

Rocky
Mountain
Conservancy

QUARTERLY

Autumn 2016

ARE NATIONAL PARKS STUCK IN THE MUD?

by C.W. Buchholtz

According to my Merriam-Webster dictionary, a “stick-in-the-mud” is defined as “one who is old-fashioned and too serious and avoids enjoyable activities, is unprogressive and an old fogey.” Adding fuel to that fire, another dictionary adds “someone who avoids new activities, ideas or attitudes.”

At this moment, all across America, the National Park Service leaders, politicians, and millions of citizens are celebrating the creation of a government agency and the 412 national park units under its care. Also celebrated is the foremost mission espoused and advanced by the National Park Service: its focus on preservation. It is likely that every speech delivered, every newspaper editorial written, and every pundit will applaud not only the concept itself, but also the long-term, stellar performance of policy makers and rangers alike who have succeeded in protecting our treasured landscapes and historical sites. And to that I say, Amen.

But wait just a moment. From the fringes of the crowd come murmurs of complaint. Are these voices just sticks-in-the-mud? Again and again we hear that tired phrase: Our national parks are being loved to death. There are too many people jamming the parks, they complain. Too many parks suffer from overcrowding. Too many cars seek parking. Precious resources are endangered. Disappearing are forests and glaciers and quiet. Because of pollution, even

the stars no longer shine. Maintenance backlogs soar beyond belief.

Saddened by what they hear, old fogies put hands to chins, mumbling, “I remember when ...”

I remember when rangers rode horses for work, not just for show. I remember when grizzlies fed at garbage dumps, when black bears ranged along roadways. I remember when you could fish for free in a national park and there was no such thing as “catch and re-lease.” I remember when you could pick up dead wood from the forest and use it for your campfire. I remember campfires. I remember when it was okay to bonk a porcupine on its noggin if it was chewing on your axe. I remember using axes.

By now I have given enough hints of my “old foginess.” In that role I am expected to complain even more about the state of the national parks and the Park Service. Ever since Bernie Sanders ran for president, there was hope among elder statesmen that they, too, might gain some credence. A kindly friend boosted my ego, saying that my fifty-three years of service to parks awarded me something called “gravitas.” The dictionary defines gravitas as “seriousness, presence, influence.”

Regarding **influence**, I’d argue that no one this side of the Potomac River has much. I especially notice that when I head to Washington, D.C., national parks are mostly pretty pictures on office walls. They are places a couple of time zones away, far off the grid, barely accessible by email. Wyoming is wilder-

(100 Years Later continued on page 2)



(100 Years Later continued)

ness. Montana is a state of mind. Forget influence.

Regarding **seriousness**, I'd have to ask: Would being serious really help? Statistics, facts, numbers, data, even rational arguments, produce mostly scowls, grumbles and disbelief. If politicians and government agencies are good at anything, they are good at compiling studies, analyses and budgets. How all that plays out in a local park's operational budget is anyone's guess. I forgot to mention charts. Somewhere there are charts that explain where all the federal spending for national parks actually goes.

Is this serious or humorous? Perhaps we can advance the cause for parks with humor? A question we ponder for every park is how much money will it take to ensure clean restrooms? (Park Service take note: Both young fogies and old fogies like cleanliness.)

Regarding my hard-earned **presence**, I claim an enthusiastic and regular presence in national parks. So far this year I've visited Rocky Mountain, Saguaro, Bandelier, Sequoia, Kings Canyon, Olympic, Santa Monica, Mount Rainier and Ebey's Landing. If presence means that I am someone to whom people might really listen to, that's doubtful. As they say, if wishes were fishes, we'd all break our nets. What follows is my bottom line, filled with all the seriousness, presence, and gravitas I can muster.

The National Park Service may be one hundred years old, but that doesn't mean that every idea embraced in 1916 must remain sacred. Like old fogies, some can be modified to fit the future;

others disregarded. Rather, the National Park Service should set its sights on the realities of protecting today's parks as well as welcoming visitors and fashioning its long-term vision accordingly.

Since the word "Service" is thirty-three percent of the agency's name, the agency needs to embrace its service to visitors, as passionately as it regards the word "preservation." To use an example that sounds redundant, if clean rest-

rooms set a standard of excellent "service," we should ask how well the Park Service is doing at this moment? You tell me. If trails are safe and passable, how would the Park Service score itself? You get the idea. Old fogies are big on accountability. Does Congress tie its budget for parks

to the success or failure of management? I wonder.

Most important, is good "service" of any interest to the public? Here is where I stop being an old fogie and start becoming progressive. Disregarding any critic rarely solves problems. So I am certain there are ways to ease crowding, lessen complaints, be welcoming to visitors, and ensure positive recreational experiences. Creativity and innovation did not end in 1916. Part of the solution is realizing that not all solutions need to come from the government. The operative word is "partnerships." (You guessed rightly that the government already has a word for people working for parks, but who are not government employees. I fall into that category.)

Our national parks need more than just the Park Service. Parks need volunteers. Parks need donors. Parks need friends. Reality check: There will never

be enough money in the federal budget to do everything that is needed in our national parks. Never. Ever. And public-spirited people are willing to help. If you've looked around the National Park System over the last few decades, you'll see some clever solutions to otherwise unsolvable or costly problems.

To offer just a few examples: Take a look at the innovative parking structure created at Mount Rushmore National Memorial. Look at Rocky Mountain's Fall River Gateway project hosting the Fall River Visitor Center. Look at a dozen or more conservation corps spread around a dozen parks, all bringing (philanthropically supported) free labor to those parks. There are hundreds of similar projects like this fostered by nonprofit organizations all across the country.

As an old fogie, I urge you to support the national park friends groups. They are not supplanting the National Park Service. They are supplementing and strengthening it. They are fountains of innovation and creativity for parks that need help. Park stewardship is everyone's job.

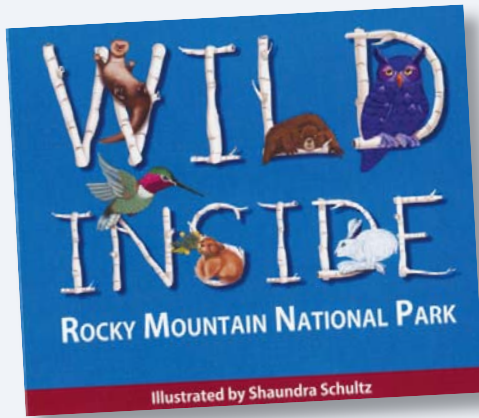
This year, the National Park Service needs to celebrate not just itself, but also its friends and a multitude of donors. The nonprofit quadrant of the National Park System, beginning with the Washington, D.C.-based National Park Foundation and local groups like the Rocky Mountain Conservancy, should be recognized for what they've already accomplished and what they can do in the future. They are the philanthropic and innovative arms of the National Park System and the key to a successful Bicentennial in 2116.

Curt Buchholtz is a Director of Major and Planned Giving with the National Park Foundation.

The National Park Service may be one hundred years old, but that doesn't mean that every idea embraced in 1916 must remain sacred.



Photo: Madeline Wilson



The Conservancy's Newest Publication!

Wild Inside Rocky Mountain National Park

A wildlife board book for the little ones!

