mundane contrast to the drama of storm and weather and mountain playing out around.

The sound of the girls enjoying their game comes to me through the open windows, their voices softening to match the rhythm of the rain. The porch floorboards, gravid now with rain, emanate an old-wood perfume that joins the humic scent of the wet mountain-side. Some of these boards have been in this place for 100 years, in an endless dance with the weather. My rocker, too, responds to the moist air and begins a rhythmic tune—ree! ruh!-- ree! ruh!

The timpani of rain and rocking lulls me and I feel myself almost in another time and place. Then I hear the second rocker begin to creak.

“Rains every afternoon.” The Midwestern voice seems familiar, the middle tones of Kansas. No southern molasses or nasal northeast or western casual. Just solid and plain speaking. A voice like my grandfather's. But it's not Granddad. It's another Kansas man.

“Cools it down. Can get mighty hot here in July during the day. Not like Kansas, of course. But hot.”

“Yes,” I answer. The sounds of a spirited game of LIFE filter out from within the cabin.

The second rocker creaks a gentle rhythm. “I'm not really here, you realize.” A rotund gentleman seems to occupy the chair. His head is cocked a bit in my direction, eyebrows raised confidently. He's an older man, past middle age. He has a moon-shaped face and a friendly, knowing smile. He wears a formal white shirt, open at the neck, with no tie. His trousers are summer-weight, belted, with suspenders over the shoulders. I hide a smile. Belted above his round stomach, those trousers are in no danger of descending. “Not here in the physical sense, at any rate,” the gentleman adds.

“Yes, sir,” I say, wondering where my formality has suddenly come from. “I realize that. At least I certainly hope you're not.”

“Mmm, yes. I'm more of a thought.



An evocation. Of this place, of your memories.”

“A figment of my imagination, you mean.”

“Yes, young lady, of your imagination.” He raises an eyebrow again, peers at me. “But do me the courtesy of not imagining that I won't speak my own mind. I still have plenty to say, plenty of opinions.”

I feel sure he does.

He points at my laptop. “You're welcome to record them on that machine.”

At my surprise he waves a hand. “Yes, I've seen all these new contraptions come through over the years. I get a chuckle at some of them—they seem to break more than they work. You should hear the people curse when those spectacle cases they call a telephone don't work here. What do you expect when you don't have them connected by a wire? Ha! I had more reliable telephone service in 1935! Even though the local nosies listened in on the party line.”

He looks out over Moraine Park, the Big Thompson River writing itself in cursive across the valley floor. “Looked different in my day. Back then, this valley was filled with resorts, lodges, horse stables. It was like a little town here, even had a post office. But the Park

(Conversation continued on p. 8)

Announcing the Annual Rocky Mountain Conservancy Picnic in the Park!



When: August 2, 2014
Time: 11:00 AM to 2:00 PM

Where: Hidden Valley in RMNP!

Members \$15.00; Guests \$20.00
Kids 6-12 \$5; Kids 5 and under free!

11:00 - 12:15 Activities & mingling
12:15 - 1:00 BBQ picnic lunch
1:00 - 2:00 Program

Check out this year's lineup of food and frivolity!

- Meet Abner Sprague and maybe some of his friends — *you'll be amazed how well they've aged!*
- Live music with the bluegrass band *Steampowered*
- Live birds with the Rocky Mountain Raptor Program
- Field Institute interpretive walks
- Tasty cold beer from New Belgium Brewery
- Chilly ice cream courtesy of Boulder Ice Cream
- Decadent fudge courtesy of Gateway Stores
- A classic BBQ menu from *Jubilations Catering* (with vegetarian options)
- A 20% discount on our Nature Store products
- A live auction of one-of-a-kind park experiences

RSVP by July 23 if you plan to attend

Make your reservation by calling 970-586-0108,
or at www.RMConservancy.org

- Advance payment is required — thank you!
- If you need to cancel your reservation, let us know!
- **Parking at the Gateway Store at the Fall River Entrance with shuttle to the site** is STRONGLY encouraged — stay tuned for details in the picnic postcard coming your way soon!

Thanks to George Carle of the Gateway Store!

We hope to see you there!

Cover photo credits

(From lower left to upper left): **"Mountain Spring,"** by Conservancy Member Lisa Thompson, Fort Collins, CO; **"Paintbrush Garden"** by Conservancy Member Phyllis Holst, Longmont, CO

Please send high-resolution images to nancy.wilson@RMConservancy.org by September 1 for publication in the 2014 Autumn *Quarterly*.

Photos are always appreciated! Scenery, wildlife and wildflowers greatly enhance this publication, so get out there and take a hike! **Thank You!**

Ask Nancy

Quarterly Editor Nancy Wilson attempts to unearth answers to any questions asked by Conservancy members and park visitors. If you are curious about something in or about the park, email nancy.wilson@RMConservancy.org or write: Nancy Wilson, Rocky Mountain Conservancy, PO Box 3100, Estes Park, CO 80517.

At the top of Deer Mountain there is a survey marker giving information about location, altitude, etc. On the marker there is an arrow, but the arrow does not point north. What is the purpose of the arrow? It may be that the arrow is pointing in the direction of a survey point in the distance that was used to determine (via triangulation) the height of Deer Mountain. A second option may be that the arrow is pointing in the direction of where a section corner should be, but can't be placed. It appears from my data that 'on paper' there would be a section corner in the midst of the steep cliffs to the west of the summit. — *RMNP GIS Specialist/Biologist Ron Thomas.*

What is the small building located in Upper Beaver Meadows maybe a 1/4 mile, south-southwest to southwest of the parking lot? It has a green roof and is/was very well insulated. What you see are the remains of a section of the Hondius water system, sort of a catchment basin or cistern. At one time Beaver Creek water was piped from this point eastward about two miles to provide a water supply for the original High Drive housing development (mostly summer cabins). In fact, sections of that old pipe may still be found. Also near this site is the water diversion ditch used by the Hondius ranch to irrigate hay fields. The water rights on the Hondius property probably dated from before 1895. Those rights were retained well after the 1930s, when the Ranch itself was purchased for inclusion in the park. Once the water right was obtained by the government, water diversion ended and this old system was abandoned. Most homes or cabins (in that original High Drive development, across the highway from Park Headquarters) were incorporated into the town of Estes Park's water system. — *Curt Buchholtz, Director, Major & Planned Giving, National Park Foundation*

What percentage of the trees on the west side of the park were hit by pine beetle since the onset of the epidemic? According to recent reports, 80 – 90% of the lodgepole pine trees on the west side of the park have been killed by the mountain pine beetle. The epidemic began about 10 to 15 years ago, coinciding with a several-year period of drought.

Mountain pine beetles are a native insect that evolved with the pine forests of the west. They spend most of their life cycle just under the bark of the tree, feeding on the inner bark as they grow as larvae. They have a symbiotic relationship with a blue stain fungus, which further penetrates the inner bark, killing the tree. Beetles emerge every summer, land in a new, live tree and begin the process of mating, laying eggs, and hatching into larva, living under the bark all winter. Typically, mountain pine beetles can kill about 10% of the forest (a natural process) per year, an amount that goes mostly unnoticed.

(Pine Beetles continued on page 15)



Eagle Rock student participates in dragonfly study at McGraw Ranch

CITIZEN SCIENCE: ENHANCING SCIENTIFIC LITERACY

Volunteer projects continue to evolve and have included efforts to test for mercury, understand limber pines and even train the next generation of wildland firefighters.

How much mercury is present in the water bodies of RMNP? This is one question citizen scientists are currently helping to answer. The

Continental Divide Research Learning Center (CDRLC) brought a nationwide mercury dragonfly study to RMNP over the past two summer seasons. This permitted project is in partnership with the University of Maine and more than twenty other parks.

Citizen scientists for this project have been students who have

learned about the life cycle of dragonflies, stream ecology and nutrient cycling. Dragonfly larvae have long life cycles and act as bio-indicators of what is in the water, including mercury, so this project brings in Citizen Scientists to

collect dragonfly larvae in the park to be tested for mercury levels.

