

Twelfth Annual Colorado Rare Plant Symposium

September 11th, 2015

American Mountaineering Center Golden, Colorado

9:00 am

Rare Plant Symposium

Presenter: Jill Handwerk (Botanist, CNHP)

Threatened and Endangered Species Statewide

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

Susan Spackman-Panjabi: New artwork and photos are now available for this species from Rocky Mountain Botanical Society.

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

Michelle Deprenger-Levin: I've been visiting often this year for monitoring. We have seen the spindly plants resprout throughout the summer after browsing. There are two new populations on BLM land that Gay found this year. We have been monitoring this species for 20 years. We took down fencing around our plots.

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

Carol Dawson: The population is stable. However, we are working on potentially removing crested wheat grass at Muddy Creek and Troublesome Creek.

Pat: We surveyed near Wolford Reservoir (Warfard Ranch?) and determined that a population was misidentified and is actually *A. bisulcatus* var. *haydenii*. This may be a loss of an *A. osterhoutii* population. I'll send details with the map.

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

Dave Anderson: Renee and I just worked with the USGS climate center models looking at three different climate models. Higher winter precipitation seems to be correlated with higher numbers of *A. schmolliae*. Warming might negatively impact this species.

Raquel Wertsbaugh: CNAP is working on a new natural area designation to include a much larger area of *A. schmolliae* population.

Ellen Mayo: This species has been renamed Chapin Mesa milkvetch. The Ute have agreed to rename the common name.

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

Ellen Mayo: The Ute Mountain Ute Tribe surveyed for this species and found about 400(%) more plants than previously documented by Marilyn Colyer. There is little evidence of herbivory. USFWS is recommending it be removed from Candidate Status.

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

Jessica Smith: Plants looked healthy at Wacker Ranch. Plants are recolonizing old roads. We relocated some old transects in hopes of doing more monitoring in the future.

Carol Dawson: Populations are relatively stable. A fence has been moved in Gunnison Gorge to help protect population.

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

Carol Dawson: Horseshoe Cirque, Mosquito Pass, Weston Pass are all active monitoring sites that we have had help from a lot of partners to monitor. They've been reasonably stable except in 2013 but are coming back. It's hard to find big populations without trampling.

Rhea Ortner: Is this always found on limestone substrates?

Steve Olson: No, but only in the Mosquito Range.

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

Raquel Wertsbaugh: CNAP and CPW are hoping to close a deal to buy a property with the largest population of *Ipomopsis polyantha* using funding from USFWS.

Rebecca Huft: We are working with a private land owner to collect seeds, and planting them out for public display and replanting some seeds at the private ranch.

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

Pam Smith: Crystal Strauss told us the largest population at Soapstone did not do well this year. They have monitored every year since 2004. Populations may have been reduced by flooding in 2013.

Renee Popp: How does this species respond to fire? The City of Fort Collins is considering burning their population for management.

Jill Handwerk: We don't know of any fire data, but we do know some populations get weedy and they're probably trying to deal with the weeds.

Renee Popp: In my experience weeds get worse with fire.

Susan Spackman-Panjabi: Maybe they did it in Wyoming.

Andy Kratz: This would be a good potential species for reintroduction at Pawnee NG.

Denise Larson: I think there was a small population near Westminster. Any news?

Bernadette Kuhn: Pam Smith and I looked for that in 2013 and did not find it.

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

Lara Duran: Which portion of SW Colorado is potential habitat?

Jill Handwerk: San Juan County near Navajo Lake.

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

Jessica Smith: We just took a trip out with CNHP to set up a pilot monitoring plot in the newest portion of the Natural Area. We are trying to figure out ways to monitor without impacting the plants on the steep slopes.

Coral Dawson: We still have plots as well.

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

Jill Handwerk: This species is a former candidate.

Delia Malone: I found a new site near a bluff on the Utah border, some threats from grazing. There were a healthy amount of plants and they were thriving.

Jill Handwerk: Delia Malone got a nice photo of a bee pollinating the *Penstemon*.

Jessica Smith: Larry Allison, one of our volunteers, said that the population is struggling at Raven Ridge.

Carol Dawson: The population is coming back but not to what it was in Raven Ridge. We were having problems with an operator bringing in sheep. We hope to fix the problems with the conservation agreement with Colorado and Utah, and we will work on monitoring the species as still on the sensitive list.

Tim Hogan: Are there any trigger points in the agreement with Utah?

Carol Dawson: Yes.

Jenny Neale: Red Butte Botanical Garden is monitoring this species in Utah. I can check on how it is doing with them.

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

Jenny Neale: We collected tissue to complete genetic studies of this species. We are also going to assess genetics of plants grown from seed collected in 1988.

Pat Murphy: We went on BLM land and did a total survey of *Penstemon penlandii* for 1.2 miles and estimated the population at 1.5 million individuals. The plants were in barren areas as well as grassy areas, sometimes in higher densities. We extended the population boundary eastward. We also found two populations of *Phacelia gina-glenneae*.