The Rocky Mountain Conservancy is pleased to announce the publication of its newest book for kids: *Wild Inside Rocky Mountain National Park!*

Take a trip to the park with the young ones in your family and introduce them to some of the most charismatic wildlife in the park at an early age. Little kids will love the bold colorful pictures and silly antics of 14 different animals that make their homes in Rocky. And fun for parents and grandparents to read the simple text that enlivens the illustrations.

We think this little board book is a fabulous way to plant the seed of stewardship in the young people of today!

Hardcover board book, 32 pages. \$8.95 plus shipping.

**Now available in Conservancy Nature
Stores and on our website at
RMConservancy.org**

Cover photo credits

(Upper) "Bear Lake Magic" by Jeremiah Ramirez, Estes Park, CO, www.jeremiahSR.com; (Lower) "Park Sentinel" by Conservancy Member Walt Kaesler, Estes Park, CO. Please send high-resolution images to nancy.wilson@RMConservancy.org by December 1 for publication in the 2017 Winter 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.

With the incredibly high energy demands of hummingbirds, what strategies allow them to successfully migrate to South America and back every year? In general, prior to migration, hummingbirds have been found to increase body weight — especially fat — by anywhere from 25–50% (various data). Much of the weight/fat increase is likely due to increasing consumption of insects. In fact, it seems to me that I see much more adult "hawking" of insects along streams in late summer, and not simply due to increased in numbers from fledging. Interestingly, hummingbirds have evolved some complex metabolic mechanisms that allow them to accommodate the extreme fat and sugar consumptions without becoming diabetic. Upon reaching wintering areas — especially if they are among those that cross the Gulf of Mexico nonstop (approximately 500 miles) — hummingbirds may have dropped to only 2/3 their usual "summering" body weight. For overland flights to Mexico and Central America, they do continue to forage. In addition, I've seen reports that numbers of various species have increased their wintering along the U.S. Gulf Coast instead of longer migrations, which may be the result of an increase in folks providing feeders as causative. — *Retired RMNP Wildlife Biologist Gary Miller*

What is the park management plan for cheatgrass in Rocky? Cheatgrass is probably the park's biggest challenge when it comes to controlling invasive weeds. In an agricultural setting, the challenges are not quite as great because often in these settings it might be acceptable to spray everything to ensure that no plants grow until desirable seeds or crops have been sown. But in a natural setting such as Rocky Mountain National Park (which also happens to be an International Biosphere Reserve), we have to do much more calculated treatments to ensure that harm to native vegetation and biodiversity is minimal. Our window for control of cheatgrass is quite short as we spray for cheatgrass in the fall, ideally before the seeds have germinated, but after most native vegetation has gone dormant for the winter. This ensures that most of the native vegetation will not absorb the herbicide and pull it into their root system, while the newly *(Continued on page 15)*

How high (in elevation) do mountain lions roam in the park? How many are estimated to be in Rocky? What is their preferred habitat? Puma may be found at any elevation in the park. Their distribution and thus preferred habitat, is dictated by prey distribution and abundance, primarily deer, elk, and bighorns, so puma may be found from our lowest elevations to alpine peaks. A mountain lion's historical range is greater than any other native terrestrial mammal in the western hemisphere, and they are extremely adaptable, ranging from southeastern Alaska through the U.S., Mexico, Central and South America into Patagonia. There's no precise puma population estimate for Rocky, but given densities computed along the Front Range by Colorado Parks and Wildlife, I'd judge there to be perhaps a couple dozen puma that use Rocky for at least part of their range. — *Retired RMNP Wildlife Biologist Gary Miller*



A cow elk being readied for release following the affixing of a GPS collar for the Kawuneeche Valley Elk Study in late August.

by Hanem Abouelezz,
Landscape Ecologist, RMNP

It's September in Rocky Mountain National Park and a big bull elk struts across Moraine Park, keeping the cows within his sight and throwing shrill bugles into the crisp air as warnings to any would-be challengers. Nothing says fall in the Rockies like the call of the elk in rut and the aspens glowing gold as the days grow shorter.

This picturesque image doesn't tell the entire tale, however. Due in part to the absence of predators in the environment, elk grew overpopulated in Rocky over several decades, leading to the damage and loss of willow- and aspen-dominated riparian habitat, on which many species depend to breed and survive.

In 2008, Rocky Mountain National Park began implementing the 20-year Elk and Vegetation Management Plan (EVMP). This extensive plan aims to restore the natural variation to elk numbers and vegetation conditions in the park that would have existed if a full complement of native predators were present, and if humans were not the dominant force on the landscape. The implementation of the options outlined in the plan, which includes the reduction of elk numbers using the core winter grounds inside the park, the protection of willow and aspen habitat with temporary fences that exclude elk from browsing the area, and actively planting willows inside some of the fenced areas, has led to some



Rocky Mountain National Park staff planting willow stakes in a Moraine Park elk enclosure during 2015. The 2012 Fern Lake Fire caused high willow mortality in Moraine Park, where willow recovery has been challenging.

Update: Elk & Vegetation Management in Rocky

early successes in rebounding habitat, but there is still more to be done to achieve ecosystem balance in the landscape.

By the early 2000s, the elk population in the park had reached the highest density ever recorded in a free-ranging elk population that was not being provided with supplemental feed. The regional elk herd, managed outside the park by key EVMP collaborator Colorado Parks and Wildlife, of which the park population is a subset, had reached high numbers as well. Several factors were at play here. Grizzly bears and wolves, the two species which account for the majority of natural elk predation, had been extirpated from the park more than one hundred years ago. As a result of this lack of predators, elk populations soared. Beaver, which naturally maintain willow habitat with a complex system of stream

channels and beaver dams, were, for many decades, considered a nuisance species, and had been trapped and removed from the park. Beaver also are highly susceptible to the disease tularemia, which continues to cause beaver mortality events.

With the beaver dams no longer maintained, the water table dropped, causing willow habitat to become drier over time. The lack of surface water makes it difficult for willows to grow, but the drier habitat also allows elk to access the willows and browse extensively on them. The willows then transitioned from tall, healthy plants to shorter

willows that could not withstand the constant elk browsing and which provided limited habitat to support other species. Elk also browsed heavily on young aspens, such that many of the aspen stands in elk concentration areas were not regenerat-

The elk management plan aims to restore the natural variation to elk numbers and vegetation conditions in the park that would have existed if a full complement of native predators were present and if humans were not the dominant force on the landscape.

ing new trees.

Park staff, wetland scientists, elk biologists and the public all recognized the problem and after extensive research and public comment, the Elk and Vegetation Management Plan was completed in 2007. The purpose of the plan is to reduce the impact of elk on the vegetation, to restore the natural range of variability in the elk population and affected plant communities, and continuing to provide outstanding elk viewing opportunities for visitors. The natural range of elk numbers wintering on the winter range inside the park is 200–800 animals, while the preferred alternative selected from the plan for implementation was expected to hold elk numbers at the higher end of the natural range, between 600–800 animals. Due to a reduction in the park elk numbers and regional elk population, as well as a redistribution of the remaining elk, at this point in time, the park is now within the natural range of variation with regard to the elk population.

The park has not implemented other tools described in the plan, including nonlethal aversive conditioning to locally redistribute elk, or two additional management tools that could be adaptively considered within the life of the plan: the reintroduction of a small number of intensively managed wolves and the use of fertility control to manage the population.

Temporary fencing was installed on approximately 230 acres of aspen and willow habitat from 2008–2014. Currently, 6% of open habitat on the winter range is fenced and elk are excluded from browsing these areas. For aspens, the fences have worked quite well thus far, increasing the regeneration within aspen stands from 13% in 2008 to 29% in 2013, representing significant progress toward the plan goal of 45% regeneration within aspen stands on the winter range.

