The Field Press

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Colorado Natural Areas conserve 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, fossils, or habitat for rare plants or animals.** As part of Colorado State Parks, it is the mandate of the Natural Areas Program to identify outstanding natural features throughout the state, to recognize landowners for their stewardship of these special places, and to work with interested landowners to maintain important pieces of Colorado's natural heritage. All management agreements are voluntary.

Colorado State Parks

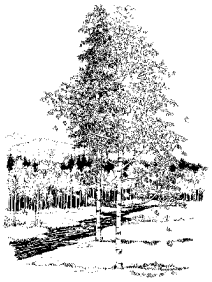
In This Issue

Natural Areas Protect the Best Populations of 57 Rare Species; *Potentially Help to Keep 28 Species Off Endangered Species List*

Natural Areas staff have recently been digging into the extensive data on rare plant populations in Colorado's natural areas. We've found that natural areas not only protect a large number of different rare species (75), but they also protect the best individual population in the entire state of many of these species. A little background will help explain.

Colorado State University houses the state's Heritage Program. This program is the rare species "library;" it records and tracks the known locations of rare species. It also ranks the vulnerability of any given species based on its biology and relative rarity. Ranks include both a state rank ("S") and a global rank ("G"), and both are important. For example, a species may be very common world wide, but rare in Colorado. Perhaps it's at the edge of its range, or Colorado has a disjunct population. Biologists can then make relative comparisons on how "important" being rare in Colorado might be.

So Natural Areas staff recently looked at all the species of rare plants that occur within natural areas. We defined "rare" as those species having a state ranking of S1, S2 or S3 — "critically imperiled," "imperiled," or "vulnerable." (S1 species generally have from 1 to 5 populations in the state; S2 from 6 to 20 populations; and S3 from 21 to 100 populations.) We then compared the natural area population(s) of a given species with all of its other populations in the entire state. The species progressed to the next step if the natural area held the only "A" quality population in the state and/or if it held the population with the largest number of individuals. Of the original 75 species, 57 were



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From the Council Chair

Watching dramatic, life-threatening events unfolding halfway around the world, that directly affect family and friends, has shifted my perspective on what matters in life. My first draft of this letter as chairman of the Natural Areas Council was full of superlatives and accolades about the Program and the few dedicated people who make it work. And, indeed, I want us to celebrate our 26th year since the Colorado Legislature created the Program. In this brief time, we have accomplished much in helping to protect some of the most significant lands in Colorado. As the Legislature said in the Natural Areas Act, these lands are our "heritage"; they are a part of the homeland that our sons and daughters, mothers and fathers will return to when the present hostilities have ceased.

Given the serious issues our nation faces, I want to keep this message simple and focused on what unites us. For truly, what makes us want to protect the natural beauty around us is our shared appreciation of our unique state. CNAP's 101 natural areas represent unique lands that are vital for future generations to give them an understanding of what makes Colorado what it is — both scientifically and esthetically — and what makes it different from any other state in the union.

Sometimes we don't fully realize how important a parcel is until a scientist identifies its outstanding features. Just a short time ago, researchers discovered that the yew tree (*Taxus brevifolia*) was important for treating (taxol) certain cancers. There are many such medical examples around the world, as well as many economic examples. Much of our effort in CNAP is to protect rare and endangered plant species and their habitats. Who can say what scientific importance they may have in tomorrow's unknowable world?

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Leave it as it is. You cannot improve on it.
The ages have been at work on it, and man can only mar it ~
keep it for your children, your children's children,
and for all who come after you.

~

Theodore Roosevelt,
at the Grand Canyon, 1903

Tall as a Man on a Horse

"As tall as a man on a horse." So goes the oft-quoted pioneer description of the grasses waving in the 19th-century tallgrass prairie. Sadly, there's isn't much left — remnants along railroads in the Midwest, a small parcel in Kansas, one in Oklahoma. Pioneers, upon leaving the last oak forests along the Illinois and the Mississippi, broke into the Great Plains. At first there were the tall grasses, then further west, mid-grass prairie. Then on the Republican and the South Platte, when entering what would later become western Nebraska, Kansas, and eastern Colorado, they came to the shortgrass prairie. Even the seedheads of the native grasses here — buffalograss and blue grama — were maybe four, six inches tall. It was as if the vegetation itself was disappearing into the earth, and the vast, big sky offered no familiar solace to these Easterners.

