

Fourteenth Annual Colorado Rare Plant Symposium

September 8th, 2017

Slocum Commons

Colorado Springs, Colorado

Rare Plant Symposium

Moderator Jennifer Ramp Ramp Neale (DBG)

G2 Species of SE Colorado

Session facilitated by Jill Handwerk (CNHP)

***Asclepias uncialis* ssp. *uncialis* (G3G4T2T3/S2)**

Dina Clark: New population in Baca County on private land, potential for more populations there. Three vegetative plants, so no collection; will submit EO.

***Cleome (Peritoma) multicaulis* (G2G3/S2S3)**

Susan Spackman-Panjabi: Unknown distribution in Mexico.

Jill Handwerk: An Adopt-a-Rare Plant volunteer relocated several occurrences in 2016 on TNC and SWA land.

***Delphinium ramosum* var. *alpestre* (G4T2/S2)**

Jill Handwerk: Some uncertainty about taxonomy.

Tim Hogan: I think it still persists in the Sangres.

***Delphinium robustum* (G2?/S2?)**

Jill Handwerk: Ackerfield has it lumped with *ramosum*.

***Draba exungiculata* (G2/S2)**

No new comments.

***Draba grayana* (G2/S2)**

No new comments.

***Draba smithii* (G2/S2)**

Jill Handwerk: Scott Smith observed in Sangres this year (2017) and already reported to CNHP.

***Frasera coloradensis* (G2G3/S2S3)**

Jill Handwerk: Recent reports of finding it in Kansas, but no documentation.

Dina Clark: Found in northern Baca Canyon in same area as *Asclepias uncialis* spp. *uncialis*.

Dan Fosha: Southern Plains Land Trust would like to do more research on this plant.

Lisa Merkhofer: Visited an occurrence at Two Buttes SWA – saw one individual. Dan saw downward trajectory on that property as well several years ago. Dan believes species is stable in core of range but may be on decline in marginal areas on edge of range; but this was a few years ago after drought. Soils are different on SW end of range and NE end. Those areas seemed like marginal habitat.

***Herrickia horrida* (G3?/S1)**

Susan Spackman-Panjabi: Updated rare plant guide for this species.

***Nuttallia chrysantha* (G2/S2)**

Susan Spackman-Panjabi: Developed BMP for roadsides for this species.

***Nuttallia densa* (G2/S2)**

No new comments.

***Oenothera harringtonii* (G3/S3)**

Jill Handwerk: Moved from G2 to G3.

Dina Clark: Found hundreds on the same ranch in Northern Baca County; low lying alkaline area with *Eriogonum gordonii*, with a good wet spring and summer in SE Colorado.

***Oonopsis foliosa* var. *monocephala* (G3G4T2/S2)**

No new comments.

***Oonopsis puebloensis* (G2/S2)**

Susan Spackman-Panjabi: Developed roadside BMPs for this species and updated CO rare plant guide.

Jenny Ramp Neale: When will this species be published?

Susan Spackman-Panjabi: Unknown. Greg Brown with the University of Wyoming discovered it 20 years ago.

***Oxybaphus rotundifolius* (G2/S2)**

Susan Spackman-Panjabi: Developed BMPs and updated rare plant guide.

***Penstemon degeneri* (G2/S2)**

Carol Dawson: Canyon City Royal Gorge Field Office working on management plan and trying to survey for this species and set up trend monitoring. In beginning stages of monitoring.

Susan Spackman-Panjabi: We need voucher specimen for Teller County location. Also developed BMP for this species; believe there is a voucher for Park County site.

***Physaria calcicola* (G3/S3)**

Jill Handwerk: Was G2 now G3; also in NM.

***Ptilagrostis porter* (G2/S2)**

Tim Hogan: There is also a record from northern NM from a few years back.

Jill Handwerk: USFS monitors it every year in Park County.

Steve Olson: One of the sites in Park County is appearing to show signs of decline, with coincidence of lack of grazing.

Lisa Merkhofer: New site in Fourmile Creek, small population (estimate 50 plants).

***Telesonix jamesii* (G2/S2)**

Denise Wilson: Jack and Deborah Darnell and I estimated and mapped with binoculars thousands of plants at Staunton State Park, reported already to CNHP.

Threatened, Endangered, Candidate, and Petitioned Species Statewide

Session facilitated by Jill Handwerk (CNHP)

***Astragalus humillimus* (G1/S1/LE)**

Jill Handwerk: In the last decade USFWS folks were able to get on tribal land and it is extant, but there is no additional information.

Susan Spackman-Panjabi: New botanical art on this species available.

Jenny Ramp Neale: What about occurrences in NM? Arboretum in Flagstaff has collected seed before in NM.

Jill Handwerk: This is on Ute tribal lands.

***Astragalus microcymbus* (G1/S1/C)**

Jill Handwerk: DBG and BLM have been monitoring it.

Michelle DePregner-Levin: Lots of new juveniles and robust plants. Population looks to be picking back up from past downward trends; not a lot of browsing.

Susan Spackman-Panjabi: Was *P. rollinsii* there, too?

Michelle DePrenger-Levin: In past years we have seen it.

