

The Field Press



A Publication of the Colorado Natural Areas Program

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Colorado Natural Areas Program



Colorado Natural Areas preserve some of the finest examples of Colorado's original and unique landscapes for the benefit of present and future generations. Sites qualify as Colorado Natural Areas when they contain at least one unique or high quality feature of statewide significance:

- Native plant communities
- Geologic formations and processes
- Paleontological localities
- · Habitat for rare plants and animals



Blue Mountain Natural Area. Rare plants and geologic features monitored by CNAP.

"What Do I Get Out of This?"

By Brian Kurzel, Natural Areas Coordinator



You aren't the first to ask this question of the Colorado Natural Area Program (CNAP). Why should the citizens of Colorado care about CNAP? What do all of you get out of this?

It may not be common knowledge, but the services that CNAP provides help keep Colorado a place we like to call home. Whether you value our state's biodiversity, irreplaceable Colorado landscapes, public

lands, private landowner rights, volunteer stewardship, conservation-minded business or efficient use of public funds, CNAP provides a service that matters to you. Colorado's Natural Areas benefit not only those partners we work with daily, but all Colorado citizens (even those that haven't heard of us).

Colorado's Natural Treasures:

When the Colorado legislature created CNAP in 1977, the intent was to cooperate with landowners to protect Colorado's irreplaceable natural treasures. These treasures include rare animals such as the lesser prairie chicken, which 'dance' on their leks in southeast Colorado. CNAP has worked with local wildlife biologists to monitor significant habitat at the Comanche Grassland Natural Area since 1987. However, rare animal habitat is just one of the targets of CNAP's conservation mission. CNAP is the only state agency that is mandated to work on rare plant and vegetation community protection. Given that 75% of the most threatened species in Colorado are plants, CNAP plays an essential role as the monitor of a large portion of Colorado's biodiversity. We help monitor the most significant plant species and habitats around the state on 72 Natural Areas, while also working on broader rare plant projects. For example, CNAP commissioned a study by the Denver Botanic Gardens which suggests that several of Colorado's rarest plants possess chemicals with potential medical or economic uses. And on the Geneva Basin Iron Fen Natural Area, CNAP coordinated a large restoration project with OHV users and conservation groups to protect a rare wetland community. Our work on behalf of Colorado's often forgotten flora assures that Colorado doesn't accidentally lose irreplaceable natural heritage.



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http://parks.state.co.us/ NaturalResources/CNAP/

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Changes and Opportunities

From the Program Manager, Rob Billerbeck



hese are interesting times in state government as all parties look for ways to address the budget shortfall for next fiscal year. Governor Hickenlooper has been very active in looking for innovative solutions to the problems and one of those is a proposed merger between Colorado State Parks and the Colorado Division of Wildlife. This has prompted some concerns from our volunteers and partners about the future of the

Natural Areas Program. Merging the two agencies will be a slow and careful process over the coming year, but we are very optimistic about the commitment from both agencies to conserve Colorado's special areas and rare species. We believe that there will be many positives that will result from this merger.

Mike King, the Executive Director of Department of Natural Resources, spoke about the merger on the capitol steps and stated that critical programs such as Natural Areas which "preserve important landscapes through voluntary agreements with other governments and private land owners" will continue. State Parks aquatic nuisance species program, which is also under the Stewardship and Natural Areas section, was also mentioned as being critical. The legislation that will merge the two agencies also specifically states that "important programs will be preserved" such as the "Natural Areas Program". So we are very hopeful for a continuing and bright future.

The Natural Areas Program has worked with the Division of Wildlife over the years on a number of rare plant issues on their lands, where we have provided management recommendations and funding. The Stewardship and Natural Areas section has much to offer, including expertise with rare plants, native plant restoration, geology, paleontology and archeology which provide the framework for resource planning processes on State Parks. The Stewardship and Natural Areas staff recently worked together on a riparian restoration project at Castlewood Canyon, which is both a Natural Area and a State Park.



