

Colorado Rare Plant Technical Committee
2nd Annual Rare Plant Symposium – Evening Presentation

September 16, 2005

6:30 pm - 7:30 pm

Pagosa Lodge, Pagosa Springs, CO

Evening Presentation Agenda

Introduction – Steve Popovich, USFS

Overview of CoRPTC – Tom Grant, DBG

CoRPTC Working Group Updates (5 minutes each)

Moonwort (*Botrychium*) updates – Steve Popovich, USFS

Distribute USFS Sensitive Species and BLM Species of Special Concern Lists – Steve Popovich, USFS

Closing – goals of CoRPTC and Rare Plant Symposium

In addition to the daylong Rare Plant Symposium, an informal evening session was held for members of the public interested in rare plants. The event is organized by the Colorado Rare Plant Technical Committee (CoRPTC) and hosted in conjunction with the Colorado Native Plant Society’s annual meeting. The CoRPTC consists primarily of working professionals with knowledge of Colorado’s rare plant species, although the meetings are open to the public. Many federal land management agencies participate in the committee, including the U.S. Forest Service, Bureau of Land Management, and U.S Fish and Wildlife Service. Additionally, several Universities, NGO’s, and environmental consultants are active members. The primary goals of the CoRPTC are to assess the condition of rare species based upon available information, identify and prioritize management practices, facilitate coordination and information exchange, and communicate pertinent information to policy makers and the public.

The CoRPTC has delineated Working Groups for specific rare species or geographic areas of special concern. A portion of the evening presentation included updates and highlights of the rare plant working groups.

CoRPTC Working Groups

Species or General Locality	CoRPTC Contacts
<i>Gaura neomexicana</i> ssp. <i>coloradensis</i>	Erin Robertson
<i>Ipomopsis polyantha</i>	Ellen Mayo, Kathy Carsey
Kremmling Area - <i>Penstemon penlandii</i> , <i>Astragalus osterhoutii</i>	Thomas Grant, Megan Maguire (BLM)
<i>Pediocactus knowltonii</i>	Ellen Mayo
Piceance Basin - <i>Lesquerella congesta</i> , <i>Physaria obcordata</i>	Carol Dawson, Tamara Meagle, Erin Robertson, Thomas Grant
Roan Plateau - 15 species considered sensitive within the planning area	Carla Scheck, Erin Robertson
<i>Sclerocactus mesae-verdae</i>	Tamara Naumann, Janet Coles

Gaura neomexicana ssp. Coloradensis Working Group

(Erin Robertson)

The big change this year was designation of critical habitat. It was a long process and I want to touch on its listing history to put things on context.

Congress understood that protecting existing individuals usually isn't enough to recover endangered species. So, they required that when species were protected under the Act, the Service must also identify and protect habitat critical to the recovery of that species, and the Service must adopt a recovery plan.

The Endangered Species Act is under attack. Please sign up on sheet in the back for details.

In the next week or so, Representative Richard Pombo (CA) will introduce a bill to gut the Act. The drafts that people have seen have many bad provisions – the most obvious being that it sunsets the Act in 2015, so the Act would quietly cease to exist then.

The main argument that Endangered Species Act proponents are using is that it fails to recover species.

Gaura is a good example of how the failure to implement the Act is the real problem, so it's worth reviewing its path to protection.

Gaura neomexicana ssp. coloradensis status under the Endangered Species Act:

January 1975: Smithsonian Institution report on threatened and endangered plants recommends protection

June 1976: FWS proposes listing for 1700 of the Smithsonian species

December 1979: FWS withdraws Smithsonian listing proposal because it has expired

December 1980: included as Category 1 Candidate species

1991: lawsuit filed by Fund for Animals, Defenders of Wildlife, Biodiversity Legal Foundation, Northwest Ecosystem Alliance, Swan Butte Coalition, and others over Candidate backlog

1992: FWS settles lawsuit; agrees to make findings on all Candidates by September 1996

February 1996: Category system discontinued; retained as Candidate species with a Listing Priority of 3 (highest it could attain based on taxonomy)

1996: Congress imposed listing moratorium for about a year. FWS asked the court to be relieved of its obligation to comply with the Candidate settlement agreement. After mediation, parties agreed to allow an extension until 1998, and FWS was only obligated to make decisions for the same number of Candidates that were recognized in 1992 (FWS chose which Candidates to make findings for based on their Listing Priority numbers).