Susan Spackman-Panjabi: We would like to document that.

***Astragalus osterhoutii* (G1/S1/LE)**

Jill Handwerk: BLM monitoring it.

Phil Krenning: BLM has five monitoring sites on Toublesome and Muddy Creeks; they visited in July. It appears to be a stable population at landscape level; study started in 2011. They used all data to do power analysis at landscape level.

***Astragalus schmolliae* (G1/S1/C)**

Jill Handwerk: CNHP has been monitoring this since 2002 and the last five years consecutively. Preliminary results are that the positive effects from fire are diminishing. Fires in the long-term may have a negative impact.

Carol Dawson: SSA will be coming out and I will review it; this document will inform the listing decision.

***Astragalus tortipes* (G1/S1/C)**

Jill Handwerk: Former candidate for listing. Habitat modeling was done by USFWS and they determined not to list it.

Carol: Has anyone gotten in there to look? No one has seen it on BLM? Or on boundary of tribal land? Answer: no one has.

Jill Handwerk: Ellen Mayo got out there and took a look and saw it.

Pam Shlutz: I have a contact in Colorado Springs who has been studying culturally modified trees on Ute lands. That contact may be able to assist with access to the area.

***Corispermum navicula* (G1?/S1)**

Jill Handwerk: Species is currently petitioned for listing. Review due in 2022, some monitoring and genetic work both have been done.

Phil Krenning: We are trying to figure out how to set up monitoring for this annual species; hoping to get out in early October of this year.

Jenny Ramp Neale: Microsatellite markers were developed by DBG and are looking at this with fruit morphology to determine the species. Believe *navicula* is its own species but two morphotypes present at East Dunes. Please collect this genus if you can.

***Draba weberi* (G1/S1)**

Jill Handwerk: Dee Malone, CNHP, may have found a new subpopulation, which would be a slight extension to small range; waiting on verification. Might be 200 plants known rangewide.

***Eriogonum pelinophilum* (G2/S2/LE)**

Phil Krenning: Headed down Monday to do monitoring for this year. In 2016: set up a plot on Wacker Ranch with CNAP. Uncompahgre field office trying to get grazing allotments retired. Last year's population looked stable to increasing.

Jill Handwerk: Some fencing has been added in the area to support conservation.

***Eriogonum brandegeei* (G1G2/S1S2)**

Jill Handwerk: CNHP helping the state monitor the species on Droney Gulch. Seeing density numbers similar to DBG: 1.2 plants/m².

Phil Krenning: It would be good to cross-walk different studies and compare numbers. They set up 3 plots in 2016 and revisited in 2017, sample size looked good in plots and on landscape scale; population looked stable.

Michelle DePrenger-Levin: I did not go in 2017, but in 2016 did not seem to be recovering as much as she had hoped from drought. Definitely agree we need to pool data.

Jill Handwerk: All using same method.

Phil Krenning: Looked like heavy rain this year, which may have taken out some recruits.

***Eutrema penlandii* (*edwardsii*) (G1G2/S1S2/LT)**

Jill Handwerk: BLM has organized monitoring since 2011. MRHI has added knowledge of locations.

Ginni Greer: In 2017 we went back to original site from 2011 or 2012 – at least one population was increasing (in Twlevemile).

Phil Krenning: Species seems to show extreme fluctuations annually. It is hard to identify; have 5 plots across range, this year looked better than last year (3 of 5 plots increased). Need to nail down sample size across landscape scale, which is hard with population fluctuations. Also doing species richness plots to monitor habitat in light of climate change.

***Ipomopsis polyantha* (G1/S1/LE)**

Jill Handwerk: USFWS currently drafting SSA.

Carol Dawson: There is 273 feet of habitat on BLM land and we did environmental assessment on it. DBG has cleaned seed collected by private landowners and given the seed back to landowners for them to plant. They grew some out at the gardens and did re-seed.

Jessica Smith: CNAP led an effort for qualitative and quantitative monitoring on the CPW Pagosa Skyrocket natural area this summer.

***Mimulus gemmiparus* (G1/S1)**

Jessica Smith: EcoMetrics Mark Beardsley doing the work contracted by USFS, USFWS, CNAP, with Dave Steingraber at CSU to assist migration of this species across its range. About 50% of planted patches have plants in this second year. Natural populations were also checked and are stable.

***Oenothera coloradensis* ssp. *coloradensis* (G3T2/S1/LT)**

Jill Handwerk: Species has undergone SSA and is considered to be recovered; look for it to be delisted in coming years. Colorado has a high quality occurrence of this species (Soapstone), Wyoming does as well, and there is one in Nebraska.

Susan Spackman-Panjabi: I am concerned about quality of the habitat – some sites are pretty weedy, and wetlands are threatened. Bonny Heidel is monitoring the Air Force site in Wyoming.

Becky Hufft: I was at Soapstone last week and population looked great and was not weedy.

***Pediocactus knowltonii* (G1/SNA)**

Jill Handwerk: With USFWS help CNHP got on to tribal lands and took a quick look, but did not see it in 2017. Hopefully we can look again next year.

