

Aquilegia

Magazine of the Colorado Native Plant Society

Volume 48 No. 4 Fall 2024





2024 Photo Contest Winners

Front Page: Clockwise from top left. **First Place Winners. Artistic:** *Drosera rotundifolia* (round-leaved sundew), © Jackson Bates; **Colorado Native Plants:** *Asclepias asperula* (antelope horns milkweed), © Carol McGowan; **Landscape:** *Gentiana algida* (arctic gentian), © Emily Griffoul; **Native Plants and Wildlife (tie):** *Lagopus leucura* (white-tailed ptarmigan) with *Carex* sp. (sedges), © Jackson Bates, and *Dalea purpurea* (purple prairie clover) with *Bombus* sp. (bumblebee), © Joy Lindholm.

This Page: Clockwise from top left. **Second Place Winners. Garden Natives:** *Penstemon eatonii* (firecracker penstemon) and *Stanleya pinnata* (prince's plume), © Irene Shonle. **Artistic:** *Pulsatilla nuttalliana* (pasqueflower), © Jim Pisarowicz. **Third Place Winner. Garden Natives:** *Penstemon strictus* (Rocky Mountain penstemon) and *Gaillardia aristata* (blanketflower), © Jennifer Ackerfield.

Back Cover: Top left. **First Place Winner. Garden Natives:** *Helianthus pauciflorus* (prairie sunflower) and *Mentzelia decapetala* (ten petal evening blazing star), © Carol McGowan. **Second Place Winners. Right: Colorado Native Plants:** *Polemonium viscosum* (sky pilot), © Steven Pearlman; bottom left: **Landscape:** *Castilleja* sp. (Indian paintbrush) and *Wyethia amplexicaulis* (northern mule-ears), © Carol McGowan.

Inside Back Cover: Clockwise from top left. **Third Place Winners. Native Plants and Wildlife:** *Cleomella serrulata* (Rocky Mountain beeplant) and *Agapostemon* sp. (male green metallic sweat bee), © Susan Tamulonis; **Landscape:** *Echinocereus triglochidiatus* (claretcup cactus), © Mollie Freilicher; **Artistic:** *Asclepias speciosa* (showy milkweed), © Kelly Ambler; **Colorado Native Plants:** *Penstemon angustifolius* (narrow-leaf penstemon), © Richard Brune.

Aquilegia: Magazine of the Colorado Native Plant Society

Dedicated to furthering the knowledge, appreciation, and conservation of native plants and habitats of Colorado through education, stewardship, and advocacy

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AQUILEGIA: Magazine of the Colorado Native Plant Society

Aquilegia Vol. 48 No. 4 Fall 2024
ISSN 2161-7317 (Online) - ISSN 2162-0865 (Print) Copyright CoNPS © 2024
Members usually receive four issues per year (Spring, Summer, Fall, Winter). At times, issues may be combined. Articles from *Aquilegia* may be used by other native plant societies or non-profit groups if fully cited to the author and attributed to *Aquilegia*. All contributions are subject to editing for brevity, grammar, and consistency, with final approval of substantive changes by the author.
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Featured Story

Synopsis of the 2024 Colorado Rare Plant Symposium

By Savanna Smith and the Colorado Natural Heritage Program Botany and Vegetation Ecology Team

The Twenty-First Annual Rare Plant Symposium was kicked off by a welcome from Dave Anderson, director and chief scientist of the Colorado Natural Heritage Program (CNHP). He provided a brief update on CNHP's recently initiated Statewide Natural Heritage Survey, which aims to survey biodiversity in every Colorado county and will require collaboration from all sectors of the conservation community.

The presentations began with an update on the 2025 Colorado State Wildlife Action Plan (SWAP). Kacie Miller, the SWAP coordinator for Colorado Parks & Wildlife (CPW), outlined the purpose of the plan, its federally required elements, and plans to improve its accessibility and relevance. CPW has been working on identification of the criteria and species to be included in the SWAP through several internal working groups. The 2025 SWAP will incorporate rare plants as Species of Greatest Conservation Need and categorize them into three lists: Tier 1, Tier 2, and Species of Greatest Information Need (SGIN).

Jessica Smith, CNHP's Botany and Vegetation Ecology Team leader, presented the draft list of rare plants to be included in the 2025 SWAP. The team evaluated all species ranked by NatureServe as G1 (globally critically imperiled), G2 (globally imperiled), and a subset of G3 (vulnerable) species. They also used additional criteria such as the Endangered Species Act listing status and the percentage of the species' range in Colorado to ultimately categorize all species into one of the three lists. Several partners

have provided initial feedback on the list and criteria, and there will be more opportunities for public comment in the coming months. The finalized SWAP will guide conservation actions for species of conservation concern in Colorado.

Next, Jessica Smith led a review of 15 rare plant species found in southwestern Colorado. Many are endemic to the region and extremely rare. Each species' identification characteristics, habitat, range, and threats were discussed. Attendees then shared updates on recent sightings, monitoring results, and genetic findings. Many of these species have not been observed in more than 20 years. CNHP welcomes information on all tracked species, especially sightings within historical locations.

After lunch, several partner organizations provided updates on rare plant conservation efforts. Phil Krening, a Bureau of Land Management (BLM) ecologist, highlighted the BLM's plant conservation program, including new rules elevating the role of conservation within the agency's mission. He shared methods and findings from his recent study, which estimated the minimum population size of the federally endangered *Sclerocactus dawsoniae* (Dawson's hookless cactus) at 17,000 individuals.

Mit McGlaughlin, a University of Northern Colorado professor, presented genetic findings on two rare species: *Eutrema penlandii* (Mosquito Range mustard) and *Lygodesmia doloresensis* (Dolores River skeletonplant). The study on *Eutrema penlandii* ►



A few of the plants discussed at the 2024 Rare Plant Symposium. From left: *Physaria pulvinata* (cushion bladderpod) © Jessica Smith, *Ipomopsis polyantha* (Pagosa skyrocket) © Jessica Smith, *Oenopsis puebloensis* (Pueblo goldenplant) © Susan Panjabi.

◀ identified the genetic structure and diversity across its range to prioritize populations for conservation. The research on *Lygodesmia doloresensis* confirmed its status as a unique species and uncovered a hybrid between *L. doloresensis* and *L. grandiflora*.

Jennifer Ackerfield, head curator of Natural History Collections and associate director of Biodiversity Research at Denver Botanic Gardens (DBG), provided updates on DBG's rare plant conservation programs. In 2024, DBG received funding to implement the North American Botanic Garden Strategy for Alpine Plant Conservation, conducted demographic monitoring of *Physaria alpina* (Avery Peak twinpod), collected seeds from several rare species, revisited historical locations of *Frasera coloradensis* (Colorado green gentian), and studied transplant success of *Penstemon penlandii* (Kremmling beardtongue).

Gwen Kittel, retired botanist, updated the group on monitoring efforts for three rare Colorado willow species and highlighted the Adopt-a-Rare-Plant Program, a volunteer initiative between CNHP and the Colorado Native Plant Society (CoNPS) to locate and update information on targeted rare plant species. Mike Kirkpatrick, a US Forest Service botanist, rounded out the partner updates by announcing a newly discovered population of *Erythranthe*

gemmipara (Rocky Mountain monkeyflower) in the South Platte River drainage.

In the final session, CNHP staff provided updates and opportunities for engagement. Georgia Doyle, CNHP botanist, discussed updates to CNHP's list of tracked plant species, including additions and those downgraded to watchlist status. CNHP manages a statewide database of rare species locations and status, and accepts data submissions through various platforms, including element-occurrence forms, herbarium collections, and CNHP's iNaturalist project.

Finally, Renee Rondeau, CNHP ecologist, presented on the status of San Juan alpine plants. She discussed monitoring data on *Draba graminea* (San Juan draba) that suggests a decline, likely related to climate-change impacts. She also proposed using botanical niche concepts—such as longevity, reproductive modes, and root characteristics—to standardize rare plant monitoring protocols, seeking feedback from the group.

The 2024 Rare Plant Symposium was an excellent opportunity to learn about rare plants and their conservation efforts, network with individuals and organizations, and highlight many of the important rare species that are key parts of Colorado's biodiversity. 🌀

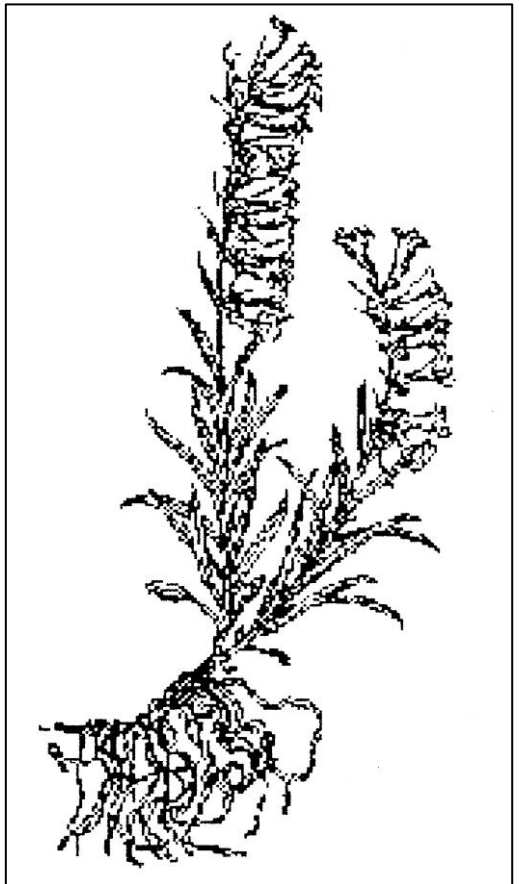
Blast from the Past

Second Annual Colorado Rare Plant Symposium

Help decide the future of rare plant work in Colorado! Join members of the Colorado Rare Plant Technical Committee (RPTC) in the second annual Colorado Rare Plant Symposium. The RPTC is an ad-hoc group of agency and non-government organization botanists that has been working for years to advance rare plant efforts in the state. Your personal knowledge of Colorado field botany makes your contribution to this effort critical. This half-day workshop will be held in collaboration with the CoNPS annual meeting. For their second annual workshop the RPTC has selected 18 plant species that are globally rare (G1), many of which are known only from Colorado. On Friday night the RPTC will present the results of last year's efforts on the federally listed species in our state (see agenda). Please join them and help advance conservation efforts for these globally-rare species.

From Aquilegia. 2005. 29.3:1. First Symposium advertised in Aquilegia.

Line drawing of *Penstemon gibbensii* (Gibbon's beardtongue), a G1S2 plant found in northwest Colorado. © Kaye H. Thorne



Featured Story

The 2024 CoNPS Annual Conference: Restoration in the Wild and at Home

Introduction

By Maggie Gaddis

This year's conference was a great gathering of more than 170 people on a fine autumn weekend in Durango, the heart of our Southwest Chapter. As your fearless leader, I have some goals that I wake up thinking about every morning. One of them is to honor and support the amazing work of our chapters. Planning for this conference was almost effortless because we knew right away that our goal was to highlight the great work of our Southwest Chapter. When Dr. Ross McCauley of Fort Lewis College—botanist, keynote speaker, long-time Southwest Chapter member, Grants Committee member, and former board member—opened our day with a beautiful slide show of the Southwest Colorado flora, I knew we were going to have a great conference. Ross addressed a topic very near and dear to my own heart and professional work—the lack of botanical education in grades K-12 and college learning environments across Colorado and the US. He inspired the true mission of the Colorado Native Plant Society to share our knowledge and appreciation of native plants to help educate others. It was a great start and *apropos* given the speaker line up.