March 1998: proposed for listing as Threatened; Critical Habitat designation found not to be prudent

October 2000: listed as Threatened; Critical Habitat designation determined to be prudent in the final rule, but not designated at this time. Center for Biological Diversity and Biodiversity Legal Foundation file litigation over failure to designate Critical Habitat.

March 2001: FWS settles lawsuit and agrees to designate Critical Habitat by January 2005
August 2004: FWS proposes designation of 8 Critical Habitat units totaling 8400 acres and 113 stream miles in Wyoming, Colorado, and Nebraska
January 2005: FWS designates 7 Critical Habitat units totaling 3500 acres and 51 stream miles in Wyoming

Critical Habitat designation was cut in half between proposed and final. Landowners who signed voluntary Wildlife Extension Agreements were exempted. This is frustrating because after 30 years it still isn't protected. CNE could probably make a strong case against this but are not planning to sue now.

We are glad that the Critical Habitat designation process has facilitated communication with landowners; both those that signed agreements and those who didn't are talking with the Service now.

Wildlife Extension Agreements:

Signed this year - 11 (City of Fort Collins, City of Cheyenne, 9 private). They have a 15-year term, no herbicides within 100 ft., and allow FWS annual monitoring access.

Ipomopsis polyantha Working Group

(Ellen Mayo, Kathy Carsey)

Communication with Ellen Mayo, USFWS during the winter of 2004/2005 confirmed the need to establish an *Ipomopsis polyantha* advisory group. *Ipomopsis polyantha* was recently selected as a Candidate species by the USFWS. It is known only from the Pagosa Springs vicinity in Archuleta County, where it is under extreme development pressure. The advisory committee was established under the guidance of CNHP botanist Peggy Lyon in March 2005 to develop strategies to protect this species. Members of the group include representatives from the U. S. Forest Service, BLM, Pagosa Springs Parks Dept., Archuleta County Roads, Colorado Dept. of Transportation, Colorado Native Plant Society, Pagosa Garden Club, CSU Extension Service, Colorado Natural Heritage Program, U. S. Fish and Wildlife Service, Southern Ute Tribe, La Plata Electric and local botanists. The first step in the group's plan is to get an accurate assessment of the number of plants that exist, and their locations, so that changes can be monitored in the future. All known locations of the plants are on roadsides or private land, and much of the potential habitat on private land has never been surveyed. Therefore, letters were sent to all landowners with property in the Mancos shale areas of Pagosa Springs requesting permission to survey on private lands. In addition to private lands, known sites along public roads were mapped and number of individuals counted or estimated. The survey was conducted from June 6 to June 11, 2005. Significant new populations were found on BLM land at Dyke (the first known on any public lands) and at the Archuleta County fairgrounds. Small populations were also documented on Pagosa Springs city parks property. All populations were GPS'd and will be entered in the CNHP data system and supplied to the USFWS. Seed collection was planned for August 2005, but proved to be difficult because the seeds appear to be dropped immediately upon maturing. However, a number of rosettes were selected for transplanting, and that effort will continue, weather permitting.

Kremmling Area Working Group

(Megan Maquire, Thomas Grant)

Primary species: *Astragalus osterhoutii*, *Penstemon penlandii*, *Phacelia formosula*

History

20 year effort to develop a travel management plan BLM land managed by the Kremmling office

Manage/designate motorized routes, seasonal closures, avoid resource conflicts

1984 – Kremmling Resource Area Resource Management plan and ROD

Little accomplished until 2001 due to budget constraints

Wolford Mtn. Area prioritized over Kremmling area due to immediate threats!

