

Newsletter of the Colorado Native Plant Society

Aquilegia

2013 ANNUAL MEETING

Vital Signs of the Planet: Colorado's Flora in a Shifting Climate

September 27-29, 2013 Boulder, Colorado



Aquilegia

Newsletter 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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2013 ANNUAL MEETING

Vital Signs of the Planet: Colorado's Flora in a Shifting Climate

September 27-29, 2013 Boulder, Colorado

This year the Boulder Chapter is hosting the CoNPS Annual Meeting on Saturday and Sunday, September 28-29. Prior to the Annual Meeting, the 10th Annual Rare Plant Symposium, featuring a talk by Dr. William A. Weber, will take place from 8:30 a.m. to 4 p.m. on Friday, September 27th. That night, from 6:30 to 8:30 p.m., the CoNPS Social will take place and you will have a chance to catch up with old friends and make new ones.



earthobservatory.nasa.gov

With a focus on climate change and its effect on the plants of Colorado, the Annual Meeting will feature a keynote speech by David Lawrence of the Climate and Global Dynamics Division of the National Center for Atmospheric Research (NCAR).

During the mid-morning and lunch breaks, you will have the opportunity to bid on a variety of interesting items at the Silent Auction. The CoNPS Bookstore has an excellent selection of plant books and they will be available for perusal and purchase during lunch. You will need cash or a check for these; we will not be able to accept charge cards at the Silent Auction or Bookstore.

Would you like to have a voice regarding CoNPS policies? During the Annual Meeting, a

Flatirons cover photo © Ann Duncan

discussion of CoNPS' approach to conservation (stewardship or advocacy) will be led by CoNPS Board member Brian Kurzel and members are encouraged to give their opinions in preparation for a vote on the topic in the future. In addition, Steve Popovich, chair of the CoNPS Field Studies Committee, will discuss ethics & protocols for plant collecting and will describe a recent important revision of CoNPS ethics policy and new training that will be available for CoNPS trip leaders and members as workshops and online tutorials.

On Sunday, you will have a number of different choices of field trips and will have a chance to learn from experts while exploring beautiful places in Boulder and neighboring areas.

You can sign up for the Rare Plant Symposium and/or the Annual Meeting using the Registration Form on page 11 or you can register online at http://www.conps.org/Annual_Meetings/2013/index.shtml.

10th Annual Colorado Rare Plant Symposium **Conservation Efforts and Status Review of the G2 & G3 Plants of NE Colorado** **Friday, September 27, 2013, 8:30 a.m. - 4:00 p.m.**

West Boulder Senior Center, 909 Arapahoe Ave., Boulder, CO (303) 441-3148 (Map on page 12)

Special Guest Speaker Dr. William A. Weber

Join members of the Colorado Rare Plant Technical Committee (RPTC) for the 10th Annual Colorado Rare Plant Symposium. The RPTC is an ad-hoc group of agency, academic, and NGO botanists dedicated to advancing rare plant conservation in the state.

This year, Dr. William A. Weber, Professor and Curator Emeritus of the Herbarium at University of Colorado, will be a special guest speaker (topic: "The Most Endangered Species!") and the RPTC will provide a photo review of the imperiled and vulnerable (G2 & G3) plant species known from northeast Colorado. Discussion of their relationship to Colorado's important plant biodiversity areas, current conservation status, and potential threats will be emphasized. Species covered in previous symposia will also be briefly reviewed. Come and be prepared to exchange your knowledge of some of our rarest plant species with other amateur and professional botanists from throughout the state! To celebrate our 10th year and first decade benchmark of symposia, attendees will receive special treats!



Dr. William A. Weber Photo by Heather Harris

Following tradition, this one-day meeting is held in collaboration with the Colorado Native Plant Society's Annual Meeting (Sept. 27-29, 2013). The symposium is open to anyone with an interest in the rare plants of Colorado. Contact Jill Handwerk for more information at 970-491-5857 or jill.handwerk@colostate.edu. Registration is \$10. To register, fill out the registration form on page 11, visit the CoNPS website www.conps.org, or register at the door.

10TH ANNUAL COLORADO RARE PLANT SYMPOSIUM 9/27 **AGENDA**

- 8:30** Registration
- 9:00** Introduction and Ground Rules – Steve Popovich, U.S. Forest Service
- 9:15** Review of G2 & G3 Plant Species of NE Colorado: Status Review, Current Conservation Efforts and Priority Conservation Action Needs - Jill Handwerk, Colorado Natural Heritage Program (CNHP)
- 10:30** Break
- 11:00** Special Guest Speaker: Dr. William A. Weber; Topic: "The Most Endangered Species!"
- 11:30** Lunch (on your own)
- 1:00** Announcements - Steve Popovich
- 1:30** Review of Colorado T & E, G1, G2, and Selected G3 Species: Status Review, Current Conservation Efforts and Priority Conservation Action Needs - Jill Handwerk, Pam Smith and Bernadette Kuhn, Dee Malone, CNHP
- 3:00** Break - 10th Anniversary Celebration
- 3:15** Priority Conservation Actions for Coming Year – Group Discussion
- 4:00** Adjourn
- 6:30** CoNPS Social at the CU Natural History Museum, Paleontology Hall

CONPS 2013 ANNUAL MEETING AGENDA

Boulder, Colorado, September 27-29, 2013

| | |
|------------------------------|---|
| Friday, 9/27 | COLORADO RARE PLANT SYMPOSIUM & CONPS SOCIAL |
| 8:30 a.m. - 4:00 p.m. | Tenth Annual Colorado Rare Plant Symposium, <i>Location: West Boulder Senior Center, 909 Arapahoe Ave, Boulder</i> See page 3 - bottom of previous page - for CRPS Agenda |
| 6:30-8:30 p.m. | Colorado Native Plant Society Social <i>Location: CU Natural History Museum, Paleontology Hall</i> |
| Saturday, 9/28 | ANNUAL MEETING <i>Location: University of Colorado, Eaton Humanities Building, Rm 1B50</i> |
| 8:30-9:00 a.m. | Registration, Coffee, Book Sales, Silent Auction |
| 9:00-9:10 a.m. | Welcome, Mark Gershman, City of Boulder Open Space & Mountain Parks |
| 9:10-9:50 a.m. | Keynote: Terrestrial Contributions and Responses to Projected Climate Change David Lawrence of the Climate and Global Dynamics Division of the National Center for Atmospheric Research (NCAR) |
| 9:50-10:30 a.m. | Are High-elevation Trees Less Defended Against insect Attack than Low-elevation Trees? Scott Ferrenberg, Dept. of Ecology & Evolutionary Biology, University of Colorado, Boulder |
| 10:30-11:00 a.m. | Break: Refreshments, Book Sales, Silent Auction |
| 11:00-11:40 a.m. | Opportunities for Redefining Restoration in Changing Climates Brett Wolk, Department of Forest and Rangeland Stewardship, Warner College of Natural Resources, Colorado State University. |
| 11:40 a.m.-12:20 p.m. | Colorado Rare Plant Conservation Amid Projected Changes in Climate Susan Spackman Panjabi, Botanist, Colorado Natural Heritage Program |
| 12:20-1:30 p.m. | Lunch, Book Sales, Silent Auction |
| 1:30-1:40 p.m. | Year in Review & Awards Crystal Strouse, CoNPS President |
| 1:40-1:55 p.m. | Ethics & Protocols for Plant Collecting: Bringing CoNPS into the 21st Century Steve Popovich, U.S. Forest Service, CoNPS Field Studies Chair |
| 1:55-2:10 p.m. | CoNPS Approach to Conservation Brian Kurzel, Colorado Parks & Wildlife, CoNPS Board of Directors |
| 2:10-2:50 p.m. | Global Change, Water, and Invasion in a Semi-arid Grassland Dana Blumenthal, USDA Agricultural Research Service |
| 2:50-3:30 p.m. | Reconstructing Past Climates Over the Last 25,000 Years Using Fossil Pollen Analysis, Peat Humification, and Dendroclimatology Don Sullivan, Dept. of Geography & the Environment, University of Denver |
| 3:30-3:45 p.m. | Concluding Remarks |
| 4:30-6:00 p.m. | Board Meeting |
| Sunday, 9/28 | FIELD TRIPS |
| 9:00 a.m. - 2:00 p.m. | Field Trips - Bring your own sack lunch, water, snacks, and sunscreen |

SPEAKERS AND ABSTRACTS

Keynote

Terrestrial Contributions and Responses to Projected Climate Change

David Lawrence, Climate and Global Dynamics Division, National Center for Atmospheric Research

9:10-9:50 a.m.



Photo courtesy of Dave Lawrence

The land is a critical component of Earth's climate system. Terrestrial ecosystems, through their cycling of energy, water, chemical elements, and trace gases, are important determinants of weather and climate. The land surface is the interface through which climate change influences humans and ecosystems and through which humans and ecosystems can affect global environmental change. Here, I will introduce Earth System Models (coupled models of the global atmosphere, ocean, land, and sea ice) and describe how they are used to make climate projections. I will review how models of the land system (within an Earth System Model) are helping climate scientists to (a) provide more comprehensive projections of global and regional climate change and (b) understand the details of the land surface contribution and response to global change.

David Lawrence is a scientist in the Terrestrial Sciences Section of NCAR's Climate and Global Dynamics Division. He is a co-chair of the Community Earth System Model (CESM) Land Model Working Group (LMWG) and is also a member of the CESM Scientific Steering Committee. As LMWG co-chair he directs the development and application of the Community Land Model. His research interests center around land processes and Earth system modelling, with an emphasis on Arctic terrestrial climate system feedbacks.