There finally came a day, over a month out from St. Joe, when the white cumulus clouds looked strange in the far west. They hugged the edge of the horizon and were slightly off-white. It was several more days before the mirage dawned to reality; they were seeing, in the heat of the summer, snow. Snow on the near-mythical Rocky Mountains. It was a short jump to know that snow meant good water, good timber, good grass. Arriving at the base of the mountain foothills, they did find good grass — tallgrass, once again.

Colorado Tallgrass Prairie Natural Area protects remnants of this "disjunct" tallgrass system, far removed from the Midwest. All the outwash plains, the floodplains of the wild foothill streams, were once covered in switchgrass, yellow Indian grass, big bluestem — tall as a man on a horse. This natural area is the largest, at 270 acres, and highest quality remaining piece of this once-extensive community. The site is actually composed of eight separate parcels scattered around South Boulder Creek, and includes both mesic (moderately wet) and xeric (dry) tallgrass

A woman not on a horse; Karin Decker, former staff, next to big bluestem.

communities. Walking through the area in autumn is a treat — like wading through a sea of red ochre and gold. Rare species within or adjacent to the parcels are the Ute ladies' tresses orchid, bobolink, and Preble's meadow jumping mouse. Both the orchid and the jumping mouse are currently on the federal endangered species list.

(continued on page 4)

To the traveler journeying west across the Great Plains, the first sighting of the cloud-capped ramparts of the Rocky Mountains makes a lasting impression. Appearing on the western horizon like a line of storm clouds, the Rockies form the eastern front of an immense cordon of mountain ranges, the Western Cordillera, that extends from Alaska to the southern tip of South America.

Audrey Benedict,

The Southern Rockies, 1991

When land does well
for its owner,
and the owner does well
by his land;
when both end up better
by reason of their partnership,
we have conservation.

Aldo Leopold

NATURAL AREA PROFILE *(continued from page 3)*

Owned by the City of Boulder and managed by its Open Space and Mountain Parks Department, all management activities are now designed for the maintenance of this native system. Such management includes prescribed fire, seasonal grazing, weed control, and long-term monitoring. The City of Boulder's site-specific management objectives are to: restore and perpetuate the native tallgrass flora and fauna; maintain natural ecological processes; and to encourage education and scientific research on the lands.

Since these objectives nearly mimic the mandate of the overall state Natural Areas Program, and since Boulder has a strong cadre of resource professionals for long-term stewardship, we think the tallgrass prairie is in good hands. Although we will never again see the tall grasses as our distant relatives saw them, we can hope that our children will continue to be able to taste that world, at the Colorado Tallgrass Prairie Natural Area.

Colorado Natural Areas and the National Registry of Natural Landmarks

For 40 years now, the National Park Service and the Secretary of the Interior have been responsible for the designation of National Natural Landmarks. The exceptional natural values of such sites are recognized as being significant to the nation as a whole. Similar to our state system of natural areas, sites must contain one of the best national examples of: a) terrestrial or aquatic ecosystems; b)geologic exposures recording earth history; or c) outstanding fossil resources.

Created in 1962 and based on the Historic Sites Act of 1935, the national program commemorates sites that are mostly from 10 to 5000 acres in size. Its objectives include: encouraging protection of nationally significant sites; enhancing their scientific and educational values; and fostering interest in the conservation of the nation's natural heritage. A few well-known sites across the country include Ship Rock in New Mexico, Point Lobos in California, and Diamond Head in Hawaii. Designations are recognized with certificates and bronze plaques.

Colorado is home to twelve sites, six of which are also natural areas under our state program. These latter are Garden Park, Indian Springs Trace Fossil, East Lost Park (Lost Creek), Roxborough, Sand Creek, and Slumgullion Earthflow. Indian Springs, as an example, is recognized as the best trace fossil site in North America for ancient Ordovician life. Its plaque states: "*This site possesses exceptional value as an illustration of the nation's natural heritage and contributes to a better understanding of man's environment.*" Again, similar to designations for state natural areas, national landmark designations usually increase partnering between entities and agencies in protecting site resources, as well as increase the likelihood of securing management funds from grant sources.