Carol Dawson: Our macroplots show an increase in population.

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

Jill Handwerk: This species is also not a candidate after the conservation agreement.

Delia Malone: We found a new population in 2014. We revisited the site in 2015 and sheep had just visited the site and browsed many of the flowering stems.

Jennifer Ackerfield: I have a weird specimen from CSU herbarium that is identified as this species but is clearly not it. It's not from one of the listed locations.

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

Carol Dawson: We are actively monitoring several populations. California Gulch seems to be declining and we have not found many individuals there. We set up new sites on Arapaho National Wildlife Refuge and several sites on BLM. Surprisingly, we found some new populations we did not know about.

Ellen Mayo: In California Gulch, Miranda found a new population.

Jessica Smith: CNAP visited the North Park ACEC and checked out 4 subpopulations and found about 1500 plants. It is thriving there.

Jenny Neale: We had samples from 14 sites for a genetic and morphological data analysis; the population in Jackson County is a distinct species, and the populations in Larimer County are a new, distinct taxon. Duane Atwood is a collaborator and has always thought that the Larimer populations were new species.

Pat Murphy: Is it a biennial?

Jenny Neale: Yes, though many populations differ with others. *Phacelia gina-glenneae* is annual.

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

Mitch McLaughlin: We are doing a genetic study on these, and it was a bust year for this species. My students did see a few individuals and sent me photos. Our data suggests it exclusively self-pollinates. It may be a variety *Phacelia salina* from Southern Wyoming, but we are still working on the genetic study for this species.

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

Carol Dawson: We set up new plots near Ryan Gulch. We have some very large populations in our macroplots. We might set up more plots. The population seems stable. Something ate the plants, cutting them off at the base. We're not sure what was up with those plants.

Bob Powell: I saw a population near the highway that had been blown up by highway construction efforts.

Ellen Mayo: There are plants growing around the hole now.

Jessica Smith: This plant is doing better this year than 2012 at Dudley Bluffs, due to more moisture. We took quantitative monitoring data this year.

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

Carol Dawson: The sites are steep so we have been looking for good monitoring sites that are flat.

Jessica Smith: We did not monitor it this year, but we did see three populations. We might use drones to monitor this species.

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

Michelle Deprenger-Levin: We have 10 monitoring sites and we sampled 9 of these this year. The species has been doing well.

Mitch McLaughlin: The update on our genetics study is that our manuscript was published. The interesting component was that the southern populations from Grand Junction and south are genetically distinct from populations north of Grand Junction. These may be separate species, but we want to look at the whole *Sclerocactus* group to make more determinations. There are nine species within this genus.

Jenny Neale: The BLM office in Grand Junction has been collecting seeds to help us figure out *Sclerocactus parviflorus* vs. *Sclerocactus glaucus* from genetic surveys.

Delia Malone: We expanded the known locations of *Sclerocactus glaucus* southward, but these populations are heavily impacted by ATV use and grazing.

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

Jill Handwerk: Main threats are weed invasion and feral horses. We were not able to acquire recent data because the occurrence is on tribal land but there is a known occurrence from 2013.

Mitch McLaughlin: I saw this in New Mexico in 2013 really close to the CO border. It's included in the study mentioned above.

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

Margaret Paget: Usually we have 100s of plants on the Wheat Ridge property, but we only found 6 individuals this year.

Andy Kratz: The slide needs to be updated to say USFS as land owner.

Denise Larson: We found 10 or 12 plants in Golden along Clear Creek.

Delia Malone: We did not find plants while searching habitat and undocumented areas along the Colorado River.

G1 Species Statewide

***Aletes latibolus* (G1G2/S1)**

No updates.

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

Tim Hogan: I spent a few days with Erin Tripp close to the known population at Half Peak, and we went to five areas and did not find plants.

Andy Kratz: The last observation was 2007 correct?

Tim Hogan: Yes.

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

Jill Handwerk: Peggy Lyon has seen it recently. The species is doing okay and there is lots of it.

Ellen Mayo: MEVE NP is getting a new ecological biologist/botanist: Tova Spector.

***Astragalus lonchocarpus* var. *hamiltonii* (G4T1/SNA)**

Jill Handwerk: We no longer have this taxon in Colorado.

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

Jill Handwerk: Someone needs to take this species on for survey work.

Susan Spackman-Panjabi: It's found in Snowbasin at 6400 ft. That is why they can't find it.

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

Jill Handwerk: A study will be published soon. Steve isn't here today. The population is in flux.

Tyler Johnson: We'll retain this as a Forest Service Sensitive until the taxonomy is sorted out.

***Botrychium* tax. nov. "*furcatum*" (GNR/SNR)**

Tyler Johnson: This is not a Forest Service Sensitive species because taxonomy has not been sorted out.

***Cirsium scapanolepis* (G1G2Q/SNR)**

No updates.

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

Jenny Neale: We are working on genetic and morphological studies of this species on the East and North Dunes in North Park. We're combining it with morphological data based on the wing size of the fruit.