Two generations of volunteers at a State Natural Area

The Friends of Colorado Natural Areas organization has moved under the new Friends of Colorado State Parks and is expected to get 501-c3 status soon. If you haven't renewed your membership in a while, please consider doing so, as the funds raised can help with a protection project on a Natural Area near you. Also remember that the beautiful "State Parks and Natural Areas" book is available for sale on the State Parks website. These books, which include amazing photographs taken by Frank Weston, one of our volunteer stewards, really show off the amazing places that are being protected by the Natural Areas Program.

Volunteer Stewardship and getting kids into the outdoors are concepts that the Governor and Mike King are both very passionate about. We would encourage our Volunteer Stewards and partners to recruit the next generation of volunteers by mentoring a younger person to get out and explore Natural Areas. If you can get younger folks out to these special places, we can ensure that all the passion and expertise that is represented by the current Volunteer Stewards cadre continues for a long, long time. If you decide to take up this opportunity, then please contact us to sign up those younger folks as volunteers so we can get them into our database and be sure to think Safety First. Thanks to all our volunteers and partners for all your hard work in protecting your Colorado Natural Areas. Robot P. Billerlest



Go Paperless!

If you would like to receive the Colorado Natural Areas Program newsletter by e-mail only, please e-mail us at brian.kurzel@state.co.us. In the subject or body of the e-mail please state: "Newsletter via e-mail only" If you want to continue receiving the paper newsletters, there is no need to contact us.

With all the talk of wildlife and wildflowers, don't forget the rocks that make up the Rockies! CNAP is also the only state agency dedicated to the monitoring and protection of significant fossil sites and unique geology. With CNAP's help, such features as the 'dinosaur freeways' of Dinosaur Ridge Natural Area are given extra attention.

Colorado citizens can be proud that CNAP is the only program of its kind found in the Rocky Mountains. And we've brought a novel approach to statewide conservation, working voluntarily with willing landowners to accomplish common goals.

Private Landowners and Business:

CNAP's work with voluntary landowners is a model for conservation collaboration. Natural Areas on private lands recognize the stewardship of landowners while facilitating mutual benefits. For example, our work on a ranch near Montrose led to the protection of an endangered plant while helping a local rancher add financial value to their land.

As a pragmatic program charged with accomplishing conservation goals, CNAP assures that private landowner rights and business interests are respected. To this end, CNAP and our partners have been cooperating with oil and gas companies to seek ways to protect rare plants while supporting responsible development. Near Parachute, Best Management Practices (BMPs) guided the placement of several natural gas wells while avoiding impacts to the Parachute penstemon, which is primarily found on oil and gas-owned property. And we have initiated a study to develop science-based BMPs that will make it easier to both protect rare plants and plan energy development with limited impacts. This is good for business and biodiversity.

Public Lands:

With over a third of the land in Colorado under federal management, many of our state's best natural features are found on federal lands. CNAP plays an important role with federal partners to assure that Colorado's state treasures are given adequate attention. In 2010 alone, CNAP and our extensive volunteer network devoted over \$45,000 in time and service to prioritize Natural Area monitoring and protection on federal lands. At Hoosier Ridge Natural Area in Park County, our volunteers were the first to observe illegal OHV tracks and we are working with the Forest Service to minimize impacts to an endangered species.

CNAP also plays a unique role in state government. As mentioned above, we are the only state agency coordinating the protection of rare plants and geologic features. CNAP also provides volunteer stewardship expertise, coordination of important research and protection for the most significant State Parks, Wildlife Areas or State Trust lands in Colorado. In the last year alone, CNAP has: assisted the Land Board to keep OHV travel routes open while protecting endangered species near Kremmling; worked with

the Piceance State Wildlife Area and oil and gas companies near Meeker to address noxious weeds that are invading sensitive plant habitat; and developed educational signs for native plant communities at Lake Pueblo State Park. CNAP's statewide conservation leadership within the Department of Natural Resources makes all agencies more effective in protecting Colorado's best places.