Are High-elevation Trees Less Defended Against Insect Attack than Low-elevation Trees?

Scott Ferrenberg, Ph.D. candidate, Dept. of Ecology and Evolutionary Biology, University of Colorado

9:50-10:30 a.m.

In the last 15 years, an epidemic of mountain pine beetles has led to the death of billions of trees from Alaska to Mexico. This epidemic is unprecedented in size and intensity, and evidence suggests that bark beetles are now attacking trees at higher elevations and latitudes than ever before. The mountain pine beetle was historically excluded from high elevation forests by low temperatures, but following decades of rapid warming the beetles are now found to tree line across northern Colorado, Wyoming, Montana and Idaho. Because high elevation forests are not historically prone to insect epidemics, trees found in these forests have likely experienced only limited selection for anti-insect defenses. To determine if high elevation trees are less defended against bark beetles than low elevation trees, we measured resin defenses in three species of widely distributed pines. We characterized the resin volume and resin chemistry of trees found along an elevational transect from 1738 to 3353 meters above sea level. We found that with increasing elevation, trees tend to produce fewer resin ducts per annual growth interval, despite similar investment in resin chemistry. This pattern suggests a gradient of selection on tree defenses--possibly due to bark beetle activity--whereby resin quantity is reduced. Regardless of the processes behind this pattern, weaker defenses in high elevation trees could promote future bark beetle epidemics in subalpine forests as global temperature continues to rise.



Photo by Jeff Mitton

Scott Ferrenberg is a third year PhD student working with Jeff Mitton in CU's Department of Ecology and Evolutionary Biology. Scott has a master's degree in entomology from the University of Maryland, and has studied bark beetle-conifer interactions, and forest fires for roughly a decade. He began his studies of bark beetles in the giant sequoia forests of California's Sierra Nevada before working in Utah, Arizona, and Colorado. Sharing a mutual interest in the life history traits of bark beetles and coniferous trees, Scott and Jeff have pursued a wide range of bark beetle focused research questions in the Colorado Front Range.

Opportunities for Redefining Restoration in Changing Climates

Brett H. Wolk, Department of Forest and Rangeland Stewardship, Warner College of Natural Resources, Colorado State University.

11:00-11:40 a.m.

The field of restoration ecology has long been focused on using the past to rebuild for the future. Efforts to restore degraded habitats typically utilize late seral plant species (e.g. shrubs and bunch grasses), non-native species, or both. However, these restorations often fail because such vegetation is either not appropriately matched to the site or late seral plants are out-competed by non-native invasive weeds. Native early seral species are seldom used in ecological restoration, but they have potential to help control non-native species as well as facilitate important ecological processes that could lead to a resilient and persistent native community under a variety of climate scenarios. In Colorado, rapidly expanding oil and gas exploration and large forest fires have created demand for landscape scale restoration across multiple habitats. These disturbances over vast areas provide opportunities for establishing resilient native plant communities that can persist under new climates. Recent work in the Restoration Ecology Lab examines the hypothesis that including commercially available native early seral species in restoration seed mixes will inhibit non-native invasive species and promote native community development over time. Our lab and greenhouse studies have shown native early seral plants can change soil microbial communities in less than one growing season. In field trials, multiple studies indicate that seed mixes with early seral species can significantly increase native plant production and diversity, and in some cases reduce abundance of non-native weeds compared to standard restoration seed mixes. Forest fires catch the headlines, but novel mechanical thinning methods to reduce fire hazard and restore forest structure are also creating thousands of acres of disturbance in Colorado each year. Is restoring forest structure enough, or are our forests too far outside their natural range of variability for native communities to recover? Evidence across rangeland and forest habitats points to increased restoration success by building more resilient plant communities using native plants. The research team that performed this work consisted of Brett Wolk, Jayne Jonas-Bratten, Post-Doctoral Research Scientist at the Restoration Ecology Laboratory, and Mark Paschke, Principle Investigator and Director of the REL, Shell Endowed Chair of Restoration Ecology, and Associate Dean for Research at the Warner College of Natural Resources.



Photo by Kate Gribskov

Brett Wolk has over a decade of professional experience as a research scientist and restoration ecologist studying the flora of Colorado. Currently he is the Director of Lab and Field Studies for the Restoration Ecology Lab at Colorado State University. His areas of expertise include ecological research and monitoring of plant communities, botany, and techniques for restoring native plant communities following disturbance. Brett especially enjoys student mentoring and making ecology accessible to all audiences. He holds an M.S. in Forest Ecology from Colorado State University, as well as B.S. and B.A. degrees from Oregon State University.

Colorado Rare Plant Conservation Amid Projected Changes in Climate

Susan Spackman Panjabi, Botanist, Colorado Natural Heritage Program, Colorado State University

11:40 a.m. - 12:20 p.m.

Climate is a primary factor determining the geographic range of plant and animal species. Numerous biogeographic studies have documented changing distributions of individual species and general vegetation patterns, in both the pre-historic and recent past. In the face of continued and accelerated climate change, considerable effort in scientific and conservation circles is now directed toward methods for predicting future climate, as well as predicting habitat and species responses (phenology, survival, future species distributions, changes in interspecific interactions, habitat quality, etc.). There is widespread agreement that a critical first step is identifying the potential impacts of climate change on those elements that are being managed, whether lands, or individual species of concern and their habitats. Botanists at the Colorado Natural Heritage Program (CNHP) have conducted analyses using the NatureServe Climate Change Vulnerability Index (CCVI), and results suggest that most of our rare plant species are vulnerable to climate change. The challenge now is adapting management actions to this knowledge. In 2011 the Colorado Rare Plant Conservation Initiative (RPCI) developed Preliminary Over-arching Adaptation Strategies for Colorado's Imperiled Plant Species, and these will be summarized. Also, CNHP scientists are proposing to update and revise species conservation materials to incorporate information about climate change and implications for habitat management. For example, we suggest methods for the development of Technical Adaptation Guides for rare plant species that land managers can use to implement appropriate actions and monitor results.



Photo by Arvind Panjabi

Susan Spackman Panjabi is a Botanist with the Colorado Natural Heritage Program (CNHP), at Colorado State University in Fort Collins. Ms. Panjabi's work at CNHP includes building the international Biological Conservation Data System with information on the location and condition of 500 rare, threatened, and endangered plant species known to occur in Colorado. She has conducted biological research and rare plant surveys for various public agencies and private organizations such as the Bureau of Land Management, the U.S. Forest Service, county planning departments, The Nature Conservancy, the National Fish and Wildlife Foundation, and the American Mountain Foundation. She has worked with CNHP for eighteen years. Ms. Panjabi received her B.A. in Environmental Conservation from the University of Colorado, Boulder (1982) and her M.S. in Botany from the University of Vermont, Burlington (1993). She is first author of the *Colorado Rare Plant Guide*, and is co-founder of the Colorado Rare Plant Conservation Initiative.

Ethics & Protocols for Plant Collecting: Bringing CoNPS into the 21st Century

Steve Popovich, CoNPS Board of Directors

1:40-1:55 p.m.

Our CoNPS mission is "Dedicated to furthering the knowledge, appreciation, and conservation of native plants and habitats of Colorado through education, stewardship, and advocacy." Related to this mission is the CoNPS plant collecting ethics policy - yes, we have one, and yes, it is posted! There has been growing concern from public land management agencies, local botanical organizations, and CoNPS members about the possible lack of proper permits and collecting guidelines when we collect plants. This year, the Board revised our collecting ethics policy to reflect current philosophies. They also realized that there is no process in place to assure that CoNPS members leading field trips that involve collecting or workshops that teach collecting are aware of the new ethics policy.

To confirm that CoNPS members who lead field trips involving plant collecting, or who teach plant collecting, while representing the Society, are well-informed of our ethics guidelines, the new policy requires that they receive Society-sanctioned ethics training prior to leading trips or workshops. The goal of the training is to help ensure that Society functions adhere to proper collecting procedures and conservation ethics. The training requirement can be satisfied by members attending training workshops or reviewing an online training module.

Steve received his undergraduate and graduate degrees in Range Science with an emphasis in plant ecology from Colorado State University. He is employed by the U.S. Forest Service, where he serves as the Acting Regional Botanist, Rocky Mountain Region, and the Botanist and Invasive Species Program Manager for the Arapaho and Roosevelt National Forests and Pawnee National Grassland, based out of Fort Collins. Steve has twenty-five years experience in natural resource management of public lands, primarily focusing on the conservation and management of rare plants and plant communities in the Western U.S. He has traveled extensively to assist underprivileged peoples of the world's poorest countries in developing sustainable harvest practices of botanical resources. Steve has participated in CoNPS board meetings for five years, and created the Annual Colorado Rare Plant Symposium, which he has moderated for the last ten years. He is passionate about moonworts (*Botrychium*), and co-authored the Ophioglossaceae chapter in Weber and Wittmann's recent *Colorado Flora*, 4th Edition.



Photo courtesy of Steve Popovich

CoNPS Approach to Conservation

Brian Kurzel, CoNPS Board of Directors

1:55-2:10 p.m.

The CoNPS Board of Directors is interested in engaging in a discussion about the future of the Society. CoNPS is and always has been primarily an educational organization. However, given the growing challenges to native plant conservation in Colorado, there is growing uncertainty as to whether the current efforts of the Society can match the increasing threats to native plants. The question that the Board is asking now is: *Should CoNPS adjust our focus to better address the need for native plant conservation through stewardship and advocacy?* At the Annual Meeting, Board members will engage in this discussion with members and discuss pros and cons of various approaches.