The dragonfly larvae were collected and sent to laboratories at the University of Maine for analysis. Results from the study are posted online and students can compare the data from the sites in RMNP to other national parks.

Young citizen scientists today will be the stewards of national parks in the future and this idea was the inspiration for yet another collaborative program. The CDRLC, Alpine Hotshot fire crew members and staff from Eagle Rock School in Estes Park came together to implement a class-based citizen science fire program which focused on authentic hands-on experiences.

Eagle Rock students completed the five week course which included fire safety, ecology, suppression, history, and basic training. Students spent many days in the field applying what they learned in the classroom. Students were introduced to career paths in firefighting and the National Park Service, and they also spent time using the tools of the trade, includ-

by Holly Nickel

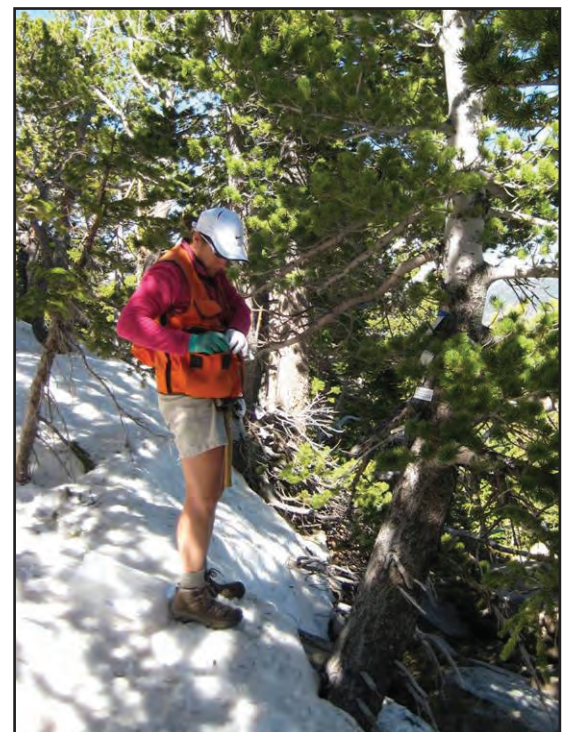
Warm sunny days are back at Rocky Mountain National Park (RMNP) and, as of early June, students have already been spotted measuring willows and counting birds in Horseshoe Park as part of the park's Elk and Vegetation Management Plan. These students are participating as volunteer citizen scientists.

Through citizen science programs, students and visitors can do more than recreate.

Citizen science projects are intended to enhance scientific literacy of the participants and improve the overall stewardship of park resources. Park managers develop scientifically sound practices then train volunteers to use these techniques and collect information for resource-related projects. These programs allow participants to experience the park while also helping to address important management goals.

RMNP has a long history of volunteer help in the park and continues to expand this through citizen science.

Citizen science projects are intended to enhance scientific literacy of the participants and improve the overall stewardship of park resources.



Volunteer collects data on limber pine in RMNP (NPS)

ing a day digging fire lines with Alpine Hotshot Superintendent Paul Cerda and Captain Mark Mendonca.

Jon Anderson, an 11-year veteran instructor at Eagle Rock School, appreciated the opportunity for his students to gain real-life experiences outside of a classroom:

"I have been impressed with the students' desire and commitment to rise up and meet the challenge of a class that is both physically and mentally challenging," Anderson said. "The integrated curriculum that Eagle Rock School, the Alpine Hotshots and the CDRLC, have developed represents a strong collaborative effort that has significant impacts on both the academic and personal growth of students."

Many students will volunteer or intern in the park this summer. The course they took taught 19-year-old Jeremy Coles what it means to be a leader:

"Working with the Alpine Hotshots encouraged me to be more on top of my game with life skills and working as a team, [and] being a leader to contribute to make class smooth," said Coles. "Meeting people from RMNP opened up doors for my future."

Citizen science may be a new catch phrase, but it embodies a long tradition of passionate volunteers helping with park stewardship.

Another significant Citizen Science effort at RMNP is the limber pine conservation project. During the summer, volunteers, along with park staff, collect cones and forest health inventory data from

limber pine stands. Seeds from the cones are stored at the National Seedbank Laboratory in Fort Collins for possible future restoration projects, or at the U.S.F.S. Dorena Genetic Resources Center in Oregon to be tested for resistance to the invasive white pine blister rust.

Volunteers and park staff also protect 268 individual limber pines by hanging verbenone packets on trees. Verbenone is a chemical which mimics a natural pheromone emitted by the mountain pine beetle. The chemical deceives beetles to believe that there are no mates available in the tree. The limber pine project has been a great example of how highly trained citizen scientists can help protect an important species in the park.

No two citizen science projects are alike, but they all have common goals: to provide crucial information for resource stewardship, and to offer opportunities for people to connect with nature and become better stewards themselves. The scope of projects and research may seem as vast as the



Fire class students from Eagle Rock School dig fire line with Alpine Hotshots. (NPS)

Continental Divide, but with the help of dedicated citizen scientists, great advances are being made.

Citizen science may be a new catch phrase, but it embodies a long tradition of passionate volunteers helping with park stewardship.

To get involved with these or other projects, please contact Ben Baldwin at ben_baldwin@nps.gov for more information.

Holly Nickel is an Education Technician at the RMNP Continental Divide Research Learning Center.



Students from Eagle Rock School search for dragonfly larvae at McGraw Ranch. (NPS)





Conservation Corps Crews Are Back!

This summer marks the twelfth season of the Rocky Mountain Conservancy – Conservation Corps, previously known as the American Conservation Corps. Since 2003, the Rocky Mountain Conservancy, formerly recognized as Rocky Mountain Nature Association, has hosted a number of college-aged students for a summer internship alongside the National Park Service and U.S.D.A. Forest Service.

These strong and enthusiastic young people help the land management agencies complete priority projects to insure safe recreational access while gaining valuable on-the-job experience in conservation work. They learn about the many career opportunities in natural resource management while becoming becoming intimately connected with Colorado's public lands. All of these takeaways fit into the Rocky Mountain Conservancy's mission to foster the next generation of public lands stewards.

Due to the flooding and heavy snowpack experienced in Northern Colorado this past year, the Rocky Mountain Conservancy is sponsoring six crews in 2014 — a 50% increase from 2013. Each crew is comprised of six students; one leader, one assistant leader and four crew members. This year there will be two crews stationed in Estes Park working alongside the National Park Service in Rocky Mountain National Park, and four crews working with the Forest Service in the Arapaho-Roosevelt National Forests.

The Rocky Mountain Conservancy is very excited about the season ahead and proud to be supporting 36



Row 1 (back): Tom Derr, Olmsted Falls, OH; Ben Williamson, Loveland, CO; Josia DeChiara, Shutesbury, MA; Tommy Eglund, Carlton, OR; Daniel Misch, Crown Point, IN; Jake Larson, Parker, CO; Aidan Shafland, New York, NY; Joe DiBello, Rydal, PA; Lewis Kunik, Lakeville, MN; Jackson Bramlette, Fort Benton, MT; Patrick Donaghue, Cleveland, OH. Row 2: MegEllen Kimmett, Clinton, CT; Margaret Johnson, Chapel Hill, NC; Michaela Wilson, Lincoln, NE; Joey Murphy, Walpole, MA; Jay Merrill, Littleton, CO; Rebecca Ripperton, Chapel Hill, NC; Bryce Goldade, Olathe, KS; Connor Enright, Brookfield, WI; Mary Weiss, Elgin, IL; Reid Grinspoon, Weston, MA; Ginevra Moore, Carbondale, CO; Hania Burrows, Portland, OR. Row 3: Clint Mitchell, Arvada, CO; Holly Pretsky, Englewood, CO; Courtney Ross, Plover, WI; Delaney Garvin, Naperville, IL; Emily Wilkins, Woodbury, MN; Dan Connor, Kansas City, MO; Chris Hager, Newfields, NH; Meghan Denny, Bristow, VA; Michaela Backes, Mt. Shasta, CA. Row 4 (front): Jerry Gonzales, Las Vegas, NM; Suzana Guardado, Denver, CO; Stephanie Stone, Effort, PA; Shelby Ahrendt, Stillwater, MN.