Subsequent speakers took us on a journey through the landscape, from great public lands to municipal greenhouses to school campuses. We intended for the speakers to address landscapes from the largest scope to the smallest, but we did not intend to also curate our speakers from oldest to youngest. A huge triumph of our day was the rich presence of young people, our next CoNPS generation. We heard from two teenagers, something I am sure has never happened at a CoNPS conference before. Elizabeth Rose, Southeast Chapter member and CoNPS Board Secretary, and Alyxx Ford, also a Southwest Chapter member and Durango High School student, educated us about their research and community activism. I think Alyxx really stole the show when she presented us with a QR code to sign her petition to rewild school landscapes with native plants. We are really entering the modern world!

Another great win for the conference was the showcase of *what we do*—Sunday's conference field trips. We collected seeds, went on botany hikes, toured native gardens, and visited the Fort Lewis College Herbarium. Most importantly, we had fun times with our dear friends. We rekindled relationships and built new partnerships. CoNPS is about people as much as it is about native plants. We appreciate you so much; we love seeing you enjoy each other's company, generate ideas and solve problems together. To all of my new

colleagues and friends and to all of you I did not have the pleasure of spending time with on the trail, I thank you! Thank you for making my job so rewarding, both personally and professionally.

What We Do—Educate, Conserve, and Appreciate Native Plants—Together

Saturday Presentations

Exploring the Flora of Southwestern Colorado

Presented by Ross McCauley

Reported by Dale Brown

In his introductory remarks, Ross McCauley, PhD, described himself as excited about native plants and committed to fostering excitement about plants in others, especially students. He placed his career at Fort Lewis College at the interface of undergraduate education, research in native plant evolutionary biology, and native plant herbarium collections. In education, under his leadership, Fort Lewis College developed a dedicated major in botany centered around landscape management, especially within federal and tribal lands. In research, he emphasizes “course-based research”—that is, to embed teaching of experimental approaches in his classes, and to involve students in both field and laboratory research projects in plant evolutionary biology. During one of the courses, a novel herbarium collection of *Solanum jamesii* (Four Corners potato) was made near Durango, Colorado. This plant was used in Native American agriculture and was transported to new settlement areas. Its presence is an archeological marker of pre-Columbian habitation. ►



A selection of low elevation plants in southwest Colorado. Clockwise from top left: *Castilleja scabrida* var. *scabrida* (rough paintbrush), *Phlox hoodii* (spiny phlox), *Pedicularis centranthera* (dwarf lousewort), *Fraxinus anomala* (single leaf ash), *Townsendia incana* (hoary Townsend's daisy), and *Lupinus ammophilus* (sand lupine). © Ross McCauley

◀ In the second part of his talk, Ross provided an overview of ecozones and examples of some plants of southwest Colorado. Durango sits near the physiographic border between the Colorado Plateau to the south and west, and the Southern Rockies stretching north and east. He took his audience on a visual tour, beginning with the semi-desert shrublands and badlands of the Four Corners and Ute Mountain Ute Reservation in southwest Colorado, moving on to the scrub-oak-pinyon-juniper-ponderosa zones of the Mesa Verde Uplift, then the mountain shrublands around Durango, and finally reaching the montane and alpine communities of the San Juan Mountains and Continental Divide. Selected plants were discussed to illustrate important points of speciation and adaptation to the diverse habitats of this region. Some examples included:

- Single gene color changes (*Astragalus schmollii*, Schmoll's milkvetch);
- Hybridization to generate a separate species (*Astragalus tortipes*, Sleeping Ute milkvetch);
- "Stable hybrids" of clonally reproducing progeny from coexisting species: *Quercus gambelii* (Gambel oak) and *Q. turbinella* (turbinella oak);
- Geographically disjunct and Arctic-alpine relict populations, reflecting ice age and continental drift timescales: *Triteleia grandiflora* (largeflower

triteleia), *Trautvetteria grandis* (great bugbane), *Aralia bicrenata* (American spikenard), *Drosera anglica* (English sundew), and *Berberis fendleri* (Fendler's barberry);

- Other examples, particularly of endemic speciation, arising from unknown mechanisms: *Aliciella sedifolia* (stonecrop gilia), and *A. penstemonoides* (Black Canyon gilia).

Together these examples provide a fascinating overview of species adaptation and diversification to the range of habitats within this unique region, and highlight the rich potential for continued research. "There's knowledge in them thar hills!"

Engaging Your Community in the Work of Ecological Monitoring Presented by Maggie Gaddis Reported by Emily Swindell

Maggie Gaddis, MS, PhD, executive director of the Colorado Native Plant Society, presented on how to be involved with the Native Plant Materials Program (NPMP) by sharing the goals of the National Seed Strategy and providing a list of resources available through CoNPS. First, the varied CoNPS committees and chapters offer a number of grants and scholarships, as well as a variety of training and engagement opportunities such as rare plant monitoring, fen phenology, public outreach, native ►



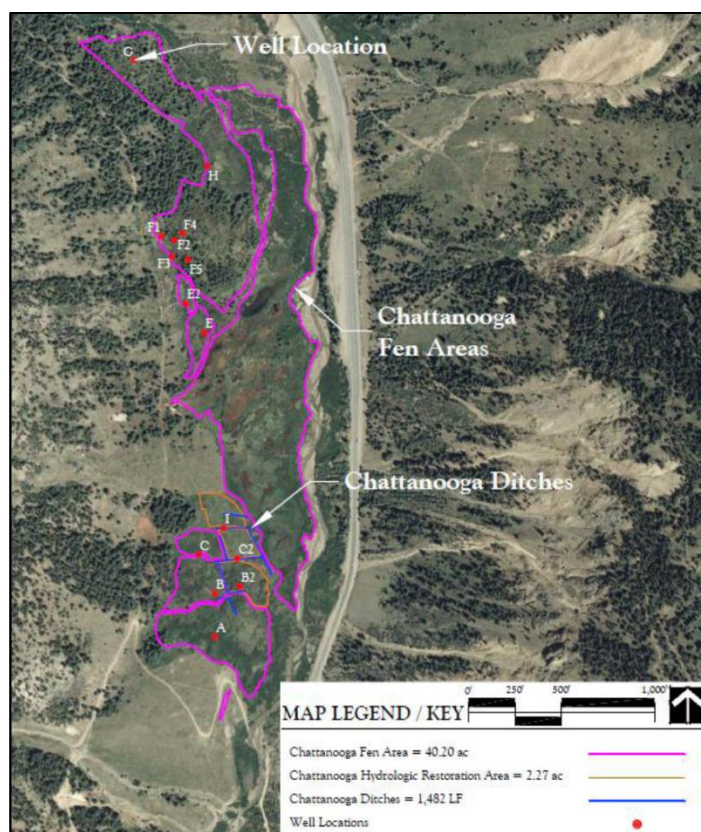
Volunteers gearing up for seed collection with species ID training. © Maggie Gaddis

◀ garden tours, seed collection, and native plant and seed swaps. Seed-collection efforts can help support the goals and objectives in the National Seed Strategy, which includes a framework to help build a “seed industry” for the rehabilitation and restoration of disturbed landscapes across agency and private land boundaries. It also provides guidance for legislative strategies that, for example, now allow Colorado Parks and Wildlife to manage rare plants and pollinators. Goals of the National Seed Strategy include developing tools that enable managers to make timely and informed seeding decisions for ecological restoration, developing strategies for internal and external communication, and encouraging botanists, land managers, horticulturists, ecologists, and researchers to work together to *put the right seed in the right place at the right time*. Furthermore, their mission, “to ensure the availability of genetically appropriate seed to restore viable and productive plant communities and sustainable ecosystems,” supports the work of the Rocky Mountain Native Plant Materials Program headed by the US Forest Service, Colorado Natural Heritage Program, and CoNPS to provide native seeds for post-fire regeneration, soil stability, and wildlife habitat and forage, and to assist in ecosystems resilience. Since all seed collections begin with scouting—with approximately 12,000 miles

traveled in 2023!—you can help reduce that carbon footprint by attending a species ID training offered by the CoNPS Restoration Committee, submitting observations to iNaturalist for use by CNHP staff, and volunteering to help collect seeds. You can also share phenological data on their target species with the NPMP, train others on species identification and iNaturalist, join the CoNPS Restoration Committee, and inquire about available restoration internship opportunities with CoNPS. Altogether, Maggie provided a wealth of information on the National Seed Strategy and how to support the Rocky Mountain Native Plant Materials Program through resources and opportunities offered by the Colorado Native Plant Society!

Mountain Studies Institute’s High Elevation Fen Restoration Presented by Amanda Kuenzi Reported by Celia Greenman

Amanda Kuenzi, community science director at Mountain Studies Institute (MSI), began her talk by defining wetlands. Hydric soils are required, and those soils must be saturated for two weeks during the growing period. These conditions will support a special vegetation community. Ninety percent of the wildlife in Colorado use wetlands at some point in their life cycles. Fens are a subset of wetlands that rely chiefly on groundwater for moisture replenishment. In fens, plant material does not fully break down, and ►



Map of Chattanooga Fen—a success story!
© Amanda Kuenzi

◀ they are characterized by peat deposits. About 50–70 percent of wetlands are peatlands. Peatlands store twice as much carbon as all the world’s forests, while making up only a fraction of the land surface. They are also spaces for water retention, filtration, wildfire refuge, and wildlife habitat. For more information, see Gaddis M. 2021. *Aquilegia*. 45.2:24-25.

MSI is involved in fen restoration, with the fens to be refurbished chosen by the US Forest Service. Some of the fen deterioration in the San Juan Mountains was caused by past mining activities. The hydrology of one such fen, the Chattanooga fen, has been restored with check dams and fill ditches. Excelsior, made from shredded aspen, was used as a surrogate for peat, into which was placed hydrophytic vegetation. *Carex utriculata* (beaked sedge) was the primary species and was planted as plugs. Fens generally require little maintenance once restoration is completed, although monitoring wells continue to record groundwater fluctuations. However, at the Chattanooga fen, subsequent work by a utility company in clearing power line transits has impacted the fen, as debris was unloaded onto the fen surface. Additional funds are needed to remove this waste material.

Soil Chemistry and Native Plant Germination

Presented by Kenar Houghton
Reported by Jan Midgley

Over one growing season, Kenar Houghton evaluated the germination rates of six native plant species (three grasses and three forbs) in three different growing media for her undergraduate thesis project. This research was conducted with partners representing commercial, municipal, and public growers: Phelan Gardens, the Colorado Springs Horticulture Greenhouse, and University of Colorado-Colorado Springs.

The three soils were a Lambert mix of peat and perlite (commercial mix), a combination of breeze and compost (municipal soil), and native soil from the campus of UCCS (a sandy clay from 6,000 feet). The plant species were *Bouteloua gracilis* (blue grama), *Elymus trachycaulus* (slender wheatgrass), *Eriocoma hymenoides* (ricegrass), *Heterotheca villosa* (hairy false goldenaster), *Lupinus argenteus* (silvery lupine), and *Penstemon virens* (blue mist or Front Range penstemon). A commercial lab tested the three media samples for nine chemicals. Data on the soil chemistry and the effect on germination were also collected.