National landmark status does not modify property rights; owners do not relinquish any rights or privileges to their lands. It also does not dictate land use or activity (CFR 36:Vol.1:Part 62). As with our state program, recognition is of an honorary nature and encourages the **voluntary protection** of the unique, nationally-renowned resources. Sites do not have to be open to the public. In fact, sites can even be commercially developed as long as resource integrity is maintained.

FROM THE COUNCIL CHAIR

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Even without expert input, we understand how awesome and beautiful our mountains and geological structures are. If you are like me, you find it hard to imagine the age of dinosaurs or grasp the evolution of life forms struggling out of primordial soup. I am thankful that dedicated ecologists, biologists, botanists, paleontologists and geologists are working with CNAP to tell us what lands are important in defining the unique story of Colorado. Through the efforts of CNAP we are protecting these geologic and fossil sites for the benefit of our children and their children. No other state program exists to do this work, and no other program accomplishes so much with so little money.

I think often of the Coloradoans who are half-a-world away. In their quiet moments they must think of their families and loved ones and the land they left behind. They must yearn for the crisp air, high plains, mountains, wonders and solitudes that signify home to them. Let's hope they return to us soon.

John A. Masson, Chairman

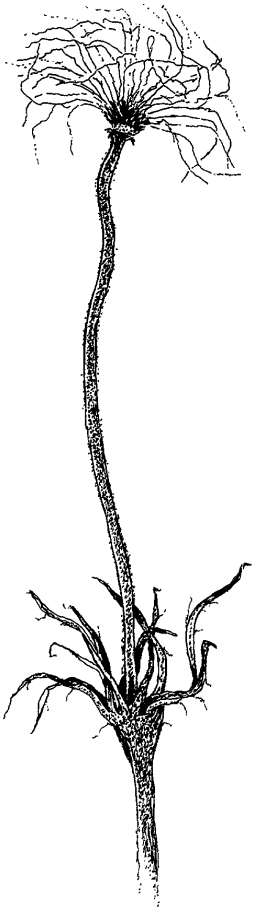
experimenting...

i hung the moon

on various

branches of the pine

hokushi



Volunteer Stewards

We'd like to warmly welcome our newest volunteer stewards!

- **Elisha Bartlett,** from the self-proclaimed icebox of Colorado — Fraser, will be visiting both Unaweep Seep and Gunnison Gravels, far out on the Uncompahgre Plateau.
- **Georgia Doyle** of Ft. Collins will steward the nearby Owl Canyon Pinyon Grove with its 400-year-old trees.
- **Allen McKie** from Parker volunteered for the difficult hike into Redcloud Peak near Lake City.
- **Judy Westerberg** of Castle Rock will be listening to neo-tropical migrant birds at Copeland Willow Carr on the edge of Rocky Mountain National Park.
- **Howard Guenther** of Longmont will be heading down to the Tarryalls and the rare grasses of Lost Park.
- Our latest Eastern Slope steward gathering will take place May 17th, hiking in Long and Gregory canyons on Green Mountain.

Natural Areas Council News

The November 2002 meeting took place at Jefferson County Open Space's new Lookout Mountain visitor center. Guests included Dr. Lee Shropshire and Lynn Reidel of the Friends of Natural Areas. Lee and Lynn suggested numerous focus areas in which the Friends group could become active. These include: increase public recognition of CNAP through slide shows, state parks' state fair booth and popular articles; helping to determine a dedicated funding source for the Program; creating a business plan for the Friends group to include targeted funding sources; stimulate interest and professional involvement from the state's scientific and academic communities; and drafting of a memo of agreement between the Friends program and CNAP.

The Natural Areas Council will be up for reauthorization by the General Assembly in 2004. Members and staff will begin this process in mid 2003. Bob outlined aspects of the current work plan that continue to emphasize registrations and designations of natural areas.

The March 2003 meeting was postponed, due to snow, until April 4. At this meeting Council registered a site documenting one of the greatest stories of geologic time — the mass extinction of the dinosaurs 65 million years ago. World wide evidence gathered over the last 20 years has shown that a large asteroid collided with the Earth at that time. The Trinidad K-T Boundary site, at Trinidad State Park, vividly displays the thin strata that record the fallout from this impact. ("K" is geologic shorthand for the Cretaceous Period, while "T" is for Tertiary. The extinction occurred at the juncture of these periods.) Stay tuned for more on this nationally significant site. The meeting also reviewed the natural areas in the Metro Region, and discussed the outstanding botanical populations of the natural area system (see main article in this newsletter).