Conclusion:

With all of CNAP's values mentioned thus far, one has been left out. For those that appreciate efficiency, CNAP is a prime example of making a little go a long way. With a small staff and minimal funding, CNAP brings so much to Colorado through collaboration with partners, engaging volunteers and seeking extensive matching funds. The answer to the question "What does Colorado get out of CNAP?" is: a lot.



The Wacker family and their protected ranchland near Montrose.



Parachute penstemon- only found in Garfield



Designated OHV tracks to protect rare plants in Kremmling.



Pollinator exclosures

The Importance of Pollinators to Rare Plants in the Piceance Basin

Sarah Clark, Utah State University

Bees, such as the European honey bee (Apis meliffera), are mainly known as pollinators of food crops and producers of honey. While the non-native honey bee is best known, there are hundreds of native bee species living in the United States which pollinate a variety of native, non-native and agricultural plants. The Colorado Natural Areas Program (CNAP) is currently supporting pollination research in the Piceance Basin of Northwest Colorado, with hopes of discerning the importance of pollinators to the survival of two of Colorado's rarest species.

CNAP is coordinating funding from the U.S. Fish and Wildlife Service, BLM and the State of Colorado to study pollinators of two rare plants: the Dudley Bluffs Bladderpod (Physaria congesta) and Dudley Bluffs Twinpod (Physaria obcordata). These federally-listed species grow only on a limited stretch of white shale soil which is also the site of expanding oil and gas infrastructure. Some evidence from existing studies suggests that energy development, such as roads, wellpads, and facilities, may cause decreases in the population size of some pollinators through habitat fragmentation and immediate habitat loss. Additionally, pollination services may be interrupted by noise of passing vehicles, dust, and vibration emanating from construction areas. While limited research does exist, the quantitative impacts of energy development on rare plant pollinators in Colorado, if any, have never been thoroughly documented. In 2010, Dr. James Pitts and Sarah Clark of Utah State University were contracted by CNAP to look at the effects energy development may potentially have on pollinators important to the Dudley Bluffs Bladderpod and Twinpod.

Previous research had shown the Dudley Bluffs Twinpod requires mainly bee pollinators to reproduce. It was unknown prior to 2010 if the Dudley Bluffs Bladderpod also needed pollination services, or if the plant was able to self-pollinate. Clark conducted an experiment to test the Bladderpod breeding system by excluding pollinators from the plant using a small mesh cage (see photo to left). This prevented access to pollinators, leaving self-pollination as the only system of reproduction. Results from this study indicated that the plants, in fact, required pollinators to reproduce. Additionally, Clark collected potential pollinators from Bladderpods, allowing her to identify insect pollinators important to the plant. Bees composed the majority of the pollinator community. These findings are extremely interesting, as they indicate that both of these rare plants would not reproduce without the help from

native bee species.

To test for potential effects of development on the composition and abundance of Dudley Bluffs Twinpod pollinators, Clark observed bees on plants and collected them at different distances from a developed area. Research in 2011 will expand the study to include pollinators of Dudley Bluffs Bladderpod. This research will determine if and how energy development may affect rare plant pollinators.

Understanding the composition and habitats of the rare plant pollinator community, as well as how energy development may affect rare plant pollinators, will provide a scientific basis for a best management strategy for the Dudley Bluffs Bladderpod and Twinpod. Science-based best management practices will benefit both the rare plant populations and give the energy industry firm information to aid in development planning.



Dudley Bluffs Bladderpod... not just a pretty name

Slumgullion Natural Area

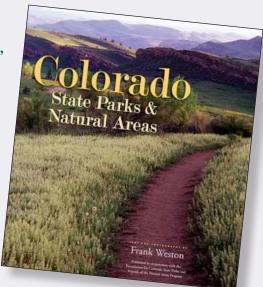
This article and photos are taken from Colorado State Parks & Natural Areas, Frank Weston's book which is the first-ever printed guide to our state's Natural Areas as well as the most spectacular State Parks.