***Penstemon debilis* (G1/S1/LT)**

Jill Handwerk: BLM & CNHP monitoring. CNHP initial numbers: ocular and photo monitoring, 0.2 plants/sq m for ocular monitoring and 0.27 plants/sq m with photos – two methods are not significantly different.

Carol Dawson: BLM going in September 2017. They have been going for 13 years, but this might be the last year. The road is going to be closed. Stable trend, but does go up and down, likely moisture related.

Jill Handwerk: More surveys needed for new populations.

Susan Spackman-Panjabi: CNHP does reach out and often gets permission to survey on private land, but there is a lack of funding to do surveys and also very difficult terrain.

***Penstemon grahamii* (G2/S1)**

Carol Dawson: A judge overturned the USFWS decision not to list this species due to the signing of a Conservation Agreement; there is an extension from the judge to try to keep working out a solution to make the Conservation Agreement work. The future of the listing is unclear.

Phil Krenning: The BLM has monitored the plants since 1986; population took a hit in 2014 – damaged by sheep but coming back. Surveyed potential habitat for the species this year – did find plants but not enough to monitor.

Jessica Smith: Larry Allison found a new GPS point with 2 plants.

Carol Dawson: Plants are just so scattered in Colorado.

Phil Krenning: We have better protections in Colorado than Utah.

Susan Spackman-Panjabi: Plants can go dormant for year, but may still be there.

***Penstemon penlandii* (G1/S1/LE)**

Jill Handwerk: Two large occurrences.

Phil Krenning: BLM population seems really stable (at Troublesome Creek).

Jenny Ramp Neale: DBG has done population genetic work from seed collections over a 27 year period from Troublesome Creek with good germination from every year; this year DBG got tissue samples from both populations. Troublesome Creek population seems genetically diverse; the private location population seems genetically distinct. They collected seed from the private population this year.

Becky Hufft: Thousands of individuals on the private property population. It looks very healthy.

Susan Spackman-Panjabi: How far apart are populations?

Jenny Ramp Neale: 2 miles.

Becky Hufft: They took a GPS boundary of population on private land and herbarium sample and will send an EO.

***Penstemon scariosus* var. *albifluvis* (G4T1/S1)**

Phil Krenning: We set up a monitoring plot this year for the species, and we hope to get a couple more in the next few years.

***Phacelia formosula* (G1/S1)**

Jenny Ramp Neale: DBG has done population genetic work on this species. Preliminary results: Larimer County populations seem unique but not a different species. There are two clusters in Jackson County, none of them seem a distinct species, will publish soon. *Phacelia gina-glenneae* is still a distinct species.

Phil Krenning: BLM has five study sites in Jackson County. One went to zero but came back this year; probably moisture driven but no correlation with precipitation data from Walden. They have deployed soil moisture probes. Species seems to be in a significant decline in the last few years.

***Phacelia submutica* (G2/S2/LT)**

Jessica Smith: Stephen Wenger did not see species this year.

Mit McGlaughlin: We will publish genetics results soon: sampled 300 – 400 plants, found 8 genotypes, little diversity.

***Physaria congesta* (G1/S1/LT)**

Phil Krenning: We have two plots. 2017 looked better than 2016. Lots out there; found no impacts from dust related to oil and gas development.

***Physaria obcordata* (G1G2/S1S2/LT)**

Phil Krenning: Two study sites ongoing and set up two new sites this year, so hopefully next year we will have a landscape scale analysis. Set up a site at Calamity Ridge in road cut, huge plants; also set up in pipeline cut from 1970s with large plants – plants may like disturbance.

***Sclerocactus glaucus* (G2G3/S2S3/LT)**

Mit McGlaughlin: Genetic work, new project to look at northern distribution is distinct enough to be a new species; 50 - 100 new samples each year to look at line between *glaucus* and *parviflora* – I think there will be distinct line. There are hybrids. West Water Engineering sends samples. Wells Gulch area has hybrids, but hybrids appear to be rare and I don't

know how big population is. Hooked vs. non-hooked spines are not a good indicator of species; position on map is better.

Dave Anderson: Are there more morphological characteristics we can use?

Mit McGlaughlin: Doubt it.

Dina Clark: What is the morphology of the hybrid?

Mit McGlaughlin: They all look straight spined, so morphology doesn't match up with genetics.

Jenny Ramp Neale: We need to get CNHP updated locations for *glaucus*. Anna Lincoln has been collecting tissue and sending it to DBG.

Michelle DePrenger-Levin: We have 10 monitoring sites, population seems stable.

Phil Krenning: Greater Grand Valley has a stable trend, added new monitoring site south of Grand Junction. Working on pinning down global population number for species.

Becky Hufft: Could this still be up for review on delisting?

Carol Dawson: BLM writing SSA for USFWS on southern group.

***Sclerocactus mesae-verdae* (G2/S2/LT)**

No comments (tribal lands).

***Spiranthes diluvialis* (G2G3/S2/LT)**

Jill Handwerk: SSA being written right now.

Raquel Wertsbaugh: New population on Gypsum SWA (CPW) right by I-70 on Eagle River that Kristen Pelz, USFS Ecologist, found and Carla DeYoung, BLM, went out to verify.