Brian Kurzel is currently the Supervisor for Policy and Planning for Colorado Parks and Wildlife, and was previously the Natural Areas Program Manager for the state of Colorado for 8 years. Brian works on natural resource policy and planning efforts that aim to serve both the citizens of Colorado and the natural values that Coloradan's treasure. Brian has been a field ecologist for 10 years, working on various species in locations including Panama, Costa Rica, Borneo, and Thailand. He received his Bachelors degree at Cornell University, and a Masters in Biogeography from the University of Colorado at Boulder. He has spent several years as a professional environmental educator and enjoys interpreting the natural world to get people excited about science and conservation.



Photo courtesy of CNAP

Global Change, Water, and Invasion in a Semi-arid Grassland

Dana Blumenthal, USDA Agricultural Research Service, Rangeland Resources Research Unit

2:10-2:50 p.m.



Photo by Laura Perry

As global changes alter plant communities, one concern is that they may exacerbate plant invasion. Invasive species could benefit from both change in general and changes that increase resource availability in particular, such as changes in land use, N deposition, and atmospheric CO₂. Since 2003, we have been testing the interactive effects of global changes on invasion in semi-arid mixed grass prairie. We found that while increased snow, summer precipitation, and nitrogen deposition all facilitated invasion, increased snowfall had striking effects, allowing invasion by three species, diffuse knapweed (*Centaurea diffusa*), baby's-breath (*Gypsophila paniculata*), and Dalmatian toadflax (*Linaria dalmatica*), that were rarely observed under ambient conditions. In a second experiment, elevated CO₂ also facilitated toadflax invasion, increasing above-ground biomass by more than an order of magnitude, while warming had little effect. In contrast to the dominant perennial grass, western wheatgrass (*Pascopyrum smithii*), which decreased stomatal conductance under elevated CO₂ contributing to an increase in soil water, toadflax maintained high stomatal conductance and increased photosynthesis. In a third experiment, responses of four native forbs and four invasive forbs to CO₂ and warming depended on life history. The combination of CO₂ and warming favored summer annuals and biennials. While responses of native

and introduced species were qualitatively similar within life-history types, the strongest positive responses to future climates were observed for introduced species. Together, these results suggest that global change will pose additional challenges for revegetation in semi-arid regions, and that changes that alter water availability will have the strongest influence on invasion.

Dr. Blumenthal received a PhD from the University of Minnesota in 2001, and has been a Research Ecologist with the USDA-ARS Rangeland Resources Research Unit in Fort Collins, CO since 2002. The objective of his research is to understand how global changes influence native and invasive plants in grassland ecosystems.

Reconstructing Past Climates Over the Last 25,000 Years Using Fossil Pollen Analysis, Peat Humification and Dendroclimatology

Donald G. Sullivan, Associate Professor, Department of Geography and the Environment, University of Denver

2:50-3:30 p.m.

The composition and distribution of Colorado's flora and the vegetation communities on the landscape today are the product of the interaction of biogeography and climate change over the last several millennia. The last major advance of glacial ice in the state reached its maximum extent about 21,000 years ago. The distribution of vegetation communities during that time was considerably different from that of today as a result of the cooler and drier conditions that prevailed. Climate fluctuation since then has been varied and dynamic, and the consequent impacts on hydrology, seasonality, and vegetation distribution have been complex. Researchers studying this period rely on paleoenvironmental information stored in sediment "archives" that can be recovered using sediment cores taken from lakes and wetlands. Paleoclimatic researchers use a variety of "proxies" to reconstruct climate over the late Quaternary, including fossil pollen analysis, biogeochemical analyses of sediments, studies of peat decomposition, etc. Multiple proxy approaches permit us to generate high resolution and sensitive records of environmental change over the late Quaternary. The results of numerous analyses indicate that Colorado's climate has changed in phase with major global climate fluctuations, but that Colorado's climate has also varied as a result of shorter, lower magnitude changes in climate. The data indicate that the modern distribution of vegetation in the state has developed only in the relatively recent past.

Donald G. Sullivan is an associate professor in the Department of Geography and the Environment at the University of Denver. Sullivan received his B.A. in Anthropology, and his M.A. and Ph.D. in Geography at the University of California, Berkeley. His research focuses on climate changes over the last 25,000 years, and their impacts on vegetation, hydrology, etc. He has conducted research in the eastern Mediterranean, California, and Mexico. Much of his recent research has been in Western Colorado, on Grand Mesa, and in the Sawatch Range



Photo courtesy of Don Sullivan

ANNUAL MEETING FIELD TRIPS

Sunday, September 29

All trips start at 9 a.m.



Megan Bowes leading Boulder field trip Photo by Jan Loechell Turner

Visit the Upper Four Mile Fire, Bald Mountain Forest Restoration, and Walker Ranch Fire Sites

Claire DeLeo, Boulder County Parks and Open Space; 9 a.m. – 4 p.m.

Limit, 44 participants

The County will have four large vans and we will also need to use other high-capacity vehicles to minimize the caravan size to the sites.

We will review work done to date on erosion control and site stabilization at the Four Mile Fire site. At the (unburned) Bald Mountain forest restoration site we will observe and discuss an ongoing process of forest structure modification. At Walker Ranch, the longer term recovery from fire will be reviewed and discussed.



Bald Mountain Photo by Christi Turner from TheBoulderStand.com

Managing for the New Normal: Using Novel Ecosystems to Achieve Conservation Objectives

Tim Seastedt and Megan Bowes, 9 a.m. - 2 p.m.; bring sack lunch, water.

Limit, 20 participants



Photo by Tim Seastedt

Using carpools LEAVE from Cherryvale trailhead (Parking lot directions: turn south onto Cherryvale from South Boulder Rd. and take first right (west) turn. Recommend to meet at 8:45.

Stop 1: a) managing for a relict tallgrass area with limited to no access of key management tools; b) prairie dog transformations of remnant grasslands at the urban-wildlands interface.

Stop 2: Observing the new landscapes of the Front Range foothills. Includes observations from 4 years of climate change experiments on vegetation composition, attempts at passive restoration, and 0-3 fires on the landscape since 1988. Depending upon time & weather, we will walk up a drainage to get a close-up view of passive restorations and the 2003 fire, but distant views of the 1988 and 2011 fires.



Photo by Dave Sutherland

Rocky Flats Bluestem Prairie

David Buckner 9 a.m.- 2 p.m.

Limit, 20 participants

(The meeting place and directions will be provided at the Annual Meeting on Saturday)

Rocky Flats Mesa in northern Jefferson County supports a rare tallgrass prairie community on a geologic surface that has had little disturbance for 2 million years. Mountain and Great Plains species are mixed together on this high, dry pediment – where habitat paradoxically exists for these moisture-loving species. David Buckner will lead this field trip, exploring the “Old Bluestem Prairie”, its geologic origins and unique botanical assemblage.



Jewel Mountain Photo by Dave Sutherland

Colorado Conifers: A Deep Dive

Jeanne Willson, 9 a.m. - 2 p.m. (includes time to drive 18 miles up to Caribou Ranch)

Limit, 18 participants

Meet at the Boulder County Justice Center at 6th and Canyon to carpool first to the Boulder Mountain Park and then on to Caribou Ranch Open Space, which is 1.5 miles north of Nederland off of the Peak to Peak Highway. Jeanne Willson, botanist, will show you how to identify 7 or more of our 13-ish Colorado conifers, and you’ll get a handout that will cover the rest of the Colorado conifers. We’ll also talk about the ecology and human use of conifers and how climate change might affect these hugely important coniferous forests in the near and distant future... and much more. Bring lunch, water, and warm clothes, or rain gear as appropriate; you may also want a note pad, a sitting pad, camera, & hand lens. Plan to walk 2 to 4 miles.



Photo by Melissa Dozier

Signing Up for a Sunday Field Trip

All of the field trips take place at the same time so you will attend ONE field trip. Be sure to bring water, snacks, and a sack lunch. You may also want sunscreen and a hat. On the Registration Form on page 11 you can indicate your first, second, etc. choice of field trips.

White Rocks, Boulder Open Space and Mountain Parks

Lynn Riedel and Dave Sutherland; 9 a.m. - 2 p.m.

Limit, 13 participants

(The meeting place and directions will be provided at the Annual Meeting on Saturday)

The White Rocks sandstone outcrop along Boulder Creek east of Boulder is an outstanding example of ancient shoreline and marine deposits and harbors numerous rare and unusual plant species. Elements from sand sage prairie and tallgrass prairie merge here, creating habitat for unusual wildlife species. Lynn Riedel and Dave Sutherland will lead a botanical and geological tour through this fascinating area.

REGISTRATION FORM

Please fill out a new registration form for each person attending and submit by September 16, 2013.

Late registration will be available at the door.

Name (first, last): _____

Phone: _____

Address (street, city, state, zip): _____

E-mail: _____

- The 10th Annual Rare Plant Symposium, Friday, September 27 (Cost: \$10)**
- Friday Night Social September 27 (Cost: \$5):** light snacks and a cash bar at the University of Colorado Natural History Museum's Paleontology Hall
- The 2013 Annual Meeting (Cost \$35):** Entitles you to all presentations and field trips occurring Saturday, Sept. 28 and Sunday, Sept. 29.
- The 10th Annual Rare Symposium (9/27) AND 2013 Annual Meeting, 9/28-9/29 (Cost: \$40)-** Special price for both!

FIELD TRIP OPTION Sunday, September 29

See complete descriptions in this issue of *Aquilegia* before selecting your trip. Trips operate concurrently. Rank your preference of field trip by number (1 through 5) with "1" being your first choice.