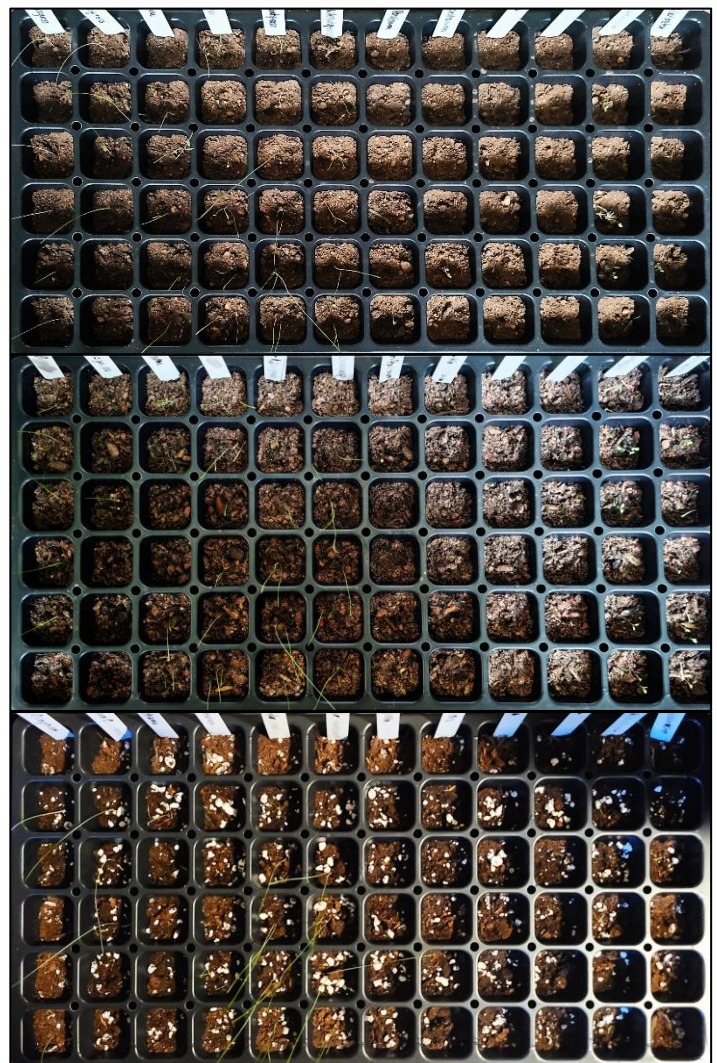
Kenar conducted three rounds of testing using a windowsill for light. She defined germination as the presence of sprouts and counted emergence every week. The commercial mix tested very high for

nitrates compared to the municipal or native soils (322.6 ppm versus 0.7 ppm or 40.2 ppm, respectively) and low on pH (5.3 versus 7.9 or 7.7, respectively). Germination rates were generally high in the native soil and the municipal soil.

More successful production of native plants can lead to their increased availability.

Germination of Native Seeds Presented by Elizabeth Rose Reported by Kelly Ambler

Elizabeth Rose recorded a presentation about her high school summer research project investigating the germination rates of 42 different species of native plants. Flats seeded by the City of Colorado Springs horticulture department were observed for 12 weeks. The overall germination rate was 52 percent, with considerable species-to-species variability. The species with the greatest germination were *Penstemon strictus* (Rocky Mountain penstemon), *Rudbeckia hirta* (black-eyed Susan), *Ratibida* ▶



Germination trays. Top: native soil. Middle: municipal soil. Bottom: commercial soil. © Kenar Houghton



Durango School District 9-R Green Team

◀ *columnifera* (prairie coneflower), *Echinacea angustifolia* (narrowleaf coneflower), *Dalea purpurea* (purple prairie clover), *Oenothera speciosa* (showy evening primrose), *Gaillardia aristata* (blanketflower), and *Achillea millefolium* (common yarrow). Those with the lowest amount of germination included *Cucurbita foetidissima* (buffalo gourd), *Aquilegia chrysantha* (golden columbine), *Atriplex canescens* (four-wing saltbush), *Rhus trilobata* (threeleaf sumac), and *Cercocarpus montanus* (mountain mahogany). The seeds of five species did not germinate during this time period. These studies provide the foundation for investigating optimal germinating and growing conditions for native plants.

Citizen Activism in High Schools Presented by Alyxx Ford Reported by Karen Hwang

Alyxx Ford, a senior at Durango High School, has been promoting sustainability at her school by advocating for less concrete and more native plant landscapes. Not only is this good for the environment, but it can influence how the students perceive life in the future. Urie Bronfenbrenner, a world-renowned child psychologist, says “a child’s development is shaped by the interaction between the child and their environment.” Children are conditioned to accept their environments as the norm. Alyxx’s goal is to make a difference in how kids are growing up. Kids who grow up around native plant landscapes and healthy, sustainable environments tend to see that as the norm and advocate for it in their future environments. Alyxx has met many roadblocks to her wonderful, aspiring ideas and asks for support for her petition for sustainable landscaping in the 9R School District (<https://www.change.org/p/sustainable-landscaping->

[for-9r-school-district?source_location=search](https://www.change.org/p/sustainable-landscaping-for-9r-school-district?source_location=search)). As a mother of four children who have all graduated from Durango High School, I see the validity of Alyxx’s efforts and hope to hear more from this intelligent, young woman.

Lifetime Achievement Award: Jim Borland

Jim Borland was posthumously awarded CoNPS’ Lifetime Achievement Award for his many contributions to increasing the awareness and appreciation of Colorado’s native plants. The award was accepted on his behalf by his colleagues, Loraine Yeatts and Mo Ewing, both of whom have also received Lifetime Achievement Awards. Loraine remarked on Jim’s generosity while hosting garden tours at his house and the abundance of marvelous trees and shrubs he had cultivated over the years. Loraine and Mo later gave the award to Jim’s widow, Dorothy Borland. Please see page 23 for more information about Jim. Other nominees for this year’s award were Doris Drisgill, a longtime Southeastern Chapter field trip leader, and Jill Handwerk, who recently retired from the Colorado Natural Heritage Program and was a previous president of CoNPS. ►



Dorothy Borland holding Jim Borland's Lifetime Achievement Award. © Loraine Yeatts



The end of the field trip to Falls Creek. © Anna Wilson

◀ Sunday Field Trips

Falls Creek Botany Hike

Led by Al Schneider and Karen Hwang

Reported by Anna Wilson

About 20 conference attendees carpoled to a nondescript roadside pull off on Highway 205, south of Turner Lake, and immediately found plants to discuss. From large *Acer negundo* (boxelder) trees to low growing *Penstemon linarioides* (toadflax penstemon), we discovered more than 65 different plant species in the next three hours. This late in the season, not all were in bloom, but these plants still had distinctive characteristics that allowed us to identify them. Within several feet of the road someone spotted a non-native *Malus* sp. (apple) tree, almost certainly a leftover planting from a long-vanished ranch. Many of us sampled the fruit and were not able to identify the variety. Perhaps it was a type no longer cultivated? From there, we crossed a wide meadow in the floodplain, flanked by the red cliffs of the Cutler Formation on the west and a forested drainage to the east. This trail must lead to a waterfall eventually, but we didn't see it.

Led by Karen Hwang (author of *Wildflowers of Durango Trails*) and Al Schneider (swcoloradowildflowers.com and the Colorado Rocky Mountain Wildflowers app), the group only wandered about a mile on the existing trail as it meandered through different ecosystems. Quite a few of the plants are rarely found on the Front Range: *Townsendia leptotes* (the not-so-common common Easter daisy), *Ageratina herbacea* (fragrant snakeroot), *Opuntia fragilis* (brittle prickly pear, or sometimes called potato cactus), *Penstemon linarioides* ssp. *coloradoensis* (toadflax penstemon), *Shepherdia argentea* (silver buffaloberry), and the

expected variety of late season yellow and purple asters of several species. One of the selling points of this field trip had been to identify look-alike plants. How do you tell the various yellow and purple asters apart? Both Karen and Al helped us look beyond the surface to make some distinctions.

While Karen led us to specific plants along the trail, Al advised us not to worry about assigning plants to specific families as those are subject to change. He also suggested we say the scientific names out loud without worrying about mispronouncing them, although Al did point out that species names ending with i or ii are pronounced with the long "e" sound, not "eye" nor "E-eye." Al demystified some of the Latin names, "aceae" meaning family, "oides" meaning similar to, *Potentilla* meaning a little bit potent, etc. We ended with brief tips on using cell phones to photograph plants.

Descending clouds and light sprinkles sent us back to the cars, and we enjoyed the changing leaves and fall colors on the drive back to Durango.

Lime Mesa

Led by Ross McCauley

Reported by Michaela Grubb

On the last day of the conference, several field trip groups went their separate ways. Dr. Ross McCauley led a group of 14 people up Lime Mesa to explore the unique limestone talus slopes. With the recent cooler weather that had hit southwest Colorado, some *Populus tremuloides* (aspen) stands were at the peak of their fall foliage. Despite the drastic weather change, there were still some late season flowers blooming during this botany walk. Early in the walk, we discussed *Heterotheca schneideri* (Schneider's goldenaster) and how it differs from *H. villosa* (hairy false goldenaster). *H. schneideri* grows at higher elevations and is more spreading and shrub-like, so ▶



Keying out a NYC (Darn Yellow Composite). Turns out to be a late-blooming *Arnica cordifolia* (heart-leaf arnica)! © Michaela Grubb

◀ with ease we determined that the area contained *H. schneideri*. We continued to hike up a dirt road and observed some late blooming asters and quite a few unique fungi (the group did not include a mycologist, unfortunately). A few people gathered around to key out an *Arnica* species, which we identified as *A. cordifolia* (heartleaf arnica) due to the lower leaves being long petiolate. We were surprised to find this plant blooming this late in the season! The group hiked down to a scree outcropping in search of the rare fern *Asplenium viride* (green spleenwort). We searched the slope in the rain and sleet to find a scattering of the small ferns across the landscape, many of them protected underneath small rocks that carpeted the slope. After lunch, the group continued on to an open alpine area surrounded by small creeks and ponds that housed numerous *Juncus castaneus* (chestnut rush). Near the end of the day, the group spent a lot of time on hands and knees searching for minute plants such as *Sabulina stricta* (rock sandwort), a new plant for Ross's list. Despite the rain, everyone was in good spirits and had something to add to the group as a whole.

Vallecito Valley

Led by John Bregar

Reported by Jan Midgley

The Vallecito Valley field trip was led by John Bregar, who supplied a list of plants found in the area. We started the trip at the Vallecito Campground in the San Juan National Forest near Bayfield, Colorado. The campground sits at 8,000 feet in the Vallecito Creek Basin in La Plata County in the Southern Rocky Mountains.

The Vallecito Trail is an entry point to the Weminuche Wilderness area. The part of the trail that we traversed (not a great distance due to our botanizing) was an open woodland-coniferous forest. John's list has two firs, two junipers, two pines, *Populus angustifolia* (narrowleaf cottonwood), *P. tremuloides* (aspen), and *Acer glabrum* (Rocky Mountain maple). *Quercus gambelii* (Gambel oak) was also common.

We felt we were exploring the Pacific Northwest with large-diameter trees, a drippy atmosphere, and even three black, 10-centimeter-long slugs (non-native).

The forest floor was carpeted with low shrubs in large numbers: *Arctostaphylos uva-ursi* (kinnikinnick), *Berberis repens* (Oregon-grape), *Ceanothus fendleri* (buckbrush), *Juniperus communis* (common juniper), *Lonicera involucrata* (bush honeysuckle or black twinberry), *Paxistima myrsinites* (mountain lover), and *Vaccinium myrtillus* (whortleberry).

Mid-level woody plants included several members of the rose family. I was particularly interested in seeing



Myriopteris fendleri (Fendler's lip fern) in Vallecito Valley.
© John Bregar

both *Rosa woodsii* (Woods' rose) and *Rosa nutkana* (nootka rose). Currently, *Flora of Colorado* notes that *R. nutkana* is a Pacific Northwest species disjunct in Routt County. The size of the fruit and the long sepals are quite convincing in confirming the identification.

We made several side trips off to our left to the wall of Precambrian metaconglomerate rock. Many ferns and forbs found a foothold in cracks in the rock. John's list included eight ferns. We added *Myriopteris fendleri* (Fendler's lip fern) on this trip.