A visit to the Slumgullion Earthflow Natural Area may be one of your most moving experiences in Colorado. That's because the Slumgullion Earthflow is moving. Geologists tend to use the term "mass wasting" to describe what most of us call a landslide. When we think of landslides, we usually envision an event that happens in a matter of seconds, minutes at the longest. The Slumgullion Earthflow is moving in a matter of centuries.

Twelve hundred years ago, the upper reaches of Mesa Seco became saturated with water, causing a portion of the mesa to fail. The flow slid down the valley until the slope decreased and the water in the flow dried. Four hundred years later, another flow slid off of Mesa Seco. This flow moved down into the valley of the Lake Fork of the Gunnison River, creating a dam. The Lake Fork backed up behind the dam to create Lake San Cristobal, the second largest- and perhaps most scenic- natural lake in Colorado. A third flow began about 300 years ago. This flow is still sliding over the top of the two older inactive flows at the rate of about 20 feet per year. The amount of material in the earthflow is impressive. It is over 4 miles long, nearly half a mile wide and over 300 feet deep. The scarp left on Mesa Seco is over 3,000 feet long and 750 feet high.

Though 20 feet per year seems pretty slow to us speedy humans, it is not slow to a tree. Those growing on the active flow grow at an angle. Geologists measure the age of the Slumgullion Earthflow by radiocarbon dating trees that have been buried by it. This active portion of the earthflow has proven to be an invaluable laboratory for scientists and engineers to study earth movements.

Taken from pages 146-147 from 'Colorado State Parks & Natural Areas' Additional information on facilities, restrictions and contacts are available in the publication



To purchase, visit: www.parks.state.co.us/parksstore







Head west out of Gunnison on US 50 for 9 miles. Turn left (south) on CO 149. Continue on CO 149 for 45 miles through the town of Lake City. Follow CO 149 for another 9 miles up Slumgullion Pass to the scenic overlook.



Volunteer Corner

The Value of Volunteers

It's no secret that these are difficult times for many agencies and organizations out there, and CNAP is no different.

We're undergoing some tough financial cuts, and the monitoring and protection of Natural Areas is a constant struggle.

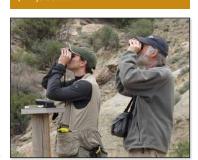
But don't despair! Our Natural Areas will continue to get the attention that they deserve through our heroic and committed volunteer base. In 2010, CNAP volunteers rallied to provide more hours and even greater contributions. Here are some of the highlights:

- Jeanne & Steve Wenger, Loraine Yeatts and Marian & Peter Rohman all discovered additional rare plant populations on their Natural Areas (DeBeque milkvetch at Escalante Canyon, DeBeque phacelia at Pyramid Rock and Utah beardtongue at McElmo).
- Marty Richardson was the first person to notice off-highway vehicle issues at a Natural Area in Park County. Marty then worked with the landowner to help address the issue.
- Ed Baker noticed fencing problems at Ryan Gulch Natural Area in Rio Blanco County. Ed's observations were acted upon by BLM and the fencing was repaired within a month.

About 3,000 hour, or over \$67,000 worth of value were contributed by Rare Plant Monitoring Stewards and Volunteer Stewards in 2010 The breakdown of volunteer value in 2010 looked like this (based on \$21.62 per hour):

Rare Plant Monitoring Stewards \$24,470.60

Volunteer Stewards \$42,867.06



Volunteer Steward Peter Rohman

A breakdown of Volunteer Steward value provided to our various land managing partners includes:

Bureau of Land Management

T	otal \$24,268
Grand Junction Field Office	\$9,534
Gunnison Field Office	\$518
Little Snake	\$735
Royal Gorge Field Office	\$1,102
SLV	\$1,405
Uncompaghre Field Office	\$454
White River Field Office	\$2,724

United States Forest Service

	Total \$7,794
Commanche National Fores	st 2,507
Gunnison National Forest	\$237
Pike National Forest	\$3,902
San Juan National Forest	\$540

Rocky Mountain National Park

\$3,703

State Land Board

\$8,285

Other

	Total \$4,291
Division of Wildlife	\$237
Nature Conservancy	\$1,232
Counties	\$1,037
City	\$399
State Parks	\$1383



Jeanne Wenger in Escalante Canvon



Ryan Gulch Volunteers: Ed Baker and Miryam Broughall monitoring rare plants.