Tim Hogan: *Gentiana andrewsii* was rediscovered by OMSP technician in *Spiranthes* habitat (rediscovery for state, not known for 100 years in state).

G1 Species Statewide

Session facilitated by Jill Handwerk (CNHP)

***Aletes latilobus* (G1G2/S1)**

No new comments.

***Aliciella sedifolia* (G1/S1)**

No new comments.

***Astragalus deterior* (G1G2/S1S2)**

Jill Handwerk: Park reported a new population on Mesa Verde this summer.

***Boechera glareosa* (G1/S1)**

No new comments.

***Botrychium lineare* (G2G3/S2S3)**

Jill Handwerk: This will be more common when subsumed with *B. campestre*; may no longer be tracked. Could track as a plant community, since the species in this genus co-occur.

***Botrychium* tax. nov. “*furcatum*” (GNR/SNR)**

No new comments.

***Oreocarya revealii* (G2/S2)**

Jill Handwerk: Dropped populations in Sinbad Valley (they were determined to be *O. paradoxa* from Mit McGlaughlin. Changing from G2 to G1G2 because range is more restricted.

Mit McGlaughlin: Observed this year.

Phil Kening: Made it out in May, plants small and dry but appear to be stable.

***Descurainia kenheili* (G1/S1)**

Jill Handwerk: People have been looking for this and even Ken Heil can't find it again.

***Draba malpighiacea* (G1?/S1?)**

Jill Handwerk: Peggy Lyon did relocate one of the originally know sites, but looked similar to *Draba streptobrachia*.

***Erigeron wilkenii* (G1/S1)**

Jill Handwerk: Cliff and canyon in Dinosaur NM, confusion with taxonomy. Needs genetic work.

***Gutierrezia elegans* (G1/S1)**

Jill Handwerk: Fair amount in Lone Mesa SP, but only one occurrence.

***Hackelia gracilentia* (G1G2/S1S2)**

Jill Handwerk: Only in Mesa Verde, most occurrences have been updated.

***Ipomopsis ramosa* (G1/S1)**

Jill Handwerk: Ross McCauley Fort Lewis College, doing genetic work.

Dave Anderson: How close is this to *polyantha* and *aggregata*?

Jill Handwerk: Determined to be distinct.

***Lepidium huberi* (G1G2/S1S2)**

Jill Handwerk: Only have herbarium collections, no field survey data.

***Lygodesmia doloresensis* (G1G2/S1S2)**

Jill Handwerk: Needs genetic studies. Dee Malone found on Horsethief SWA.

***Oreoxis humilis* (G1/S1)**

Steve Olson: On trail from Craggs up to Devil's playground, which will be re-routed. Brian Elliot looked at it and said the re-route will damage more plants because plants are everywhere. On Pikes Peak and Almagre Peak. Common here but small range.

***Packera mancosana* (G1/S1)**

Jill Handwerk: Ross McCauley may look at this. J. Ackerfield lumps it. Recently described. I observed it in June – tiny and stressed due to hot weather.

***Penstemon gibbensii* (G1G2/S1)**

Jill Handwerk: New population near Wyoming in Little Snake area by Dee Malone.

***Phacelia gina-glennae* (G1/S1)**

Jill Handwerk: One large occurrence.

Becky Hufft: Plant still looks like annual; took voucher and seed collection; population looks healthy.

***Physaria pulvinata* (G1/S1)**

CNHP has monitoring plots range-wide; in second year of monitoring, Dan Noble SWA and Lone Mesa (higher density there).

***Physaria scrotiformis* (G1/S1)**

Jill Handwerk: A second occurrence found at Stony Pass.

Gay Austin: I saw it there.

Forest Service Sensitive Species (not covered above)

Session facilitated by Steve Olson (USFS)

General Notes: Upcoming change in Forest Service species status. Regional sensitive species are going away. That program started in 1982. Going to Species of Conservation Concern. Species will stay as sensitive species until the new plan takes place for each forest. Species of conservation concern: must have substantial concern about species sustainability; focused on ecological conditions; SCC is more community oriented. Will be based on Natureserve G and S ranks. All species discussed today will be on list of SCC. Species of conservation concern (will no longer be sensitive species), overview of process; will continue to use regional sensitive list until that unit is revised; currently there are

none that have moved to species of conservation concern. New plan will be based on habitat conservation threat, not species numbers itself. To include on list will just be G ranking, so will take into account habitat concerns throughout range, not just FS. FS would love to have reports of observations on FS property, contact the FS botanist/ecologist. Rio Grande halfway through, Grand Mesa, Uncompahgre and Gunnison just starting.

***Aletes lithophilus* (G3/S3)**

Jessica Smith: I did see on BLM land in same location as before.

***Aquilegia chrysantha* var. *rydbergii* (G4T1Q/S1)**

FNA does not recognize this variety.

Susan Spackman-Panjabi: I have concerns about the validity of this taxa, but even just the species would be a S1.

***Armeria scabra* ssp. *sibirica* (G5T5/S1)**

No new comments.

***Astragalus iodopetalus* (G2/S1)**

Gay Austin: Two new populations in Gunnison County from spring CoNPS fieldtrip; need to remember who is submitting EO. It is in a sheep grazing allotment on BLM property; collected specimens in 2016 at DBG.