Without leaving the trail, we saw *Anticlea elegans* (mountain death camas); both species of false Solomon's seal (*Maianthemum racemosum* and *M. stellatum*); *Streptopus amplexifolius* (claspleaf twisted stalk); and two members of the orchid family, *Corallorhiza maculata* (spotted coralroot) and *Goodyera repens* (lesser rattlesnake plantain). There were more species in the lily and orchid families on the list that we did not see. A return trip in the spring beckons.

Needless to say, the number of asters and other forbs and graminoids was impressive. We saw 91 species total on this hike. I was excited to see both *Erigeron flagellaris* (trailing fleabane) and *E. tracyi* (running fleabane), which both have stolons, the first with appressed hairs and the latter with curved hairs. If you visit this area, don't forget your hand lens!

After the fork in the trail at the Weminuche signpost, we could hear the creek quite clearly. The flow of water at this time of year was impressive because the creek drains such a large area throughout the wilderness. Large boulders at an overlook into the ravine made a comfy picnic spot.

This is such a botanically rich area, it's hard to turn around and go back. Console yourself—you will see species you missed as you retrace your steps! ►



The crew at Coal Bank Pass. © Maggie Gaddis



Seed collection at Ophir Fen. © Loraine Yeatts

◀ US Forest Service Seed Collection Led by Allison Clark and Kenar Houghton Reported by Allison Clark

This field trip to collect native plant material for restoration efforts in the USFS Rocky Mountain Region (Region 2) was an immense success, thanks to the support of volunteers from the Colorado Native Plant Society and friends. Led by Allison Clark, the crew lead for the Region 2 Native Plant Materials Program at the Colorado Natural Heritage Program (CNHP), the trip began with the identification of target species using Jennifer Ackerfield's *Flora of Colorado*. The species collected at Coal Bank Pass were *Bromus ciliatus* (fringed brome), *Heliomeris multiflora* (showy goldeneye), *Penstemon whippleanus* (Whipple's penstemon), and *Heterotheca villosa* (hairy false goldenaster). Volunteers then retrieved samples of each species to ensure the material collected was viable. Finally, Allison went over the program's protocol and strategies for collecting each species and sent the volunteers off to collect! A special thank you to Kenar Houghton, the environmental coordinator for the San Juan National Forest, and to CNHP botany technicians Anna Katros, Becca Harris, and Robert Monahan for helping lead and supervise these collections.

Ophir Fen Seed Collection Led and reported by Amanda Kuenzi

On Sunday, September 22, 2024, a group of intrepid botanists set out in the rain and snow with the intention of helping to restore a rare ecosystem, the Ophir Fen! This group was also simultaneously participating in the Annual CoNPS Conference *Restoration in the Wild and at Home*, as well as National Public Lands Day. Our objective was to collect seed from the wetland-adapted grasses and sedges in order to grow them into seedlings to use in future restoration efforts.

Ophir Fen is a high-elevation iron fen wetland. These rare ecosystems are threatened by development, climate change, and recreation. Since 2012, the Mountain Studies Institute has been working to restore the Ophir Fen in partnership with the San Juan National Forest, the US Army Corps of Engineers, Purgatory Ski Resort, the National Forest Foundation, and many, many dedicated volunteers. We have made great progress in returning the once-degraded fen into a functioning ecosystem that provides water filtration and erosion control, and has valuable biodiversity. Challenges to fully restoring the fen include the short growing season at 11,000 feet, drought, and wildfire. However, each year, little by little, the fen becomes a little greener as we continue to plant, maintain erosion controls, and monitor the hydrology of the fen. This project continues to be a learning experience, as well as an amazing opportunity for stewardship and service learning, in the breathtaking backdrop of the San Juan Mountains.

The Mountain Studies Institute is grateful for the partnership with CoNPS and to the 18 participants who helped with the seed collection. Our group was rewarded as the snow and rain slowly dissipated, leaving us to enjoy the beauty of early fall and a little sunshine. We look forward to continuing to work with CoNPS volunteers on more service-learning projects like this one!

CoNPS Visits the Durango Botanic Gardens

Led by Melanie Palmer
Reported by Bill LeMaire

The Durango Botanic Gardens (DBG) hosted a tour, led by Melanie Palmer, during the Annual CoNPS Conference. In 2011, DBG began as a Plant Select demonstration garden on a small plot of land behind the Durango Public Library. Since then, DBG has ►



Melanie Palmer (second from left), curator of the Durango Botanic Gardens, begins a tour of the town's public garden. © Bill LeMaire

◀ grown steadily to currently encompass nearly two acres of the library campus. DBG has a memorandum of understanding with the city that permits DBG to design, install, and maintain the gardens. A new garden featuring a special native plant section will be installed in 2025.

About eight conference attendees visited for a tour of the gardens led by DBG docents. The tour began with the new Literary Garden. The Literary Garden, which was dedicated in 2023, is a unique attempt to connect the importance of gardens, landscapes, and nature to literary traditions. Many of the plants in this garden are featured in some favorite works of literature. A few of the native plants include *Ribes aureum* (golden currant), *Achillea millefolium* (common yarrow), and *Eriogonum umbellatum* (sulphur flower).

Another new garden that emphasizes native plants is the Pollinator Garden. This garden is designed to create a unique habitat for pollinators. Positioned on the Animas River Trail, a hugely popular walking and biking trail that parallels the Animas River, this new garden is well positioned to educate trail users about the role of landscaping in maintaining a healthy habitat for vital pollinators. The Pollinator Garden contains a variety of native plants, including *Mirabilis multiflora* (desert four o'clock), *Cleomella serrulata* (Rocky Mountain beeplant), *Penstemon caespitosus* (mat penstemon), and *P. eatonii* (firecracker penstemon).

Herbarium Open House

Hosted by Aurea Cortés-Palomec

Reported by Barbara Thiers

Participants in the CoNPS field trip to the Fort Lewis College Herbarium on Sunday, September 22, were greeted at the herbarium in Bernt Hall by Dr. Aurea Cortés-Palomec. The herbarium occupies a ground

floor room, which is filled with herbarium cabinets to house the approximately 20,000 specimens, as well as workspace for preparing and examining specimens. The Fort Lewis College Herbarium dates to the very early days of the college, which was founded in 1911. The earliest specimens were collected by faculty members to support academic programs in forestry and agriculture. Also, some of the first specimens ever collected to document the flora of Mesa Verde National Park were deposited here in the early 1920s. Since its inception, the focus of the herbarium has been on the flora of the Four Corners region, and currently contains about 3,400 species of flowering plants and about 1,700 specimens of 790 species of fungi. At one time, the herbarium also had a significant collection of regional bryophytes, but that collection has since been transferred to the University of British Columbia. Today, curator Dr. Ross McCauley and his students continue to build the collection, with the addition of 300-500 new specimens annually. The herbarium is completely digitized, and the specimens held there can be searched on SEINet. Aurea, pinch-hitting for Ross, who was leading another field trip, introduced us to the collection and allowed us to peruse the specimens in the cabinets. She indicated that there are no paid staff dedicated to the herbarium—most of the work of accessioning and preparing new specimens, as well as maintaining the collections and handling specimen transactions, is done by Ross himself, with the help ▶



Herbarium folders. © Ross McCauley

◀ of students. The Fort Lewis College Herbarium seemed to me to be exactly the type of facility that is needed to support student learning and research at this institution. The collection is scrupulously maintained to the highest standards in terms of protection and accessibility of the specimens, it has a focus and scope that are appropriate to the needs of students and faculty, and it has enthusiastic champions in Drs. McCauley and Cortés-Palomec.

Native Plants at the Santa Rita Water Reclamation Facility

Led by Amy Wise

Reported by Katherine Holt

Twelve conference attendees toured Durango's new demonstration gardens at the Santa Rita Water Reclamation Facility located along the Animas River Trail. Amy Wise served as the tour leader and talked about the demonstration of four unique landscapes via the xeric rain garden, a crevice garden, a forestscape garden, and a pollinator garden. Amy, who manages the gardens as part of her grounds maintenance and public works utilities roles, reported that the chance to view greenery has lifted the spirits of people who work inside the building. Amy was joined on the tour by the three original garden designers who offered their perspectives on each area.

Eva Montane, president of Columbine Landscapes, talked about how the rain garden was designed on a slope to encourage water flow along gravel funnels to harvest rain passively in basins ("glorified puddles") which act as an organic sponge. Some non-native Siberian irises were planted to create a root system which would absorb water and filter it down. *Antennaria* sp. (pussytoes) were planted as a "living mulch" to surround the edges of this garden. The garden is also home to *Mirabilis multiflora* (desert four o'clock), *Pulsatilla nuttalliana*

(pasqueflower), and *Rudbeckia hirta* (black-eyed Susan). Once established, the goal is to maintain this area with little need for human interaction or irrigation, utilizing the 19 inches average precipitation in Durango.

Lisa Bourey, a local horticultural designer who has consulted with the Durango Botanic Gardens from its inception, pointed out that the crevice garden has repurposed cobblestones from around the building, supplemented by native stones. It contains a variety of interesting native and non-native plants, including groundcovers such as *Eriogonum umbellatum* ('Kannah Creek' sulfur buckwheat) and *Draba hispanica* (Spanish draba), along with succulents *Sedum rupestre* 'Winter Fire' and *Sedum sediforme* 'Turquoise Tails' (both stonecrops). Lisa also took the group through the forestscape garden and the waterwise area which was designed to showcase an alternative lawn. She pointed out the "Foothills" mix of native grasses along with many penstemons and other natives including *Amelanchier alnifolia* 'Regent' (serviceberry), *Fallugia paradoxa* (Apache plume), and *Rhus trilobata* 'Autumn Amber' (threeleaf sumac).

Brooke Safford, of Blooming Landscape & Design, pointed out that the naturally dense plantings in the Pollinator Garden were inspired by the Lurie Garden-Millennium Park in Chicago. The dense planting encourages interaction among roots underground. Approximately 90 percent of the plants in this garden are natives including *Allium*



Santa Rita Water Reclamation Facility demonstration garden.
© City of Durango

cernuum (nodding onion), *Anaphalis margaritacea* (pearly everlasting), and *Gaillardia aristata* (blanketflower). Brooke planted *Dalea purpurea* (purple prairie clover) and *Amorpha canescens* (dwarf leadplant) as nitrogen fixers to help other plants. She commented that keeping seed heads intact, especially over winter, helps feed the birds. She also observed the dried stalks can house beneficial insects, such as certain type of bees, over the winter. ☻

Featured Story

Looking at Plant Communities: Changing the Way We Plant

By Sandy Vernon

I grew up in a small town in New Hampshire where everything just grew. No one worried about lawns needing to look like lush carpets. Dandelions were allowed to grow so children could pick bouquets for their mothers, or families could add them to their dinner salad. Nature surrounded us, and I'm sure we took it for granted.

But the communities of the West that we live in now are different. Water is in short supply, and houses, townhomes, and expansive commercial buildings fill our view. As we lament the loss of open space and are faced with water restrictions, we are seeing a great need to look to nature as an example of how to create smart, water-wise designs that fit into our smaller scale landscapes.

One concept that is gaining popularity is to examine how plant communities can create a sustainable landscape as well as please the eye. This more native, more naturalistic approach will create opportunities for innovative design concepts while also respecting the land on which we design, freeing us from our current landscape strategies, including the use of thirsty plants. It is an opportunity we can embrace.