Nathan Retiker: Carol Dawson and I are working on monitoring this species, which is difficult because it is an annual.

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

Mitch McLaughlin: There is a new paper looking at genetics and morphology, likely only in the southern part of known occurrences. The green dots on north side of map are *O. paradoxa* in Sinbad Valley. This was described as a gypsum restricted species, but it is found on a variety of soils. *O. paradoxa* is widespread throughout Colorado, Utah and New Mexico. *O. revealii* is just south.

Denise Larson: Delia Malone, Peggy Lyon and I found new populations.

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

Jill Handwerk: We need people to look for it. The original site described is in San Juan County.

Peggy: I looked for it and found nothing resembling the species.

Tyler Johnson: This is a Forest Service Sensitive Species.

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

Jill Handwerk: Peggy Lyon has surveyed this species. The specimens went to Jen Ackerfield.

Jen Ackerfield: There were hairs that were not consistent with the species description from Peggy's specimens. The taxonomy is questionable for this species. It is similar to *D. spectabilis*. We potentially need genetic work to elucidate taxonomy and species status.

Bob Powell: Where was this found? Which valley?

Peggy Lyon: I don't remember.

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

Andy Kratz: We had found this species in broader habitats than originally described. There were some variations. I'm wondering if the habitat and plant descriptions need to be looked at.

Jen Ackerfield: I spoke with Al-Shehbaz and he was confident that this was a distinct species. We need to collect more specimens to broaden the description to encompass morphological variation.

Jill Handwerk: Surveys this year were unsuccessful.

Ellen Mayo: The original location this year had 3 plants.

Andy Kratz: We thought it would be in spray zones. We found plants in areas away from spray zones even in dry areas.

Steve Olson: One site is above Montgomery Reservoir under spruce.

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

No updates.

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

Jessica Smith: CNAP surveyed at Droney Gulch. We did find it in areas with high shrub cover. In Droney Gulch, 4 populations were sampled. We found 3 populations were doing better in unvegetated and in some areas with shrubs. We would like to do long term monitoring.

Lara Duran: Mountain bike trails are proposed for areas near occupied habitat and the BLM is surveying the area for this species.

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

Peggy Lyon: Locally abundant and not found at Miramonte where you might expect it.

***Hackelia gracilenta* (G1G2/S1S2)**

Bernadette Kuhn: Renee Rondeau found some new occurrences last year (2014).

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

No updates.

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

Raquel Wertsbaugh: We are starting an effort for assisted migration with Mark Beardsley, Dave Steingraber, and USFS and Staunton State Park.

Jessica Smith: One of the known sites at Staunton had 600 plants. There are several new patches doing well in natural populations.

Ellen Mayo: Mark will grow out new *gemmae* from the plants and introduce them in Park and Clear Creek counties near known sites.

Steve Olson: We still need to determine suitable, accessible habitat.

Pam Smith: The population near Fall River might have been damaged by a blowout.

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

Steve Olson: There is a 17 square mile population at Pikes Peak, and it is locally common and globally rare. They are replacing the Summit House at Pikes Peak, and there were plants at the top at 14,000 feet. They might close Amagre Peak.

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

Jill Handwerk: I don't know of anybody doing work on this species.

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

Jill Handwerk: This species has been newly described.

Pat Murphy: We were on a *Penstemon penlandii* survey and found this population. We initially thought we found *Phacelia formulosa* but it was *Phacelia gina-glenneae*. We found some in lower density on grassy area, not just barren areas. There was a range of colors in the flowers. It might also be new habitat for *Penstemon penlandii*.

Jill Handwerk: I found a new occurrence of this in 2015 in Grand County. It's an annual on erosive clays.

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

No updates.

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

Jill Handwerk: There's only one documented occurrence, additional surveys are needed.

G2 Species of SE Colorado

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

Renee Popp: Lori Brummer and I surveyed the Pawnee and found nothing.

Pam Smith: I surveyed known sites in Douglas County and did not find anything.

Steve Olson: We usually see them in below average rain years so it might have been too wet this year.

Susan Spackman-Panjabi: Best to survey while in flower in April or later when the seeds are dehiscing, otherwise it is totally inconspicuous.

Andy Kratz: Does its phenology change a lot based on weather?

Steve Olson: Yes. It also appears to be tolerant of disturbance. The population near Gardner was flowering after a monsoon.

Dave Anderson: Haven't the Arizona and Texas populations split into new species? Perhaps the phenology is variable so maybe we are missing it?

Steve Olson: Still working on that.

Jen Ackerfield: My friend Nancy Hastings at CEMML mentioned that it grows along disturbed margins of two tracks.

Steve Olson: There is a population near a cow tank that appears to be tolerant of disturbance. Probably does come up every year. I have seen it in Holt Canyon which is not on the map.

Jill Handwerk: There are many extirpated occurrences. It's ephemeral.

Cleome (Peritoma) multicaulis (G2G3/S2S3)

Pam Smith: Denise Culver and I saw a new occurrence at Monte Vista Wildlife Refuge.