Conservation Corps interns out in the field. Here's a brief list of project priorities for 2014 for each of the crews:

- The crews in Rocky are assisting the NPS trail crews in repairing backcountry bridges, rebuilding erosion controls, and rerouting destroyed trails. Similarly, the crews located in the Arapaho-Roosevelt National Forest also are focusing on flood-affected trails.
- The Red Feather Crew, stationed in Fort Collins, CO, is working near Estes Park to open popular trails, like the North Fork and Lions Gulch Trails.
- One of our new crews for 2014, the Boulder Crew is one of our new crews initiated in 2014 which is stationed in Nederland, CO. It is working on local trails affected by the flood, primarily in the St. Vrain area, including the Dry St. Vrain, Ceran St. Vrain, and Buchanan Pass Trails.
- North of Fort Collins, the Rawah Crew that is stationed at the Stub Creek Bunkhouse in Jelm, WY, will

be completing work on backcountry trails and spending much of their time camping during the work week to improve safe access to some more remote areas of the Rawah Wilderness.

- The Shadow Mountain Crew is stationed on the west side of the Continental Divide, just outside the town of Grand Lake. This crew is installing bear bins at campgrounds, removing hazard trees from Doe Creek, completing backcountry patrols, and rerouting the Soda Pass trail.

As these crews complete their first weeks of work, the Rocky Mountain Conservancy invites you to track their work and join in on their experience by following the Conservation Corps blog at www.RMConservancyConservationCorps.wordpress.com. If you have any questions or would like to know more about the program, contact Geoff Elliot, Conservation Corps Manager, at geoff.elliott@RMConservancy.org, or call (970)586-3262 x15.

Conservancy Volunteer Days in the Park!

Give a day to your favorite park this summer and fall in Rocky! Join the Rocky Mountain Conservancy for these special volunteer days where you bring the energy and goodwill, we'll bring water, snacks and lunch. We'll also provide a unique lunchtime educational program related to the work you are doing. Please email your interest and questions to RMCmembership@RMConservancy.org or call Membership at 970-586-0108 to reserve your spot today (space is limited). **Please note: This event is free but there must be a current Conservancy member in your group.**



Fire Fuels Reduction — Family Volunteer Day
Saturday, July 19
9 am to 1:30 pm
Lunch provided

Meet and work with RMNP's fire crews, learn the importance of reducing wildfire fuels and about the park's fire management program. Ages 10 and up welcome (with parents/guardians). Come

prepared for a day working outside!
Invasive Plants Volunteer Day
Saturday, August 23
9 am to 4 pm
Lunch provided

Work with RMNP's plant restoration crews to learn about and remove damaging invasive plants. Ages 15 and older welcome (with parents/guardians). Come prepared for a day working outside!

Park Puzzler

by RM Conservancy Member Joel Kaplow

Across

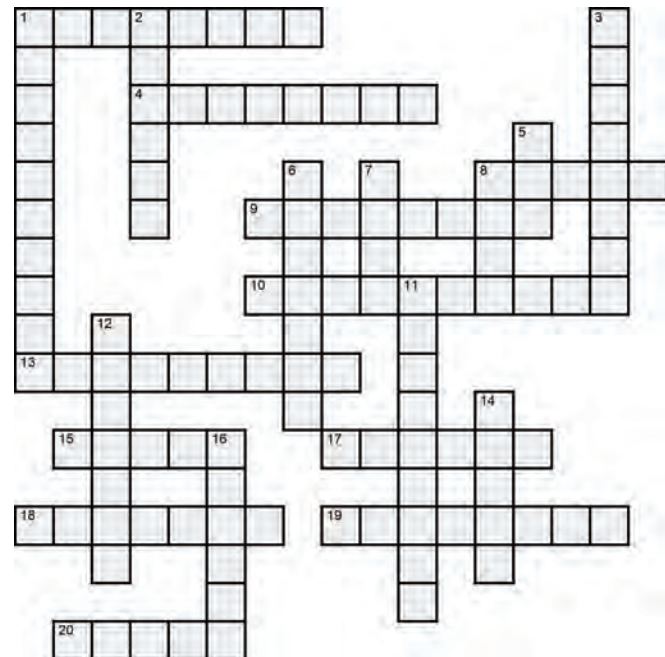
- Literally late bloomers, these tundra flowers are first seen in August, and herald the end of the alpine summer.
- If you're in a wet area in the park and see this flower, it's likely not a drunken hallucination, but *Pedicularis groenlandica*, commonly known as little ___ head, comprised of dozens of small pink petals that resemble heads of a certain pachyderm.
- Boreal toads hop to it in warm weather, but are known to spend over ___ percent of their lives in hibernation, which occurs in varied spots such as beaver dams and ground squirrel burrows.
- Name the naturalist/conservationist who wrote, "In every walk with nature one receives far more than he seeks." (2 wds)
- While in the park's high country, you may come across some snow with pinkish areas. This is most likely caused by the algae *Chlamydomonas nivalis*, and is known as ___ snow, as its color and smell are similar to the innards of this summer fruit. Don't eat it though, as it can give humans that "get-up-and-go" feeling!
- Name the naturalist/conservationist who wrote, "Enter the forest and the boundaries of nations are forgotten." (2 wds)
- If you spot a black-billed magpie riding on the back of an elk, deer or moose, it's not bumming a ride, but most likely nosing on ___ it picks from the animal's hide.
- Built in 1967, the rustic-style ___ Meadows Visitor Center was designed by architect Tom Casey, a student of Frank Lloyd Wright, and is a national historic landmark.
- The ___ fir can grow up to 200 feet tall, prefers cooler north-facing slopes, and is found in RMNP mostly between 8,000 and 9,500 feet.
- An occasional RMNP visitor weighing in at only 1/10 ounce, the smallest of all North American birds is the ___ hummingbird, named for the Greek muse of poetry.
- If you feel a sudden urge to do some trail maintenance, help with revegetation, manage campgrounds, eradicate invasive species, etc., in RMNP, and you are a RM Conservancy member, you are invited to volunteer your services through the newly established Conservancy Member ___.

Down

- Once part of Stead's Ranch, the last remnants of a ___ were removed in 2009, and Moraine Park was returned to its natural state. Swingers used to drive there, hoping to see eagles. (2 wds)
- For years, backcountry camping was allowed in RMNP with a free permit. A small fee was first charged in 1991, and the cost has crept up to ___ dollars today. Because of the increased danger of beetle-killed trees, there are now "dispersed camping zones" where campers can distance themselves from dead standing trees.
- The trio of ___, Eastern and Western make up the bluebird contingent found in RMNP.
- Led by the League of Women Voters of Estes Park, Congress enacted a permanent ban on commercial ___ tours over RMNP in 1998. Rocky is the only national

park in the western U.S. that has such a ban.

- The leopard frog, grizzly bear and bison used to habituate the park area, but have been extirpated. This means they are ___ extinct.
- Rydbergia grandiflora*, a.k.a. alpine sunflower, a.k.a. old man of the mountain, are large, yellow tundra flowers that always face east. They've been known to live for 15 years and longer, but bloom only ___ before they die.
- If you see a large owl flying about in RMNP, somehow manage to capture it, and measure its wingspan to be ___ feet, there is only one species it can be; a great horned owl.
- The ___ hawk is the most common hawk in North America, and can be found as far south as Panama. These feathered friends are monogamous.
- This adjective means "harmful to living things" and is commonly used to describe nonnative, invasive weed species that have been introduced to an ecosystem, upsetting the natural balance.
- The title of a John Denver album released in 1971 is also a home for 11-Down. What is it?
- Moths and butterflies have something in common with most fish. Their bodies are covered with ___.