2002 – inventory of all single and 2 tracks used by ORV's

Goal – designate routes for recreation (motorized and non)

History of Wolford Mtn Reservoir – formerly Muddy Creek reservoir

Dam constructed 1995

Flooded approx. 10-20% of AsOs global populations

Habitat for elk, pronghorn, mule deer, greater sage grouse

Wolford Mtn Travel Plan

42,632 Acres Total

33,150 BLM

8,546 Private

934 State

AsOs populations

303 Acres Total

216 BLM

76 Private

11 State

Future plans

Eliminate vehicle travel off designated routes

Protect AsOs from motorized vehicle travel

Close 64 miles of roads and trails

Enforced by “regular surveillance by BLM and Wolford Mtn. Reservoir Project personnel”

New Monitoring implemented in 2004 by BLM

Additionally surveying & monitoring for new populations

Increase suitable habitat by reducing/eliminating cross-country travel

AsOs pollinators live in rodent holes, decrease surface disturbance

Pediocactus knowltonii Working Group

(Ellen Mayo)

There is no new data to report for this species.

Piceance Basin Working Group

(Carol Dawson, Tamara Meagle, Erin Robertson, Thomas Grant)

Primary species – *Lesquerella congesta*, *Physaria obcordata*, *Penstemon grahamii*

Programmatic EIS for oil shale based on new Energy Bill

Penstemon grahamii monitoring by BLM in CO

May be petitioned for listing, if denied it could become a BLM sensitive species

3 new pipelines & 1 large seismic project (exploratory)

Development has avoided plant populations

FERC – interstate pipelines, overseen & permitted by FERC

Lead agency

Exxon Mobile – new pipelines, measurement stations, new processing plants, evaporation ponds and central treatment facility.

*Going into full development of a field

Potentially 100's of additional wells, including ACEC (Ryan Gulch & Dudley Bluffs)

CNE ~ Colorado BLM received 10 nominations, and each includes a request for a 160-acre R&D lease plus a preference right for an additional 4,960 acres (as provided in Fed Reg). >>> oil shale?

BLM – requires inventories and mitigates in developed area

Indirect impacts – unknown, research in future

200 ft buffer

Direct impacts – under control

Resource Management Plan – under revision

Primarily focused on development in Rangely area >>> didn't happen

Plan did NOT focus on impacts Piceance Basin

Roan Plateau Working Group

(Carla Scheck, Erin Robertson)

Penstemon debilis (Roan Plateau)

Described 1987

Candidate 1990

March 2004- petition filed by Center for Native Ecosystems (CNE), Colorado Native Plant Society, Steve O’Kane, and Janey Hines-Broderick.

November 2004 – BLM releases draft Resource Management Plan for the Roan Plateau preferred alternative says No Surface Occupancy on occurrences plus 1/8 mile (?) buffer some other alternatives would have designated Anvil Points Rim as an Area of Critical Environmental Concern, but not the preferred alternative.

January 2005 – Center for Native Ecosystems, Colorado Native Plant Society, and Steve O’Kane file litigation re Service’s failure to make required petition findings.

April 2005 – Center for Native Ecosystems and other conservation groups file over 100 pages of comments on the draft Resource Management Plan.

May 2005 – FWS increases *Penstemon debilis*’s listing priority number to the highest it can attain because of imminent, high-magnitude threats.

July 2005 – *Plant Talk* magazine highlights the imperiled Roan Plateau plants.

August 2005 – Center for Native Ecosystems notices that BLM has proposed to include one of five total populations in the quarterly oil and gas lease sale. We alert BLM. BLM and FWS visit the known Mt. Logan site, and determine it is in the lease parcel. They also visit BLM land near a rumored sixth population on Occidental Oil land and determine that this sixth population extends onto BLM surface (they did not visit the Occidental property). BLM withdraws the parcel from the sale.

September 2005 – oil shale research and development lease tract nominations close (5000 acres each). We are waiting for specific locations, but hear all Colorado nominations were in the Piceance Basin.

CNE is in ongoing settlement negotiations with FWS about petition finding dates.

Waiting for final draft of Roan plan.

Parachute Town Council asked for permission to display Steve O’Kane’s *Penstemon debilis* photo.

Other Roan area species:

Iliamna grandiflora is believed extirpated from the Roan Plateau.

Oil and gas is affecting *Phacelia submutica*, *Astragalus debequaeus*. BLM draft proposal to open South Shale Ridge to oil and gas leasing, habitat for both species plus *Sclerocactus glaucus*. I went on the CoNPS field trip to adjacent Pyramid Rock Area of Critical

Environmental Concern this summer and we saw tons of drilling and pipeline activity in the area. Orchard Gap project is also of concern. Have petitioned both, but no litigation yet.