Willow recovery has been more challenging, and results are variable across the landscape, with excellent progress in some areas and more limited progress in others. Overall, the monitoring of willow plots established throughout the winter range reveals that willow cover has increased from a baseline of 21% in 2008 to 24% in 2013. Willow height increased by 10% during the same timeframe. Since 2013, park staff and volunteers have planted additional willows to boost progress inside some fences, where needed. The regeneration of both aspens and willows have occurred primarily in the fenced areas, demonstrating the importance of elk exclusion fencing to the success of aspen and willow restoration on the elk winter range.

The Kawuneeche Valley has experienced the loss of willow cover during the last 20 years, and is also discussed in the Elk and Vegetation Management Plan, but far less is known about the elk herds that use the west side of the park. To begin to learn more about which elk herds

utilize the Kawuneeche Valley, park biologists teamed up with Colorado Parks and Wildlife to affix 55 GPS collars to cow elk along the western slope in 2016, both inside and outside of the park. The collars will provide two locations per animal per day during the next two years so that park managers can better understand the movement of elk across the Continental Divide, habitat use within the Kawuneeche Valley and identification of regional elk populations that are utilizing the western areas of the park.

The progress toward a healthy riparian ecosystem and the balance of elk, vegetation and the other wildlife that use this system in the park will take time and continued adaptive management. Over the 20-year life of the plan, a comprehensive progress evaluation will be completed every five years. The next five-year review

will begin with the collection of a suite of vegetation monitoring data during the summer of 2018. In the meantime, the park will continue to work toward restoring riparian vegetation communities, survey elk numbers on the winter range, and collaborate on regional elk management with Colorado Parks and Wildlife and regional land management agencies. The vegetation recovery within many of the elk exclosures is evident to the casual observer and is beginning to provide high quality habitat for many species that call Rocky home.

On your next visit to the park, take a moment to explore inside the fences and experience some excellent birding and fishing opportunities in these recovering habitats. Just be sure to close the gates behind you!



Photos taken of the MP30 elk exclosure in Moraine Park. The first photo, taken in 2009 when the temporary fencing was put in place, shows the absence of aspen regeneration. The second photo, taken from roughly the same location in 2015, demonstrates the regeneration which occurred in this aspen community once it was protected from elk browse.



The Girl Who Looked Under Rocks

RMNP-Bailey Research Report



Sky Pond from near Taylor Glacier. Way down there, you can just make out a dot on the lake that is this researcher sampling Sky Pond in a raft with a crew member.



Close-up of slimy green algae on a rock in Sky Pond.

by Bella Oleksy

Two hundred hours. Two hundred and fifty miles. Thirty-five thousand feet. These are my estimates for total time spent, miles hiked, and elevation gained while conducting fieldwork at The Loch and Sky Pond in the Loch Vale watershed in Rocky Mountain National Park this summer.

This summer, my research was funded through the Rocky Mountain Conservancy's RMNP-Bailey Research Fellowship. This fellowship was established 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.

When I describe my work to friends and acquaintances, they usually ask if I get tired of visiting the same lakes week after week and hiking the same trails to the point that I can do it with my eyes closed. After a second full summer of research in this watershed, I can wholeheartedly say I will never get tired of this research. Every day and every week is different, offering me the opportunity to appreciate the finer details and notice the subtle changes in an ecosystem that experiences such a short summer growing season. I will never forget those rare, peaceful mornings on Sky Pond when the water perfectly reflected the rock spires towering above or witnessing elk cows wade

across The Loch on cool, quiet mornings. Every week, the suite of wildflowers changed colors, attracting different pollinators.

Needless to say, this amount of time spent in the same watershed affords one ample time for reflection. Something I often think about when hauling fifty pounds of gear and water samples on the trail is how my research fits into the broader body of work on climate change, global change and lakes in general. How do I convey to people outside my scientific discipline that studying how alpine ecosystems are responding a warming climate matters in the grand scheme of things?

An often-overlooked aspect of fieldwork in a romantic landscape like Rocky Mountain National Park is the interaction with tourists and hikers who are curious about our work. Aside from filling water bottles for chemical analysis, sampling algae from rocks and obtaining sediment cores, informing the public is another big part of our job.

This summer, my field crew and I sampled two alpine lakes in the Loch Vale watershed in Rocky at least twice a week as integral to my study of the coupled effects of global change and climate warming on alpine lakes. A few years ago, the Loch Vale research team noticed abundant algal growth along the shores and lake bottoms. Are the algae new? What environmental factors contribute to the growth of algae in such clean, clear waters? Are the algae responding to atmospheric nitrogen deposition, a warming climate, both or neither?

To gather data to, hopefully, answer our questions, our fieldwork involves boating around the lakes in the Loch Vale watershed on inflatable rafts to collect samples at pre-

determined stations every week.

Although the Loch Vale watershed is relatively remote, it is one of the most frequently visited areas in Rocky Mountain National Park. This year also marked the National Park Service's 100 year anniversary, attracting an unprecedented number of visitors to the park. Interacting with the visitors was one of my favorite parts of doing research in the park, and I had many chances this summer to talk to curious hikers asking questions such as: "What are you doing with those oars?" "Do you need a permit for that raft?" Or, "How are the fish doing in Sky Pond?"

In Rocky Mountain National Park, visitors come from all over the world. In the setting of a seemingly pristine mountain lake, it's gratifying to see people make the connections as I explain how relatively remote and protected lakes are not immune to the effects of regional air pollution and nitrogen deposition. Nitrogen is essential for all life, but too much can be harmful to some ecosystems. Nitrogen deposition from regional air pollution acts like fertilizer in sensitive soils and bodies of water in the Rocky Mountains. Although it seems far away, as you stand on the shores of Sky Pond you can see the edges of the Front Range metropolitan corridor below, and it's easier to see how humans might adversely affect these fragile ecosystems. These trailside discussions and Q&A sessions challenge me to explain the science succinctly and simply. As Albert Einstein once said, "Most of the fundamental ideas of science are essentially simple, and may, as a rule, be expressed in a language comprehensible to

everyone.” That’s one of my goals.

As a scientist, spending this much time at my field site is infinitely gratifying and satiates my inner curiosity. That curiosity is in many of us. My favorite day this summer was during an invertebrate survey in which a field crew from the U.S. Geological Survey and I sampled insects from different habitats in the lakes to gain a better understanding of how abundant filamentous green algae affects insects and the broader food web. As we sorted through insects on the shore of Sky Pond, we quickly drew a crowd of hikers around us. I looked up and saw a group of young girls who were clearly intrigued and who asked us questions about what we found. We showed them the different species in our mud samples and explained their role in the food web and why we are studying them. The look of fascination on their faces was priceless. I took a few of them over to the streamside and we looked under rocks and together discovered all the differ-

ent critters that live in this habitat, invisible if we don’t take the time to notice them. It was rewarding to see the inner scientist in those young girls. My hope is that curiosity continues to inspire them to understand how the world around them works.

Mountain lakes are barometers of change and it is important that we study how these headwater systems are responding to a warming climate and other significant stressors such as nitrogen deposition and dust inputs from fires and western land use. Under a warmer climate, we can expect increased nutrient inputs from thawing permafrost and receding glacial features as well as changes in snowpack and ice cover. There are many environmental dynamics that can interact to result in potentially adverse changes, such as eutrophication, or the loading of nutrients that leads to algal blooms. All of these factors can affect how a lake “works,” from internal



The Loch Vale watershed from the meadow near the lake outflow.

nutrient cycling to food web dynamics.