(Conversation cont. from p. 2)

Service cleared all that out.”

I’ve learned this in my research. “It’s a lot different, isn’t it? What do you think of it now?”

The rocker creaks. A few elk graze across the way and he seems to watch them. In his day, it would have been horses.

“Life was maybe easier here,” he says finally, “when there was civilization—stores and neighbors. And a phone line. I even took calls from Washington.” He cocks a smile my direction. He must have heard me complaining I couldn’t get service on my own “spectacle case.”

His gaze returns to the misty valley view. “People set up quite a hue and cry when the Park torched all those old places. But when you see it like this, lush and wild and full of the animals the Good Lord meant to wander these mountains, you know it was the right decision.”

His head pivots my direction again and he winks. “I like it better now,” he whispers.

“Me too,” I say. When I was a really little kid spending summers in Estes Park at our family’s cabin, some of those places would have still been here. I remember a gift shop at Bear Lake, a souvenir store and restaurant at Deer Ridge Junction. Those are all long gone.

A chipmunk bolts across the porch ledge, freezes, sprints, freezes. “I knew your great-great-great-great-great grandpa,” my neighbor says to the chipmunk. “Or something like that.” The chipmunk regards him, unimpressed. It sits up on its haunches, black eyes intent, whiskers trembling. “And he was just as much an unprincipled ne’er-do-well as you!”

He tips his head towards me again. “That scamp and his ilk will be around a good many millennia past all of us. You and me and the rest of us two-leggeds, we’re given the gift of only a short visit in this place. A few summers, perhaps. Beyond that, a few centuries of civilization. But these mountains aren’t really ours. We’re just guests.”

I nod at this contemplation of the fleeting nature of human history and society.



William Allen White at the window seat in the William Allen White cabin, possibly with his wife, Sallie, probably in the late 1930s or early 1940s.

“But it’s scribblers like you and me who record these fleeting moments. We find meaning in what’s here, and we bring it to those who are not as fortunate as we to experience this place.” He waves a hand at my laptop. “So you do a good job weaving your words, young lady.”

“Yes, sir, I’ll do my best.”

He leans back in his rocker. “It wasn’t my idea, of course, using the cabin to house artists. But it’s a wonderful thing. I didn’t think so at first. Proprietary about the old place, I suppose. Writers, of course, I couldn’t mind—part of the fraternity, and all that. But the dancing types cavorting through my living room, or the ones who throw paint on a canvas and call it art. I like a picture to look like something.”

I hide a smile. Definitely a man of his era.

“But I had no say in the matter, of course. So I just accepted where the winds of fate had blown me. Whatever.” I blink and narrow my eyes. “You don’t say whatever! You’re a man of the early 20th century.”

“Young lady, it is, or was, my business to keep up on the times. I’m a newspaperman, an editor. I’ve kept my eyes and ears open all these summers here on the porch. I didn’t become a prognosticator of world affairs by allowing the world to outpace me, and that includes the lexicon of young persons. OMG!” He smiles.

I burst out laughing. ““OMG?!” Where did you pick that up?”

“Your daughter and her friend. Between them, they have used that phrase at

least 10 times just this afternoon. I’m not quite sure what it stands for, but OMG, it is sooo useful!”

I laugh again. “It’s shorthand for Oh My God.”

“Ahh. Yes of course. Quite useful, and efficient.” He smiles. “Rely upon young people to provide a fresh approach to things. I hope to see one or both of these young ladies here, one day in the future, pursuing whatever will be their particular art form.”

It pleases me for him to say that and I glance over my shoulder towards the window, where my hopefully-future artists play at Life in the room beyond.

When I look back, the rocker is empty, and still. But the man is still a presence here. He’s a link between centuries, I realize, from the past to the present of course, but also into the future. How appropriate that even 75 years after the passing of this man of letters, his mountain retreat is a special place for artists. A place to capture the vibrant heartbeat of the national park, to tell its stories, to reflect its significance for the society that has preserved it. At this cabin, the park nurtures writing and music, painting, sculpture, dance and all the arts, and is in turn celebrated by artists.

The rainstorm has passed and the sun emerges through the clouds like a dawning smile. “Mom!” comes a voice through the window. “Can we make popcorn?” I stand and move toward the screen door. I swing it open, then think I hear a faint creak. I glance back toward the rockers and my eyes narrow. Does one of them just barely move? Forward slightly, back again?

There is no answer. I step inside the cabin and the porch door swings shut behind me with a reassuring Reece!-bump!

Award-winning writer Mary Taylor Young is the author of 15 books, including Rocky Mountain National Park: The First 100 Years, celebrating the national park’s centennial. Mary was a 2012 Rocky Mountain National Park Artist-In-Residence in creative writing and is a RM Field Institute program instructor.

www.MaryTaylorYoung.com

Moraine Park Discovery Center Opens After Two-Year Closure

by Sarin LoMascolo

The Moraine Park Discovery Center, formerly known as the Moraine Park Visitor Center, opened its doors on May 24th, 2014, after being closed for two summers due to government funding shortfalls. The reopening of this historic museum this year was made possible through funding and staffing of the Rocky Mountain Conservancy in partnership with Rocky Mountain National Park.

As of this summer, this historic building now serves an additional function as the headquarters site for the Junior Ranger program, an exciting educational program for kids 5 and up, introducing these young minds and hearts to the natural history of the park through engaging activities. These are, after all, the future stewards of the park!

The Moraine Park Discovery Center invites visitors to step back in time as they walk into this historic lodge and through the interactive exhibit "The Making of a Landscape." The Moraine Lodge originally was built by Imogene MacPherson to function as a social hall with a tea room, offices and a dance hall upstairs where the exhibits are located today.

The Moraine Lodge became the Moraine Park Museum with the help of Dorr Yeager, Rocky Mountain National Park's first chief naturalist and co-founder of the Conservancy, originally founded as the Rocky Mountain Nature Association. Yeager designed some of its very first exhibits, and the museum opened in 1932 with hand-me-down exhibits from the Denver Museum of Natural History. In 1992, the Denver Museum of Nature and Science designed the current exhibits in the building specifically for RMNP with the help of the Conservancy creating interactive exhibits that were appealing to kids. These exhibits explain the geologic history of the park, starting with how the Rockies were formed; glaciers that inhabited the area, the four ecosystems in the park, and the cultural history the people who have inhabited this area.

On your next visit to the park stop at the Moraine Park Discovery Center to check out the museum, the Conservancy's Nature Store, stay for a program and become a Junior Ranger! The Moraine Park Discovery Center is open to the public every day from 9:00 – 4:30 until mid-October.



RMNP – Bailey Research Fellow Profile

The RMNP-Bailey Research Fellowship was established for the park in 1995 through the gift of an endowment to the Rocky Mountain Conservancy. The intention was to encourage interest in public service as a possible career choice for young scientists by giving graduate students access and exposure to the National Parks while encouraging science communication to park visitors.



Joshua Johnson

May – August 2014

Hometown: Washington, DC

College: University of Colorado, Boulder

Research Goals: Joshua is conducting a research project in the park this summer attempting to understand the geologic evolution of the Colorado Front Range, including Rocky Mountain National Park, using a technique called (U-Th)/He thermochronology.

Research Activities: He will be collecting samples within the park this summer for this analysis with the goal of understanding how erosion has shaped the dramatic landscape of RMNP from the formation of the bedrock over 1 billion years ago to the more recent formation of the modern Rocky Mountains.

Born and raised a city kid in Washington, DC, Joshua has finally made the journey out west to pursue his passion for geology, hiking and skiing. Currently, he is currently completing a master's degree in geology at the University of Colorado at Boulder where he is studying the geologic evolution of the Colorado Front Range, including Rocky Mountain National Park.