***Astragalus leptaleus* (G3G4/S2)**

Lisa Merkhofer: I observed on state lands in Park County, will submit an EO for one new population; observed with Carol English, SLB contract botanist.

***Astragalus missouriensis* var. *humistratus* (G5T1/S1)**

No new comments.

***Astragalus proximus* (G4/S2)**

No new comments.

***Astragalus ripleyi* (G3/S2)**

Lisa Merkhofer: I observed at Rajadero (BLM and SLB) and La Jara SWA.

***Botrychium ascendens* (G3/S1)**

No new comments.

***Botrychium campestre* (G3G4/S1)**

No new comments.

***Botrychium paradoxum* (G3G4/S1)**

Rea Orthner: I located this year (Gunnison County) and counted 12 plants. I also visited a known population of *Botrychium ascendens* on the west side of Vail Pass. I only saw 2 plants.

***Braya glabella* var. *glabella* (G5T5/S1)**

Ginni Greer: I have observed it on Loveland Mountain.

***Calochortus flexuosus* (G4/S2)**

No new comments.

***Carex diandra* (G5/S1)**

No new comments.

***Carex livida* (G5/S1)**

Gay Austin: There is one in Gunnison County and another occurrence in Delta County; populations are small, both in fens.

***Chenopodium cycloides* (G3G4/S1)**

Dina Clark: Some in Weld County and Yuma County.

***Cylactis arctica* ssp. *acaulis* (G5T5/S1)**

No new comments.

***Cypripedium calceolus* ssp. *parviflorum* (G5/S2)**

Steve Olson: I think it may not need to be tracked anymore.

Jill Handwerk: I agree, but it is a showy orchid and subject to collection pressures.

Lisa Merkhofer: I saw it near Haviland Lake in Durango and Brush Creek Fen in Custer County.

Pam Shultz: I will send my known locations to CNHP.

***Drosera anglica* (G5/S1)**

No new comments.

***Drosera rotundifolia* (G5/S2)**

Jessica Smith: Volunteer Tony Romano observed in Mount Emmons.

Gay Austin: There has been ditching of that fen.

Jessica Smith: Population still intact despite that.

***Epipactis gigantea* (G4/S1S2)**

Lisa Tasker: It is in Pitkin County.

Jenny Ramp Neale: DBG is involved with Orchidgami for outreach and education.

***Eriogonum exilifolium* (G3/S2)**

Dave Anderson: Is this species affected by oil and gas in North Park?

***Eriophorum altaicum* var. *neogaeum* (G4?T3T4/S3)**

Steve Olson: This is being combined with *E. chamissonis* by many including Tony Reznicek.

***Eriophorum chamissonis* (G5/S1)**

No new comments.

***Eriophorum gracile* (G5/S1S2)**

No new comments.

***Festuca hallii* (G4/S1)**

Jill Handwerk: CNHP did a habitat model for Routt NF for this species, and it was used to try to find more but unsuccessful. We did revisit the known population.

***Ipomopsis aggregata* ssp. *weberi* (G5T2/S2)**

No new comments.

***Kobresia simpliciuscula* (G5/S2)**

Gay Austin: Gunnison County has it and specimen taken.

Steve Olson: In *Eutrema* site, Denise Culver and Pam Smith found in a bioblitz in Lake County and Jan Wingate keyed it out and wasn't sure – will try to get species list to us.

Gay Austin: Another threat is livestock grazing.

***Physaria pruinosa* (G2/S2)**

No new comments.

***Machaeranthera coloradoensis* (G3/S3)**

Ginni Greer: Saw at Horseshoe Cirque.

Jill Handwerk: Also on way up to Mount Sherman.

Susan Spackman-Panjabi: I think this could be a candidate for genetic work to determine if different species from montane to alpine.

Jessica Smith: I saw it in montane setting, new subpopulation.

***Malaxis monophyllos ssp. brachypoda* (G4G5Q/S1)**

Tim Hogan: I keep searching in Boulder Mountain Parks with no luck.

***Parnassia kotzebuei* (G5/S2/FS)**

No new comments.

***Penstemon harringtonii* (G3/S3)**

Mit McGlaughlin: Lab doing genetic works, three different management units: Rifle, Roaring Fork Valley, upper Colorado River has more genetic flow. I saw it in 2017.

***Potentilla rupincola* (G2/S2)**

No new comments.

***Primula egaliksensis* (G4G5/S2)**

No new comments.

***Ranunculus grayi* (G5/S1S2)**

No new comments.

***Rubus arcticus ssp. acaulis* (G5T5/S1)**

Steve Olson: Found with *Ptilagrostis porteri*.

***Salix arizonica* (G2G3/S1)**

Steve Olson reporting notes from Gwen Kittel: Stable, need to keep fence up as grazing could be an issue.

***Salix candida* (G5/S2)**

Jessica Smith: New EOs at Antero and Fourmile (state land in Park County).

***Salix myrtilifolia* (G5/S1)**

No new comments.

***Salix serissima* (G5/S1)**

Lisa Merkhofer: I saw it at Haviland Lake outside of Durango.