Ongoing research will continue to study these sensitive ecosystems to add to the collective knowledge of how alpine ecosystems will fare in the age of the Anthropocene, where human activity has dominant influences on climate and the environment.

Park Puzzler

by RM Conservancy Member Joel Kaplow

Across

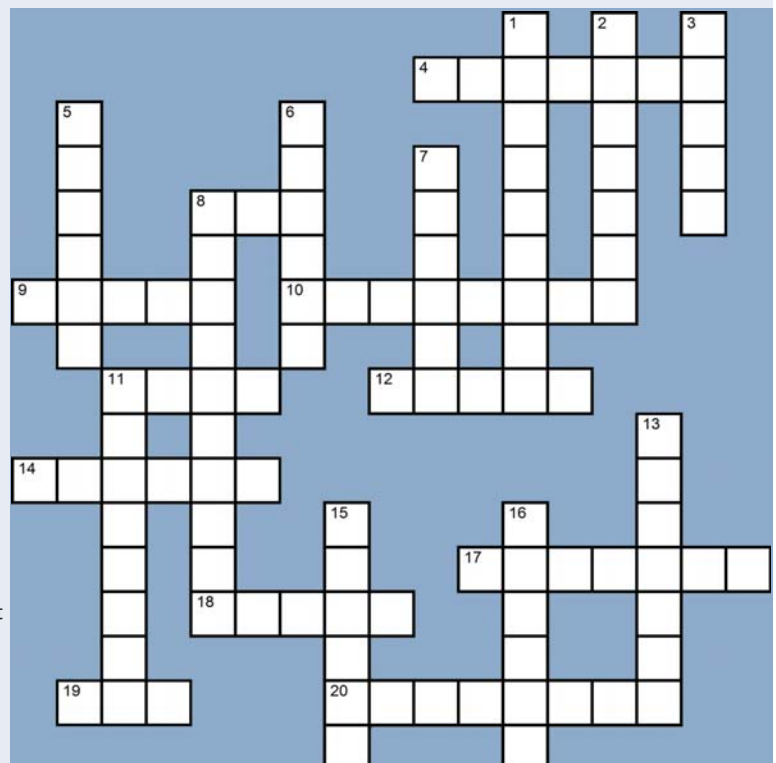
- 4 At present, it is estimated that Colorado alone is home to 280,00 elk — a different story from the early 1900s, when there were about 40,000 in all of North ____.
- 8 Other names for *Marmota flaviventris* are “rockchuck” and “whistle ____,” aka yellow-bellied marmot, a favorite in Rocky.
- 9 One group of RMNP’s Nerd Herd (volunteer citizen scientists) specializes in keeping visitors a safe distance from the resident elk. They’re affectionately known as the ____ Corps.
- 10 Marmots are the largest terrestrial member of the ____ family. (Sea otters are larger.)
- 11 Another specialized group within the Nerd Herd are the volunteers who keep (well-meaning-but-misguided) visitors from feeding human food to our precious wildlife. These are the ____ Busters.
- 12 Two subspecies of cutthroat trout that are native to RMNP are the green-back (state fish), and Colorado ____ cutthroat.
- 14 What’s the difference between antlers and horns? Among other things, if you saw through a horn, you will find that the inside is ____, whereas an antler is not.
- 17 A popular quest in the park is earning bragging rights for conquering the summit of Longs Peak. Of late, about ____ thousand intrepid folks attempt it every year, with about 47% of those making it all the way. By contrast, Japan’s Mt. Fuji sees about 300,000 pairs of boots annually!
- 18 The rarely seen wolverine has a few nicknames. Known for its unfriendly personality and for leaving its musky scent about the terrain, it has also been called “nasty cat” and “____ bear.”
- 19 What is the term for a male elk’s lady friend?
- 20 As of 2016, the National Park Service (NPS) administers ____ sites plus four historic trails in Colorado.

Down

- 1 Rocky is not Colorado’s first national park or monument. That honor goes to ____ NP, established in 1906 with Teddy Roosevelt’s approval. (2 wds.)
- 2 Some members of the animal kingdom are out and about mostly at night, and are designated as being nocturnal. Those active in the day, such as chipmunks and humans, are characterized as being ____.
- 3 A robust bull elk will amass an entourage of females during the fall rut. What is this “fan club” called?
- 5 The main culprit for the sharp decline of boreal toads and other amphibian friends in the last two decades is chytrid ____.
- 6 Lagging slightly behind Rocky’s centennial, this year marks the 100th

anniversary of the National Park Service, created on ____ 25th, 1916, under Woodrow Wilson.

- 7 The Shawnee term for elk is ____, which translates to “white rump.”
- 8 During the rut, a bull elk will dig out a shallow depression in the ground with its hooves and antlers, urinate in it, then roll in this wallow to get covered with scented mud. The mud/urine concoction contains testosterone and ____ to give him that irresistible “come-hither” aroma to attract females.
- 11 Rocky is also not Colorado’s second national park or monument. That distinction goes to ____ National Monument, established in 1911 by President Taft with a stroke of his pen. (Rocky comes in third, in 1915.)
- 13 One area that the boreal toad population has escaped the chytrid infestation is near ____ Pass, just outside of RMNP’s northwest corner.
- 15 A confirmed wolverine sighting occurred in Rocky in 2009. The park sighting previous to this was a whopping ____ years earlier.
- 16 Yellow-bellied marmots seem to live the life of Riley; eating, sleeping and sunning themselves on rocks in the summer, hibernating for eight months in the winter. They spend about ____ percent of their lives underground.



Bringing Rocky's Cultural Heritage Online With Google Cultural Institute

by Kelly Cahill, RMNP curator

To mark the 100th birthday of the National Park Service in 2016, an invitation is extended to explore its locations, stories, and thousands of artifacts. From America's "crown jewels" of breathtaking parklands to cultural sites and historic treasures, the National Park Service museum collections provide a window into the United States: past, present and future.

The National Park Service (NPS) museum program is charged with providing professional stewardship for more than 45 million objects and specimens and 76,181 linear feet of archives. The collections are managed at 384 parks and seven regionally located centers.

The NPS agreed to mount an exhibit with the Google Cultural Institute in 2014. Founded in 2011, the Google Cultural Institute is a not-for-profit initiative that partners with cultural organizations, bringing the world's cultural heritage online. Google is building free tools and technologies for the cultural sector to showcase and share their gems, making them more widely accessible to a global audience.

The NPS will use the agreement to expand access to NPS cultural resources to global audiences. In addition to NPS museum and archive collections, historic structures and cultural landscapes will be added to the Google Cultural Institute. Plans include a street-view image of the park whose cultural resources are being featured. The NPS museum program prepared a virtual exhibit for the NPS Centennial. The exhibit features one museum object from each of the 384 museum collections reported in 2014. The exhibit is hosted by the Google Cultural Institute Project.

NPS museum collections are important park resources in their own right, and provide valuable information about processes, significant events and individuals, as well as interactions among people and the environment. Natural and cultural objects and their associated records provide baseline data, and provide scientific and historical documentation of the park's resources and purpose.