Pam Regensburg: We saw it on the Blanca Wetlands on salty playas and there were over 10,000 plants.

Jessica Smith: We visited two NPS occurrences. The occurrence at Big Spring was doing well, but the second population we could not find plants. It's either too dry or too early.

Delphinium ramosum var. alpestre (G4T2/S2)

Tim Hogan: Doing well in the Sangres, need to update last observation date to 2015.

Delphinium robustum (G2?/S2?)

Peggy Lyon: Al Schneider found a lot of this species in Priest Gulch north of Dolores.

Jen Ackerfield: I treated this as *Delphinium alpestre* in my flora.

Jill Handwerk: It looks different in photos. Maybe a new genetic project?

Draba exunguiculata (G2/S2)

Ginni Greer: Dusty Gannon found this along the ridge between Summit and Park counties.

Susan Spackman-Panjabi: How many plants?

Ginni Greer: I don't know. I look for it every summer and don't find it.

Draba grayana (G2/S2)

Ginni Greer: We have found this species this year in a number of places.

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

No updates.

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

Jill Handwerk: Changed to G2 from G3.

Steve Olson: Doing well this year from all the moisture.

***Herrickia horrida* (G2?/S1)**

No updates.

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

No updates.

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

Lara Duran: We found two new occurrences this year on Royal Gorge BLM Field Office. One had 600 individuals.

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

Richard Bunn: I found some on the plains and different road cuts east and south of your dots in El Paso.

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

No updates.

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

Richard Bunn: I did see some in northern Fort Carson.

Jill Handwerk: It might be an existing EO.

Richard Bunn: The dots look more south.

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

Pam Regensburg: I saw it a few years ago and will send you an EOR.

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

Steve Olson: We have a population at Oak Creek Campground that is likely a few hundred plants. The FS is clearing out brush at the campground to help the *Penstemons* get more sunlight. Next year will have a better indication of population size.

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

Jill Handwerk: This species is now a G3.

Jessica Smith: We saw this at East Lost Park.

***Ptilagrostis porteri* (G2/S2)**

Jessica Smith: CNAP saw it at East Lost Park this year.

Steve Olson: Shelia Lamb with the Forest Service is monitoring this species at a couple of sites.

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

Jessica Smith: CNAP saw it at Staunton State Park.

Steve Olson: I did not look this year. Hopefully I will be able to look when I'm near Pikes Peak for a day or two.

Andy Kratz: We did a Bioblitz at Lost Park and found some on looser material. There may be pops on looser material that may not persist. There may be some source and sink populations, therefore could just be temporary. We'll need to consider this when monitoring and planning.

Announcements

Denise Wilson: The Southern Rockies Seed Network meeting will be held at The Ranch in Loveland in December 2015.

Bob Powell: *Eriophorum viridicarinatum* is a new species to CO that we found near Molas Pass in San Juan County, 12,100 feet, we found and Dick Keller identified. There are several hundred fens in the area, but I have not seen it elsewhere. We have voucher specimens at Univ. of New Mexico. There are no sheep in the area, so they are not a threat. It is a 25 acre fen in a Mollisol soil type.

NE and Central Colorado G2G3 Species

Presenter: Jill Handwerk

***Aletes humilis* (G2G3/S2S3)**

No updates.

***Aletes nuttallii* (G3/S1)**

No updates.

***Aquilegia saximontana* (G3/S3)**

Ginni Greer: We need to send EORs because we have been documenting them in the Mosquito Range

Richard Bunn: There is a population on Pike's Peak I have seen recently.

***Astragalus sparsiflorus* (G2/S2)**

No updates.

***Bolophyta alpina* (G3/S3)**

Pam Smith: Is oil and gas drilling an issue?

Jill Handwerk: Yes, and wind also.

***Carex oreocharis* (G3/S2)**

Matt Schweitzer: The photo is not of *Carex oreocharis*.

Jill Handwerk: Matt Swiffe will send a new photo.

Dave Anderson: Lynn Reidel found a new population found on Boulder Open Space property this year.

***Draba crassa* (G3G4/S3)**

Jen Ackerfield: I saw many individuals on Mount Sherman.

Keith Schulz: We documented this on the GLORIA project in 2015 in the Sangre de Cristos. Do you still want data?

Jill Handwerk: Yes. We watchlisted it so you don't have to fill out a full EOR, but we still need to keep an eye on it. Where observed, the number of plants, and observer is adequate.

***Draba globosa* (G3/S1)**

Ginni Greer: Dusty found two new occurrences of this in the Mosquito Range.

***Draba streptobrachia* (G3/S3)**

Ginni Greer: We found a few new occurrences of this in the Mosquito Range.

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

Jill Handwerk: I saw it this summer in North Park and the plants were looking dry but still present.

***Nuttallia sinuata* (G3/S3)**

Jill Handwerk: This will be combined with *Nuttallia speciosa* in the future. We may not track it once this happens.