Welcome to New Stewards

Over 30 new volunteers have signed on to monitor Natural Areas and rare plants around Colorado in 2010!

Welcome to the following 15 Volunteer Stewards who have adopted Natural Areas: Liz Bade, Linda Pohle, Susan Chaki, Peter Laux and Josette Mastra for Castlewood Canyon, Bob Beck for Zapata Falls, Alan Churchill for Gothic, Larry Jackel for Kremmling Cretaceous Ammonite Locality, George Mah and Stephanie DeMattee for Comanche Grassland Lesser Prairie Chicken, Melissa Smith for Blacks Gulch. John Vickery for Mount Goliath, Dina Clark and Colin Deihl for Arikaree River, Lee Cassin for Irish Canyon and Limestone Ridge and Connie Willis for Escalante Canyon.

Additionally, in a unique pilot project, several volunteers have begun to assist CNAP and State Parks at Lake Pueblo State Park. Thanks to: Duane Jones, Shirley Van Riper, Michele Bobyn, Ed Roland, Marilynn Chambers, Marjorie Joy, Linda McMulkin, Mary Richardson, Mary Porter-Abrahams and Warren Nolan from the Southeast Chapter of the Colorado Native Plant Society for helping to monitor one of the state's rare plant hotspots!

We would also like to thank the following 6 people who have joined our Rare Plant Monitoring Stewards crew, working with CNAP and Denver Botanic Gardens to monitor and protect some of the rarest plants in Colorado: Ann Zielinski, Pam Cornelisse, Lee Cassin, Deryl Mergen, Jessi Miller and Bill Schapley.

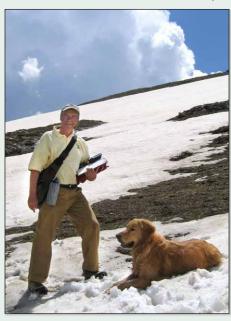
Remember: If you donate 48 or more hours to the Colorado Natural Areas Program and State Parks, you receive a yearlong Parks Pass, good at all 42 of the State Parks!

Meet Our Volunteers

Mo Ewing

CNAP Volunteer Steward since 2009

- Lookout Mountain Natural Area in Moffat County
- Yanks Gulch/ Upper Greasewood Creek Natural Area in Rio Blanco County



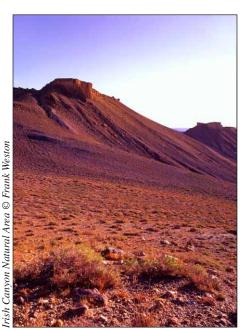
"I am particularly interested in plant communities and plant ecology and love searching for rare plant species. The two natural areas that I steward are found in the remote corners of Northwest Colorado. These sites are wonderfully wild and have fascinating and diverse plant communities. Although they are designated Natural Areas, there is not much detailed botanical information about them. It is a joy and privilege to be a Natural Areas Steward."

o is a native New Englander who took a very circuitous route to becoming a CNAP volunteer. He has been a hospital administrator and the owner of a travel business until he went back to graduate school in 1999 for a Masters Degree in Conservation Biology. His last job in New England was running a volunteer program for the New England Wildflower Society, which was very much like the volunteer program at CNAP.

In 2002, Mo came to Colorado in the winter, "just to finish my master's thesis". But, as fate would have it, he fell in love with a beautiful Colorado woman, and then fell in love with Colorado working at Colorado Open Lands, a local land trust. While Mo has officially been 'retired'since 2009, he has taken on another career as a full time volunteer for the Natural Areas Program and the Denver Botanic Gardens. Mo is both a Volunteer Steward for two remote northwest Colorado sites and a Rare Plant Monitoring Steward. With almost 500 hours of service over the last two years, Mo is truly setting the standard for CNAP Volunteers.