***Selaginella selaginoides* (G5/SNA)**

No new comments.

***Thalictrum heliophilum* (G2/S2)**

No new comments.

***Triteleia grandiflora* (G4G5/S1)**

No new comments.

***Utricularia minor* (G5/S2)**

Gay Austin: I observed it in a fen off Molas Pass this year.

***Viola selkirkii* (G5/S1)**

DBG: Might be a new occurrence on private property in Douglas County. Vegetative characteristics suggested it could be *selkirkii*; will revisit next year.

Steve Olson: There is also a site near Montgomery Reservoir.

BLM Sensitive Species

Session facilitated by Carol Dawson (BLM)

General Notes: Special status is given to species listed or proposed for listing. BLM sensitive species we choose to be on list (try to be proactive). The species as to occur on BLM land, these are species that BLM has some management control over. The species must have a documented or predicted downward trend and/or be found on a unique or specialized habitat. Actions from BLM must influence the species across the its range. BLM has to be able to impact the species with day to day management but can't include all CNHP species. The List is supposed to be updated every couple of years, and be proactive. Currently special/sensitive species list not on BLM website, so contact Carol if you need it. Moffat county has many unsurveyed areas, many field offices don't have plant people, may be opportunities for people to survey and give BLM info about more populations or that updates them on how their management is doing.

***Amsonia jonesii* (G4/S2)**

No information.

***Astragalus anisus* (G2G3/S2S3)**

Gay Austin: Very common in her area, Barry Johnson documented many plants one year but not sure if reported.

***Astragalus debequaeus* (G2G3/S2)**

BLM working with GJFO and Colorado River field office – have 5 or 4 plots across landscape, no plot on Pyramid Rock but Jessica Smith says species is there.

***Astragalus detritalis* (G3/S2)**

Jessica Smith: Larry Allison has been monitoring large population at Ravens Ridge.

Mo Ewing: Large population in Lookout Mountain but numbers vary by year.

***Astragalus duchesnensis* (G3/S1S2)**

CNHP will do surveys next year for it.

***Astragalus equisolensis* (*A. desperatus* var. *neeseae*) (G5T1/S1)**

No new comments.

***Astragalus musiniensis* (G3/S1)**

Jessica Smith: Larry Allison observing at Badger Wash over last decade, 2 small patches but persistent.

***Astragalus naturitensis* (G2G3/S2S3)**

Carol Dawson: I am looking in Silt and Grand Junction area to find population to monitor.

***Astragalus piscator* (G2G3/S1)**

Carol Dawson: BLM has done no work on it.

***Astragalus rafaensis* (G2G3/S2S3)**

Carol Dawson: Will need to re-evaluate this, but with DBG and Joe Stadwick reports could combine with *linifolius* and it will be less rare.

Jill Handwerk: Dee Malone and Peggy Lyon saw it in Rough Canyon and Escalante.

***Astragalus ripleyi* (G3/S2)**

Carol Dawson: I hope to work with NM office to look at *A. ripleyi*.

***Astragalus sesquiflorus* (G3G4/S1)**

No new comments.

***Boechea crandallii* (G2G3/S2)**

Carol Dawson: Information needed.

***Bolophyta ligulata* (G3/S2)**

Jessica Smith: Staff updated historic EOs at Irish Canyon and Larry Allison saw new GPS point at Ravens Ridge.

***Camissonia eastwoodiae* (G2/S1)**

No new comments.

***Cryptogramma stelleri* (G5/S2)**

Information needed by Carol Dawson.

***Cymopterus duchesnensis* (G3/S1)**

All cases are historical – need to find it again.

***Erigeron kachinensis* (G2/S1)**

Carol Dawson: I have seen in seeps in Coyote Wash only.

Susan Spackman-Panjabi: Also at Gateway.

***Eriogonum acaule* (G3/S1)**

Jill Handwerk: Dee Malone found a new site, and updated an historical site on BLM Little Snake.

***Eriogonum clavellatum* (G2/S1)**

Carol Dawson: Known from tribal area only.

***Eriogonum coloradense*(G2/S2)**

No information.

***Eriogonum contortum* (G3/S1)**

Phil Krenning: BLM GJFO estimated 1.5 million plants in small area that they found.

***Eriogonum ephedroides* (G3/S1)**

Carol Dawson: I saw this on Raven's Ridge.

***Eriogonum tumulosum* (G3Q/S2)**

Jill Handwerk: Dee Malone, CNHP, surveyed in August and observed n BLM Little Snake.

***Eriogonum viridulum* (G4Q/SH)**

Carol Dawson: Moffat County.

***Frasera paniculata* (G4/S1)**

Jessica Smith: Loraine Yeatts has seen in Gateway.

***Gentianella tortuosa* (G3?/S1)**

No new comments.

***Gilia stenothyrsa* (G3/S1)**

Carol Dawson: Sheep grazing can impact this species.

***Lomatium concinnum* (G2G3/S2S3)**

None.

***Lupinus crassus* (G2/S2)**

Carol Dawson: I have one plot set up for this but more needed.

***Mimulus eastwoodiae* (G3G4/S1S2)**

Carol Dawson: Removed this from list, but I would like to put it back on.