For his research, Joshua will be using a technique called (U-Th)/He thermochronology, a technique that takes advantage of the constant production of helium atoms in a mineral, a byproduct of the radioactive decay of the elements uranium and thorium. Above a certain temperature the helium atoms that are produced will diffuse out of the mineral. Below that temperature, which is commonly between 70–200 °C, the helium is retained in the mineral. Thus, an age can be determined from measuring the amounts of helium, uranium and thorium in a mineral that reveal the time at which a rock cooled below a certain temperature. And, as rocks cool as they are brought to the surface through erosion, this technique can be used to obtain information about erosional events that have shaped geologic landscapes over time.

Joshua is enthusiastic about this opportunity, not only to conduct research in Rocky, but for the fantastic opportunity it provides to convey his work to the public. If you see him collecting samples in the park this summer, be sure to stop by and chat!

Rocky Flood Recovery Update:

Backcountry Travelers Be Alert to Altered Conditions

by Kyle Patterson,
RMNP information officer

Rocky Mountain National Park received significant damage to bridges, roads and trails in the historic floods that occurred in September of 2013. However, impacts in the park were relatively minor in comparison to the disastrous flooding that downstream communities east of the park experienced. The west side of the park was largely unaffected by the storm with flooding occurring only east of the Continental Divide.

Damaged areas on Old Fall River Road, however, are extensive and the road will remain closed to vehicles through 2014. And, while Old Fall River Road has remained open to pedestrians through the winter, once the construction begins, the road will be closed to all uses. The closure will extend from the east end of Endovalley Road, just west of the Lawn Lake Trailhead parking area, to the upper west end of the road to the Alpine Visitor Center. This closure includes the Alluvial Fan and the east and west Alluvial Fan parking areas. The closure extends 200 feet from the center line to both sides of the road corridor. The closure does not include the Fall River



Debris at the Alluvial Fan Bridge following the flood (NPS)

waterway and bank. Areas affected by this closure may be adjusted as construction work proceeds.

Once the construction begins, the best place to view the flood damage in the Alluvial Fan area is from Rainbow Curve on Trail Ridge Road.

Repair work has been completed in the Wild Basin parking lot, the Twin Sisters Road, the McGraw Ranch Bridge and the Aspenglen Campground Bridge.

Known damage to trails exists mainly in the Fall River, Lumpy Ridge, Northfork, Twin Sisters, Wild Basin areas and a few sections in the Bear



Landslide on the west side of Twin Sisters (NPS)

Lake area. Some trails in these areas are closed to stock use. There were twelve major landslides in the park.

Due to the flood, backcountry travelers may encounter different conditions than they have experienced in the past. Visitors

may find missing footbridges, missing trail segments, uneven trail surfaces, unstable slopes, falling trees due to soil moisture, rutted trails, damaged water bars and steps, difficult water crossings and missing directional signs. Visitors should be prepared. Most of Rocky Mountain National Park is designated wilderness, where self-reliance, discovery and adventure are expected.

Since the flood occurred just prior to the winter season, the first priority will be to replace missing footbridges, such as the Ouzel Falls Bridge. The next steps will be to assess at what level park staff will “repair” damaged trails. The flood was a natural event which will be taken into consideration as park staff move forward to determine what repairs should be made.

For more detailed information about flood impacts to trails, please visit the park’s website, www.nps.gov/romo, or call the park’s Information Office at (970) 586-1206.



A fly agaric, or amanita, mushroom, one of the mycorrhizae that produces a visible spore structure. (Joan Nesselroad)

If you went through a high school biology class more than 20 years ago, you probably learned that life on Earth divides into two kingdoms: plants and animals. This you needed to know to get an “A” on the exam. That same answer today would get you an “F.”

The scholarly movement to elaborate on the basic classification system to recognize more than two kingdoms began earnestly in the 1960s, chugged through the 1970s, got new life in the 1980s, and became accepted in the 1990s. Even the enlightened culture of science has its tethers to traditions anchored in the past.

Today, the fungi, having been separated from the plants, account for a discrete kingdom of their own. They number something at or near 100,000 species worldwide. This figure requires caveats that explain inclusions, exclusions and species yet to be named, discovered or both. By summing all of the known and classified plants of an area plus all of the known insects, a mathematical calculation can be done that, when applied worldwide suggests a global total of 1.5 million kinds of fungi.

So basically, we have only discovered about 10 percent of the fungi Earth supports.

Or, perhaps more elegantly, one could say the fungi support Earth. Such would be the work of the mycorrhizal fungi.

No fewer than 2,130 fungus species are defined as being mycorrhizal.

HOW FUNGI RULE THE PARK

by Kevin J. Cook

To understand the name is to understand the creatures.

“Myco” is a Latinized form of the Greek word *mukēs*, meaning “fungus.” In biology it is used as a construction prefix to indicate anything related to fungi: mycology, mycophagous, mycotoxin. “Rhiza” also comes from Greek, *rhiza*, meaning “root.” In biology it is used as a construction form — prefix, suffix or root — to indicate anything related specifically to plants’ roots or rootlike structures: rhizome, rhizophagous, rhizopus.

Mycorrhiza — God only knows why the second “r” appears in the name, and He’s not telling! — is the name given to a group of fungi that associate with plant roots. The group divides into two kinds. Ectomycorrhizae only grow as a crust around the root tips. Endomycorrhizae penetrate the roots and actually grow microscopically tiny strands called “hyphae” that snake between the individual cells of the root tissues.

The ectomycorrhizae number about 5,000 identified, classified and named species ... so far. The endomycorrhizae number only about 130 species. But these numbers are deceiving.

Despite their great species diversity, the ectomycorrhizae only associate with about 2,000 kinds of plants compared to 300,000 for the endomycorrhizae.

The ectomycorrhizae associate with all of the fir, pine, and spruce trees in Rocky Mountain National Park plus Douglas fir, both birches, Thin-leaved alder and some of the roses.

The endomycorrhizae associate with most all of the other plants in Rocky, but some plant families do not host them. For example, mustards, rushes and sedges do not.

Some plant families include spe-

cies that associate with ectomycorrhizae and other species that associate with endomycorrhizae. Some plants, such as Douglas fir, may host many different mycorrhizae at the same time; not uncommonly, some trees host different mycorrhiza species at different periods in their lives.

The relationship between fungus and plant exemplifies the mutualistic form of symbiosis, the relationship in which both species derive vital benefit from the other. Distilled to the least complicated explanation: the fungi get sugars from the plants’ photosynthesis and the plants get phosphorus from the fungi.

About the time most of us were learning that life on Earth divided into two kingdoms and that the fungi were kinds of plants, a national food company was advertising on television that “Wonder Bread helps build strong bodies 12 ways.” The advertising people probably got that from the mycorrhizae: they help build strong plants — and consequently strong plant communities — in at least a dozen ways. Basically: no mycorrhizae, weak sickly plants; lots of mycorrhizae, healthy plants.

Though the lives of mycorrhizae generally take place in the soil and the root tissues of plants, all is not invisible. A few mycorrhizae produce their spores for reproduction in structures most people know as “mushrooms.” Those lovely-but-poisonous orange-capped mushrooms known as fly agarics or amanitas would be among them.

If you cherish the wildflower meadows and the forests and savannahs among which they are scattered in Rocky Mountain National Park, forget hugging a tree. Hug a mycorrhiza.

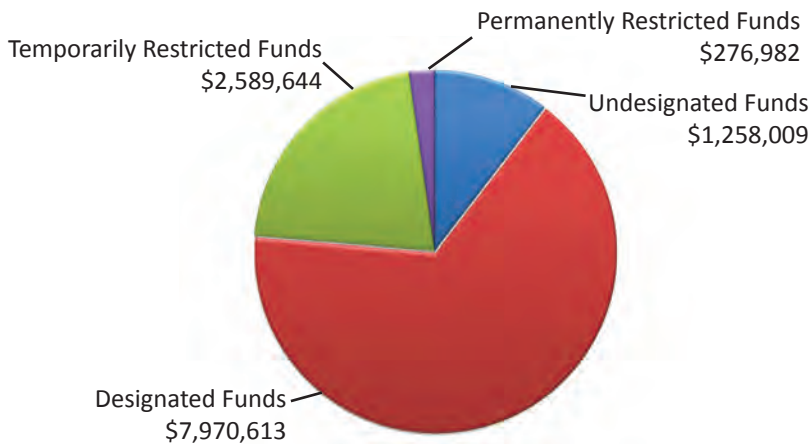
Kevin J. Cook is a freelance writer and professional naturalist (and one of our most popular instructors!) from Fort Collins, Colorado.