Plant communities are named such because a variety of native, well-adapted plants grow as a colony in a specific site. They compete for resources; the strongest survive. Over time, some give way to others. Succession and change are natural. Figure 1A shows a development that has chosen to work with the existing plant community. After construction and site disturbance, a blend of grasses was hydroseeded to

mix with existing flora. Juniper and Gambel oak trees were carefully preserved, as were the rocks and boulders. With some temporary irrigation in the first couple of years, it has become a thriving community of grasses, flowers, shrubs, and trees. It also stays true to the spirit of the place.

The spirit of a place, often referred to as *genius loci*, is worth considering here. We see many landscape designs fit into tight, neat rows that may remind us of a neighboring cornfield. These designs appear modern and architectural, and they certainly have their appeal. But consider what the land is meant to be. Is it a place of drifts of grasses; loose, flowing groupings; or rock and evergreens? When we look at Figure 1B, we see grasses and yucca, and it gives a feeling of rigidity, even fleetingness. In contrast, when we see the picture of Bryce Canyon in Figure 1C, we immediately recognize it as a landscape that has taken centuries to develop. There is a sense of history and permanence. Change happens, but change is part of its development. We sense time.

There is also a sense of place—a spirit of place—as it relates to us individually. We recognize there are certain places where we feel a sense of well-being, places where we want to return time and again. They call to us.

“Every place has its own unique qualities, not only in terms of its physical makeup, but of how it is perceived,” according to the *Oxford Reference*, “so it ought to be . . . the responsibilities of the architect or landscape-designer to be sensitive to those unique qualities, to enhance them rather than to destroy them.” To not force beauty into it, but rather to let ►



Figure 1. A. A thriving housing development making use of an existing plant community. B. Rigid lines of yucca and grasses. C. Bryce Canyon, Utah. All photos by the author.



Figure 2. Spirit of place in the desert.



Figure 3. Spirit of place in the woodland.

◀ beauty result from it. This is the definition of *genius loci*, a spirit of place that we are being asked to create (Figures 2 and 3).

A client of mine built a house on a beautiful hill rolling with grasses that moved like the waves of the sea whenever the wind blew. It was majestic, calming, inspiring. She asked me to create an English manor garden with clipped boxwood hedges, hydrangeas, and manicured lawns. The spirit of the place was lost, and what was left was a lot of maintenance. Had a landscape of those existing grasses and native plants been used, she would have stayed true to the environment and saved a great deal of time, trouble, and expense in its management.

However, there is a difference between the way plants grow in the wild and the way they grow in our gardens. Recognizing the difference will change how we plant. Communities of plants are compatible with one another, found in the same areas, cover the ground, and weave together in layers. As we take the time to

explore nature, look for patterns, and examine the many plant layers, we will be better prepared to translate nature into our not-so-wild landscapes.

Figure 4 is an example of a beautiful crevice garden found growing naturally in the mountains. It, too, can be inspirational for our designed landscapes. Figure 5 shows the beginning translation of a rock garden on a residential property. We can appreciate the effort in considering how to bring the wild into the tame. But why would we want to create this type of natural landscape in our neighborhoods and cities in the first place? We may respond that it's to be environmentally friendly, to conserve natural resources, or simply to be functional. These ecological and functional reasons are important and definitely a driving force. However, a bit more persuasive cause would be the beauty and emotion that accompanies a well-planned natural landscape. As designers, we may argue that cities demand their codes be followed, that developers want the bare minimum and cheapest design they are ▶



Figure 4. Natural crevice garden.



Figure 5. Residential rock garden.

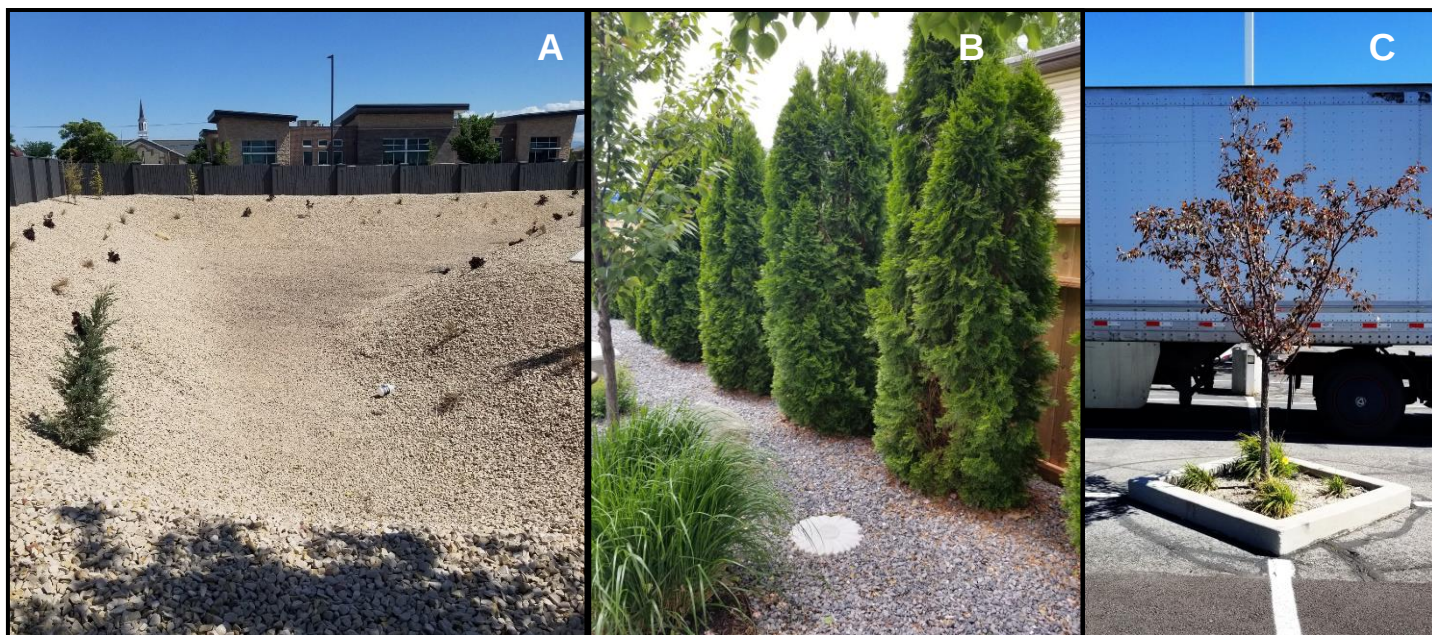


Figure 6. A. Rock detention basin. B. Row of arborvitae. C. Lone tree in island.

◀ required to install, or that homeowners want low maintenance because they don't have time for gardening. But in the end, cities want their streets and neighborhoods to be inviting for people to linger and feel a connection to those communities, businesses want to draw in customers, and homeowners want a beautiful and enchanting landscape to highlight their homes and enjoy with friends and family. They just don't know how to arrive at the outcome, so they do what everyone else has done.

As a result, we view seas of rock over yards of landscape fabric (Figure 6A). Or plants are spaced as individuals at even intervals like soldiers guarding the castle (Figure 6B); and when one dies for some unknown reason, it either remains in place suggesting neglect, or is pulled out with the bare ground left to welcome the first weed to blow in and settle. Or maybe it's the parking lot with one tiny tree in the middle of an expanse of asphalt that every car wants to fight over for the tiny bit of shade it offers (Figure 6C).

Cities, developers, and homeowners are looking to landscape designers for answers, for landscapes that will enhance and beautify their properties and at the same time be resilient enough to take on a bit of neglect. We have heard their cries for years now. We understand drought, population increase, and environmental changes. We have been well educated by knowledgeable people and have our own experiences. We see in our native landscapes the beauty people want replicated in their own environments.

Large developers want landscapes that reflect the native landscapes of the area—these should be environmentally friendly, conserve water, and create

habitats. Mostly they want their landscapes to look good while meeting city code. Some are patient, while others are not. In a noble effort to be more conscientious, one client brought in 400 goats to remove the weeds on his property before hydroseeding native grasses. Thereby, he found the best way to handle weeds and preserve his riparian area without having to bring in heavy equipment. We all appreciated his efforts to patiently allow nature—both flora and fauna—to solve his problem. Landowners want to take care of their investments. They just need us to show them how.

There are many great garden designers and landscape architects who are working with and teaching the concepts of natural landscaping and plant communities. It is a movement that has been around for some time, and it is picking up steam as it moves to us in the West. I have been drawn to concepts by Thomas Rainer and Claudia West from their book, *Planting in a Post Wild World* (Timber Press, 2015). Much of what I share and have implemented comes from them, inspired by this quote from their book: "The front lines of the battle for nature are not in the Amazon rain forest or the Alaskan wilderness; the front lines are our backyards, medians, parking lots, and elementary schools. The ecological warriors of the future won't just be scientists, engineers, or even landscape architects. The ecological warriors of the future will be gardeners, horticulturists, land managers, Department of Transportation staff, elementary school teachers, and community association board members."

"As we engage in this battle for nature, one solution is to consider the way plants grow in communities and bring that concept into our built environments. ►

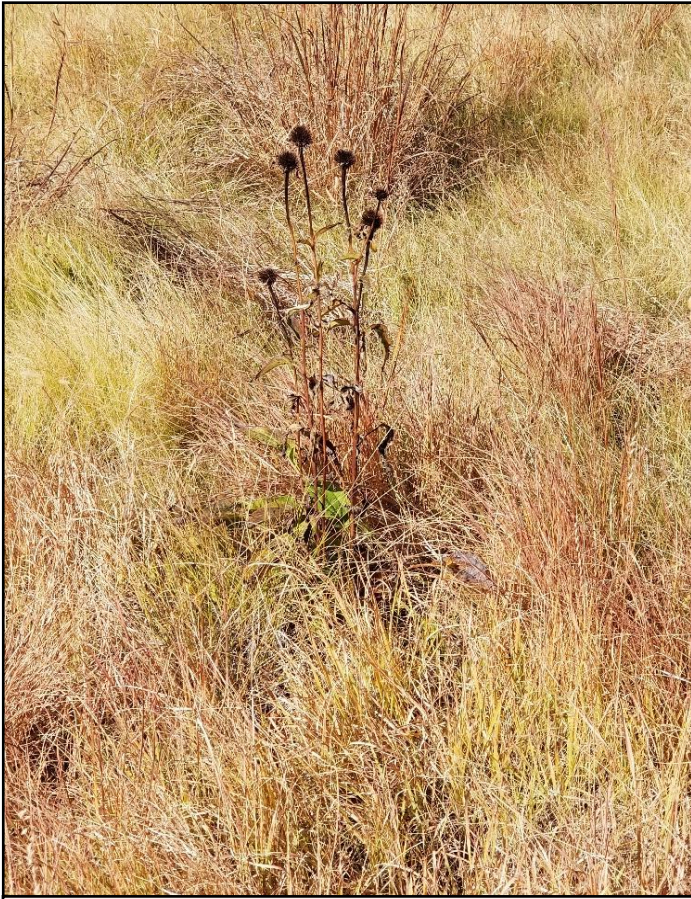


Figure 7. Relationship of plant layers.

◀ Nature has developed a method over eons of time. In nature, plant communities are made up of a variety of plant populations that exist together. Our designed landscapes are intended to interpret nature to a scale that works for our design purposes.”

As we engage in this battle for nature, one solution is to consider the way plants grow in communities and bring that concept into our built environments. Nature has developed a method over eons of time. In nature, plant communities are made up of a variety of plant



Figure 8. Native plants and urbanite (recycled concrete).

populations that exist together. Our designed landscapes are intended to interpret nature to a scale that works for our design purposes.

In their book, Rainer and West developed five principles of plant communities that can help us see how nature grows and what that can mean for development in our yards and communities. Let’s consider their ideas.