- Four Mile Fire with Claire DeLeo (limit = 44 participants)
- Novel Ecosystems in a Changing Climate with Tim Seastedt and Megan Bowes (limit = 20 participants)
- White Rocks Nature Preserve with Lynn Riedel and Dave Sutherland (limit = 20 participants)
- Rocky Flats Bluestem Prairie with David Buckner (limit = 13 participants)
- Colorado Conifers: A Deep Dive (at Caribou) with Jeanne Willson (limit = 15 participants)
- Please check if you would like to be contacted about carpooling to Boulder.** If checked, your phone/email information will be provided to others interested in carpooling

Attend the 10th Annual Rare Plant Symposium AND the 2013 Annual Meeting for \$40, save \$5.

JOIN CONPS

Attendance is limited to members of the Colorado Native Plant Society. If you are not currently a member, please join us. (Existing members may renew by emailing Linda Smith at conpsoffice@aol.com.)

- Senior \$12 (65+) Student \$12 Individual \$20
- Family \$30 Supporting \$50 Lifetime \$300

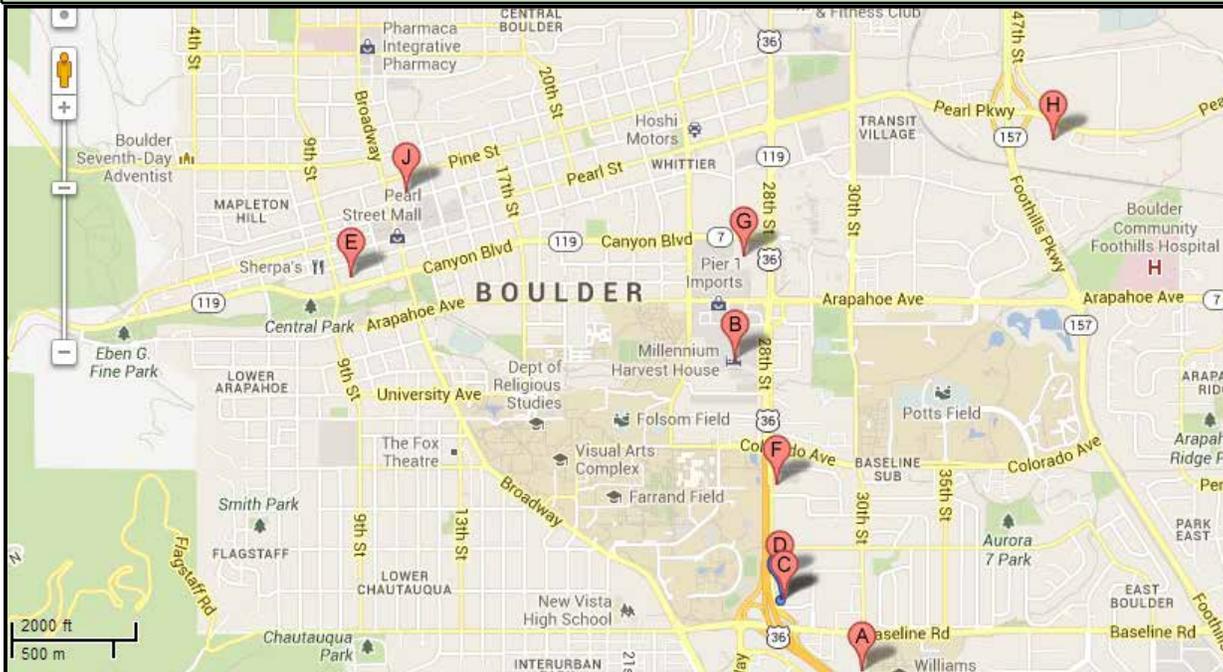
Indicate your preferred chapter affiliation. CoNPS members are invited to participate in any function, event or field trip offered by any CoNPS chapter, regardless of affiliation.

- Boulder Gore Range Metro-Denver
- Plateau Southeast Northern Unaffiliated

Your total cost, enclosed: _____

PLEASE mail this form and your check made out to "CoNPS" to: CoNPS, Attn: Linda Smith, 4057 Cottonwood Drive, Loveland, CO 80538. THANK YOU! If you have questions, please call (970) 663-4085, or e-mail conpsoffice@aol.com.

LODGING OPTIONS IN BOULDER



A. Rodeway Inn & Suites Boulder - \$\$

555 30th St, Boulder, CO
 (303) 444-3330 / www.rodewayinn.com

B. Millennium Harvest House - \$\$

1345 28th St, Boulder, CO
 (303) 443-3850 / www.millenniumhotels.com

C. Best Western Boulder Inn - \$\$\$

770 28th St, Boulder
 (303) 449-3800 / www.boulderinn.com

D. Boulder Outlook Hotel & Suites - \$\$

800 28th St, Boulder, CO
 (303) 443-3322 / www.boulderoutlook.com

E. St Julien Hotel & Spa - \$\$\$\$

900 Walnut St, Boulder, CO
 (720) 406-9696 / www.stjulien.com

F. Americas Best Value Inn & Suites - \$\$

970 28th St, Boulder, CO
 (303) 443-7800 / www.abvi.com

G. Boulder Marriott - \$\$\$

2660 Canyon Blvd, Boulder, CO
 (303) 440-8877 / www.marriott.com

H. Courtyard Boulder - \$\$\$

4710 Pearl E Cir, Boulder, CO
 (303) 440-4700 / www.marriott.com

J. Hotel Boulderado - \$\$\$\$

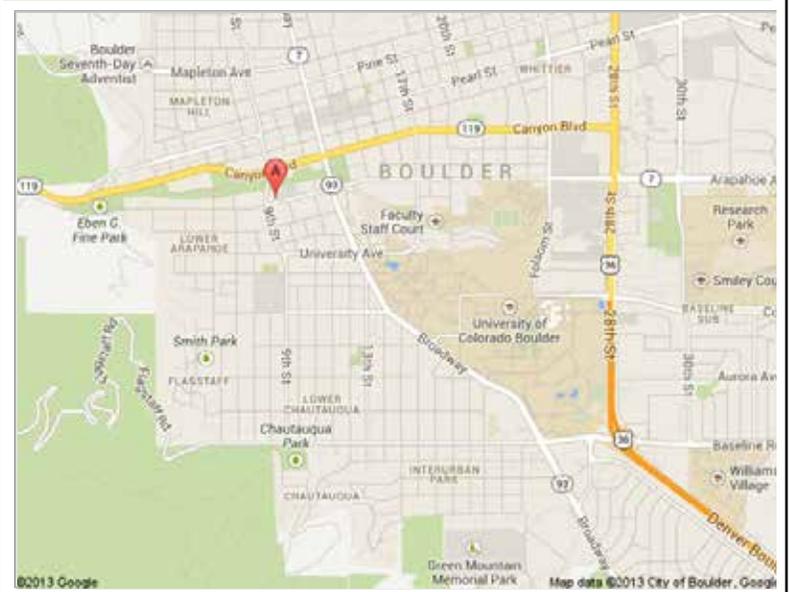
2115 13th St, Boulder, CO
 (303) 442-4344 / www.boulderado.com

Maps on this page from Google Maps maps.google.com

Rare Plant Symposium Location

The 10th Annual Colorado Rare Plant Symposium will be held at the West Boulder Senior Center at 909 Arapahoe Avenue in Boulder, which is near the intersection of Arapahoe Avenue and 9th Street, northwest of the University of Colorado Campus. It is a block south of Canyon Blvd,, and almost 3 blocks west of Broadway. For a larger map see maps.google.com and enter the address.

West Boulder Senior Center, 909 Arapahoe Ave.



WHERE TO EAT IN BOULDER

On-Campus:

University Memorial Center (UMC) –The Alferd Packer Restaurant & Grill, Baby Doe’s Coffee & Bakery, Celestial Seasonings, Domino’s Pizza, Jamba Juice, Subway, and Wok & Roll

Center for Community – All-you-can-eat 10-restaurant dining hall; Grab-and-Go station, The Bakery, and WeatherTech Café (pizza). Located on Regent Dr. near Kittridge Dr., east of Regent Admin Bldg., see www.colorado.edu/centerforcommunity.

Various Restaurants on The Hill :

Head west through the Norlin Quad, cross over Broadway, navigate along Pennsylvania Avenue, 13th Street, or College Avenue (about a 10 minute walk).

Abo’s on the Hill - 1124 13th St (0.2 mile); New York style pizza, calzones, salads, happy hour

Thai Avenue - 1310 College Ave #220 (0.3 mile); Authentic Thai, noodle and rice dishes, cafeteria style

Cheba Hut - 1313 College Ave (0.2 mile); Sandwich/sub shop

Illegal Pete’s – 1320 College Ave (0.2 mile); Mexican restaurant, tacos, burritos, chips and salsa

Gurkhas on the Hill – 1310 College Ave (0.3 mile); Authentic Nepali, Indian, and Tibetan food

Espresso Roma – 1101 13th St (0.3 mile); Coffee shop, bakery and bagels

Qdoba Mexican Grill – 1101 13th St (0.3 mile); Mexican/Latin American restaurant

Papa Romanos Pizza – 1110 13th St (0.2 mile); Pizza (deep dish, thin crust), wrap pitas, salads, wings

Boulder Salad – 1310 College Ave #200 (0.3 mile); Salad, sandwiches

Buchanan’s Coffee Pub – 1301 Pennsylvania Ave (0.2 mile); coffee shop, restaurant

The Sink – 1165 13th St (0.3 mile); American restaurant, pizza, burgers, sandwiches, salads

Café Aion – 1235 Pennsylvania Ave (0.2 mile); Café, Spanish tapas, Mediterranean fare, farm to table

Fatty J’s Pizza – 1301 Broadway St (0.3 mile); pizza, calzones, subs and sandwiches, salads, wings

Half Fast Subs on the Hill – 1213 13th St (0.2 mile); subs and sandwiches, happy hour

Sushi Hana – 1220 Pennsylvania Ave (0.3 mile); Japanese restaurant

Five Guys Burgers and Fries – 1143 13th St (0.3 mile); burgers, hot dogs, fries

CoNPS Plant Collecting Ethics Policy Training

CoNPS was formed in 1976 with the mission “to encourage the appreciation and conservation of the native plants and ecosystems of Colorado.” Several years ago, the mission statement was updated by the Board and is now: “Dedicated to furthering the knowledge, appreciation, and conservation of native plants and habitats of Colorado through education, stewardship, and advocacy.” Related to the mission is CoNPS plant collecting ethics policy.