The Rocky Mountain National Park museum curator photographed several iconic objects from the park museum collections. Because this is a cultural exhibit, the objects selected came from the archeology, art, ethnography, history and archives collections. The park management team viewed the photographs and selected the image that best captures the spirit of Rocky Mountain National Park.

www.google.com/culturalinstitute/beta/project/national-park-service

Roger Wolcott Toll RMNP Superintendent 1921–1929

In 1921, Roger Wolcott Toll arrived as Superintendent of Rocky Mountain National Park. Superintendent Toll was a Renaissance man: a writer, photographer, artist and park manager. As Superintendent, he worked to make park improvements, assisted with rescue efforts, and publicized conservation efforts. Among his achievements were the



advocacy and planning for the construction of Trail Ridge Road, and backcountry travel and climbing safety. He researched and wrote "The Mountain Peaks of Colorado" in 1923. By the 1920s, the park's mascot of a bighorn sheep was already in use in maps, brochures, signage and artwork. This woodcarving, made by Toll, depicts some of the best known and most iconic features of Rocky Mountain National Park. A blue sky above Longs Peak includes depiction of the Notch Couloir,

and the crag in foreground is dominated by a bighorn sheep ram. Paint colors are white, brown and green. The carving's border is two inches wide, and is stained brown. Made from a lightly incised solid yellow pine plank, the relief carving is fashioned out of a single piece of wood, and is representative of 1920s stylized art. Metal hardware on each of the corners allows for hanging this plaque.





This marten makes frequent winter appearances at the Kawuneeche Visitor Center. Photo: Sara Straub

by Sara Straub

At the Kawuneeche Visitor Center near the west entrance to Rocky Mountain National Park, visitors will find a variety of interpretive exhibits about the park and the species that inhabit it. There is a case about fish that tells of the trout that swim in park waters; there are others about bird watching, wildflowers, history and weather. There's also a display of taxidermied wildlife specimens, including beaver, yellow-bellied marmot and pika. And an American marten.

American martens are one of the lesser-known creatures in the park, in part because these elusive animals are predictably shy, and it's rare to catch sight of one. But, as the quiet of winter sets in and the crowds depart, martens often will brave an appearance around the visitor center, taunting a resident chickaree squirrel or curiously peering into the windows of the building. Last winter, one marten left an endearing display of its own; its muddy paw prints still are visible on some hard-to-reach glass near the roofline of the visitor center.

The American marten (*Martes americana*), sometimes referred to as a Pine marten (because it resembles a distant cousin, the European Pine marten), is a member of the weasel family and is about the size of a mink. It has the characteristic weasel body shape, with a long, slender build, prominent cat-like ears, and a medium-long bushy tail. It sports the weasel family's luxuriant trademark fur with a color scheme ranging from buff to chocolate brown, usually with a chest bib patch ranging from pale straw to a vivid pumpkin color. The male and females of the species look very similar, however, sexual dimorphism (size difference) is prominent, with males weighing up to 65% more than females.

An American Marten Leaves its Mark in the Park

Cute and cuddly a marten may appear, but beware the sharp teeth, claws and ferocity of this wily hunter. Like its weasel cousins, martens are well-designed to slip into tunnels and small burrows to find their prey, from voles, chipmunks,

ground squirrels and mice to the comparably large snowshoe hare.

The marten still populates much of its historic range in Colorado, including that of Rocky Mountain National Park. In the 2004–2006 study of *Distribution, Occupancy, and Habitat Correlates of American Martens* (*Martes americana*) in



A marten viewed in its preferred habitat of mixed-conifer on the west side of Rocky Mountain National Park. Photo: NPS/R. Sullivan

Rocky Mountain National Park, Colorado (Baldwin & Bender, 2008), remote cameras placed 5km apart throughout the park revealed a strong prevalence for the west side of the Continental Divide, in riparian mixed-conifer stands and mixed-conifer with aspen-patch stands. While the marten are highly adaptable creatures and can be found throughout Rocky Mountain National Park, the study revealed that occupancy values on the west side of the Continental Divide within the park ranged from 91%–100%, whereas occupancy values east of the Continental Divide ranged from 20%–30%.

The marten is an extremely adaptable animal and will exploit any woodland environment it is in. It can be nocturnal or diurnal depending on weather, region and habitat availability, with activity levels changing to meet conditions. A marten might be lively for as much as 60% of the day, then, during some periods of winter, it may reduce its activity to a daily torpor which slows metabolism and reduces body heat to preserve energy. While voles are a favorite food, the marten can adjust its intake to whatever is available: snowshoe hares, squirrels, birds, fish, fruit, vegetation, frogs, insects and carrion all are on the marten's menu. This nimble creature can hunt on the forest floor, scamper into the tree canopy, lope through

deep snow, or dive into subnivean snow tunnels up to 100 feet deep!

The American marten contributes to the beautiful diversity and the intricate web of life found in Rocky Mountain National Park and in all of the boreal and subalpine forests that they call home, from Alaska to Canada and across the northern United States. Their value is not only in the predator-prey relationship, but also in their role as efficient seed dispersers. Seeds of plants and fruits that are eaten by a marten are not digested and will pass through them intact. One study in Alaska revealed that seeds that passed through the gut of an American marten actually had higher germination rates than those that had simply dropped from the parent plant. It's possible the digestive acids are helpful in softening the seed's protective coating and jump-starting the germination process, thus giving it a higher germination rate.

While American marten distribution in largely undisturbed locales such as Rocky Mountain National Park appears stable, overall, martens have an uncertain future. In unprotected places with heavy deforestation, habitat fragmentation and overharvesting for the fur, area population reductions and extirpations have occurred. Additionally, climate is a possible impact for this creature as it is dependent on consistent winter snow depths for tunneling deep into the snow to sleep and for insulation. The American marten is not protected under the Endangered Species Act, but it is on several state-level endangered species lists. It also is considered a Management Indicator Species in some federal reports.

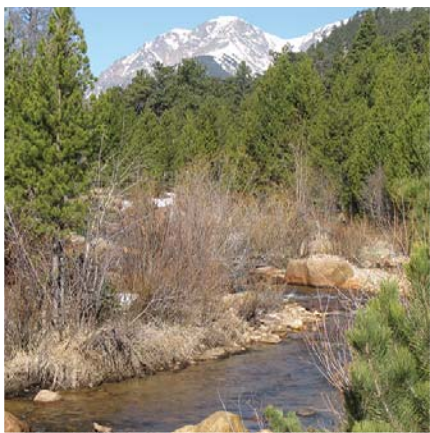
Keep your eye out for marten next time you visit one of the park's mixed-conifer forests. If you're in the neighborhood of the Kawuneeche Visitor Center on quiet winter's day, stop by to see if one of these amazing creatures has been playing in the snow nearby. Or perhaps you'll see some tell-tale muddy prints frolicking across one of *your* windows!

Sara Straub is a seasonal ranger at Rocky Mountain National Park. She currently is pursuing her master's degree in natural resource stewardship with a specialization in rangeland ecosystem science at Colorado State University.



Rocky Mountain National Park Fund Project Priorities Identified for 2017

Please give what you can today using the convenient envelope attached.



✓ Best Use

As always, selecting this option for your contribution allows us the flexibility to respond quickly to greatest needs as they arise. There are many ways your donation may be used to support the park, including trail restoration, youth education, publications and exhibits, land protection, and more.