***Nuttallia rhizomata* (G2/S2)**

Carol Dawson: Road to Anvil Points Mine will be closed, which will help this species.

***Oenothera acutissima* (G2/S2)**

Jill Handwerk: Survey work needed, CNHP will do next spring.

***Oreocarya caespitosa* (G4/S2)**

Mo Ewing: Lookout Mountain had sheep grazing up there, but it is a healthy population.

Jessica Smith: CNAP staff observed a new population at Irish Canyon, but impacted by OHV use; verified another occurrence.

***Oreocarya osterhoutii* (G2G3/S2)**

No new comments.

***Oreocarya rollinsii* (G3/S2)**

No new comments.

***Oxytropis besseyi* var. *obnapiformis* (G5T2/S2)**

Carol Dawson: We need more surveys of this.

Jill Handwerk: Dee Malone got a new occurrence this year.

***Packera pauciflora* (G4G5/S1)**

No new comments.

***Pediomelum aromaticum* (G3/S2)**

Jessica Smith: Stephen Wenger, CNAP Volunteer, found a population at Pyramid Rock.

***Penstemon acaulis* var. *yampaensis* (G2/S2)**

Jessica Smith: Staff verified 3 historic populations and will update Eos.

***Physaria parviflora* (G2/S2)**

Carol Dawson: BLM has done no monitoring.

***Physaria vicina* (G2/S2)**

Susan Spackman-Panjabi: Found new location for this in Pitkin County.

***Sisyrinchium pallidum* (G3/S2)**

No new comments.

***Sphaeromeria capitata* (G3/S1)**

Carol Dawson: Both occurrences are historic; information needed.

***Townsendia strigosa* (G4/S1)**

No new comments.

***Trichophorum pumilum* (G5/S2)**

No new comments.

Utilizing the State Wildlife Action Plan to guide conservation of Tier 1 and Tier 2 plants in Colorado - Raquel Wertsbaugh (Colorado Natural Areas Program)

The State Wildlife Action Plan (SWAP), is required by USFWS if state fish and game agencies want to receive federal funding for non-game species; required to be updated every 10 years. The USFWS approved CO SWAP update in 2015 that included a Rare Plant Addendum; not a regulatory document but outlines and prioritizes conservation needs to coordinate efforts by all communities and stakeholders. As of 2008 only six states had plants in their SWAPs. The SWAP is designed to:

- Utilize as a conservation strategy
- Guide to prioritize resources
- Promote implementation of actions
- Keep track of implementation of conservation actions – we should also be celebrating our accomplishments, discuss at future meeting how to do this – database? Need to be able to see all we are doing and celebrate in addition to identifying gaps

Components of the Rare Plant Addendum include:

1. Plants of Greatest Conservation Need
 - a. Tier 1 (all G1, all federal listed) 43 species
 - b. Tier 2 (all G2 not federally listed) 74 species
2. Key habitats
 - a. 9 categories
 - b. Habitat priority: very high = shrublands, barrens
 - c. Habitat tables in main portion of SWAP (not addendum), can find list of plant species in the habitat and see which listed animals (e.g., sage grouse) co-occur, also lists threats and conservation actions, then can look at funding available to crosswalk funding available for animals to also work on conservation of plants
3. Important plant areas
 - a. CNHP identified over 290 IPAs

- b. 42 designated state natural areas overlap with 39 IPAs
 - c. 33 protected with other agency protections
4. Species threats and actions tables.

Success's of conservation action should be shared. CPW started an Access database for wildlife, we should use a MySQL database, open source, should make it accessible to all of our partners. Perhaps CPW could host for now but would want mechanism for support if that support went away.

SWAP has helped CPW get funding because species of conservation concern means something within department and so can get bigger bang for buck on their projects. The SWAP can be found here:

<http://cpw.state.co.us/aboutus/Pages/StateWildlifeActionPlan.aspx>

Field Season Highlights

***Ipomopsis polyantha* Monitoring – Jessica Smith (CNAP)**

- CNAP team for Pagosa Skyrocket
- Purchased in 2016
 - CNAP CPW
 - Closed to the public
 - Open for research through permit
 - Will be natural area by end of year
 - Largest piece of land for this species
 - Was Archuleta County property – going to be ball fields
- Species has lots of rosettes growing off of big taproot
- Ecosphere – demography, lasting as rosettes for as long as 6 years
- Disturbance dependent but amount unknown
- Monitoring objectives
 - Understand trend in CPW property, trend across range
 - Understand life cycle and response to disturbance
- Systematic, qualitative and collaborative approach with BLM CNAP
- Quantitative
 - Short lived, reproduces by seed
 - Point in time population estimate within macroplots
 - Temporary macroplots across range
 - Power analysis and enough data across range
 - 40x60 meter macroplot – 4x10 subplots
- Qualitative
 - Photos: was it there or not?
 - A few meter square plots for average density, looked at percent cover
 - Notes on disturbance

BMPs and the Colorado Rare Plant Guide – Susan Panjabi (CNHP)

Species specific information <http://www.cnhp.colostate.edu/download/reports.aspx>

Roadside BMPs given to GIS coordinators at state & local entities.