Dates for the rest of the 2003 Council meetings are: June 20, joint meeting with State Parks Board in Denver; September 19, joint meeting with Board of Land Commissioners; and November 21.

RARE SPECIES

(continued from page 1)

found to have their largest or most significant population in a natural area. For species where the data were inconclusive, these cases were qualified as "one of two/three" largest.

astragalus ripleyi

We then looked at global rankings, counting only those species that have global rankings of G1, G2 or G3. This reduced the number of species to 35. Finally, we removed the species that are already on the endangered species list (7) to finish with 28 species (see table on page 7). It is these globally-rare species, not yet on the endangered species list, that are most likely to be considered at some time for such listing by the US Fish & Wildlife Service.

The Natural Areas Program has management agreements (called Articles of Designation) with the landowners/managers of all designated sites. So there are three aspects of protection for these major populations: the written management agreements, the on-the-ground efforts of landowners/managers, and the help that the Natural Areas Program itself can offer. Given these efforts to protect the largest populations of rare species, Colorado's natural areas are potentially helping to keep 28 species off the endangered species list. Two of these are already being considered by the US Fish & Wildlife Service, as "candidate" species, and two have recently been petitioned for listing. This is in additional to protecting the best populations of the seven species currently listed.

Natural Areas Containing the Best Population of a Species with a Rank of G1 to G3

Natural Area	Species	Global Rank	State Rank	Federal Status
Ant Hill (R)	*Lesquerella pruinosa*	G2	S2	
Badger Wash	*Eriogonum contortum* [1]	G3	S2	
	Oreocarya elata	G3	S2	
Bonny Prairie	*Botrychium campestre*	G3	S1	
Droney Gulch	*Eriogonum brandegei*	G1.5	S1.5	
East Lost Park (R)	*Ptilagrostis porteri*	G3	S2	Petitioned
Escalante Canyon	*Mimulus eastwoodiae*	G3	S1	
	Sclerocactus glaucus [2]	G3	S3	Threatened
Fairview	*Eriogonum pelinophilum* [1]	G2	S2	Endangered
Garden Park	*Nuttallia chrysantha*	G1.5	S1.5	
High Creek Fen	*Sisyrinchium pallidum*	G2.5	S2	
	Trichophorum pumilum [1]	G3	S2	
Hoosier Ridge (R)	*Eutrema edwardsii ssp. penlandii*	G1.5	S1.5	Threatened
	Astragalus molybdenus	G3	S2	
	Draba streptobrachia	G3	S3	
Irish Canyon	*Bolophyta ligulata*	G3	S2	
	Eriogonum tumulosum [2]	G3	S2	
	Penstemon acaulis var. yampaensis	G3	S3	
Lookout Mountain	*Astragalus detritalis*	G3	S2	
	Sphaeromeria capitata (argentea?)	G3	S1	
Lower Greasewood Creek	*Gilia stenothyrsa*	G2	S1	
Mount Callahan	*Penstemon debilis*	G1	S1	Candidate
North Park	*Phacelia formosula* [1]	G1	S1	Endangered
Park Creek Hogback	*Physaria bellii* [2]	G2	S2	
Rajadero Canyon	*Astragalus ripleyi*	G3	S2	
Raven Ridge	*Penstemon grahamii*	G2	S2	Candidate/Petitioned
	Eriogonum ephedroides	G3	S1	
	Phacelia incana [2]	G3	S1	
Rough & Escalante	*Astragalus linifolius*	G3	S3	
Ryan Gulch (R)	*Physaria obcordata*	G2	S2	Threatened
Ryan Gulch/Duck Creek (R)	*Lesquerella congesta*	G1	S1	Threatened
Shell Rock Canyon	*Frasera coloradensis*	G3	S3	
South Beaver Creek	*Astragalus microcymbus*	G1	S1	
South Boulder Creek	*Spiranthes diluvialis*	G2	S2	Threatened
South Cathedral Bluffs	*Gentianella tortuosa*	G3	S1	

[1] = One of two largest
[2] = One of three largest
S1=Critically Imperiled Statewide, S2=Imperiled Statewide, S3=Vulnerable Statewide
G1=Critically Imperiled Globally, G2=Imperiled Globally, G3=Vulnerable Globally
(R) = Registered site