2013 Financial Health

Statement of Financial Position

Net Assets – \$12,095,248



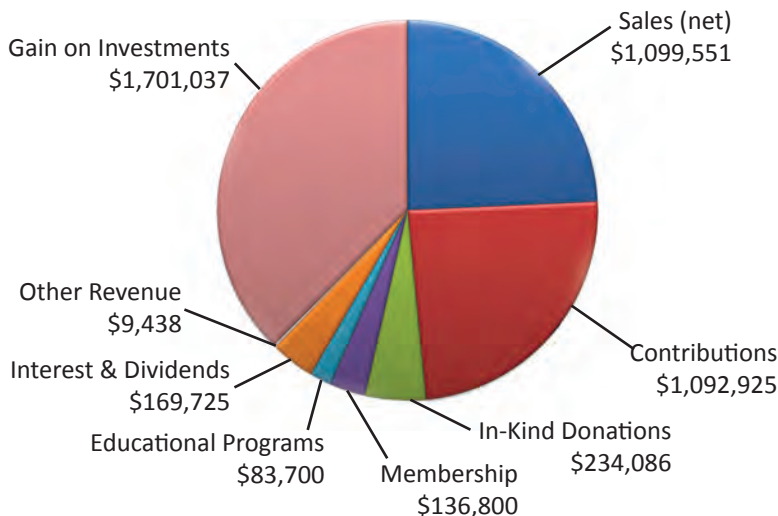
The Rocky Mountain Conservancy continues its proud tradition of a combination of fiscal restraint and effective support to Rocky Mountain National Park and other land management partners. Despite financial setbacks caused by fire and flood, the organization grew significantly last year. Record sales, wise investments and generous donors produced significant growth in both program support to our public lands and endowment funds for future years.

Our most sincere thanks to all of the many supporters of the Rocky Mountain Conservancy — we couldn't do this without you!

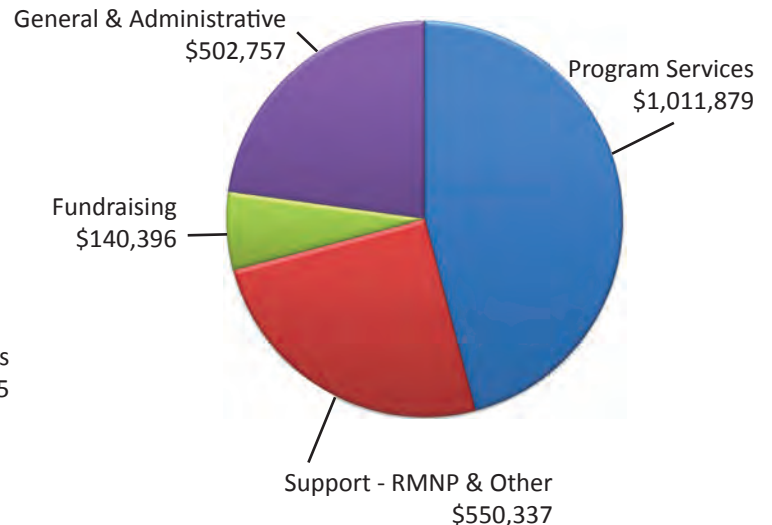
Charley Money
Executive Director

Statement of Activities

Income – \$4,527,262



Expenses – \$2,205,369



Just in Time for the 100th Anniversary! WE CAN DO IT!



Sign the petition by December 27!
www.RMConservancy.org

At this moment, we have gathered approximately 2,200 signatures for the petition to introduce a Rocky Mountain National Park Group Special License Plate for Colorado.

Rocky Mountain Conservancy, in partnership with Rocky Mountain National Park, plans to release this special license plate that will be available to Colorado registered vehicle owners.

This initiative requires 3,000 valid Colorado resident signatures (no duplicates) in order to bring a bill to a vote in the January 2015 Colorado legislature.

Signatures are considered a pledge to purchase a plate (if the bill is approved by the Colorado House of Representatives). A \$25.00 donation to the Conservancy will be required to obtain this special plate the first year, and an additional \$20.00 annual donation in subsequent years (in addition to state fees). Funds generated by the new plate will directly support the park.

To learn more and sign the petition, visit our website at:
www.RMConservancy.org

Alpine Trail Ridge Inn Joins Dollar-A-Day Program

Estes Park's Alpine Trail Ridge Inn of Estes Park, operated by Jay and Fran Grooters, is the latest lodging business to participate in our Dollar-A-Day program. This fundraising initiative encourages lodging guests to make a \$1 per day donation to the Rocky Mountain Conservancy for the duration of their stay. Gifts are directed to Rocky Mountain National Park. We thank the Grooters and the staff and guests of the Alpine Trail Ridge Inn (**www.AlpineTrailRidgeInn.com**) for helping us to make a difference in the park. If you would like information on how your business can support the park, contact Julie Klett at Julie.Klett@RMConservancy.org, 970-586-0108.

Rocky Mountain Conservancy Conservation Corps

Working to Open Trails for Visitors

During the 2014 season, Rocky Mountain Conservancy – Conservation Corps is working to repair and reopen many trails heavily affected by the flooding during September 2013.

Lily Mountain Trail - OPEN

Our Red Feather Crew reopened Lily Mountain Trail by brushing over a network of social trails, maintaining drainages, creating new tread across an area previously devastated by a rockslide using a rock drill, and establishing a series of stone steps.

Lion Gulch Trail - OPEN

The Red Feather Crew completed substantial work on the Lion Gulch Trail with the Forest Service, which included building drainages, retreading rutted trail, rerouting washed out sections, and creating erosion control structures through riparian areas.

Ceran St. Vrain Trail - Dry St. Vrain Trail - OPEN

Our new Boulder Crew has worked closely with the Boulder Ranger District to reopen trails in the St. Vrain drainage, including the Ceran St. Vrain trail just outside of Jamestown and the Dry St. Vrain Trail near Riverside. Both trails required widening due to heavy upslope erosion, drainage installation, slope stabilization using rock walls, and tread repair.

Rawah & Indian Peaks Wilderness Trails

Rawah and Shadow Mountain Crews have been working to reopen trails throughout the Rawah and Indian Peaks Wilderness to ensure safe and ecologically-friendly backcountry access by clearing downed trees, removing hazard trees, and digging drainages to divert water from the trail.

Rocky Mountain National Park Trails

Within Rocky Mountain National Park, the Estes Crews have been completing maintenance runs on many popular trails, including Cow Creek, Lumpy Ridge, Cub Lake, Upper Beaver Meadows and Deer Mountain. These runs require them to clear the trail of downed limbs and logs and clean and rebuild drainages clogged and damaged from the flood.