CoNPS members may recall the recent *Aquilegia* article, “Ethics and Protocols of Plant Collecting” (Spring 2013, Vol. 37, No. 1, pp. 1, 4-5), which reminded us to think about sound ethics and procedures regarding plant collecting on public and private lands. Over the last few years, there has been growing concern from public land management agencies, local botanical organizations, and CoNPS members about the possible lack of proper permits and collecting guidelines by collectors for lands in Colorado. This year, the Board reviewed our posted ethics policy (http://www.CoNPS.org/pdf/About_Us/ethics_of_collecting.pdf) and found it to be outdated. The Board has since revised our policy to reflect current philosophies, and the new policy will soon be posted. They also realized that there is no process in place to assure that CoNPS members leading field trips that involve collecting or workshops that teach collecting are aware of the new ethics policy. To confirm that CoNPS members who lead field trips involving plant collecting, or who teach plant collecting, while representing the Society are well-informed of our ethics guidelines, the new policy requires that they receive Society-sanctioned ethics training prior to leading 2014 trips or workshops. The training requirement will be satisfied by the members reviewing an online training module and signing off that they have read the module and understand the CoNPS collection ethics policy.

The goal is to help ensure that Society functions adhere to proper collecting procedures. To introduce this policy change to as many CoNPS members as possible, and to solicit your feedback, Steve Popovich will present a 10-minute overview of the change and its implications. Please join us to become informed of the new policy!

Steve Popovich, Field Studies Committee Chair

Aquilegia Volume 37, No. 4 Annual Meeting 2013

What Should be the Role of CoNPS: Advocacy or Stewardship?

The CoNPS Board of Directors is interested in engaging in a discussion about the future of the Society. This is not the first nor the last time that such a discussion will take place. It is good for an organization to take a look at itself to evaluate where it is and to contemplate where it's going. CoNPS is and always has been primarily an educational organization. The question that the Board is asking now is: should CoNPS play a larger role in native plant conservation in Colorado, and if so, how? To start this conversation, let's take a closer look at the state of native plants in Colorado.

It will come as no surprise to CoNPS members that native habitats and native species in Colorado are under great threats. The most obvious threat is non-native and invasive species that alter ecological processes and reduce biodiversity. One of the main vectors for the distribution of noxious weeds is the large and growing activities of humans in Colorado. The population of Colorado is over 5 million and has doubled since 1975. And the projection is that our population will increase by another 50% by 2040. This population growth will mean more demand for various types of recreation, more active management of ecosystems to improve human safety and increased pressure to extract and control natural resources. This may result in more forest thinning, more post-fire or pine beetle restoration projects, more oil and gas drilling, more trails and a variety of other activities around Colorado. These activities, which will largely occur on public lands, will inevitably affect the character of our native habitats. The question for the Native Plant Society is: how have we dealt with the changing landscapes and activities in our state, and how will we do so in the future?

After looking at the mounting threats to native plants in Colorado, the Board has approached this question through the lens of the Society's mission. The Society's mission states: "The Colorado Native Plant Society is dedicated to furthering the knowledge, appreciation and conservation of native plants and habitats of Colorado through education, stewardship and advocacy." There is likely agreement that the focus of the Society's attention should be on native plants and habitats of Colorado. And the general 'tools' that the organization will use are clearly stated: education, stewardship and advocacy. While the goals of the society and the tools to achieve them are clear, one of the main uncertainties is how the organization has and will employ these tools to further the status of native plants.

Education has, by far, been the main focus of our Society. We are incredibly adept at giving people opportunities to observe, appreciate and learn about native plants. Whether through a myriad of field trips, highly popular workshops or great gardening resources, CoNPS is at the forefront of native plant education. And we should be proud of what we have accomplished. The knowledge and appreciation of native plants in Colorado is definitely greater due to our efforts. Along with extensive educational outreach, the Society has also been involved in some conservation successes through both stewardship and advocacy. We have garnered volunteers to battle weeds; we have raised funds to protect essential habitats; and we have signed on as supporters of plant conservation lawsuits. But, any analysis of how the CoNPS members, volunteers and leaders spend our time and effort would confirm that CoNPS is primarily an education-oriented organization. Given the growing challenges to native plant conservation in Colorado, there is growing uncertainty as to whether the current efforts of the Society can match the increasing threats to native plants.

Therefore, a question the Board would like to pose to the membership is: should CoNPS adjust our focus to better address the need for native plant conservation through stewardship and advocacy? To better answer this question, it is important to clarify terms and possible outcomes of such an effort.

The simplest definition of stewardship, for the purpose of this discussion, may be: "directly performing plant conservation activities". Given the growing threats to native habitats, there is a need for more people 'on the ground' helping to reduce threats and restore disturbed ecosystems. For CoNPS to focus more attention on stewardship, that would mean more efforts to get our members directly engaged in volunteer projects. Weed-pulls, fence-building, habitat restoration work, road obliteration or direct monitoring of ground-disturbing projects would fit into this category. CoNPS would work to directly provide more stewardship opportunities and we would expend more effort to partner with groups around Colorado to connect us to such projects. In addition, CoNPS could bring our native plant expertise to the table to improve the effectiveness of these projects and to educate other land stewards on the wonder and importance of native plants, thereby propping up our education efforts. To successfully improve our stewardship endeavors, CoNPS would need to ask current members to engage more directly in conservation work and/or we would broaden the Society's recruitment of members to include active stewards.

The next question is "what would it look like for CoNPS to play more of an 'advocacy' role for native plants?" Native plants don't currently have a loud and unified voice to advocate for them in public plans, policies and projects. There are advocates for wildlife, open space, rivers and other values, that provide an informed voice to contribute to the conservation dialogue. Given the large amount of public land we have here in Colorado, public land policies and plans have a great influence on the condition of our native habitats, the building blocks of which are native plants. Yet, native plants are severely under-represented when decisions are being made on the management of Colorado's native landscapes. The CoNPS Board would like to know if it is time to shift our focus to become stronger advocates for the plants we value and know so well.

First, we need to agree upon a definition for the term 'advocacy'. This definition is very important because 'advocacy' can take on many forms, some of which would be a greater departure from current CoNPS activities. There is 'political advocacy' which involves lobbying politicians to influence policy; there is 'legal advocacy' where lawsuits are the primary tool; and there is what we may call 'procedural advocacy' which involves voicing concerns and engaging land managers through existing public policy and planning channels. Procedural advocacy would involve things like commenting on federal resource and land management plans or attending public meetings to provide a voice for native plants. Currently, CoNPS does engage in some advocacy. We infrequently support a lawsuit to encourage the federal protection of a species (legal advocacy) and we sometimes submit comments on federal activities (procedural advocacy). We do not have a lobbyist to speak for rare plants in the Capitol building (political advocacy).



Gaillardia aristata Photo by Dave Elin

If CoNPS were to take on more of an advocacy role, the focus would be on more 'procedural advocacy'. The definition that the Board would like to put forth is "influencing public policy through available procedures to improve the conservation of native habitats on public lands". The focus would be on more collaborative, civil engagement with our public land management agencies such as the U.S. Bureau of Land Management or U.S. Forest Service. We can utilize our expertise and passion for native plants to enhance their conservation. The educational foundation of our organization could naturally position CoNPS to be a resource for public land agencies. We could be a conduit for knowledgeable professionals and citizens who can respectfully express our concerns and offer alternatives. This would not mean we need to be an adversarial organization that chains ourselves to bull-dozers or gets enmeshed in politics. Think The Nature Conservancy, not Greenpeace or WildEarth Guardians.

The pros of more procedural advocacy could be:

- *Native plants would be represented as federal agencies decide how to manage our native landscapes
- *Disturbance of native habitats could be reduced, avoided or mitigated to a greater degree
- *CoNPS could combine our voice with advocates of other values to improve the conservation of Colorado's irreplaceable habitats

Cons of CoNPS pursuing procedural advocacy could be:

- *CoNPS spreads ourselves too thin and our educational activities suffer
- *Federal land management agencies see CoNPS less as a general constituency, or unbiased native plant 'consultants', and more as an advocate, with viewpoints that may sometimes differ from that of the agencies
- *Without appropriate oversight and controls, CoNPS members or chapters could take on a more adversarial approach to advocacy and damage the reputation of the organization
- *A CoNPS advocacy position could be in conflict with personal positions of individual members

If CoNPS membership and the Board decide that we should broaden our scope to more actively engage in stewardship and/or advocacy along with education, one last question is: "How?" An adjustment of the focus of the organization will, by necessity, require that more resources (e.g. time, funding, volunteers) be devoted to stewardship and/or advocacy work. The educational focus of the Society is one that will always be a primary endeavor that is a foundation for any stewardship or advocacy work. But CoNPS would either need to find ways to grow or to reallocate existing resources to be more involved in native plant conservation. To be more active stewards or conservation advocates, CoNPS would likely need to ask more from its current members, either in the form of volunteer time or funding to support a 'conservation coordinator'. And we may need to think about recruiting more members who are interested in broader activities. This could change the makeup of our organization and the way that CoNPS is seen and how we see ourselves. Chapters would also need to take on more responsibility to mobilize members and take part in local public land projects and plans. And, of course, there is the fundamental question of how CoNPS as a whole will decide what advocacy stances we will take. Depending on how these things play out, there could be substantial changes to our organization. The Board is interested in having a dialogue with you, the current members, to find out if this is a route that we want to take.