***Nuttallia speciosa* (G3/S3)**

No updates.

***Oonopsis wardii* (G3/S1)**

No updates.

***Phacelia denticulata* (G3/SU)**

Richard Bunn: I found a new population this year between Cascade and Manitou. The El Paso County weed control have been spraying them.

Pam Smith: I found a few new occurrences in weed monitoring plots at Air Force Academy.

***Physaria bellii* (G2G3/S2S3)**

Michelle Deprenger-Levin: We saw this during our training session for CNAP volunteers.

Tim Hogan: The trail study area in Boulder could have horses and bikes wipe out the population.

***Potentilla ambigens* (G3/S2)**

Dave Anderson: Pam and I saw this at Black Squirrel Creek, where the flooding has changed the course of the creek and has just about wiped out the population that formerly had thousands of individuals.

Susan Spackman-Panjabi: The occurrence in Larimer got washed out on a creek bank. Flooding should be added to the list of threats.

Delia Malone: Peggy and I found a population in the Black Forest on SLB.

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

No updates.

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

Jill Handwerk: Small occupied area drives S2 rank.

SW Colorado G2G3 Species

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

Jessica Neale: We saw a lot of plants this year and collected a lot of seed.

Rebecca Huft: Mary Goshorn should be collecting vouchers this year.

Raquel Wertsbaugh: I have new photos of habitat.

***Astragalus cronquistii* (G2G3/S2S3)**

Jill Handwerk: It's on tribal land and we don't know much about it.

***Astragalus equisolensis* (G5T1/S1)**

Jill Handwerk: Most occurs in Utah.

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

Gay Austin: We might have two new occurrences with vouchers.

Michelle Deprenger-Levin: I will verify specimens at DBG.

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

Carol Dawson: We just set up a monitoring plot for this species near Montrose.

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

Jill Handwerk: This species is barely in Colorado.

***Astragalus rafaensis* (G2G3/S1)**

Joe Statwick: I am working on the genetics and there are probably only two locations of *Astragalus rafaensis* in central Utah. Type location is San Rafael Swell. Dolores River pops are more similar to *A. linifolius*. We don't know if it is one species or two. *Astragalus rafaensis* and *Astragalus linifolius* can't be determined by erect vs. pendant pods.

Susan Spackman-Panjabi: One species has a pendant pod, one has an erect pod.

Joe Statwick: That is false, *rafensis/linifolius* at Cactus Park shows same characters.

Jen Ackerfield: I separate them based on location.

Joe Statwick: We'll have more data in a couple of weeks.

***Boechea crandallii* (G2/S2)**

Gay Austin: I saw two new pops on BLM land with about 10 plants each.

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

No updates.

***Castilleja puberula* (G2G3/S2S3)**

Ginni Greer: The pops we have found are huge in the Mosquito Range.

Tim Hogan: What are the dots in the Sangres?

Jen Ackerfield: It might be mis-IDs.

Jill Handwerk: I will investigate this.

***Cirsium perplexans* (G2G3/S2S3)**

No updates.

***Draba graminea* (G2/S2)**

No updates.

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

No updates.

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

No updates.

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

Gay: I saw this in Cochetopa Park and will get EORs done for them.

***Lepidium crenatum* (G2/S2)**

No updates.

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

No updates.

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

No updates.

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

Steve Olson: I found about 1800 plants inside Browns Canyon National Monument.

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

No updates.

***Physaria alpina* (G2/S2)**

No update.

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

Jill Handwerk: Is there monitoring happening for this species?

Carol Dawson: We are not monitoring this.

***Physaria rollinsii* (G1/S1)**

Rebecca Huft: DBG collected seed for this species in 2014 and 2015.

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

No updates.

***Puccinellia parishii* (G2G3/S1)**

Peggy Lyon: Saw it this year. Do we have better photos?

Jill Handwerk: I tried but was unsuccessful.

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

No updates.

***Thelypodopsis juniperorum* (G2/S2)**

Peggy Lyon: I saw this last year.

***Townsendia glabella* (G2/S2)**

No updates.

***Townsendia rothrockii* (G2G3/S2S3)**

No updates.

NW and Central Colorado G2G3 Species

***Anticlea vaginatus* (G2/S2)**

No updates.

***Astragalus debequaeus* (G2/S2)**

No updates.

***Carex stenoptila* (G2/S2)**

Pam Regensburg: Janet Windgate has collections that will likely add to EOs.

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

No updates.

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

No updates.

***Ipomopsis globularis* (G2/S2)**

No updates.

***Limnorchis zothecina* (G2/S1)**

No updates.

***Mertensia humilis* (G2/S1)**

No updates.

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

No updates.

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

No updates.

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

Jill Handwerk: Please find more element occurrences for this species. We need more information on it.

***Penstemon fremontii* var. *glabrescens* (G3G4T2/S2)**

No updates.

***Penstemon scariosus* var. *cyanomontanus* (G3T2/S2)**

No updates.

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

No updates.

***Saussurea weberi* (G2G3/S2)**

No updates.