Principle #1: Understand that populations of plants are related to each other and are not isolated individuals. Plants compete. They compete for water, nutrients, sunlight, and space. As time progresses intricate layers are formed above as well as below ground (Figure 7). This environment of layering is quite different from plants purchased in the nursery that have their own container all to themselves. Then they are put in the ground all by themselves. These plants are chosen solely for their appearance without understanding how they could thrive with a companion plant from its same region. Missed is the beauty that comes from plants compatible with each other and working together.

Principle #2: See stress as an asset. According to Rainer and West, “We need to accept the environmental constraints of a site. The beauty of naturally occurring plant communities is a plant’s fitness to a specific site. The irony is that what we perceive as happy, well-adjusted plants is more often the result of scarcity of resources rather than an abundance of it.” I have a rabbitbrush that found its way into a corner of my garden in the middle of town. It gets no water, receives full sun and has terrible soil. It looks lovely and appears quite happy (Figure 8).

An extreme example of stress and the ability to survive is a Krummholz area, which we might call a “zone of struggle.” This area experiences extremes in weather, wind, and water. The trees are gnarled and stunted. Branches are pruned into strange, contorted shapes by the wind. The term is reserved for trees ▶

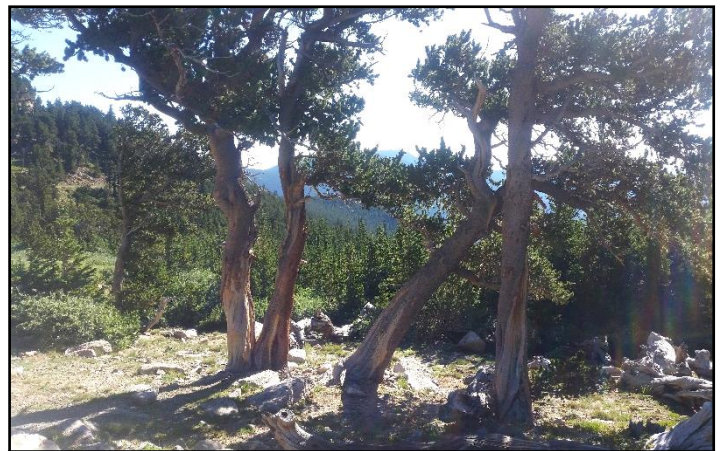


Figure 9. Bristlecone pines.



Figure 10. Covering the ground with layers of plants.

◀ physically dwarfed by the environment. There are just enough resources to maintain life. Bristlecone pines at Mount Goliath in Colorado are an example of survival under the most difficult of circumstances high in the mountains (Figure 9). The stress from this zone demonstrates the resiliency and adaptability of the species and has created something beautiful out of struggle.

Principle #3: Cover the ground densely by vertically layering plants. In our current landscapes, bare ground is everywhere. If we do not fill the empty spaces, weeds will. This inevitability is where the homeowner gets discouraged because of the excessive labor, expense, and even chemicals needed to control weeds. In this scenario, we see weed barrier and mulch (organic and inorganic) used as a ground cover almost exclusively. This material can get expensive, limit the potential of the landscape, and harm the soil. Because the ground layer serves a vital role in a plant community, the significance of this principle cannot be understated. The plants we use to cover the ground create the sustainable landscape for which we are searching. It is not a mass planting of vinca but a mosaic of low-growing, compatible perennials and grasses (Figure 10).

Principle #4: Make the design attractive and legible. We love our English landscapes with their expansive lawns and tidy hedges. One reason for this look is our need for safety and food, often referred to as “prospect and refuge.” We want to see what may be coming toward us but feel secure hidden beneath a tree. Translating this type of landscape into our built environment can be done without the lawns and hedges. Looking at the savannah landscape, we see a variety of grasses, a few shrubs, and trees. This look can be interpreted on a smaller scale in our own gardens. We can see in Figure 11 that ‘Blonde Ambition’ blue grama grass has created a legible prospect while refuge is found within the trees and shrubs that surround it.

Principle #5: Manage instead of maintaining. We are used to maintaining our homes. We dust, sweep, scrub, and shine. Our furniture stays where we put it. Dishes are stacked in the same cabinet. This type of constant is not how nature works. Change is constant. Yet every weekend, neighbors are out mowing the lawn, edging, and blowing—working to keep their landscape the same as it was last week. This work is a labor-intensive, constant battle, but it is a familiar one, so it continues. Imagine if our goal was to simply manage the landscape. We would make sure plants covered the ground, interacting and keeping out weeds (Figure 12). The frames and edges of the landscape would be kept clean and neat, defining the area and making it legible. We would monitor its progression and evaluate if any changes need to be made, such as adding a few plants or taking something away. And what a joy to spend time in the garden watching things grow, develop, and interact without the drudgery of mindless mowing and blowing. ▶



Figure 11. ‘Blonde Ambition’ blue grama grass is an example of prospect and refuge.



Figure 12. Plants covering the ground in a park strip.

◀ As we contemplate and then try to implement these principles into our own landscapes and others, we may have the opportunity to help. We can watch for patterns and layers in the native landscapes around us. What do we notice about the layers of plants in the forest? How do perennials grow in the grasslands? Do they have similar heights to the grasses, and are they being supported by grasses to help keep them upright? How do shrubs fit into the landscape? Are



Figure 13. Intermingling layers of a plant community.

they transitioning into a more wooded area, or are they intermingled with a few trees or both? Bend down to see what is covering the ground. When we practice our skills of observation in large and small spaces, patterns and layers will become evident (Figure 13). In our built environments, we are trying to find a balance between ecological restoration and ornamental horticulture to create a naturalistic planting that respects both. We want others not only to recognize it is a nice design but also to find an emotional response to what they are viewing. We want to see that the choice of plants and style of design remind them of a place they have been before that may have touched their soul.

Plants thrive in the right place, plants thrive with other compatible plants, and people thrive when surrounded by these very same plants. We are designing and planting for these three connections and relationships. As our communities and cities grow, we find ourselves with the responsibility to bring nature back into them. Garden designer Mary Reynolds wrote this in her application for the Chelsea Garden Show (England) in November of 2001: "People travel the world over to visit untouched places of natural beauty, yet modern gardens pay little heed to the simplicity and beauty of these environments . . . Those special places we all must preserve and protect, each in his own way, before they are lost forever."

As we all work together to create landscapes that resemble something we have found in nature, may we enjoy the beauty and passion that have brought us to where we garden today.

Sandy Vernon is a landscape designer with PKJ Design Group in Lehi, Utah, a horticulturist, and ISA-certified arborist (UT-4710-A). Originally from New Hampshire, she had to adapt to new surroundings and learn to garden in a high mountain desert. She finds it thrilling to work with clients, helping them understand what will work in their landscapes, and encouraging them to try more natives. Like many of us, she continues to look for one more place for one more plant. She says her greatest accomplishment is raising four amazing children who love gardening and the outdoors, and who let her drag them to every public garden she could find along their path. Contact her at svernon@pkjdesigngroup.com.

Resources

Genius Loci

<https://www.oxfordreference.com/display/10.1093/oi/authority.20110803095847893>

Rainer T and West C. 2015. *Planting in a Post-Wild World: Designing Plant Communities for Resilient Landscapes*.

Timber Press. <https://www.thomasrainer.com/book> 

Research and Reports

The SOIL Learning Lab Community Garden

By Amanda Kuenzi

The Southwest Chapter has an exciting project going on with some great local community partners! In the summer of 2023, volunteers from our chapter and Mountain Studies Institute worked together to build three garden beds at the SOIL Learning Lab Community Garden at Riverview Elementary school in Durango, Colorado. Volunteers sifted rocks from native soil onsite and filled the beds by hand, one wheelbarrow load at a time. Then, local grower John Wickman of Pine River Plants, donated a truckload of free native plants. Again, CoNPS volunteers jumped into action to help get these planted on July 6, 2023. These plants grew and thrived! Mountain Studies Institute conducted environmental education programs about native plants using the garden beds for demonstration throughout 2023 and 2024 as a part of the SOIL Garden's field trip series.

Then, this fall, students from the Durango school district Green Teams at Riverview Elementary and

Durango High School helped to harvest seeds from the flowers. We also had one very special volunteer, one-and-a-half year old Kinley Seebach, daughter of former chapter chair, Amanda Kuenzi. It's never too early to start getting involved with the Colorado Native Plant Society!

Some of the seeds will be cultivated at the native plant demonstration garden at Santa Rita Park, which some of you visited during the conference in September 2024. Amy Wise, the garden caretaker for the City of Durango, transplanted some plants to this garden as well. A few plants were transplanted to the native plant demonstration garden at the Forest Service's Pagosa Springs Ranger District Visitor Center. The bulk of the seed that was collected was distributed to Southwest Chapter members at our first fall meeting on November 14, 2024. Our garden will continue to serve as a "mini-nursery" for our chapter and community, and as a learning resource for all who visit! 🌀



Clockwise, from top left: Our tireless volunteers work in the hot sun to construct garden beds and then fill them, wheelbarrow by wheelbarrow. Students from Riverview Elementary collect seeds, as Amy Wise, City of Durango, collects transplants for the Santa Rita Park demonstration garden. Kinley Seebach carefully collects seeds from *Linum lewisii* (Lewis's flax). John Wickman donated plants from Pine River Plants, which were planted by CoNPS volunteers. © Amanda Kuenzi

Nuts and Berries: Our Native Fruits

By Jim Borland

Native fruits of the American West, our nuts and berries, provide only a sideboard to the normal fare usually found in local garden centers and nurseries, and they rarely receive even a mention on the produce shelves of the neighborhood grocery store. Most tree and shrub fruits were extensively developed from foreign species long before populations in the West became large enough to warrant the exploitation of local plants.

Hazelnut, for example, is well represented in the nursery and grocery trade by American and European species that dominate available offerings. Completely ignored is the native *Corylus cornuta* (beaked hazelnut, or filbert), which occupies shaded and sheltered pockets in the Front Range foothills. It stands up to 10 feet tall, has multiple gray-brown stems and large, four- to five-inch-long leaves. Its nuts, only slightly smaller than the grocery-store version, are borne in pairs on small branches, encased in elongated green husks that appear like twisted twin party favors. This species, like so many other worthy native plants, is not yet available, but awaits “discovery” by the enterprising nursery person.

Discovered long ago by the first occupants of this land, but only recently by the Johnny-come-latelies, is *Shepherdia argentea* (silver buffaloberry), which the later occupants continue to insist is a superb xeriscape shrub despite the fact that it naturally grows in moist soil or wet ground alongside streams. When located where sufficient moisture can ensure good growth, these shrubs reward the grower with copious quantities of small, scarlet berries in summer. Indigenous Americans eat the berries raw, dried into cakes, or mixed with buffalo meat and tallow to make

pemmican cakes. More recently, recipes have evolved for jellies, beverages, and a dessert made by mashing and beating ripe berries to a froth. Don’t be fooled, however, into believing that every bush will produce berries. Only female bushes do so, and then, only when sufficiently pollinated by a nearby male bush.

Rounding out this billing of native victuals from woody plants is *Ribes aureum* (buffalo or golden currant), already popular in the landscape trade for its colorful fall leaf display of oranges, yellows, and reds—all on the same plant. Three to eight feet tall and as wide, this creekside shrub bears fruits that are as varied in color as its leaves. Large black, red, yellow, or orange berries up to a half-inch in diameter are produced following a spring profusion of tubular, bright yellow flowers filled with the same fragrance that occupies a jar of cloves. These fruits were also used for making pemmican; more modern uses include jellies, pies, and an intriguing ice cream sauce. Sufficient interest has been generated by this unusual currant to warrant selection of particularly worthy plants, such as ‘Gwen’s’, and ‘Crandall’ varieties. These cultivars are often referred to as *Ribes odoratum*.