✓ The Next Generation Fund

This year, thanks to you, the park's education staff served nearly 11,000 students in Front Range schools from Fort Collins to Denver. Many of these same students were also able to visit the park, thanks to transportation funded by you. In 2015, approximately 44,000 Junior Ranger booklets were distributed and 16,000 children received their badges! You can provide inspiring environmental education for thousands of kids this year.



✓ The Trail Improvement Fund

Over the years, the Conservancy's donors have provided hundreds of thousands of dollars to construct and maintain Rocky's beloved trails. Trail use continues to increase as more people visit the park, so your support is needed more than ever. Some of these funds will also be directed to the 2017 improvements slated for the flood-damaged Alluvial Fan area.



✓ The Rocky Mountain Conservancy – Conservation Corps

This summer, you placed 36 hardworking college youth in conservation crews in RMNP and nearby national forests. They rebuilt sections of Young Gulch and Lion Gulch Trails, built several bridges and turnpikes in Rocky and the surrounding Arapaho-Roosevelt National Forests, restored historic structures in Rocky Mountain National Park, and more, all on your public lands. You can change lives again in 2017!



Dear Friends,

The last two years have been a whirlwind of celebrations — from the 2015 centennial of Rocky Mountain National Park to the 2016 centennial of the National Park Service. It has been both a time for reflection on the past and for auspicious new beginnings. Thank you for being there with us through all the challenges and successes!

One of these successes was the Cascade Cottages Centennial Capital Campaign. Together, through your generosity and with the assistance of the Trust for Public Land, we raised the funds needed to acquire this parcel — a full year ahead of schedule! The land was acquired in March, 2016, and will be transferred to the park in early 2017. We thank you for your tremendous investment in this project and we are looking forward to seeing how this important land parcel will be integrated into the park.


Now, we look ahead once again. The two centennials provide us with the opportunity to deeply consider our values and what kind of legacy we wish to create in the next 100 years, and beyond. We have the chance to invest in our public lands once again and, perhaps most importantly, in the youth who will be there to carry our legacy well into the future. If we nurture their understanding of, and love for, their public lands now, they will be the champions of our national treasures in the coming years.

That is why we are asking you to make an investment in our youth in 2017. Your donation to the Next Generation Fund will make available, and enhance, valuable initiatives such as the Junior Ranger Program, the park's Environmental Education program (which sends rangers to schools, and provides support for in-park school trips), park internships and fellowships (up to eleven annually), special publications and exhibits for youth, and much more. These kinds of educational programs and experiences are not inexpensive — with the help of donors like you, the Conservancy contributes an average of \$500,000 annually to keep them going. Each year, those funds provide life-changing experiences for tens of thousands of youth of all ages.

Please help us to continue to educate and inspire the youth of today who will become the land stewards of tomorrow.

Best regards,

Charles A. Money
Executive Director

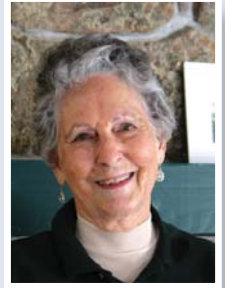
 You also can make
a gift online at
RMConservancy.org

Nature. Pass it on.

PO Box 3100 Estes Park, Colorado 80517 Phone: 970-586-0108 www.rmconservancy.org

Meet
Ruth Hess:

Educational Support Through Volunteers



Since its inception, the Rocky Mountain Conservancy has relied on local citizens and supporters to champion its cause. Over the years, a wide network of people have lent their talents to this organization, and the Conservancy thrives on the involvement and dedication of those who share a passion for the mission. One particular volunteer, Ruth Hess, embraces the values of this organization and continues to be an integral piece of our story.

Originally from Texas, Ruth has had a lifelong love for the many facets of education. Ruth began a career early on in the field of journalism and publishing — a skill she uses as a volunteer today in her work with the Conservancy's Field Institute program, providing vital assistance proofreading the Institute's catalog, brochures and all the course syllabi. She also organizes the materials and makes the packets for our seminar courses — a crucial piece in the class registration process.

"My work here is meaningful and truly one of life's bonuses because it gives me the opportunity to be a part of something bigger than I am," Ruth said. She values the Rocky Mountain Conservancy as the park's partner and hopes that her work will inspire others to be a part of this partnership.

Ruth either hikes or snowshoes in the park almost every weekend. And, there are seven benches in the park that have been donated in her late husband's name, a testament of an indispensable family to our partnership and story.

— Colleen Pennington, 2016 Olson Family Intern

Conservancy Volunteer Days Make a Difference in Rocky

With the arrival of fall, we reflect on the summer season and all the unforgettable adventures had while out on the trails. Let us not forget that behind every experience on the trail is the hard work and dedication of the Rocky Mountain National Park Trail Crew and volunteers.

This summer, Conservancy members had the opportunity to celebrate and become a part of the effort to maintain and rebuild miles of trails within Rocky and the National Forest each year. Thank you to all our members who participated in the Volunteer Day events this season!

For more information about group volunteer opportunities, contact amber.walters@rmconservancy.org or call 970-586-0108 ext. 21.

2016 Events

June 4 – Second Annual National Trails Day

Conservancy members spent the day working alongside the Conservation Corps crew and National Park Service staff to help rebuild trails around Moraine Park Campground. Together, we installed 30 trail steps, resurfaced 300 feet of trail and restored 50 feet of social trails.

July 25 – Plant Restoration Day

Conservancy members worked with the Estes Park Conservation Corps crew and park greenhouse staff to replant restoration areas at the Glacier Basin Campground.



August 7 – National Forest Trail Restoration Day

Conservancy members and Conservation Corps crew helped the Poudre Wilderness Volunteers (PWV) rebuild the Lion Gulch and Homestead Meadows Trail damaged in the 2013 flood.

For more information about volunteer projects in the Arapaho and Roosevelt National Forests, visit www.pwv.org.

August 25 – National Park Service Centennial

In celebration of Founder's Day, volunteers worked with the RMNP Trail Crew to rebuild the nature trail at Hidden Valley.



Richard Schmid: A Retrospective Exhibition

Presented by West Wind Fine Art & Gallery 1261

September 24 through October 1, 2016

If you follow the world of contemporary representational painting, then you know the name Richard Schmid. The Conservancy was honored to be a part of this historic retrospective exhibition of Schmid's works from throughout his career. Exhibition paintings were loaned from many private collections, and Schmid debuted some new works. The revered and highly respected artist was present at the openings, and signed his books for admirers who waited in a line that went out the gallery door and to the street corner.



There also was a packed Fundraising Luncheon & Panel Discussion on Saturday, Sept. 24 at History Colorado. Schmid was presented with several awards, including one from the Conservancy. He spoke of his love of painting directly from nature and his well-known philanthropic philosophy, "the good that art can do." Other renowned artists, including Quang Ho and Daniel Keys, spoke of how Schmid influenced their work.

Schmid donated 100% of the sales of a signed, limited edition print, which sold out almost immediately, to the Conservancy's Cascade Cottages Centennial Campaign. A portion of other proceeds from the event, yet to be tallied, will also benefit that campaign.

Thank you to all who made this spectacular event possible.

RMNP License Plate News



Have you seen this snazzy Rocky Mountain National Park license plate on the road? If you have a vehicle registered in Colorado, you can show your support with a colorful Rocky Mountain National Park license plate featuring a majestic bull elk under a starry night with alpine sunflowers.