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

No updates.

***Thelypodium paniculatum* (G2/SH)**

Jill Handwerk: Only known from historical records or misidentification.

Field Season Highlights

Pineries Open Space Post Fire Rare Plant Assessment 2015

Presenters: Judy Von Ahlefeldt

Judy Von Ahlefeldt: A fire in 2013 burned the Black Forest area and the County planned on clear cutting the burned area. There is a conservation easement held by Palmer Land Trust. We put together a team of volunteers from CNHP and DBG to survey for rare species. Tass studied much of this area since the 90s. Audrey took photos. Steve Olson and Steven Popovich were private consultants. We surveyed 1,060 acres across the Palmer Divide for *Viola pedatifida*, *Heuchera richardsonii* and *Krigia biflora*. We also surveyed for *Unamia alba*, *Liatris ligustylis*, *Crocanthemum bicknellii*, and *Penstemon gracilis*. A large population of *Crocanthemum bicknellii* was found on an old site with a wood dump. Eight wetland areas had 3,953 individuals of the three focal species. This site has tallgrass prairie species growing under ponderosa pine trees. We want a conservation buffer along the wetlands to protect from sedimentation. Also, we want to develop BMPs and monitoring with the county to track what goes on with the tree removal project.

New Locations of *Salix arizonica*

Presenter: Gwen Kittel

Gwen Kittel: *Salix arizonica* was described by Dorn in 1975, with one known location in Colorado discovered in 2001. They have different leaf shapes that can be used to tell them apart. The shape of the tip of the floral bract may be different enough to be able to differentiate *Salix arizonica* and *Salix boothii*. The grazing exclusion fence at the known site may have been used for a coral, so that might have had the opposite effect. We discovered additional areas of plants on either side of Highway 17 in Conejos County near La Manga Pass. We found a giant population in gently

sloping, saturated organic soils. It is not a new population but is perhaps the original population that the species was described from because there are so many individuals. They are a much brighter green than co-occurring willows. It grows with *Salix planifolia*, *Salix wolfii* and *Salix monticola*; does not grow with *Salix boothii* so I have a feeling this is a good species separation. There was defoliation by tent caterpillars on nearby willows. Shrubs were about 2 feet tall, and all were found near saturated soils near seeps, springs or streams except in one site. We found some that were 3 to 4 feet tall. We found males and females in same population. The *Salix arizonica* I've seen have always been serrate, even though the description says either serrate or entire. The habitat includes native sedges typically on gently sloping fen. We need to look at land use. It was an administrative pasture, not for public use, also with an old cabin. It was on Forest Service land near La Manga cow camp. There is 10 ha of occupied habitat, which is probably one population. We'll keep looking for research on soil and hydrology, current, and historic land use especially for tall populations.

Forest Service Special Status Plants (Status of U.S. Forest Service Pollinator & Native Plant Materials Programs)

Presenter: Tyler Johnson (Regional Botanist)

Tyler Johnson: Region 2 includes National Forests in Colorado, all but one in Wyoming, some in Nebraska, some in South Dakota, and one in Kansas. The National Forest Management Act (NFMA) states that the USFS must maintain viable populations of all native species, including plants. The NFMA is implemented through planning rules that changed the name and management from Sensitive to Species of Conservation Concern. The 2012 planning rule is implemented through Forest Plans. A sensitive species is a species with evidence of a current or predicted downward trend. The threshold for management is that we are not going to trend any species towards listing, no decision can be made that will put a species on a trend toward ESA status or that would lead to loss of viability on a planning unit. Therefore, management will focus on alleviating and mitigating threats, prioritizing species impacted by management actions, mostly promote "hands off" management because it prioritizes species by management actions. For species of conservation concern, the threshold for management is that the effects of a proposed project cannot result in ecological conditions that will not support the species of conservation concern. To do this, we will need the best available scientific information (BASI), which groups like this can really help to provide. The 2012 planning rule requires that the USFS uses best available scientific information. Species that are G/T 1 or 2 and any species that are federally delisted in previous 5 years must be a SCC. Other SCC should be G/T 3 or S1 and S2, as well as State T or E or Tribe T or E, or SCC from adjacent NFS units as well. Bottom line: there will be an increase in the number of SCC plants. Plants and animals have equal footing on paper. The information the Forest Service will request and provide will be different. However, partner and public involvement will remain the same as well as the ESA and Regional Forester's list. The USFS manages species that are important in ecosystem levels, manages overpopulated plants. Rare plant management is not a priority. We rely on small groups of people that think it is the right thing, such as CNHP and WYDD. We'll still keep track of insects, mollusks and invertebrates, and continue fungi counts under plans. The implementation will depend upon individual forest botanists. NEPA will be done differently. It will all be done at once at the beginning, disclose effect at one. Individual projects will be different. It will be easier to amend Forest Service plans.

Delia Malone: How does the Forest Service interact with Colorado Parks and Wildlife with this new rule?

Tyler Johnson: It won't change the SCC part. The lists aren't changing for animals.