A parting shot to this “berry” wonderful world of fruits is a note on the reported nonpalatability of *Rubus deliciosus* (Boulder raspberry). On certain bushes, and perhaps only in certain years, indescribably delicious, fleshy purple-maroon berries are indeed produced.

Jim Borland was an enthusiastic propagator of native plants. And he enjoyed sharing what he learned with those around him. He contributed several dozen articles on growing native plants to Aquilegia, and left a legacy of a couple dozen more articles to be used in future issues. He is missed. ☹



Fruit of *Corylus cornuta* (beaked hazelnut). Left: developing fruit. © Ernie Marx. Middle: mature fruit in situ. © Bob Lagier. Right: exposed nut. © Bob Lagier

In Memoriam: James “Jim” Borland (1946–2024)

By Rick Brune

With a broken heart and sense of loss, we are sad to report that Jim Borland, plantsman extraordinaire, lost his short battle with brain cancer on Saturday, July 27, 2024. Jim passed away peacefully with his loving wife, Dorothy, at his side. He was a young 78 years of age.

As noted by friend and colleague **Keith Funk**, Jim was “a champion of xeric and no-water gardening . . .” and “. . . a relentless advocate for sustainable and innovative landscapes.” Keith adds that Jim’s “. . . dedication to advancing horticultural practices was matched only by his commitment to educating others. Through his writings, lectures, and personal mentorship, Jim inspired countless individuals, both young and old, nurturing a new generation of horticulturists with his wisdom and enthusiasm.”

Jim was an early member of the Colorado Native Plant Society. He also served as a board member and as president. He contributed many articles for *Aquilegia* featuring native plants, their life history, growth forms, and propagation information.

Jim began life in Pittsburgh, where he spent his early years exploring the natural world. He earned a bachelor of science degree in biology from the University of Pittsburgh. After college, Jim enlisted in the US Navy. His interest in plants started in Seattle when he was working at a garden center. Later, he was the supervisor for the CSU research greenhouses while he was a graduate student. It was there that he met fellow graduate student and future wife, Dorothy Falkenberg. Their shared love of horticulture led to many years of botanical explorations together. These explorations included frequent travels, eventually concentrating on Hilo, Hawaii, where they made annual treks.

While working at Weddle Native Gardens in Palisade, Colorado, Jim also became an expert on the flora of the Grand Junction area. It was at this time that he was hired as the plant propagator at Denver Botanic Gardens (DBG). He soon gained a reputation for being able to determine how to propagate difficult species. Except on rare occasions, Jim could provide a method for propagating a native species successfully. He figured out the protocol for propagating

Arctostaphylos (manzanita); determined that *Castilleja* sp. (Indian paintbrush) grew best when planted with a species of *Artemisia* (sagebrush); and created many other protocols for native plants. While at DBG, he propagated native plants to populate the Dryland Mesa (formerly Xeriscape Garden), the Steppe Garden, Laura Smith Porter Plains Garden, Rock Alpine Garden, Gates Montane Garden, and others.

Jim traveled across Colorado seeking new and interesting plants. He was often accompanied by someone from his clan of like-minded souls, such as plant greats Charlie Weddle, George Kelly, Harry and Dean Swift, Larry Watson, Larry Schlichenmayer, Gayle Weinstein, Panayoti Kelaidis, and others.



Jim Borland at a Plant Select conference in one of his favored Hawaiian shirts. © Rick Brune

The Pawnee National Grassland was one of his favorite haunts. Near the top of one of the Pawnee Buttes, Jim discovered a low-growing form of *Prunus pumila* var. *besseyi* (sand cherry). ‘Pawnee Buttes’ sand cherry, usually available for sale as *Prunus besseyi*, became one of several new plants he introduced to the nursery trade. Plant Select recently awarded him the “Individual Contributor Award” for his dedication to Plant Select and its mission.

Jim’s native plant propagation didn’t stop at DBG—he also created a native plant garden at the house he ►

◀ and Dorothy lived in on Adams Street near Cherry Creek Shopping Center. As expected, Jim had an interesting and diverse collection of plants, both native and non-native species. Perhaps the most unusual was a sequoia tree that he nurtured for several years before moving to west Denver.

At their new home in west Denver, Jim grew most of the native plants for his new garden himself. Annual visits to Jim and Dorothy's home in the spring always revealed hundreds of native plants being propagated. Many were native species not available anywhere else. Inevitably, there were extra plants that Jim passed freely on to his friends. The front yard of this home has not seen supplemental irrigation since 1995.

Jim's front yard has, for many years, been a major attraction for people interested in gardening with native plants. Organized garden tours featuring his garden have been very popular and have occurred regularly. Jim was always welcoming and humble, taking time out to chat with drop-by visitors who came to see his garden and learn about native plants and no-water gardening. His garden has been featured in many publications, including *Sunset Magazine* (May 2001), which published an article about Jim's lawn replacement using native plants such as *Castilleja* sp. (Indian paintbrush), *Penstemon glaber* (sawpetal penstemon), *Stanleya pinnata* (prince's plume), and many more. Not to be overlooked, Dorothy's knot garden and perennial borders celebrate classic beauty. She continues the turfgrass research she began at CSU with plots of different turfgrasses.

Jim's dedication to composting, no water landscapes, and growing vegetables showcased his energetic and innovative spirit. It must be said that his enthusiasm for composting created a compost pile worthy of Paul Bunyan.



Jim Borland as a size reference for *Arctostaphylos patula* (greenleaf manzanita), a western Colorado shrub. © Loraine Yeatts

While creating his masterpiece garden in west Denver, Jim somehow found time to work as open space coordinator at the private Genesee Preserve Open Space. From his office in a historic house, he worked relentlessly to convince residents that the beautiful trees next to their homes created a serious fire hazard.

Jim passed his horticultural knowledge on to people in other ways. For 30 remarkable years, Jim and Keith Funk shared the airwaves as the Garden Wise Guys on KLVZ's *The Garden Wise Show*. Jim's voice was a cornerstone on Saturday morning radio, where his encyclopedic knowledge and passion for gardening, along with his unique sense of humor, brought joy, inspiration, and invaluable insights to listeners across the nation. Recordings of

some of the programs can be found at <https://keithfunk.podbean.com/>

Jim's legacy lives on through the gardens he cultivated, the plants he introduced, the friends he made, and the countless lives he touched with his knowledge and generosity. Jim's persistent advocacy for innovative landscapes continues to shape our perceptions of the importance of using native and drought-tolerant plants in Colorado and elsewhere. As we say goodbye to Jim, we remember him not only as a horticultural giant, but as a beloved husband, mentor, and unwavering friend. His spirit will continue to inspire us as we tend our own gardens, always striving to cultivate beauty and knowledge as he did so masterfully throughout his extraordinary life.

Editor's note: The Colorado Gardener (<https://www.coloradogardener.com/post/jim-borland-1946-2024>) and Jim's obituary at Horan & McConaty Funeral Service and Cremation (<https://www.horancares.com/obituaries/james-borland>) were consulted for this article. ☞

News, Events, and Announcements

Please check the **Calendar of Events** online at <https://conps.org/event-calendar-2/#!calendar> for up-to-date information on webinars, chapter meetings, garden tours, field trips, and other events.

CoNPS may offer some chapter meetings, workshops, and lectures as webinars or other online meetings. Others might be postponed or canceled. Information will be posted online and will be promoted via the CoNPS E-News.

CoNPS-Sponsored Events

Exploring the Life Beneath Our Feet— Soil Fauna as Drivers of Soil Health

Hosted by the Boulder Chapter

Presented by Steve Fonte

December 4, 7:00–8:30 PM, virtual

Steve Fonte, Assistant Professor, CSU Department of Soil and Crop Sciences, will speak about soil fauna, providing an overview of life in the soil, with a focus on soil macrofauna (e.g., earthworms, ants, beetles) and the fundamental soil processes that they regulate. He will also discuss how we can best manage our soils and farms to promote soil biological communities and get the most out of their beneficial activities.

CoNPS Holiday Party

Hosted by the Metro-Denver Chapter

December 7, 3:00–8:00 PM, in-person

Ken Caryl, CO

Join your fellow Metro-Denver chapter members for a hike and potluck holiday party at the home of chapter president Tim Berg. Bring your favorite dish to share and stories of your botanical exploits from the past year.

“Know & Tell” Plant Book Share, Exchange, and a Hot Soak!

Hosted by the San Luis Valley Chapter

December 13, 4:00–7:00 PM, in-person

Center, CO

Meet up for the holidays to talk native plants. Bring your favorite plant books to share—your go-to resources when it comes to native plants, or bring plant/gardening books you are willing to part with! We'll also be discussing the SLV Chapter's 2025 calendar. Suit up after the book event for a hot soak at one of the SLVs favorite local hot springs. The event is complimentary for CoNPS members. Non-members pay the \$9 pool entry fee or present their current pool pass at the door. Appetizers will be served!

CoNPS Board Meeting

December 15, 4:00–5:00 PM, virtual

Please join us for the CoNPS Board Meeting. Attending the Board meeting is a great way to stay informed of initiatives throughout the state and within the Society. Open to everyone.

CoNPS Holiday Party

Hosted by the Northern Chapter

December 17, 5:00–8:00 PM, in-person

Mark your calendar! Details to come.

Inaugural Gunnison Valley Colorado Native Plant Society Meeting

Hosted by the Gunnison Valley Chapter

January 13, 2025 5:30–6:30 PM, in-person

Gunnison, CO

Please join us for this first ever Gunnison Valley Colorado Native Plant Society meeting. We will discuss what it means to be a CoNPS chapter and have a program featuring Gunnison Valley wildflowers.

2025 CoNPS Annual Conference

September 26-28

Hosted by the Metro-Denver Chapter. Would you like to be involved with planning the conference? Contact metrodenverconps@gmail.com. Details coming soon!

CoNPS Committee Updates

Conservation Committee

Please join the Conservation Committee to learn more about how we support native plants by monitoring and commenting on upcoming land use plans and legislation. Anyone is welcome to attend our meetings. You can also sign into your member account and select the Conservation Committee to receive emails about the committee's activities.

Five years after a Colorado law (SB19-181) mandated that “biological resources” (BR), not just “wildlife,” be protected from the impacts of oil and gas operations, the state's regulatory agency, the Energy and Carbon Management Commission (ECMC), finally included a definition of “biological resources” into their rules last month. This occurred largely due to the passage of HB24-1117, which gave CPW authority to study and conserve invertebrates and rare plants. SB19-181 said that the Commission “shall protect against adverse environmental impacts on any . . . biological resource . . .” with the ECMC definition of BR now reading: “. . . all invertebrates and rare plants, and their ►

◀ aquatic and terrestrial habitats, including components of those habitats necessary and reasonable to promote self-sustaining populations.”

So, we are a step closer to protecting rare plants from oil and gas, but we still have a way to go. For one thing, ECMC chose not to focus on individual species of rare plants, which have been exhaustively identified by state and federal agencies, but to instead use a process that will look at ‘habitats.’ It is unclear how this will work in practice. In addition, they chose to convene yet another ‘Biological Resources Working Group’ to further refine the process relating to BR. This group has up to a year to meet, which would be followed by yet more rulemaking, meaning that we are probably well over a year away from achieving meaningful regulations on paper, let alone in the field. We will continue to monitor the situation and push for real protection of our rare plants.