New leases being issued in Sensitive plant habitat – CNE is protesting these.

Sclerocactus mesae-verdae Working Group

(Written by Janet Coles)

In 2005 we observed *Sclerocactus mesae-verdae* continuing its slow recovery from the extreme drought of 2002. Plants were in mid to late anthesis at the time of our visit (April 27 - 30), with some fruits developing. Flowering was nearly up to pre-drought levels when calculated per stem; however, so many stems succumbed during the drought to desiccation, trampling by livestock and a new infestation by the cactus borer beetle (*Moneilema semipunctatum*), that the total numbers of flowers and fruits are only a fraction of what they were in 2001.

On the surface, there appeared to be a flush of stem recruitment in 2005 as well; however, this is an artifact of the fact that SCME produces new stems whenever the main stem is damaged but not killed. 99% of the new stems are such sprouts caused by the drought and related damage; so far I have only noted three new seedlings, although climatic conditions were suitable for germination in 2005 (prior fall and spring were normal to above-normal precipitation).

Plot 1 continues to experience additional impacts from domestic horses corralled in the pasture that also includes this plot. Horses travel mainly on the summits of ridges, and this is also where the cactus prefers to grow, so nearly all cactus stems on the tops of ridges in Plot 1 have been destroyed by trampling (220 of 269 are dead from various causes, including trampling). The Utes have proposed installing fencing to keep the horses out, but the fence has not yet been installed.

In Plot 2, we noted with concern that someone had installed survey stakes at the northeast corner of the plot (by the plot corner rebar), then DRIVEN (tire tracks clearly visible) diagonally across the entire plot and installed another set of survey stakes at the center post on the west end of the plot. I am guessing that these stakes were installed by the Utes when trying to guess where the plot was so they could fence it to keep livestock out (Plot 2 is grazed by cattle, and we lose 2-3 plants a year in hoof prints). Miraculously, the several cacti that took a direct hit from tires survived. This plot is the most successful of the three, and experienced the fewest negative impacts from beetles and drought.

In Plot 3 there was the least amount of recovery evident. Most of the associated *Atriplex corrugata* shrubs are dead and there are few seedlings shrubs to replace them. There are few surviving cactus stems large enough to flower. This plot has been on a downward population spiral since 1988. There has been so little fruit production in the last five years in this plot that the effective seed bank is likely to be near zero. Although I haven't entered the 2005 data for this plot, the 2004 data indicate that more than 2/3 of the known stems are dead (441 / 634).

I am cautiously optimistic as to the survival of *Sclerocactus mesae-verdae* in Colorado. It could be much worse - the Navajo Heritage Program botanist and the New Mexico State Botanist both reported upwards of 75% mortality in their monitoring plots, which is more than twice the level of drought-related mortality averaged over the three Colorado plots. However, another episode of severe drought or another severe beetle infestation in the next few years could cause the extirpation of some colonies of the cactus throughout its range.

Janet J. Coles, Vegetation Ecologist/Project Manager

NatureServe
2400 Spruce St., Suite 201
Boulder, CO 80302
phone: 303-541-0327
fax: 303-449-4328
janet_coles@natureserve.org
<http://www.natureserve.org>

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Moonwort (*Botrychium* species) updates in Colorado – Steve Popovich

- These are ancient, small fern-like plants in family Ophioglossaceae.
- The following *Botrychium* subgenus *Botrychium* species occur in Colorado (these are the “really small guys”): *Botrychium lineare*, *minganense*, *pallidum*, *echo*, *hesperium*, *lanceolatum*, *pinnatum*, *simplex*, *campestre*, and *lunaria*.
- Others may occur and should be expected to be encountered over time.
- What we used to think of as *B. campestre* occurring in the mountains is now best regarded as *lineare*, with *campestre* restricted to true prairie.
- A *Botrychium* in a different subgenus, *B. multifidum*, also occurs in Colorado. It is larger and occurs in wet meadows and riparian corridors.
- Also, *Botrypus virginianus* occurs here, a related plant.
- *B. lineare* is the rarest in Colorado, and perhaps one of North America's rarest plants.