Lara Duran: There's some conflicting information on management. Wouldn't it be difficult to manage large landscapes when you use individual projects?

Tyler Johnson: It's not necessarily landscape-wide. The scale can shift for some small projects.

Pat Murphy: Once Forest Service property is closer to populated area will it change?

Tyler Johnson: That is a problem. We are a public service and listen to those who make the most noise. We have more flexibility to tell groups no. If it is in the plan, it can be more ecological depending on who is taking it up and signing, etc.

Dave Anderson: It's important for the public and scientists to form the basis for generations of those plans. It's a huge opportunity to support the Forest Service in the new planning.

Tyler Johnson: Yes. That a great idea. Grand Mesa and Gunnison should be next.

Discussion Colorado Rare Plant Conservation Initiative

Lead by: Susan Spackman-Panjabi

Susan Spackman-Panjabi: The RPCI was initiated by Betsy Neely, and was intended to help step up education and conservation of 120 globally imperiled plant species.

Raquel Werstbaugh: Staunton State Park is now a Natural Area and will help conservation of *Mimulus gemmiparus*. Logan Wash has *P. debilis*.

Susan Spackman-Panjabi: It helps to justify funding for these conservation projects. The expanded property at Logan Wash elevates Natural Areas profile. Staunton is still closed to the public. We want to keep it that way because of rare plants.

Jill Handwerk: The SWAP now includes rare plants and will be adopted at the end of Sept 2015. There are 117 plants in Colorado.

Andy Kratz: How many states have SWAPs that include plants (about 10). It's a big deal to have it in Colorado.

Gay Austin: Would it be possible to draft a letter from RPCI partners to inform agencies that botanists are needed on staff at agencies? Now Wildlife Biologists are doing botany.

Lara Duran: It is really important to have contractors help survey for rare species on federal land. Proactive inventory is really important. The Royal Gorge field office is undergoing a resource management planning process, and all ACECs are being reviewed.

Bernadette Kuhn: Will the BCC require surveys if there is a project?

Tyler Johnson: It's the same as for sensitive. We should be doing surveys but sometimes we use GIS and satellite.

Dave Anderson: I have a question to the Forest Service and BLM: Do you have enough data and of the right kind to support decision making to do that? How can we help?

Tyler Johnson: Our trend determinations are made without trend data.

Lara Duran: Data is important.

Susan Spackman-Panjabi: We have been working on BMPs for road management in rare plant habitat.

Denise Larson: I developed the BMPs for wind energy.

Judy Von Ahlefeldt: There are a lot of rare plants that thrive in disturbed habitats. There needs to be more information on rare plant species tolerance to disturbance levels especially at landscape level.

Bob Powell: The greatest threat in the San Juan Mountains is sheep grazing. The plants get trampled. Roads and trails are a local problem, whereas sheep and invasives are a regional problem.

Mitch McLaughlin: How are BMPs being distributed to local decision makers? If we don't want local weed crews to spray rare plants, how do they know? It's great information but how do they know where to look?

Susan Spackman-Panjabi: We tried to distribute this information to the local managers. Much more needs to be done to update and get them out there.

Jenny Neale: I have been thinking of ways to revitalize the RPCI effort.

Rebecca Huft: Funding has been a challenge but there really needs to be agency and state folks that are helping move RPCI strategies forward, not just soft-funded projects where different folks take turns with the lead.

Jenny Neale: Georgia has a rare plant conservation coordinator and that staff member has a SWAP and she coordinates successful projects across the state.

Nathan Redecker: What is the legislative staff's at the governor's office response to this?

Susan Spackman -Panjabi: It's not that they are not interested, it's just that they are busy and they have other priorities. The Rare exhibit is helping raise awareness.

Raquel Wertsbaugh: The lawsuit in the Piceance Basin helped raise awareness of rare plants.

Rebecca Huft: We have an ex situ collection program where we get permits to collect plant material. Since 2009, we have been ramping up our collections and we have about 62 species that are in the collections. Some are really well represented, while others are not and seeds have not been collected in 20 years. These seeds are stored at the NCGRP center in Fort Collins. They are stored in freezers for long term preservation. We have been conducting germination trials and are writing manuals on how to grow these in the greenhouse. We are making a list of priority species that we need to collect in the next years. We have a lot of volunteers that help us determine the appropriate phenology for when we can collect seeds. Get in touch with us if you want to be involved.