Education Outreach Committee Meets on third Wednesday of each month 12:00 – 1:00 PM, virtual

This Committee educates and empowers residents through adult programs, school/youth programs, community outreach, and writing opportunities. Seeking new leadership! Contact Maggie Gaddis at ColoradoNativePlantSociety@gmail.com

Grants and Scholarships Committee

Applications are currently being accepted for the Alice Eastwood Scholarship, which supports undergraduates pursuing degrees that ultimately advance the mission of the Colorado Native Plant Society. Alice Eastwood was a pioneering botanist who wrote and published *A Popular Flora of Denver, Colorado* in 1893. One or two scholarships are administered each year, with successful applicants receiving awards of \$950 or \$475; the latter was Eastwood’s annual salary earned while teaching at Denver East High School in the late 1800s. For more information and to apply, please visit CoNPS Grants and Scholarships at <https://conps.org/alice-eastwood-grant/>

Do you have a project involving Colorado native plants that needs funding? The deadline for both the Marr (<https://conps.org/john-w-marr-grant/>) and Steinkamp (<https://conps.org/myrna-steinkamp-grant/>) grants is February 15, 2025.

CoNPS Mission grants (<https://conps.org/mission-grant/>) support the development of educational materials, programs, projects, or events to inform people about Colorado native plants. These may also be awarded for native plant research that does not overlap with work funded by Marr and Steinkamp grants. The deadline for the application is February 1. ►



Colorado Gives Day 2024

Now open!

Colorado Gives Day is December 10, 2024! This is the day we contribute to the non-profit organizations that make a difference in our lives.

Show your appreciation and support by making a donation to the Colorado Native Plant Society. Early giving started November 1. The link below takes you directly to the CoNPS donation page.

<https://www.coloradogives.org/organization/ColoradoNativePlantSociety>

Have you attended a chapter meeting, field trip, free training, webinar, garden tour, the Landscaping with Colorado Native Plants Conference, or another event?

Have you received a CoNPS grant or a CoNPS Certified Native Garden designation?

Do you read the quarterly publication *Aquilegia*?

Your donation means that we can continue bringing these member benefits to you regardless of the challenges we face in 2025.

Help us reach our goal for 2024:

- November 1: Scheduling donations begins
- December 3: #GivingTuesday
- December 10: Colorado Gives Day

Attention! Recurring match challenge:

Become a new monthly donor, and Colorado Gives will match your first gift up to \$100.



Thank you, in advance, for your generous contribution!

◀ Media Committee

Meets on third Tuesday of each month, as needed
8:00 – 9:00 AM, virtual
Led by Kelly Ambler

Are you interested in helping us get the word out about our wonderful Colorado native plants? If so, the Media Committee is the place for you! The committee is responsible for the production of the CoNPS magazine, *Aquilegia*, oversight of the website, social media (e.g., Facebook, Instagram, etc.), and eNews. Do you have an interesting story about native plants? Write an article! Are you social-media savvy? Help manage our Instagram and Facebook feeds! A people person? Conduct an interview. We look forward to hearing from you!

And are you attending any CoNPS-sponsored events? How about submitting a summary and/or photos of your activity to *Aquilegia* or posting on social media? We would love to hear from you! 🌀

CoNPS Chapter Update

Chapters: Have you started your winter programming? Our love of native plants is what brings us together, but social engagement is what keeps our chapters alive. Be creative and meet monthly no matter what. If you don't have a program, get together anyway and call it a chapter meet-up. Beverages of any kind make a great icebreaker. Here are some ideas.

Seed Share

Send an email to your chapter inviting folks to share native seeds from their gardens. Host your event at a coffee shop or other public place to promote social engagement.

Winter Sowing, Native Plant Propagation

The best way to beat the winter blues is to have an event in a greenhouse. Partner with your local nursery, botanic garden, or school to meet in a greenhouse (or someone's home) to learn how to plant native seeds for your garden. The CoNPS central office can help you get this program off the ground.

Plant Identification with Field Scopes

CoNPS central office has a set of dissecting scopes that don't get used enough. Want to check out plants or seeds under magnification? Reach out to the CoNPS central office to request the scopes and assistance in planning a scope program for your chapter.

Practice Using a Dichotomous Key

Let's work together to become better at using the *Flora of Colorado*, our dichotomous key for plants in

Colorado. Have a meeting in which your chapter practices the key work. Need some expert help? Contact the CoNPS central office to find a mentor for this kind of program.

Have an iNaturalist Working Group

Are you an active "iNatter"? Get together and work to elevate your observations to Research Grade. Teach others how to use iNaturalist.

Visit a Local Herbarium

There is an herbarium in every chapter, either at a botanic garden or at a university. Find it and ask if you can come visit.

Plan Your Spring and Summer Field Trips

Get together over your favorite beverage and plan the field trips for the coming spring and summer. You can also plan to recruit new field trip leaders, learn about new locations, or sponsor a school field trip.

Host a Winter Talk

Here are some ideas for indoor talks.

- Solicit photos from your chapter members to have a member photo slideshow. The chapter leadership team gathers the photos. In the meeting, everyone works together to identify the plants, if they are not identified already.
- Have plant lists from botany hikes? Some chapters have winter meetings in which they review the botany of a summer hike. Revisit these places during a winter meeting.
- Invite local grad students and researchers to talk to your chapter about their work. It doesn't have to just be native plants. There are many allied topics including water resources, land management, restoration, and pollinators.
- Finally, invite another chapter to have a joint meeting with your chapter! You can share your planning efforts and build ideas together.

Get to Know Another Organization

Invite other organizations to address your CoNPS chapter. They give an overview talk about their organization or group, and then you discuss how you can work together. This leads to programming every time! It's a great way to plan for summer. Hear about cool programs, then engage in them in the warmer months. CoNPS chapters are encouraged to talk to other organizations in the same vein. Build alliances, grow both organizations' memberships.

Book Club

Pick a book about plants and read it together. Simple enough. Meet in person or over Zoom. 🌀

Cross-Pollination Events



Landscaping with Colorado Native Plants Conference “Beyond the Box - Growing a Culture of Native Plant Landscaping”

March 8, 2025
Fort Collins

The Landscaping with Colorado Native Plants Conference will offer a full day of educational programming promoting the cultivation and maintenance of native plants in the landscape. The event will be held at Colorado State University in Fort Collins.

Our keynote speaker will be Jennifer Jewell, author and host of the national award-winning weekly public radio program and podcast *Cultivating Place: Conversations on Natural History and the Human Impulse to Garden*.

Registration and more information coming soon!
<https://www.landscapingwithcoloradonativeplants.org/>



Save the Date! The 11th World Conference on Ecological Restoration (SER2025)

September 30-October 4
Denver, CO

<https://ser2025.org/>

SER's World Conference is an exciting and inspiring biennial gathering of global experts in ecological restoration, making the 11th World Conference on Ecological Restoration (SER2025) the premier venue for those interested in being active members of the global restoration community.

More Events

December 3-4

Western Weed Coordination Committee annual meeting
<https://westernweed.org/events/>

December 3-4

Institute for Science & Policy Symposium
The Future of Science Policy
<https://institute.dmns.org/symposium>

December 4-5

Commission for Environmental Cooperation
<http://www.cec.org/events/jpac-public-forum-on-reaching-horizon-2030/>

December 4-6

Arizona Wildland Urban Interface Summit
<https://www.swfireconsortium.org/2024/05/21/az-wui-summit/>

December 5

World Soil Day
<https://www.fao.org/world-soil-day/en/>

December 11-12

Colorado Weed Management Association Winter Training
<https://cwma.org/>

January 9

Boulder County Open Space Grant Deadline
<https://bouldercolorado.gov/services/osmp-funded-research-program>

January 15

Keller Scholarship in Horticultural Conservation Proposal Deadline
<https://www.gcamerica.org/scholarships/details/s/gca-fellowship-in-conservation-horticulture>

January 29-31

Colorado Water Congress Annual Convention
<https://www.cowatercongress.org/>

January 25

National Seed Swap Day

February 2

International Wetlands Day
<https://www.worldwetlandsday.org/>

February 9-13

SRM Annual Meeting
<https://rangelands.org/annual-meeting-2025/>

February 13-14

Front Range Student Ecology Symposium
<https://frses.org/>

February 26-28

Ecological Landscaping Alliance
<https://www.ecolandscaping.org/event/ela-2025-annual-conference-eco-marketplace/> 🌀



Erratum: This image in *Aquilegia* 48.3, page 18 should have been next to the *Regenerative Gardening Practices to Create and Maintain Native Gardens* presentation hosted by Callae Gedrose, Honeywood Garden Design.

Become a CoNPS Member

Name _____
 Address _____
 City _____ State _____ Zip _____
 Phone _____
 E-mail _____
 Chapter (if known) _____

- ☐ New ☐ Renewal
- ☐ Student \$17 ☐ Senior (65+) \$17 ☐ Individual \$25
☐ Family \$35 ☐ Plant Lover \$50 ☐ Supporting \$100
☐ Patron \$250 ☐ Benefactor \$500 ☐ Life Member \$800

CHAPTERS: Arkansas Valley, Boulder, Gunnison Valley, Metro-Denver, Northern, Plateau, San Luis Valley, Southeast, Southwest, Telluride, or Unaffiliated

If this is a change in address, please write your old address here.

Address _____
 City _____ State _____ Zip _____

☐ **Check box to receive information on volunteer opportunities**

DUES include the electronic version of the *Aquilegia* magazine, published quarterly.

The full color electronic publication arrives by PDF in member email boxes in February, May, August, and December. For those members without email addresses, please apply for a scholarship to receive print copies.

Membership dues cover a 12-month period.

You may also join online at <https://conps.org/join-donate/>

☐ **Printed Color Copy** of the magazine, *Aquilegia*, \$20

CONTRIBUTIONS to CoNPS are tax deductible:

John Marr fund for research on the biology and natural history of Colorado native plants \$ _____

Myrna P. Steinkamp Memorial fund for research and other activities to benefit the rare plants of Colorado \$ _____

Alice Eastwood Scholarship fund to help support undergraduates pursuing bachelor's degrees that ultimately advance the mission of the Society \$ _____

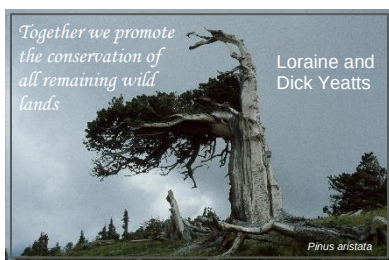
Mission Grant to support the mission of the Society \$ _____
 Total included: \$ _____

Please make check payable to:
Colorado Native Plant Society

Send completed form and full remittance to:
 CoNPS Office
 1536 Wynkoop Street, Suite 911
 Denver, CO 80202



2024 CoNPS Annual Conference Sponsors



NATIVE SEED™ GROUP

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 SAN JUAN MOUNTAINS COLORADO



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 Sustainable Nursery and Garden Center

SER
 ROCKY MOUNTAINS

BUTTERFLY PAVILION

DURANGO BOTANIC GARDENS



More Photo Contest Winners



2024 Photo Contest Winners

This Page: Clockwise from top left. **Third Place Winners. Native Plants and Wildlife:** *Cleomella serrulata* (Rocky Mountain beeplant) and *Agapostemon* sp. (male green metallic sweat bee), © Susan Tamulonis; **Landscape:** *Echinocereus triglochidiatus* (claretcup cactus), © Bill Bowman; **Artistic:** *Asclepias speciosa* (showy milkweed), © Kelly Ambler; **Colorado Native Plants:** *Penstemon angustifolius* (narrow-leaf penstemon), © Richard Brune.



Colorado Native Plant Society

a non-profit organization dedicated to furthering the knowledge, appreciation, and conservation of native plants and habitats of Colorado through education, stewardship, and advocacy

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904 E. Boulder St.
Colorado Springs, CO 80903



**Colorado
Gives Day
December 10**

<https://www.coloradogives.org/organization/ColoradoNativePlantSociety>

2024 Photo Contest Winners

