



Bristlecone Chapter

Dedicated to the Preservation of California Native Flora

The California Native Plant Society

Bristlecone Chapter Newsletter

Volume 41, No. 6

November–December 2020

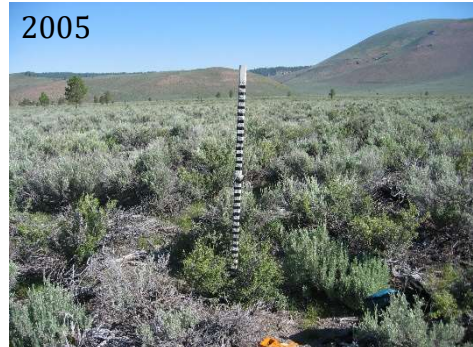
Vice President's Message

The summer somehow came and went. On the happy side, it turns out that aspen and willow still turn gold, and I hope everyone is finding a chance to see at least a glimpse, or to spend time cleaning the garden or get new plants into the ground. My solace this year has been re-visiting vegetation plots across the Inyo National Forest that were originally visited over 15 years ago (albeit on some days in my N95 mask!). Seeing the changes from drought and fires sometimes gives me the feeling we are living through some sort of grand experiment. As a scientist, I can't help but be fascinated by change, but as a person it can be dismaying—or worse. But I am convinced that nature always wins. Below is a photo sequence of the 2016 Owens River Fire in Crowley Basin. The sagebrush, bitterbrush, perennial grasses, and native annuals are returning and beating out cheatgrass on the flats. I'm hopeful about what the CNPS, land managers, tribes, and researchers are learning about restoration across the state and in our own area, and I'm hopeful that we can help tip the world's grand experiment in the right direction.

We need your help! Everything from taking on a board position, helping out in a community garden or with the plant sale, to contacting a board member with an idea you'd like to see our chapter pursue, please reach out to us. We will hold elections for board members in December. We most especially need a President! Our Conservation/Partnership Chair is also open. Other board members are willing to continue to serve, but if any positions interest you, please let us know. Several of us (including me as VP) are open to ceding to others, or to transitioning over time, e.g., by sharing some duties to give you a sense of what we do. Take care and hope to see you soon.

—Michèle Slaton

2005



2010



2017



2020



A photo point in Crowley Basin before and after the 2016 Owens River Fire. Photos by Michèle Slaton.

December General Meeting and Chapter Elections ONLINE

Bristlecone Chapter Virtual General Meeting/Annual Holiday Party

Despite being unable to hold our annual potluck this year, we will be having another joint party, online, with members of the Eastern Sierra Audubon Society. This will be a virtual event and ESAS is working on lining up the speaker. So more details about this Zoom party will be announced later. Please do join us in December as this will be the easiest party you've ever attended—in the comfort of your own home.

Executive Board Elections

We are working on setting up online voting. In the coming weeks, we'll email the voting instructions to all members.

Nominations of officers for the Executive Board are:

President: **Open for nominations**

Vice President: Michèle Slaton

Secretary: Kathleen Nelson

Treasurer: Sue Weis

Committee Chair positions open for nominations are listed in the chapter directory (pg. 7). Contact any officer in the directory if you are interested in volunteering or just want to send your thanks to those who have been volunteering their time for our chapter.

Seasonal Color Change in the Eastern Sierra



The last of the green chlorophyll pigments are present along the main veins of these quaking aspen (*Populus tremuloides*) leaves.



Fallen aspen leaves show a wide range of pigments as they decay, Lee Vining Canyon.

Between the pandemic, months of heavy smoke from the Creek Fire, and the closing of local National Forest wilderness areas and campgrounds, it has been a challenging autumn season for getting out to view the changing colors in the Eastern Sierra. However, high elevations have often been smoke-free in the morning, and numerous mountain roads and front-country trails allow easy access to golden orange and bright yellow stands of aspen, water birch, black cottonwood, and other deciduous trees and shrubs. What causes these colors, and what are the best conditions for producing the most vivid fall color?



Quaking aspens in a gully show a wide range of leaf colors, Upper Rock Creek Canyon.

The green color of leaves is due to chlorophyll pigments present in the chloroplasts of leaves. Chloroplasts house the photosynthetic “machinery” where absorbed light energy combines with water and carbon dioxide to drive the production of sugars for the plant’s growth and development. Chlorophyll is the most abundant pigment in leaves, and it absorbs light at red and blue wavelengths, reflecting green. Other accessory pigments, such as carotenoids, absorb light at blue-green and blue wavelengths, thus reflecting yellow. These additional pigments help create more efficient use of the sun’s energy. During the warm summer growing season, chlorophyll continually gets used up and regenerated in this process of photosynthesis. As the cold temperatures of autumn approach, chlorophyll production slows, and the more stable yellow and orange carotenoid pigments present in the leaves begin to show through.