At the CoNPS Annual Meeting on September 28 & 29, this topic will be on the agenda to further engage the membership in the discussion of CoNPS role in plant conservation. And soon after, we will be distributing a survey to all members to get a better feel for your views on this topic, including: how CoNPS should be spending its time, how you feel about CoNPS role in conservation and what changes members would accept. We look forward to having this discussion with you all, and we thank you for your support of CoNPS. At the end of the day, our main goals are to do what is best for native plants in Colorado and to do what is best for our members.

Sincerely,

The CoNPS Board of Directors

FROM OUR ARCHIVES (1976)

A MESSAGE FROM THE PRESIDENT

As your President, I think I should extend a greeting to all of you in this first newsletter and to try and point the directions I think we ought to take during this first year of our existence as a society dedicated to the preservation and conservation of the native plants and vegetation of Colorado.

We are going to have to provide our own peculiar brand of leadership and expertise to the nervous system of the Endangered Species Act in Washington; we are going to have to inform and try to stand on common ground with farmers, ranchers, miners and developers, who are suspicious of the potential effect of the Act on their livelihoods; we are going to have to define, for our region and its peculiar problems, just what we mean by “threatened” and “endangered”, and the scientists among us are going to have to spend some time with the biology of these plants to find out just why they are threatened or endangered.

Recently, I had a very interesting conversation with a student, who, for a class project, was tackling the problems of the Wood Lily (*Lilium philadelphicum*). Do any of us really know why this plant is scattered in isolated, few-plant stands, why it is endangered here, what might be done to encourage its increase, and what precisely are the ecological characteristics of its optimum habitat? I am sure that we will find, as ornithologists have, that there is an enormous contribution of the patient observation, note-taking, and use of gray cells on the part of dedicated amateurs.

This year we should plan to refine our Society’s list of threatened and endangered species and to try to spell out the particular circumstances of each as far as we are now able. We will try to see that truly endangered ones will find their way on the official lists. We should also accumulate a list of sensitive geographic areas of concentrations of these plants. I should like to suggest that the Hoosier Pass area would be an excellent place to begin such efforts.

Hoosier Pass is probably the most critical spot in Colorado for concentration of rare alpine plants. *Armeria maritima*, *Eutrema penlandii*, *Braya humilis* and *Ipomopsis globularis* occur here at their only known Colorado or world stations; other species are only a little less restricted. The site is easily accessible but both sides of the Pass are being developed with summer homes. Who owns the pass proper? How safe is it from encroachment? What would be necessary to preserve it or give it a “landmark” status? I feel that we as a Society will have gone far along the road to saving our most significant endangered plants and habitat if we could accomplish something for Hoosier Pass this year.

How much should we educate the general public in the recognition of threatened or endangered species? Do we need a kodachrome file or a coffee-table book with plates? This is a sword that cuts both ways. In Norway a rare species of *Lactuca* is said to have been put on the endangered list and protected by a fence in northern Norwegian Lapland. We are told that Professor Nordhagen and his colleagues decided to visit the site after about twenty years and it see how it was doing. They arrived at the site and found that the plant had been exterminated within the fence, but was flourishing outside. The school children, having to make plant collections during the summer, knew that the plant within the fence was what they were after, but may not have been quite so sure about those growing outside. Perhaps we should also keep before us the example of the Yellow Lady’s Slipper, which has survived in Colorado simply because most of the colonies occur on private land guarded by sympathetic owners. Most of the Colorado public have never seen one and perhaps this is a good thing. Or is it?

While this society is a combination of amateurs and professionals, I would argue that this is not simply a “Botany” club established for general information and socializing. We do have a mission, and perhaps when we accomplish the mission we should disband. The likelihood of ever making Colorado safe for plants, however, is very low. Let us keep our eyes on the goal we have set, so that within a reasonable time, say the next 5 years, some real progress will have been made. I am grateful for having been honored with the baton for 1976-1977 and I hope to get to know many of you better during this time in office.

Sincerely,
William A. Weber

The first newsletter of the Colorado Native Plant Society was published in 1976. This issue and all of the issues of the *Newsletter of the Colorado Native Plant Society*, which later became *Aquilegia: Newsletter of the Colorado Native Plant Society*, have been digitized by Regis University and are stored and freely available online as PDF files in RUDR, the Regis University Digital Repository. You can access the first issue, and all other issues of *Aquilegia* by going to the CoNPS website newsletter page, which can be found on the CoNPS website at <http://www.conps.org/News/newsletters.shtml> This page contains a link to RUDR, where the newsletters are arranged by year. Print copies of all of the newsletters and the minutes from early CoNPS Board meetings are kept in the Regis University Archives. See <http://libguides.regis.edu/conps> for details.

A Tribute to Ann Henson



Photo by Tim Henson

The CoNPS Board of Directors would like to pay special tribute to the service and contributions of Ann Henson. Ann unfortunately passed away on June 13 but left behind a legacy of service, passion and great energy. Ann's botanical resume is long and distinguished, and our knowledge and appreciation of Colorado's wildflowers and lichens is better for her tireless efforts.

With CoNPS, Ann served as Society president, Workshop Chair, Society secretary, and a chapter president. Ann may have been one of the only members to hold multiple statewide offices at the same time! Ann led numerous CoNPS field trips and workshops. Ann's teaching style was inspiring. Through great knowledge and passion, Ann would spark excitement for the flora that we love. Exploring, laughing and learning along with her students, Ann was a great model of CoNPS passion for education.

But Ann's contribution to Colorado went beyond the Society. Ann thrived when she was outside and when she was serving. She used her botanical skills to contribute to the Colorado Natural Areas Program, Boulder County, the Adopt-A-Rare Plant Program, Rocky Mountain National Park and the Denver Botanic Gardens. Whether convincing her friends to collect data from transects near Meeker, creating a list of flora from Rabbit Mountain near Longmont or cataloguing lichens in the alpine near Trail Ridge Road, Ann was an explorer and a giver.

Ann, you will be missed. You serve as an inspiration to us in the Society, and your contributions to our organization and our State will live on.

Brian Kurzel, CoNPS Board of Directors

Ann is survived by her husband, Tim Henson. A celebration of Ann's life will be held August 24, 2013 at 11:00 at Sandstone Ranch in Longmont. If you plan on attending, please RSVP Tim at 2henson@kwabena.us.

Donations in honor of Ann may be sent to TRU Community Care, 2594 Trailridge Drive East, Lafayette, CO 80026-9928.



Ann and Tim Henson Photo courtesy of Tim Henson

Two Summers Among the Rocks: Remembering Ann Henson by Chris Lea

I met Ann Henson in 2009 as the answer to a National Park Service problem. I was working for the agency's national Inventory and Monitoring Program with the vegetation mapping component. We had a small amount of funding to examine ways to characterize the composition of natural communities on outcrops and talus in the parks. Describing them from their vegetation components would free them from the ignoble end of being mapped simply as geologic features or, worse yet, as "barren." However, such an endeavor would require a very good working knowledge of lichen identification, which we didn't have.

Ann met me at my office in Lakewood and we talked about the project and what it would take. I'd pretty much decided that she was the person who could pull this off. Although I wasn't likely to find many folks able to identify crustose lichens and wasn't offering a whole lot more than gas money, Ann asked, "Don't you want to see if I know anything before you hire me?" Well, yes, I supposed so, but I was more concerned with working out the project methodology, which was just beginning to form in my head. Ann and I visited a field site near Allenspark with the impressive name of "Ironclads" for a dry run. It was a productive day, and we were quickly able to refine my rudimentary sampling ideas and integrate them with Ann's lichen skills into a fairly efficient routine that Ann and colleagues would carry out at 24 other sites.

Using mapped elevation, geology, and general vegetation cover data, we located a variety of outcrops and boulder fields throughout the east side of Rocky Mountain National Park, a frequent proving ground for methods testing by the National Park Service national program offices in Colorado. Ann proved herself to be a skilled motivator and recruited a number of

friends and husband, Tim, as volunteer field assistants, with Ann and Tim backpacking into the Mummy Range for one long field session. Meticulous about her identifications, Ann engaged her network of experts, including Bob Egan, Scott Bates, Bill Weber, and Larry St. Clair to help with taxonomic questions, and our early unknowns graduated from names of descriptive convenience (“bumpy, shiny brown”) to Latin (*Melanelia stygia*). I agreed to fill in on Sherpa and data recording duties as the work shifted more to the remote alpine field sites, such as the Twin Sisters, Mount Chapin, Spearhead, and Chasm Lake. Our routine usually involved a dawn meeting in Lyons for a car pool and a spirited early morning hike to ensure getting a site’s data completed and to be headed to the car before the anticipated the summer afternoon storms.

Ann was everything one could want as a project leader and as a field colleague. She had great energy, an unflagging enthusiasm for her chosen subject, and meticulous attention to detail.