CNAP Website... A Great Resource!

o you have a pesky noxious weed you're trying to tackle? Were you wondering how to establish native plants in heavily disturbed areas? Do you want to know more about Natural Areas in your county? Check on the Colorado Natural Areas Program website for publications, resources and information that might be handy.



CNAP's 'Caring for the Land Series' includes the following titles that can help you create your own 'Natural Area':

- Best Management Practices for Wetlands
- Native Plant Revegetation Guide for Colorado
- Creating an Integrated Weed Management Plan

Or, visit CNAP's website to search for Natural Areas by location or by the significant features. Have you always wondered which Natural Area has the best mixed-mountain shrublands in Colorado? The answer is on our website, along with hundreds of other exciting facts about Colorado's best places. (HINT: The answer is pictured on this page).



You can access these documents online at <u>parks.state.co.us/NaturalResources/</u>
<u>CNAP/Publications</u> or contact brian.kurzel@state.co.us for hardcopies





Become a Volunteer Steward and help protect Colorado's best natural features!

CNAP is currently looking for volunteers to monitor some of the most spectacular and sensitive areas in the state! The Natural Areas Program needs volunteers to get out and visit these sites regularly to ensure these sites are being preserved for future generations. If you are interested in any of these opportunities, please contact Brian Kurzel at 303-866-3203 x 4301 or brian.kurzel@state.co.us.

SITE NAME	COUNTY	OWNER	ACRES	HIKING	ATTRIBUTES	SKILLS
Cross Mountain Canyon	Moffat	BLM	2160	Difficult	A classic example of a superimposed river gorge with vertical cliffs over 200 feet high. Rare plants, four listed fish and diverse bird species	Botany; Birding
Deer Gulch	Rio Blanco	BLM	1809	Difficult	Two plant species endemic to Green River shales; Good quality remnants of Great Basin grassland, mixed mountain shrubland and lower montane Douglas-fir forest communities.	Hiking; Botany
East Sand Dunes	Jackson	SLB	3120	Moderate	One of only two active cold climate dunes in Colorado. The natural area includes blowouts of loose sand, willow and sagebrush communities, and forests of aspen and lodgepole pine.	General
Fairview	Montrose	BLM	414	Moderate	Significant populations of extremely rare plants.	General; Weed ID
Lower Greasewood	Rio Blanco	BLM	205	Moderate	Relatively undisturbed pinyon-juniper woodland with significant populations of a Green River Shale endemic plant.	Hiking; Botany
Miramonte	San Miguel	DOW	2529	Moderate	Rare plants found on shale barrens and wetlands. Gunnison sage grouse	Botany; Birding
Mishak Lakes	Saguache	TNC	2040	Moderate	Unusually high-quality plant communities in a series of natural playa lakes on the floor of the San Luis Valley. Unique flora and dozens of species of migratory waterfowl.	General
Narraguinnep	Dolores	USFS	1928	Moderate	Virgin stands of ponderosa pine and pinyon-juniper are interspersed with oak thickets and a rich diversity of other shrublands. Recently burned in large crown fire.	General
North Park Phacelia	Jackson	BLM	310	Moderate	Federally-listed plant.	Hiking
Redcloud Peak	Hinsdale	BLM	5974	Very Difficult	Habitat for rare butterfly	Hiking
Trinidad KT	Las Animas	Parks	180	Easy	Best surface exposure of Cretaceous-Tertiary boundary in Raton Basin, Colorado, and possibly the world.	General
Two Buttes	Baca	Private	820	Moderate	Prominent feature represents the top of an arching dome of sedimentary rocks uplifted by an unexposed laccolith. Rare plant endemic to Colorado and unique mammal diversity.	General
Wheeler Geologic	Hinsdale	USFS	640	Very Difficult	A mass of pinnacles and domes, some over several hundred feet tall. The geologic features occur within virgin forests of spruce & subalpine fir.	Hiking

LM = Bureau of Land Management; DOW = Division of Wildlife; DPOR = Department of Reclamation SLB = State Land Board; TNC = The Nature Conservancy; USFS = U.S. Forest Service

Spring? SwaN

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