Rocky Mountain Conservancy

The Rocky Mountain Conservancy expresses special thanks to the following people for their donations toward projects in Rocky Mountain National Park:

March 7, 2014 – June 9, 2014

98 gifts ~ total donations \$119,798

RMNP FLOOD RECOVERY FUND

Patsy Cravens, Houston, TX

CONSERVATION CORPS FUND

Anonymous
National Park Foundation, Washington, DC

SPECIAL PROJECTS FUND

Lynda Price Bohager, Hanover, PA:

In Honor of Z.Q.P.-

Forestry Operations Specialist

Frank and Monty Kugeler, Denver, CO

Barbara J. Marshall, Danvers, IL

James Pickering, Estes Park, CO

NEXT GENERATION FUND (RESTRICTED GIFTS)

Rich and Kathy Conner, Fort Collins, CO

Thomas L. Grose, Golden, CO

Kathleen Kase & Dan DeBlasio, Estes Park, CO:

In Honor of Bob Kase For His Birthday

National Park Foundation, Washington, DC

Louise Lucke, Loveland, CO

New Belgium Brewing Inc., Ft Collins, CO

(RMNP Environmental Education)

Shanell Westerheide, Houston, TX

NEXT GENERATION FUND (UNRESTRICTED GIFTS)

Mary and James Alfred, La Grange Park, IL

Anonymous

AT&T Foundation, Princeton, NJ

J.D. and RoseMarie Benisek, San Angelo, TX

Peggy Carr, Denton, TX

Caterpillar Foundation, Peoria, IL

Chevron Corporation, Princeton, NJ

Bethany Clark, Denver, CO:

In Memory of Sherry Marks

Ellen Coker & Larry DeMers, Ft. Collins, CO

Patsy Cravens, Houston, TX

Jim and Karen Daugherty, Estes Park, CO

Estes Valley Sunrise Rotary Club,

Estes Park, CO

ExxonMobil Foundation, Princeton, NJ

Anne and Michael Fenerty, Boulder, CO

Alan Folz, Dallas, TX

Harvey Gardiner, Niwot, CO

Donald Irwin, Estes Park, CO

In Memory of Alyce Stewart

Robert and Billie Ives, Jr., Houston, TX

Network For Good, Washington, DC

Guests of the Rocky Mountain Park Inn, LLC,

Estes Park, CO

Janet and David Robertson, Boulder, CO

Rotary Club of Estes Park, Estes Park, CO

Allen and Mary Anne Sanborn, Santa Fe, NM

Edward Scarvalone, Brooklyn, NY:

In Memory of Eila Weisman

Nancy & John Schneider, Glenwood Springs, CO

Pam and Douglas Schnetzler, Vero Beach, FL:

In Memory of Bill Lamn

Angela Schreffler, Denver, CO:

In Memory of Gary Gibbons

Stanley Black & Decker, New Britain, CT

The Boeing Company, Princeton, NJ

Phoebe and Jack Timberlake, Flat Rock, NC

Rufus Wallingford, Houston, TX

Jack and Hildreth Wold, Denver, CO

Karen M. Waller, Saint Joseph, MO:

In Memory of Al Work

All in Memory of Marie Bogart:

All Purpose Rental & Sales, Greeley, CO

Anonymous

Juils and Dixie Jorgensen, Greeley, CO

Ila Leavy, Greeley, CO

Anne McLellan, Greeley, CO

Duane and Karen Nelson, Greeley, CO

Josephine Vaughn, Grass Valley, CA

TRAIL IMPROVEMENT FUND

Rick Acheson, Milliken, CO

Vicki Brassil, Homer Glen, IL:

Happy Wedding Day to Michael and Merium Brassil! Love, Uncle Tom, Aunt Vic,

Kaitlin, Jeanne, Erin and Jack.

Bonnie Caldwell, Grand Junction, CO

Walt and Sandra Cox, Blue Grass, IA

Jack and Lynn Dailey, Montgomery, TX

Samuel Franco, Nutley, NJ

Wanda Gentile, Colorado Springs, CO

Rhonda Gobble, Fort Collins, CO

Thomas L. Grose, Golden, CO

Bruce Friend, Centennial, CO:

In Memory of Sidney Tepper

Tanya Hanson, Omaha, NE

Hewlett Packard, Palo Alto, CA

Ruth Hess, Loveland, CO:

In Memory of Amy Lee

Frank and Alma Hix, Estes Park, CO

HP Company Foundation, Washington, DC

Chris and George Judson, Durango, CO

Gilbert and Mary Knapp, Spencer, NY

Dr. Robert Krear, Estes Park, CO

Jerry Moore, Estes Park, CO

Dr. Ray R. Nassimbene, Denver, CO

James Nau, Lincoln, NE

Albert Pioch, Elburn, IL:

In Memory of Judy Pioch

Mary Roberts-Bailey, Athens, GA

Paul and Mary Roloff, Lake Zurich, IL

Trail Trekkers, Estes Park, CO

Sandra Utz, Longmont, CO

Mei Xu, Denver, CO

Nelly Young, Austin, TX

Deborah and Robert Wigton, Omaha, NE:

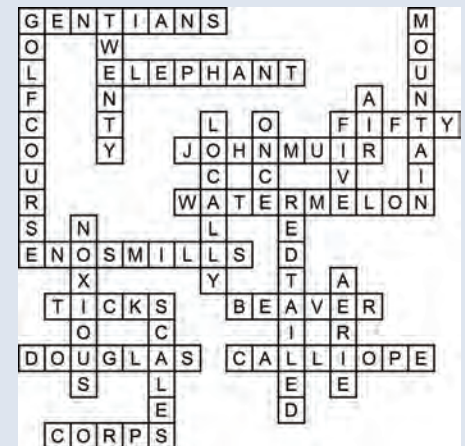
In Memory of J. Calvin Davis, M.D.

DOLLAR-A-DAY PROGRAM PARTNERS

Rocky Mountain Park Inn, Estes Park, CO

Alpine Trail Ridge Inn, Estes Park, CO

PARK PUZZLER SOLUTION



(Ask Nancy: Pine Beetles cont. from p. 3)

The epidemic was caused by what we call “The Perfect Storm.” Trees can often defend themselves by evicting the beetles by pushing them out of the tree in sap clusters; during drought conditions, the trees are unable to do this. Also, the beetles usually do not survive cold temperatures and die off during the winter (usually around 40 below for two consecutive weeks will kill the majority). Thirdly, lodgepole pine forests historically burn in forest fires every 100 to 200 years, and the forest rejuvenates during this process. So, the “perfect storm” has been warmer winter temperatures, drought, and a lack of forest fires, causing our forest to be a mostly monotonous older forest. These three conditions have coincided to cause this epidemic; global climate change could most definitely be a factor, although similar epidemics have been recorded in nearby areas in the past (Teller City).

Currently, we believe the beetle has left the area, having “eaten themselves out of house and home.” We are now experiencing a re-greening of the west side. This spring in particular seems much greener to me than during the previous 10 years I’ve lived here. Lodgepole pines love the sun, and thrive in the openings in the forest floor created by the dead and falling trees. Aspen also thrive in sunlight, and have also been colonizing these areas. Lodgepoles have been called “the weeds of the conifers” by local foresters, and can grow one to two feet per year. A popular saying we use here on the west side is that “the trees may be dying, but the forest is becoming young again!” Indeed, the forest does appear to be that of a young forest, with much sunshine and increased grasses and flowers, creating a more diverse forest and allowing for different wildlife such as deer and woodpeckers to thrive. — Mandy Cluck, Colorado River District Seasonal Interpreter



Quick Fix Science

Climate Change and Prehistoric Human Migration

The Question: How has prehistorical climate change influenced where people lived in the Rocky Mountain National Park (RMNP) region?

Humans select areas to live in with a hospitable climate, sufficient food, shelter, and other life-sustaining resources. Archeologists combine information on these environmental variables with artifacts to learn where and how man lived.

The Project: Evaluate various paleoenvironmental resources to determine the relationship between human population movements and climate change.

A team of scientists from the University of Northern Colorado, led by Dr. Robert Brunswig and Dr. Jim Doerner, studied the influence of climate change on prehistoric cultural resources in RMNP, especially as they relate to determining where people lived. This team used many methods to learn about the environmental conditions present when people occupied these landscapes. These methods included pollen analysis, lichen chronology, tree-ring chronology, paleoentomological studies, and radiocarbon dating.