We're pleased to announce that there are more than 2,400 license plates currently in service, which translates into more than \$72,000 in direct donations to Rocky Mountain National Park. Additional gifts to this program (which are directed to our Best Use Fund) amount to a grand total of \$9,223 since the program launched on January 1, 2016.

Rest assured, 100% of each \$30 donation will go toward educational programs in Rocky Mountain National Park. Just visit our website and follow the simple steps online to make your donation and get the ball rolling. You can also make a donation over the phone at 970-586-0108.

No need to wait for your current plates to expire! You can prorate your annual vehicle registration with your local county clerk's office to get your RMNP license plates sooner. And, if you give RMNP license plates to someone as a gift, you also are giving a gift to Rocky Mountain National Park! *Please note: We will need the recipient's name exactly as it appears on their vehicle registration.*

License plate donations cannot be combined with gifts to other funds, prior donations or Conservancy membership dues.



SUPPORT THE CONSERVANCY AND RMNP ON COLORADO GIVES DAY, DECEMBER 6

Colorado’s largest one-day online giving movement, presented by Community First Foundation and First-Bank, is coming up and we need your support.

On Tuesday, December 6, 2016, thousands of donors will come together to support Colorado nonprofits like ours. Last year we raised more than \$17,500. This year, our goal is to raise \$20,000. Your gift will provide support to Rocky Mountain National Park.

About Colorado Gives Day

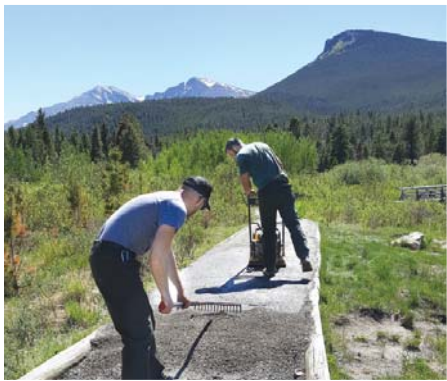
Colorado Gives Day is powered by ColoradoGives.org, a year-round website featuring more than 1,900 nonprofits. ColoradoGives.org encourages charitable giving by providing comprehensive, objective and up-to-date information about Colorado nonprofits and an easy way to support them online.

\$1 Million Incentive Fund

Thanks to Community First Foundation and FirstBank, Colorado Gives Day features a \$1 Million Incentive Fund, one

of the largest gives-day incentive funds in the country. Every nonprofit receiving a donation on Colorado Gives Day receives a portion of the Incentive Fund, which increases the value of every dollar donated.

To donate to us on Colorado Gives Day, go to www.coloradogives.org and search for Rocky Mountain Conservancy. Or, avoid the rush — beginning November 1, 2016, you may schedule your donation early!



by Kevin Soviak

Lily Lake sits in a beautiful mountain setting surrounded by an accessible trail. It is situated at the headwaters of Fish Creek, which flows roughly five miles into Lake Estes. This extremely popular accessible trail around Lily Lake was constructed in 1997 with funds from the Rocky Mountain Conservancy, and is open year round. This trail provides access to eight picnic areas and several overlook areas, and is a lovely choice for spotting wildflowers in the spring and early summer. The lake and marshy edges also provide good habitat for waterfowl such as the sora rail. Autumn colors at this location are superb, with colorful displays on the surrounding mountains and around the trail.

Currently, the south shore section of the trail is in extremely poor condition and quickly deteriorating as the result of shore erosion. The trail section is located

LILY LAKE TRAIL REPAIR UPDATE

between a wetlands area and the lake, but it was not anchored in any way, causing it to move and lift from frost heaving and shore erosion. This seasonal tread movement and loss has resulted in uneven conditions and pot-holes making the south shore section dangerous to hikers and impassable to those with disabilities. The damage that occurs every year is just too extensive for crews to keep up with, given the damage.

The recommendation for this section of trail was evaluated by several park personnel in various disciplines of park operations. Several site visits were made and it was determined that the following boardwalk design is best for the resources and maintenance concerns.

Approximately 500 linear feet x 5' wide of elevated boardwalk will be constructed using ABA standards to replace the existing deteriorated trail. The boardwalk will start at the southwest multiuse bridge and travel northwest to the trail junction. The boardwalk will be supported by helical piers, framed with green-certified pressure-treated pine, with decking consisting of sustainable Trex boards. The outside edges of the boardwalk will be lined with 2" x 4" kick rails with beveled edges. The design will include two over-

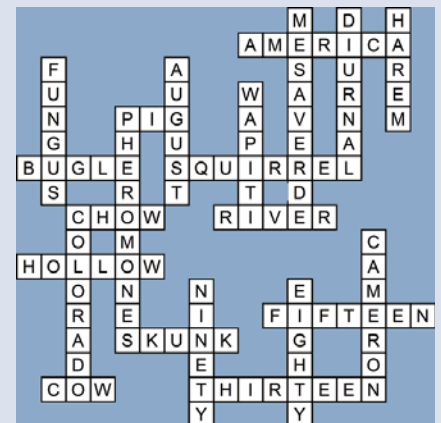
looks.

The park is currently in the process of reconstructing this section to better sustainability standards that require less frequent maintenance and also reduce potential environmental impact for an improved accessible trail.

Thanks to Conservancy donors for your support of this project! The Conservancy funded 50% of the cost of this project to the tune of \$109,000.

Kevin Soviak is the acting RMNP Supervisory Facility Management Specialist.

PARK PUZZLER SOLUTION





Rocky Mountain Conservancy

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

June 7, 2016 – September 20, 2016
184 gifts ~ total donations \$179,449

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Rich & Kathy Connor, Ft. Collins, CO
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The Grays Peak Classroom of the Joshua School/David North, Boulder, CO

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William and Nancy Sweet, Denver, CO
The Benevity Community Impact Fund/
John Pape, Hudson, OH



Photo: Lisa Thompson

The Benevity Community Impact Fund/
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Marilyn Whittaker, Boulder, CO:
In Memory of David Chambers
Lynn and Michael Stover, Aurora, CO:

In Memory of Donald Midgett

Frank and Paula Megorden,
Colorado Springs, CO:

In Memory of Donna Scheeter,

from Todd Marts, Nancy Bernard and Paula
Megorden of the Bear Creek Nature Center

Ford and Merry Nielsen, Estes Park, CO:

In Memory of Dot Dengler

Sondra Perry, Grand Prairie, TX:

In Memory of Jim Perry

All in Memory of Robin Lovejoy:

Dennis and Libby Bryan, Estes Park, CO
Helen Evans, Austin, TX

James and Diane Hein, Estes Park, CO
Bus and Rita Schageman, Estes Park, CO
William, Beryle, Don and Diane Williams,
Estes Park, CO

(Ask Nancy: Cheatgrass cont'd. from pg. 3)
germinating cheatgrass seeds will do exactly that. Because of the extent of cheatgrass in the park and the limited window during which we can treat it, we usually are limited by how many infested areas we can get to in the park. We have seen some success with our treatments. Bear Lake Road is a good example where cheatgrass was abundant along roadsides prior to the widening of the road. We spent two years treating areas adjacent to the road prior to construction, and aggressively seeded roadsides following construction events. As a result, cheatgrass is much reduced along Bear Lake Road in these treatment areas. In other places, the successes have not been as well defined, perhaps because we have not been able to put the same level of effort on those sites. Our successes with controlling cheatgrass are not always clear, and we are always looking for new tools to become available to us that will give us a leg up on better control in the future. — *RMNP Restoration Ecologist Jim Bromberg*

Quick-Fix Science

Bear Hibernation Sites

The Question: Where do black bears den in the park?