Around lunchtime, some freshly baked goodie would appear to top off the mid-day break. As Ann explained, tasty bribery was key to recruiting friends to serve as her assistants.

When the project was over, Ann’s energy for the work hardly wavered. In short order, she wrote up the results and got them published in a paper in *Evansia*, even as I was still struggling to complete an agency technical report.



In celebration of the end of the project, Ann organized a dinner for her “crew” at the Henson house. We were treated to Tim’s slide show documenting the progress and adventures of the field work. It was a time to reflect on memorable moments from those long days spent among the rocks: a close encounter with a resident weasel who happened to be the proprietor of one our boulder

field plots, sharing a field plot space with the park rescue team as they hurried through, finding blooms of the diminutive, but spectacular dwarf columbine (*Aquilegia saximontana*) among the boulders. And learning the names of my new saxicolous acquaintances to which I was introduced by Ann.

It was a joy and privilege for me to work with and learn from Ann. She possessed an uncommon combination of generosity with her time and knowledge, passion for learning, and keenness of observation. It was clear that she was a kind of “gentle force” pushing ahead botanical understanding and plant conservation in Colorado.

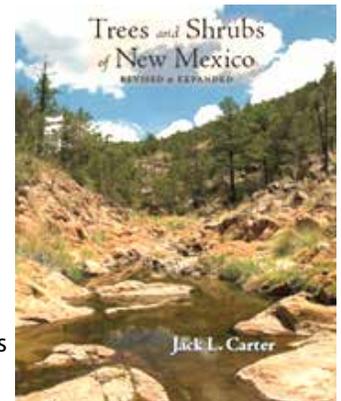
Chris Lea is a CoNPS member and consulting botanist who recently relocated to Napa, California. He formerly lived in Pine and in Alamosa, Colorado, when he was an ecologist for the National Park Service Vegetation Inventory Program. During his nine years in Colorado, he was a volunteer steward for the Natural Areas Program at the Antero-Salt Creek site in South Park.

New Books

The first two books are available through the CoNPS Bookstore. Contact Linda Smith at conpsoffice@aol.com to check availability and to place an order.

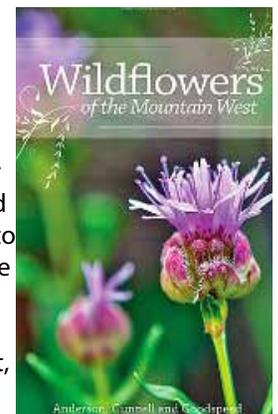
Trees and Shrubs of New Mexico by Jack Carter. Rev ed. Silver City, NM: Mimbres Publishing, 2012.

“Three years in the making, the fully revised and expanded *Trees and Shrubs of New Mexico* is now available! Now including color photos on almost every page, in addition to the more than 450 detailed botanical illustrations, and with 21 more species than in the first edition (bringing the total to 496), this book is both a dichotomous key and a gorgeous presentation of New Mexico’s woody flora.” (description from website www.mimbrespublishing.com)



Wildflowers of the Mountain West by Richard M. Anderson, JayDee Gunnell, Jerry L. Goodspeed. University Press of Colorado, 2012.

This book is a photographic guide to wildflowers of Utah, Nevada, and southern Oregon and Idaho, northwestern New Mexico, and western Colorado. Arranged by flower color, this spiral bound book is geared for amateurs. Two pages are devoted to each plant: one page includes multiple color photos of the plant; the facing page gives plant size, description of flower and leaves, bloom time, habitat, elevation range, and a distribution map. In many cases, a look-alike plant



is mentioned. A large geographic area is covered, but many of the plants in the book do occur in Colorado. Some of the species are only found in Utah.

Introductory material discusses the geological history and features of the Mountain West defined as the area between Colorado's Front Range and California's Sierra Nevada Mountains.

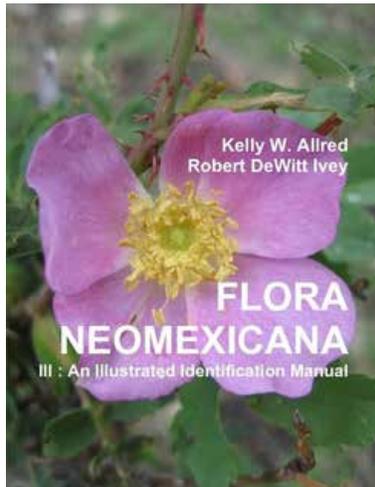
A quick key in the back allows the user to find plants in a table giving flower arrangement, flower color, and other features. An index is included.

Anderson is the nursery and greenhouse manager for Utah State University Botanical Center. Gunnell and Goodspeed are Horticulture Associate Professors with Utah State University Extension.

Book Review by Jan Loechell Turner

Flora Neomexicana III : An Illustrated Identification Manual by Kelly Allred and Robert DeWitt Ivey, Eugene Jercinovic, editor, 2012. Available from www.lulu.com.

From New Mexico State University Range Sciences Herbarium website: "Identification keys are provided for the 3783 species (and 4204 total taxa) of vascular plants found in New Mexico. Approximately 1600 species are illustrated. A glossary of terms, and notes on habitat, distribution, and ecology are provided for each species. Available in paper- and hardbound versions; 8.5 x 11 inches; 719 pages." <http://aces.nmsu.edu/academics/rangescienceherbarium/documents/fnm-announcement.pdf>



Kelly Allred, PhD, spent 32 years as a faculty member in the Animal and Range Sciences Department of New Mexico State University in Las Cruces, NM.

The book's illustrator, Robert DeWitt Ivey, passed away June 23, 2013 and there will be a special tribute to him and his wife, Vivian, at the 2013 Annual Conference of the Native Plant Society of New Mexico (August 8-11, 2013 in Albuquerque). He was best known as the author and illustrator of *Flowering Plants of New Mexico*. <http://www.npsnm.org/>

CHAPTER FIELD TRIP UPDATES

Metro Denver Chapter

July 27th, 8:00 am, Grasses of the Front Range Montane Field Trip - David Buckner

July 28, Sunday, 7 am to 5-6 pm (NEW) Shelf Lake Field Trip

Presenter: Jeanne Willson

This 6+ mile, 1900+' elevation gain hike climbs steeply up out

of the Geneva Creek Basin off the south side of Guanella Pass into the high alpine. The subalpine flowers can be diverse and beautiful, but the alpine display may take our breath away, if we are lucky. Hikers new and old may want to bring a notepad or field book, camera, and field guides. The trail is rough, steep, and beautiful most of the way. Please come prepared for a Colorado hike: bring the usual Colorado hiking gear - hiking boots, serious rain gear, 1.5 to 2 liters of water, hiking poles, other 10 essentials, etc. Please come adequately equipped for warm to very cold/wet weather. Feel free to contact me (Jeanne) if you have questions about hike preparation, especially if you are new to Colorado. Our pace will be moderate due to steepness and the high altitude.

We'll meet to carpool at the Park N Ride at Hampden and Wadsworth for a departure at 7:00 sharp. Quick coffee/bathroom stop in Conifer. Guanella Pass Road is unpaved and a little rough; the last mile, we'll need high-clearance or 4WD vehicles, so please volunteer to drive if you have an appropriate vehicle. We plan to return around 5-6 pm, but it is a long hike and a return time of 7 pm is possible.

Your trip leader, Jeanne Willson, holds a PhD in Botany but more importantly has a deep love for all natural history and for canoeing the rivers and hiking the mountains, prairies, and deserts of the western US and Canada. Registration at www.conpsshelflake.eventbrite.com

Date Changed to August 10. What's Going on in These Fens, Anyway? Field Trip. Presenter: Steve Yarbrough.

Northern Chapter

July 28, 9 a.m., Wildflower Walk: Dunraven Glade, Big Thompson Canyon.

August hikes are tentatively scheduled for August 10, 13 & 25

Plateau Chapter

August 4, 9 a.m. Yankee Boy Basin.

With summer in full swing in the mountains the Plateau Chapter is going to team up with the Black Canyon Regional Land Trust to take a joint field trip to Yankee Boy Basin outside of Ouray. We will meet at the BCRLT Ridgway Office at 160 Liddell Drive at 9:00 am on August 4th and then carpool to the Basin from there. If you are interested, please RSVP to me and/or the BCRLT website, <http://www.bcrlt.org/news/black-canyon-field-club>. Stephen Stern <stern.r.stephen@gmail.com>

The wildflowers have been spectacular in the mountains and the monsoon moisture should keep them happy!

Southeast Chapter

Saturday, August 3 MASON GULCH

Leader: Steve Olson

Registration at: leadersteve01@gmail.com

This trip explores the variation of burn intensity on native plant recovery after the Mason Gulch fire that burned nearly 12,000 acres several years ago. You'll see firsthand that fire is much more than just a destructive force. We'll also check out the influence of the plains on the flora and grasses in adjoining woodland and "open" habitats. Rated "moderate."

News & Announcements

Colorado Native Plants Yahoo Group

Ask questions, post photos of unknown plants, get answers from other members. Join the Colorado Native Plants Yahoo Group to communicate with other members by email. To join, go to <http://groups.yahoo.com>. In the search box, type *Colorado Native Plants* and click the "Search" button. The screen pictured below will appear. Click "Join This Group" under the photo of the flower. Follow the instructions to set up your account. Once your account is set up, you will receive the email conversations from other group members discussing plants and you can send in your own questions and/or answers.