Pollen analysis microscopically identifies pollen found in different layers of cores removed from lakebeds or wetlands to determine the dominant vegetation present during the time that layer was deposited. Lichen chronology uses the known growth rate of different lichen species to estimate the exposure time of selected lichen patches at archeological sites to determine how long people lived in an area. Tree-ring chronology is used to chronicle past wet periods and droughts by examining the widths of annual growth rings. Paleoentomological studies, similar to pollen analysis, document the presence of various insects at different times by comparing decay-resistant insect body parts with known ages of the deposit. Radiocarbon dating of prehistoric campsites and game-drive systems also provides important information on the age of organic samples.

The Results: Warming and cooling periods have been documented for the RMNP region and the movement of human populations has coincided with these changes.

Research indicates that significant



Lichen chronology uses the known growth rate of different lichen species to estimate the exposure time of selected lichen patches at archeological sites to determine how long people lived in an area. (Julie Klett)

changes in climate and vegetation took place during the last 14,000 years in RMNP. The post-glacial warming between 14,000 and 11,000 Before Present (BP) that caused glaciers to retreat was followed by a short cool period, which lowered the tree line and caused glacial valleys to advance. This cool period was followed by a warm period from 10,000 to 8,000 BP. At Lawn Lake Fen, warmer summers and longer growing seasons produced rapid peat growth. Between 8,000 to 4,500 BP the climate was warm with dry summers; however this time was not as warm as the previous period. In Beaver Meadows, higher temperatures and lower effective precipitation caused the disappearance of wetlands from valley bottoms. Over the past 4,500 years warm and cool cycles have alternated with modern conditions likely established during the past 2,000 years.

Studies indicate humans migrated between low and high elevations along the Colorado Front Range, including RMNP. People and game (e.g., elk, deer, sheep) occupied higher altitudes during warmer periods and retreated to lower, less severe elevations during colder temperatures and increased snow cover. Analyses of campsites, game-drive systems, and lichen chronologies indicate areas above tree line were snow covered at least 40 weeks a year on average during periods between 1,000 and 3,200 BP. These studies also indicated that radiocarbon dates could be used to determine climate change impacts and provide a chronological framework to help interpret paleoenvironmental data in the absence of climatological records.

These studies have revealed two important aspects of climate change in the RMNP paleoenvironment: (1) alternating periods of warming and cooling occurred and (2) the movements of humans in the park followed these climate changes, moving where resources were abundant and conditions were relatively comfortable.



In memory of Dick Orleans, past Member, who passed away in mid-May. An extraordinary photographer, musician and artist, Dick will be sorely missed. (Dick Orleans)



Rocky Mountain Conservancy

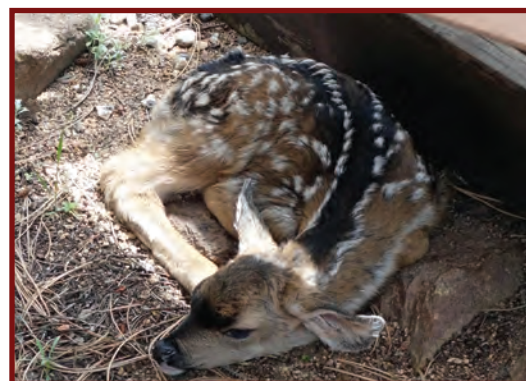
Charles Money, executive director
Nancy Wilson, *Quarterly* editor
PO Box 3100
Estes Park, CO 80517
(970) 586-0108

Nonprofit
Organization
US Postage
PAID
Permit #184
Estes Park, CO

Nature Notes

Summer is here! A late heavy snowfall mid-May caused a minor setback to the budding aspen at 9,000 feet and above, but they appear to be recovering with great aplomb. Electric green leaves of aspen brighten hillsides, ball cactus and pasque flowers are blooming and the ticks are out in full force....For years, great horned owls have nested on a rock ledge behind the Estes Park Public Library. Estes Park resident **Scott Rashid**, Director of CARRI (Colorado Avian Research and Rehabilitation Institute) has been monitoring that nest for several years. In mid-May, as he arrived at the nesting site late in the day, another interested party asked him if he had seen the fledgling. Knowing that there were only two owlets and both were still in the nest, he was confused. She then pointed to where there was a small owl perched in a rock opening below the great horned owl nest. Using his binoculars, Scott looked at the crevice and saw a diminutive flammulated owl roosting in the opening. He took several photos before going home to upload the photos, and returned to the site about a half hour later hoping to watch the little owl fly off to hunt for the night. When he arrived at the site, the owl was gone. Scott assumed that the little owl had moved off early to hunt for moths (the primary food source of flammulated owls). Looking up at the great horned owl nest, however, what he saw was one of the nestling great horned owls swallowing the little flammulated owl. Whole. The great horned owl is a top predator throughout most of its range and will often prey upon other owls, though this was the first time Scott had ever witnessed it....RM Conservancy Executive Director **Charley Money** decided it was time to take down the Christmas lights at his home in Estes Park when he observed hummingbirds flying to the bulbs in frustration to find no nectar therein....Charley also observed a peregrine falcon as it lit briefly on his bird feeder in Estes Park....RM Conservancy Quarterly Editor **Nancy Wilson** was stunned when a great horned owl flew in to perch on the very tip of a conifer not 15 feet from where she was sitting one night in early June in Estes Park. The huge raptor sat and perused the environs before pouncing on and subsequently devouring a hapless mammal in the grass....What appear to be large numbers of goldfish were spotted swimming in a small pond near Marys Lake Lodge in Estes Park. Most likely, someone soft-hearted but uninformed decided to rid themselves of unwanted pets by dumping a few "harmless" goldfish into this shallow pool. Sadly, while the goldfish is the animal that is most frequently released into the wild it can do some hefty damage to native fish species. They root around in the sediment when they eat which suspends particles in the water, leading to water turbidity and destroyed vegetation. Unfortunately, even flushing fish is not a good idea because not only do the fish not always perish, the fish can introduce disease into the waterways, among other things. It would

appear that euthanasia of another sort is required — be strong!.....RM Conservancy Director of Donor Relations **Julie Klett** caught sight of a large flock of horned larks near her home in Estes Park. They were swirling around a large flapping raptor that had roused the flock. Horned larks migrate through this area in early spring, with a few remaining on the tundra in Rocky during the summer....Julie



One of two newborn mule deer fawns that were hunkered down under the deck of Conservancy members Jack and Donna Glover in Estes Park. Soon afterward, the mama moved them from this site to a more hidden location.

also observed a yearling elk that was confronting a piece of heavy-duty construction paper. It was stomping it with its hind legs, shoving it around, punching it, breaking it, as it boldly asserted dominance over this unknown threat.....In another sighting, Julie noted some blackheaded grosbeaks coming to her feeder in Estes Park. It occurred to her that their black and orange with a touch-of-white coloring made them look like the avian version of monarch butterflies. She turned to the Cornell Lab of Ornithology and discovered that these birds actually winter over in Mexico, in the same location where the monarch butterflies winter — and they eat monarch butterflies. Nobody eats monarch butterflies. The toxins are too potent. As it turns out, these birds eat the insects approximately eight days apart to reduce the accumulation of toxins in their systems so they don't poison themselves....Sayonara to **Curtis Carman**, well-loved Membership Man — we wish him the best of luck as he leaps headlong into a new phase of life!.....One night in late May **Debbie Mason** was driving home along the west side of the park when an ermine (short-tailed weasel) dashed across the road in her headlights. Interestingly, it was still white....On Memorial weekend, Debbie and her husband Tom had pulled over on Trail Ridge Road, just north of Pontiac Pit, to take a picture of the flooding that had occurred in that area. Before she could compose her picture, Tom said, "Is that a beaver?" As it turned out, it was not a beaver, but a muskrat. They watched it dive twice and return with a substantial piece of vegetation, then eat it....RM Conservancy Warehouse Guy **Brian Desmond** saw 10 moose in two days — nine in Kawuneeche Valley, wandering through the swamps of the flooded Colorado River, and another browsing the willows below Hidden Valley on the east side of the park....Yay! It's summer!! (Happy dance breaks out)