Bears enter dens immediately prior to winter hibernation, a critical stage in the black bear life cycle. Location, habitat, and physiographic characteristics of den sites directly influence black bear health. For example, den sites with deep snow cover are preferred, given that they are more insulated than open dens, thereby allowing bears to conserve fat reserves through reduced energy expenditure on thermoregulation. Additionally, because fleeing a disturbed den site results in greater energy expenditure by bears, secure sites free from human and other animal disturbance may allow bears to emerge from dens in better condition come spring. This results in greater survival and reproductive output for park bears, ultimately leading to a more productive bear population. A prior study (1985–1992) suggested that preferred den sites might be limited in the park. Because the number of black bears in the park is low (~24 individuals), scientists studied den-site selection in the park to determine if special protection of this essential habitat was warranted.



Photo: Jim Ward

The Project: Identify important black bear den-site characteristics and determine if factors influencing den-site selection have changed over the last 20 years.

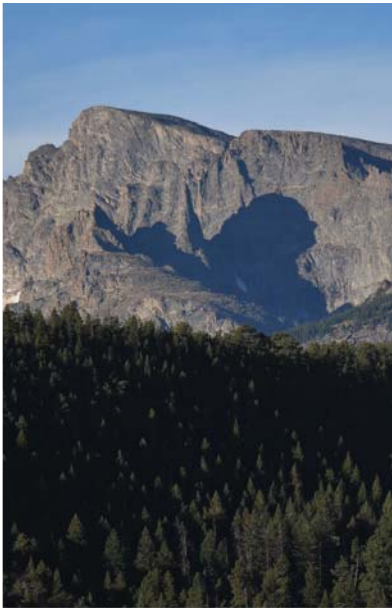
From 2003–2006, Roger Baldwin and Louis Bender, from New Mexico State University and the U.S. Geological Survey, New Mexico Cooperative Fish and Wildlife Research Unit, used radio-collared bears to locate dens during hibernation periods. They compared location, habitat and physical characteristics of these den sites to those of dens observed during a previous study conducted from 1985–1992 to determine if important den-site characteristics had changed over time. The characteristics analyzed included distance to roads and trails, elevation, slope, aspect, canopy height and cover type. Though previous studies have used models to predict den locations, this study only used known sites in the analysis. As a final step, the researchers mapped historic versus contemporary den-site locations to illustrate potential differences in den-site selection between the two periods.

The Results:

Steep slopes consistently proved to be the most important factor influencing den-site selection, although contemporary dens were found closer to trails and at lower elevations than in the past. The 22 dens found during this study were all rock dens, whereas of the 35 dens found previously, 21 were rock dens, two were under trees, one was excavated in the ground, and 11 were uncategorized. Contemporary bears favored dens on steep slopes (providing excellent soil drainage during snow melt and protection from humans and predators) and north and east facing aspects with a 15-meter canopy (providing shade and snow cover). Unlike their predecessors (1985–1992), contemporary bears also selected den sites at lower elevations and closer to roads, supporting related research results on movement and diet indicating the park's bears are more habituated to humans than in the past.

For more information on the park's research program, see www.nps.gov/romo

Written by: Cheri Yost Date: 03/15/2009



Rocky Mountain Conservancy

RMConservancy.org

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Nancy Wilson, *Quarterly* editor
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The Quarterly is a Conservancy member benefit. If you are not a current member, this is a one-time complimentary copy. If you wish to receive all four issues each year, we invite you to become a member today!

Taylor Peak shadow profile - do you see it?
Photo: Conservancy Member Cynthia McKee Brady

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Nature Notes

This fall certainly has been a showstopper here in Estes Park. The aspens pulled out the stops in blazing golden glory and the bull elk continue to bugle with gusto for the season. It's been a dry summer after a wet spring, so vegetation is crunchy, but it's all so lovely it's hard to be too concerned. It will be interesting to see what weather patterns La Niña has in store for us this winter....RMNP Woodworker **Cory Johnson** was out on the trail to Lake Haiyaha in late August near where the lake's outlet stream crosses the trail where the stream was no more than a foot and a half wide and a couple inches deep. As he walked up to the stream crossing, he saw in his peripheral vision what looked like a small fish swimming upstream. It didn't quite look like a fish and he sort of suspected it might just be a shrew so he stopped and waited to see if it would reappear. About 2-3 minutes later it came back down the stream and then dove down and disappeared into what must have been a burrow. He definitely didn't reach in to find out!....Retired RMNP Wildlife Biologist **Gary Miller** has heard several reliable reports of a doe whitetail deer in the park, sometimes hanging out in a group of mule deer. He said that you might want to take a second look for imposters next time you see a group of mule deer since whitetails are expanding their range in Colorado and across the west....Gary and Interpretive Park Ranger **Kathy Brazelton** also spotted a small kettel of migrating rough-legged hawks in the vicinity of the Alpine Visitor Center and Medicine Bow Curve in mid-September....Conservancy Member **Jeanne Zukowski** was working for the Conservancy Nature Store at the Alpine Visitor Center in early September, when her attention was drawn to the sighting of five bull moose that were feeding and lounging along the creek and in the willows in the Fall River Cirque below the visitor center. One of the moose had the biggest rack of antlers that anyone had ever seen (see below). They hung around this scenic location for two days, delighting park rangers and visitors alike....Outside the park but cool sighting: Carol and her daughter were driving through Golden Gate Canyon State Park admiring the turning leaves one perfect fall morning and saw a bull elk on high alert. Carol pointed the elk out to her daughter, who instantly blurted, "Look Mom. A bear!" They pulled over to watch from the safety of their car. The two animals stood in a standoff a few yards apart, taking occasional posturing steps forward and backward, for several minutes before moving on. Conservancy member **Jim Ward** watched two bald eagles tangling over a fish at Lake Estes. They each held on to the ends of the fish and shredded it between them....Conservancy Field Institute Assistant **Jo Wurst** spotted a discolored arctic gentian in early September on the left side of the Tundra Communities Trail. It had a yellow tinge, including the leaves and petals. Arctic gentians typically are white and purple. To find a yellow one is very strange. According to naturalist **Kevin J. Cook**, it's likely the result of iron chlorosis, which occurs when the pH of the soil is off and the plant can no longer get the iron it needs, causing a failure in the development of the chlorophyll it needs....



For antler comparison, here's one of the bull moose relaxing in the Fall River Cirque.
Photo: Jeanne Zukowski



Moose or elk? These fascinating pictures were taken by Duane Pedersen of Greeley, CO, on a hike in the North Fork area of Rocky Mountain National Park, toward Lake Dunraven. In stunned disbelief, Duane's friend, Jim Swaney of Estes Park, submitted the pictures to park personnel in search of an answer to what appeared to be a moose-elk hybrid hanging out in the Lake Louise outlet stream. Luckily, retired Wildlife Biologist Gary Miller and Interpretive Ranger Kathy Brazelton were able to shed light on possible explanations for this lesser-known aspect of moose antler morphology. Apparently, moose antlers are known to have palmate variations, from the widest range, called palmate, to intermediate and then the smallest, called cervina. It has been proposed that there are multiple variables involved in antler morphology, including location, genetics and age.



Winter winds are picking up and maybe, just maybe, it's time to start thinking about hunkering down. Eek! Hold onto your hats!