YAHOO!
Groups

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ColoradoNativePlants



...who want to exchange information to further understanding and enjoyment of Colorado native plan

Members: 79

Archive: Membership required

Latest Activity: yesterday

Moderated: No

Created: 5 years ago

[Join This Group!](#)

FREE Webinar: Native Plants for Sustainable Gardens

Thursday, August 22, 1 - 2 pm., Free

By using site-appropriate native plants, you can significantly reduce the need for supplemental irrigation and excess maintenance in your gardens, while creating beauty and habitat for wildlife and pollinators. In this one hour introductory webinar, you will learn why native plants are beneficial for your garden, how you can use native plants in your garden, and specific native plants for Colorado gardens. Instructor Alexis Alvey is a Horticulture Agent with Colorado State University Denver Extension Office.

Register at <http://nativesforsustainablegardens.eventbrite.com>

Native Plant Landscaping Workshop

Thursday, September 5, 2013, 1 p.m. - 5 p.m. \$35.00

Colorado has a wealth of native plants, colorful wildflowers, grasses, shrubs and trees, which are well adapted to our variable climate, soils, temperatures and elevations. In this 4 hour class, you'll learn how to use native plants in your landscape, and be introduced to many beautiful, hardy native plants.

Instructor: Irene Shonle is the Extension Director for Gilpin County. She has a passion for native plants, and has been teaching about native plants since 2003. Class does NOT count toward certification as a Native Plant Master.

For more information, see www.conativeplantmaster.org.

2013 SILENT AUCTION REQUEST FOR ITEMS

This year's Annual Meeting will once again feature a silent auction. We would like donations of items in good condition, such as live plants, posters, note cards, ecological / biological / botanical books, jewelry - whatever you think would bring in a good bid!

For more information or to make a donation, please contact Chris Prah chprah@msn.com or Linda Smith at 970-663-4085 or conpsoffice@aol.com

Colorado Native Plant Society



The Colorado Native Plant Society is dedicated to furthering the knowledge, appreciation and conservation of native plants and habitats of Colorado through education, stewardship and advocacy.

Membership is open to all with an interest in our native plants and is composed of plant enthusiasts, both professional and non-professional.

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Aquilegia Volume 37, No. 4 Annual Meeting 2013

AQUILEGIA

Newsletter of the Colorado Native Plant Society

Aquilegia is the newsletter of the Colorado Native Plant Society and is available to members of the Society and to others with an interest in native plants. Four regular issues are published each year plus a special issue for the Society Annual Meeting held in the Fall.

Announcements, news, articles, book reviews, poems, botanical illustrations, photographs and other contributions should be sent to Jan Loechell Turner at JLTurner@regis.edu.

All contributions are subject to editing for brevity, grammar, and consistency, with final approval of substantive changes by the author.

Articles from *Aquilegia* may be used by other native plant societies or non-profit groups, if fully cited to author and attributed to *Aquilegia*.

Deadlines: Submissions to *Aquilegia* are accepted throughout the year, although the usual deadlines for publication are:

February 15 (Spring issue, sent out mid to late March)

April 15 (Summer issue, sent out mid to late May)

June 15 (Annual Meeting issue, sent out mid to late July)

July 15 (Fall issue, sent out mid to late August)

October 15 (Winter issue, sent out mid to late November)

Editor: Jan Loechell Turner JLTurner@regis.edu

Aquilegia Staff & Contributors: Charlie Turner, Sally L White, Linda Smith, and Mo Ewing.

Join the Colorado Native Plant Society



Membership in CoNPS entitles you to:

- Subscription to CoNPS newsletter, *Aquilegia*
- Field Trips to see wildflowers
- Educational Workshops by expert botanists
- Annual Conference
- Conservation and Restoration Activities
- Camaraderie of Plant Lovers from Colorado
- Local Chapter Educational Programs & Email Updates

MEMBER APPLICATION FORM

Name(s).....

Address

City.....State.....Zip

Phone ____ - ____ - ____ E-mail

MEMBERSHIP CLASS

Dues cover a 12-month period.

- Individual (\$20)
- Family / dual (\$30)
- Senior (65+) (\$12)
- Student (\$12)
- Organization (\$30)
- Supporting (\$50)
- Lifetime (\$300)

CHAPTERS

You are free to affiliate with any chapter you choose and to attend the meetings of any chapter. Chapters do not have drawn map boundaries.

Boulder Gore Range Metro-Denver Northern Plateau Southeast Unaffiliated

Send information about **volunteer opportunities**

OPTIONAL PRINT DELIVERY OF AQUILEGIA NEWSLETTER

Most members prefer to receive the newsletter electronically via e-mail (pdf file), and this saves the Society considerable printing and postage expense. If you would like to receive a print copy of the newsletter instead, check this box. Please note that print copies usually arrive about a week later than the electronic version. Please deliver a printed copy of *Aquilegia* by mail.

DONATION

\$ _____ General Fund

Endowments in support of small grants-in-aid of research:

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

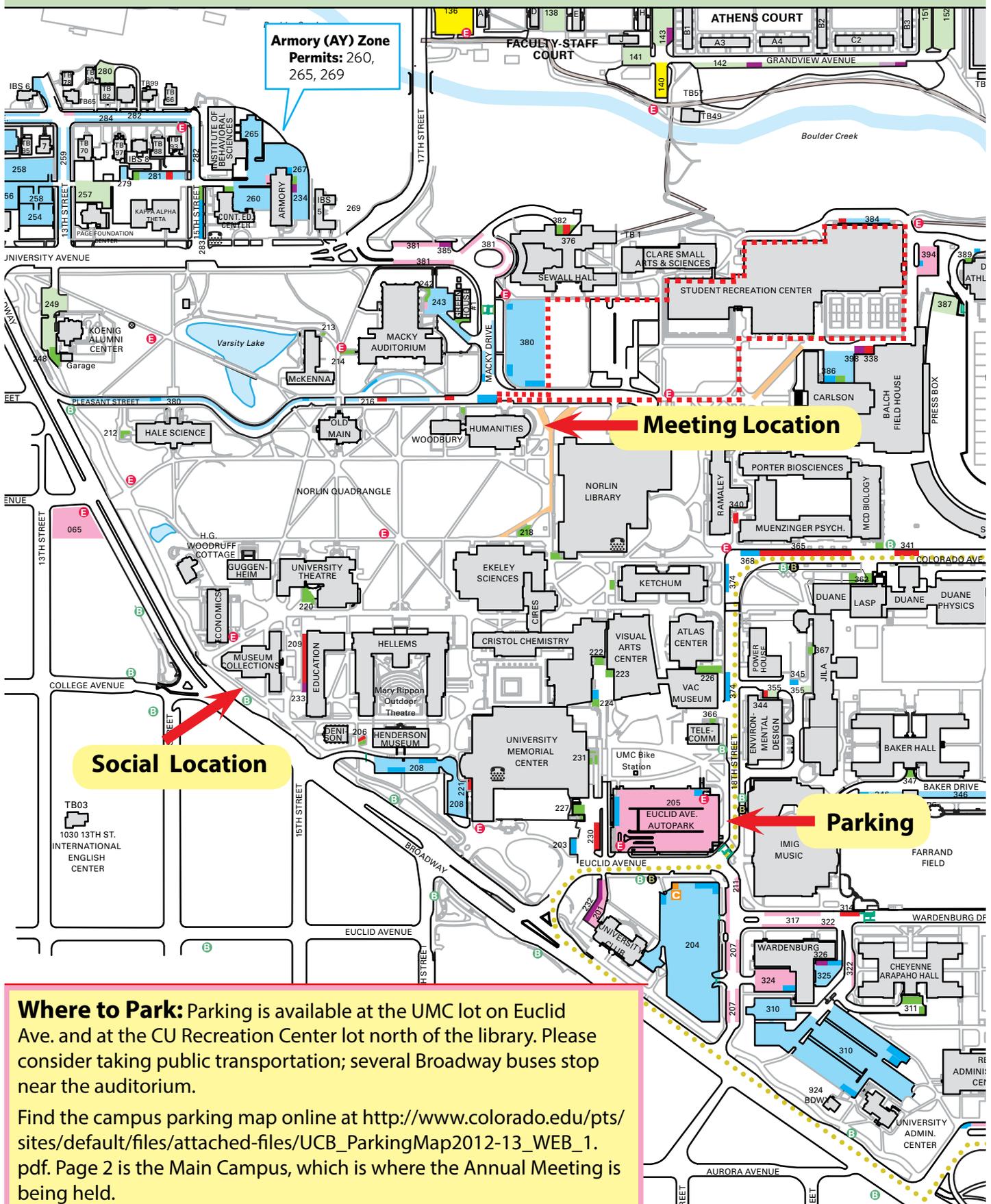
\$ _____ Myrna P. Steinkamp Memorial Fund: research and other activities to benefit the rare plants of Colorado

\$ _____ **TOTAL**

Mail to: CoNPS Office, P.O. Box 200, Fort Collins, CO 80522.

Please make checks payable to "Colorado Native Plant Society." Dues and contributions are tax-deductible.

CAMPUS MAP



Where to Park: Parking is available at the UMC lot on Euclid Ave. and at the CU Recreation Center lot north of the library. Please consider taking public transportation; several Broadway buses stop near the auditorium.

Find the campus parking map online at http://www.colorado.edu/pts/sites/default/files/attached-files/UCB_ParkingMap2012-13_WEB_1.pdf. Page 2 is the Main Campus, which is where the Annual Meeting is being held.



P.O. Box 200
Fort Collins, Colorado 80522
<http://www.conps.org>

Annual Meeting information is at http://www.conps.org/Annual_Meetings/2013/index.shtml



Jewel Mountain Photo by Dave Sutherland