Steven Popovich: A summer seasonal botanist on the White River National Forest recently found an estimated 14,000 individuals in a population of *Conimitella williamsii* as a result of additional rare plant surveys done to determine the effects of killing some plants in a WAPA power-line corridor. I think this is the only known site or one of only a few known sites in Colorado? In the Ute Pass area, between Dillon and Kremmling adjacent to my forest. Several years ago, Brian Elliott surveyed the powerline and relocated this known site but found much fewer plants. They were mostly confined to the corridor, as he only did a cursory survey and did not look much around other areas. The power-line company is proposing hazard tree removal and permanent maintenance and vegetation management of the corridor, which goes through part of the population and could harm or kill plants in the corridor from the vegetation clearing. The additional surveys showed many more plants than previously known and most are outside the project footprint, so many that taking of some plants (I think less than a hundred?) in the corridor would probably not harm overall population viability, so no mitigation is now proposed. This was a very contentious issue the last few years raised all the way to Washington DC by the proponents as at that time most plants were known only from within the corridor and harming them was thought by the USFS to adversely impact population viability. WAPA did not want to protect the

plants because, since they are not a USFS Sensitive species, WAPA felt no protection was needed and that in fact we had no say to enforce conservation of the species, which got ugly and was escalated by them to DC. I told the summer seasonal yesterday to make sure the plant they surveyed is indeed the *Conimitella* and not a look-alike, and if their ID was sound, then I agree that taking 100 plants out of 14,500 individuals would not likely cause an adverse impact to the site viability. So for now this record is unconfirmed until she confirms the ID is correct. And of course they need to confirm ID is correct before letting the corridor be disturbed.

Susan Spackman-Panjabi: I really invite everyone to visit the RPCI page and provide input to us.

Adjourn

2015 Meeting Attendees

Last Name	First Name	Affiliation
Ackerfield	Jennifer	Colorado State University Herbarium
Aitken	Marti	U.S. Forest Service
Allison	Larry	CoNPS
Anderson	David	Colorado Natural Heritage Program
Austin	Gay	Bureau of Land Management
Ball	Chuck	CoNPS
Ball	Leslie	CoNPS
Boag	Audrey	CoNPS
Brown	Kathryn	CoNPS
Bunn	Richard	CoNPS
Cifelli	Nancy	CoNPS
Clark	Dina	University of Colorado Herbarium
Cleaver	Harlan	CoNPS
Cleaver	Karen	CoNPS
Davidson	Deryn	Colorado State University
Dawson	Carol	Bureau of Land Management
DeMasters	Carla	CoNPS
DePrenger-Levin	Michelle	Denver Botanic Gardens
Duran	Lara	Bureau of Land Management
Ernst	Chuck	CoNPS
Ewing	Bayard (Mo)	CoNPS
Galeano-Popp	Renée	CoNPS
Gee	Daniel	CoNPS
Grant	Ann	CoNPS
Greer	Ginni (Virginia)	Mosquito Range Heritage Initiative
Handwerk	Jill	Colorado Natural Heritage Program
Hauptli	John	CoNPS
Hogan	Tim	University of Colorado Herbarium
Hogan	Terri	CoNPS
Holcomb	Sandy	CoNPS
Hufft	Becky	Denver Botanic Gardens
Hunter	Theron	CoNPS

Johnson	Tyler	U.S. Forest Service
King	Judy	CoNPS
Kittel	Gwen	NatureServe
Koski	Ronda	CoNPS
Kratz	Andrew	CoNPS
Kuhn	Bernadette	Colorado Natural Heritage Program
La Rosa	Raffica	CoNPS
Lamson	Michael	CoNPS
Larson	Denise	ERO Resources
Lyon	Peggy	Colorado Natural Heritage Program
Majack	Marika	UC Denver
McGlaughlin	Mitchell	University of Northern Colorado
Mitchell	Lenore	CoNPS
Monday	Kristine	CoNPS
Moyer	Vicki	CoNPS
Mui	Cecily	Colo. Dept. of Ag.
Murphy	Pat	CoNPS
Neale	Jenny	Denver Botanic Gardens
Nogle	Jamie	GEI Consultants
Olson	Steve	U.S. Forest Service
Orthner	Rea	Western Ecological Resource
Paget	Margaret	City of Wheatridge
Popovich	Steve	U.S. Forest Service
Powell	Robert	CoNPS
Redecker	Nathan	Bureau of Land Management
Regensberg	Pam	Denver Botanic Gardens
Richardson	Mary	CoNPS
Ripley	Nicola	Vail Alpine Gardens
Schulz	Pam	CoNPS
Schulz	Keith	The Nature Conservancy
Schweich	Matt	CoNPS
Schweich	Tom	CoNPS
Smith	Jessica	Colorado Natural Areas Program
Smith	Pam	Colorado Natural Heritage Program
Spackman-Panjabi	Susan	Colorado Natural Heritage Program
Statwick	Joe	University of Denver
Steinman	David	Colorado State University
Sullivan	Colleen	CoNPS
Turner	Charlie	CoNPS President
Turner	Jan	CoNPS
von Ahlefedlt	Judy	CoNPS
Wahle	Bruce	CoNPS
Warsh	Sophia	CoNPS
Wertsbaugh	Raquel	Colorado Natural Areas Program
Williams	Anna	CoNPS
Wills	Brandee	CoNPS/UNC
Wilson	Denise	CoNPS
Wilson	Anna	CoNPS
Zeiner	Tom	CoNPS

Zerbe	Peter	CoNPS
Zielinski	Ann	CoNPS