BMPs – applicable to other activities.

Discussion:

Session facilitated by Jennifer Ramp Neale (DBG)

Jenny Ramp Neale: How can we share our successes? CoNPS facebook and blogs? Putting together a compilation of notes to recap the successes and put them on the web?

Dina Clark: Brainstorm next steps for species?

Susan Spackman-Panjabi: Share success/information on Rare Plant Research link on CNHP Rare Plant Guide.

Jenny Ramp Neale: Maybe we can discuss more details at RPTC – could groups coordinate about where they are going?

Lara Duran: Co-Chair of Field Studies Committee for CoNPS – planning to meet in late Oct/Nov.

Mo Ewing: CoNPS conservation committee chair – lots of people who want to get involved.

Jenny Ramp Neale: Using Conservation Action Plans, can CoNPS volunteers help with that?

Mo Ewing: People aren't really motivated to do that.

Jenny Ramp Neale: Possibly revamp Adopt-a-Rare plant program?

Raquel Wertsbaugh: Could all of us compile the number of EOs visited, updated, found? Use those stats for Rare Plant Week? How many new populations found in a year, how many updated historical, how many revisited? County records, how long since we've seen a species . . . ? We can use numbers to see the amount of work the community does in a year.

Jenny Ramp Neale: Garden reports on new county records. Could take a summary of information from here, and push it out as DBG press release about Rare Plant community work. Once a year – Denver Museum of Nature and Science; get to another audience.

Raquel Wertsbaugh: How about a one page article in Catalyst DMNS, or CoNPS Aquilegia newsletter?

Susan Spackman-Panjabi: RARE exhibit – get botanical art up at capitol building to get legislators educated and increase awareness. Need rare plant bill with funding and legislation to ensure that these plants are protected. Could help to have a bill written even if it doesn't pass right now. Have all this in a summary one-page to go along with this exhibit. Maybe CoNPS conservation committee could facilitate?

Dave Anderson: CoNPS needs to hire a lobbyist. Or work with EarthJustice office in Denver.

Adjourn

2017 Meeting Attendees

| Last Name | First Name | Affiliation |
|------------------|-------------------|------------------------------------|
| Alba | Christina | Denver Botanic Gardens |
| Allison | Pam | CoNPS |
| Anderson | David | Colorado Natural Heritage Program |
| Austin | Gay | Bureau of Land Management |
| Blousselot | Jen | CoNPS |
| Boag | Audrey | CoNPS |
| Carzoo | Dean | CoNPS |
| Cepeda | Joe | CoNPS |
| Clark | Dina | University of Colorado Herbarium |
| Crumb | Esa | ERO Resources |
| Dawson | Carol | Bureau of Land Management |
| DePrenger-Levin | Michelle | Denver Botanic Gardens |
| Duran | Lara | Colorado Department of Agriculture |
| Edwards | Callie | Mosquito Range Heritage Initiative |
| Ewing | Mo | CoNPS |
| Fosha | Dan | CoNPS |
| Gallegos | Gayla | CoNPS |
| Grant | Ann | CoNPS/CNHP |
| Greer | Ginni | Mosquito Range Heritage Initiative |
| Guth | Dan | CoNPS |
| Hamamoto | Pam | CoNPS |
| Handwerk | Jill | Colorado Natural Heritage Program |
| Hayward | Pat | CoNPS |
| Hjelmross-Koski | Mervi | CoNPS |
| Hogan | Tim | University of Colorado Herbarium |
| Hufft | Rebecca | Denver Botanic Gardens |
| King | Mary | CoNPS |
| Koski | John | CoNPS |
| Krenning | Phil | Bureau of Land Management |
| LaRosa | Raffica | CoNPS |
| Larson | Denise | ERO Resources |
| McCabe | Jan | Mosquito Range Heritage Initiative |
| McGlaughlin | Mitchell | University of Northern Colorado |
| Mergen | Daryl | CoNPS |
| Merkhofer | Lisa | Colorado Natural Areas Program |
| Murphy | Pat | CoNPS |
| Naibauer | Samantha | CoNPS |
| Ramp Neale | Jennifer | Denver Botanic Gardens |
| Olson | Steve | US Forest Service |
| Orthner | Rea | Peak Ecological Services |
| Palmer | Brooke | CoNPS |
| Powell | John J | CoNPS |
| Rain Dennis | Sylvia | CoNPS |
| Richardson | Mary | CoNPS |
| Samson | Jennifer | CoNPS |

| Last Name | First Name | Affiliation |
|------------------|-------------------|-----------------------------------|
| Schulz | Pam | CoNPS |
| Schumacher | Emily | CoNPS |
| Schweich | Tom | CoNPS |
| Seglias | Alexandra | Denver Botanic Gardens |
| Smith | Jessica | Colorado Natural Area Program |
| Spackman-Panjabi | Susan | Colorado Natural Heritage Program |
| Tasker | Lisa | CoNPS |
| Wahle | Bruce | CoNPS |
| Weber | Irene | CoNPS |
| Wertsbaugh | Raquel | Colorado Natural Areas Program |
| Wilson | Denise | CoNPS |
| Zielinski | Ann | CoNPS |