New Natural Areas Created in the Last Three Years

Site	Owner	Acres	County
Designated:			
Brush Creek Fen	*Private*	9	Custer
California Park	*State Land Board*	640	Routt
Castlewood Canyon	*Colorado State Parks/State Land Board*	1200	Douglas
Chalk Bluffs	*State Land Board*	640	Weld
Dakota Hogback	*Jefferson County Open Space*	2168	Jefferson
Droney Gulch	*State Land Board*	2941	Chaffee
East Sand Dunes	*State Land Board*	2914	Jackson
High Creek Fen	*State Land Board*	2401	Park
Jimmy Creek	*State Land Board*	640	Larimer
Ken Caryl Ranch	*Private/Public*	1602	Jefferson
Mini-Wheeler	*State Land Board*	449	Fremont
Park Creek Hogback	*State Land Board*	279	Larimer
Rajadero Canyon	*State Land Board*	673	Conejos
Raven Ridge	*Bureau of Land Management*	3680	Rio Blanco
Roxborough	*Colorado State Parks*	464	Douglas
Saddle Mountain	*State Land Board*	640	Park
Sand Creek	*State Land Board*	640	Larimer
Shell Rock Canyon	*State Land Board*	640	Baca
South Cathedral Bluffs	*Bureau of Land Management*	1014	Rio Blanco
Treasurevault Mountain	*State Land Board*	320	Park
Zapata Falls	*State Land Board*	619	Alamosa
Registered:			
Antero/Salt Creek	*State Land Board*	8869	Park
Arikaree River	*State Land Board*	1600	Yuma
Black's Gulch	*Bureau of Land Management*	802	Rio Blanco
Fourmile Cr. at Peart	*State Land Board*	960	Park
Lake Pasture	*Private*	230	Larimer
Lake San Cristobal	*Private*	85	Hinsdale
Orient Mine	*Private*	329	Saguache

Total Natural Areas: 28 **Total Acres: 37,448**

	Attributes
	Best state population of rare yellow lady's slipper orchid.
	Habitat for endangered boreal toad, two rare plants and a plant community.
	Four rare plant species; excellent plant communities. (Expansion.)
	Rare plant species, community, and likely rare birds.
	Outstanding geology, fossils, and plant communities.
	Best population of rare endemic plant species — Brandegee wild buckwheat. (Expansion.)
	Stabilized dunes next to active cold-climate dunes. (Expansion.)
	Adjacent to fen; rare mountain plovers likely. (Expansion.)
	Rare plant — pale blue-eyed grass.
	Outstanding geology; two rare plant species; foothill plant communities.
	Unique geologic formations eroded from volcanic ash.
	Best population of rare endemic plant species — Bell's twinpod.
	Rare endemic plant species — Ripley milkvetch. (Expansion.)
	Eight rare plant species. (Expansion.)
	Excellent geology and foothill plant communities; National Natural Landmark . (Expansion.)
	Two rare plant communities including bristlecone pine.
	Rare plant community; scenic geology; National Natural Landmark.
	Best state population of rare Colorado gentian; excellent shortgrass prairie.
	Four rare plant species. (Expansion.)
	Federal, threatened rare plant species.
	Outstanding falls and geology; rare birds — black swift.
	Six rare plant species.
	Two rare plant communities.
	Finest Eocene mammal fossils in state.
	Four rare plant species; two rare plant communities. Extreme rich fen.
	Finest emergent montane wetland on Front Range; rare plant community.
	Excellent sub-alpine willow carr; river delta geologic processes.
	Largest bat colony in state (up to 200,000 bats); rare shrubland community.

Friends of Colorado Natural Areas Application

I/We wish to join or renew our membership in Friends of Colorado Natural Areas!
(Choose among these annual tax-deductible memberships)

❑ $15 Individual ❑ $25 Family ❑ $8 Student or Senior

A Larger gift is greatly appreciate and will help protect individual natural areas.
❑ $50 ❑ $100 ❑ $1000

Name(s) _____ Phone ( ) _____

Address _____ Fax ( ) _____

City _____ State _____ Zip _____ ❑ Yes, I would like to be a volunteer.

Make checks payable to: Friends of Colorado Natural Areas
Mail to: Colorado Natural Areas Program • Colorado State Parks
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