- *B. lineare* is a *Candidate* plant under the Endangered Species Act (ESA). That means there is sufficient data to list this plant as *Threatened* or *Endangered*. However, the USFS (including the USFWS) recently feel that there may not be sufficient data to list, as we are finding more sites the more we look, and it seems able to colonize and persist in disturbed areas. It is ranked low on the priority list to resolve by the USFWS, but Gina Glenne (USFWS, Boise, ID) is working on it next year.
- We are finding some moonworts to be much more common than believed in Colorado, especially *B. echo*, *lunaria*, *minganense*, *hesperium*, and *lanceolatum*. *B. simplex*, *pinnatum*, *campestre* and *lineare* still appear rare and may warrant maximum protection.
- The USFS on my Forest is backing off of worrying about managing every moonwort site as critically as we have before for the more common taxa. But we are still concerned about all species and continue to look for them all.
- USFS *Species Assessment* reports for moonworts available on-line include *B. echo*, *hesperium*, *campestre*, *lineare* (see also a critical error corrections addendum by Popovich), *ascendens*, *crenulatum*, and *multifidum*. *Botrychium simplex* is coming soon.
- Steve Popovich has a Colorado moonwort identification workshop manual from summer 2005 that he hosted, and it may be posted this winter on a USFS FTP site for download to the public. Enquire with Steve about this.

“New species” of moonwort found in Colorado on Arapaho National Forest in 2005?

- Don't listen to rumors.
- The facts are: USFS found “new genetic entity” of moonwort with alleles of *lineare*, *campestre* and unknown parent.
- Dr. Farrar has tentatively called it *Botrychium 'bifurcatum.'*
- We are not sure if it is a “new species” or not. Dr. Farrar, a moonwort specialist, is examining the DNA and ultimate taxonomic placement. It is a new DNA combination for sure.
- Found near Guanella Pass west of Denver.
- A road improvement project was re-aligned to avoid the site. This will not impede the project.
- Steve Popovich hopes to try to locate new sites in 2006.
- For more info, contact Steve.

USFS and BLM Sensitive Plant Species Lists

Each agency has its own list; some species are in common for both lists, check agency websites for current lists.

The National Park Service does not have such a list, but, as with the BLM and USFS, does care about managing all rare plants under their administration.

Lists include higher vascular plants only. Nonvascular plants (mushrooms, lichens, etc.) and mosses are not included. Over time they may be. Other USFS and BLM lists in other places nationally do sometimes list nonvasculars.

The BLM list is for Colorado and is from 2000, and has about 81 plants.

- Carol Dawson, the BLM State Botanist, will have a revised list shortly. She does not control when it will be released, but hopes soon.
- Carol does not propose any changes to the BLM list for any G1 plants. The ones currently on the BLM list will stay on. These are: *Astragalus microcymbus*, *Eriogonum brandegeei*, and *Lygodesmia doloresensis*.

The USFS list is based at the Regional level and has about 88 plants. The USFS in Colorado is in Region 2 (“R2”), the Rocky Mountain Region, and uses the R2 list.

- Not all plants on the regional list occur in Colorado or are rare in Colorado.
- The USFS list is current as of May 2005. It is updated annually based upon a regional review process of new information. Certain criteria must be met. All USFS botanists in the Region have a chance to have input into the proposed changes.

What exactly is on these lists?

- The idea is to maintain **viable populations in the long-term** of ANY rare native plant occurring on the units, and for the USFS, to maintain viable populations regionally. Another goal is to manage rare plants such that there will never be a need to list them under ESA. This is done by a series of policies that the BLM and USFS have created, not by law or congress.
- Any species already protected under the Endangered Species Act (ESA) as Endangered or Threatened and occurring in Colorado are NOT on BLM or USFS lists because they are already protected by law; they are sort of “automatically” protected.
- Any species that is a Candidate or Proposed for listing under the ESA are automatically included on the lists since threats have been identified and they are not protected under ESA.
- Any vascular species occurring on BLM or USFS administered lands that have a very limited distribution, or perceived threats to population viability or needed habitats (like fens), are on the BLM or USFS lists.
- Threats can be realized or only perceived.
- Threats can be from humans or any other cause (including stochastic events or gene flow restrictions).
- The lists are dynamic and subject to updates as new information becomes available.

Closing – goals of CoRPTC and Rare Plant Symposium