A third type of pigment, anthocyanin, is produced in the leaves of some species under certain conditions. Anthocyanins help protect leaves from excessive late summer sunlight, and enable the plant to recover the sugars and nutrients present in the leaves just before they fall. Red anthocyanin pigments are produced when days are clear and bright—conditions that favor high sugar concentration in cell sap, and the subsequent production of more anthocyanins. It is these anthocyanin pigments that darken the orange of some aspen and birch leaves, and turn some leaves a brilliant red, such as creek dogwood. The most vivid reddish colors are produced after clear, dry, warm days and cool, dry nights that remain above freezing.



Yellowing aspen trees stand above American or creek dogwood (*Cornus sericea*), Bishop Creek Canyon.



Fall colors of quaking aspen, water birch (*Betula occidentalis*), and willows (*Salix* spp.) with a Jeffrey pine (*Pinus jeffreyi*), Lower Rock Creek.

Deciduous trees and shrubs drop their leaves to conserve water during the winter season. With colder temperatures and shorter days, and the ensuing loss of chlorophyll and slowing of photosynthesis, an abscission layer forms between the leaf petiole and stem. Plant hormones then signal for the cells in this layer to elongate and break away from the stem, sealing off the plant stem from water loss, and sending the leaf drifting to the forest floor. Fallen leaves scatter their fading colors over the ground, and eventually fade to brown. As leaves slowly decay, they feed insects, worms, fungi, and soil microbes, which act to release nutrients that plants can use for future growth. Autumnal sunlight thus acts to transform the aspen forests of the Eastern Sierra from green to yellow to leafless, as the earth tilts on its axis and carries our region into winter.

—Stephen Ingram



Black cottonwoods (*Populus trichocarpa*) and other trees line Pine Creek in Pine Creek Canyon. Photos by Stephen Ingram.

2020 Plant Sale Results

As with everything this year has thrown at us, the plant sale involved a lot of uncertainty and changes. We switched to an online sale which involved setting up a virtual store, learning how to use it, and then teaching the customers how to use it. It was a steep learning curve and there were a few glitches along the way.

I have to thank Maya Argaman, the state office's Horticulture Outreach Coordinator, who carried the bulk of the work to get the store set up, figure out how to use it, and train all of the plant sale coordinators throughout the state on how to use it. Maya uploaded all the plants that are commonly sold by many chapters so individual chapters only had to add the plants that are unique to their area.

The issue with every chapter sharing the site is that there needed to be a consensus on common names, and so we all used what Calscape lists as the common name. This created some confusion for our local customers as we used some new-to-them names, Inyo bush lupine instead of soda straw lupine for example. The other issue with creating the website and putting all the plant pictures up there was the need to be granted permission from the photographer to post each of their plant pictures. Maya used copyright-free photos that she found, but a lot of those were taken more for the purpose of plant identification. So they were close-up images rather than whole-plant pictures that would better show how a plant could look in the garden. Luckily the Bristlecone chapter has some excellent photographers who were willing to share their photos, so a big thanks to Steve Matson, Stephen Ingram and Lizzy Wenk.

The online store itself seemed to work pretty well; some of our customers said they liked it better than the in-person sale. The nice thing about it was the inventory was automatically updated in real time so as soon as someone bought a plant it was removed from the inventory. This feature made it easy to find out if the plant you want was still available. There were a couple of problems with the site itself where people had placed their orders, but the orders didn't get through to us so we couldn't reserve the plants buyers were expecting at pick-up. Luckily for the few people who had this problem, we still had plants in the inventory and we were able to fulfill their orders.

The biggest program obstacle was making the program work with the limitations of COVID-pickup needs. White Mountain Research Center limited the number of pick-ups to a max of five customers at a time. So allowing buyers to choose the time slot they would come get their plants was stretching the limitations of our setup. Plus when placing an order, the correct boxes had to be checked to get to the part of the website allowing you to choose a pick-up time. If done wrong, you got the wrong pick-up message, if done correctly, the correct date and time were shown at the bottom of the order.

After a successful order got through to my end, I could go in to the web program and see what and how many plants needed to be set aside for each purchase. I then checked a box to change an order's status to pending to help me keep track of what had been done. Unfortunately, if I did this an unexpected message was sent to the customer implying their order was ready immediately for pick-up (rather than at the scheduled time) which created more confusion. I now know not to use those buttons and to keep track of orders in a different way.

The sale itself was a success, especially considering all the changes. We had 14 fewer customers than last year, but they bought 375 more plants. (With all that time at home, people must've been expanding their gardens.) The post-sales have continued and we have sold 78 more plants. The inventory is down quite a bit now, but I am replenishing the stock with new plantings for the spring sale.

There will be a spring sale at the end of April or early May, although no details have been worked out yet. I am pretty darn sure it will be online—again, and pick-up will be at the research center. If you want to receive updates on the spring sale, log into your membership account at www.cnps.org and make sure your email preferences are set to receive information from this chapter about the sales.

—Katie Quinlan

Welcome to our Newest Members!

Brian, Jane, Julia, and Lori in our local eastside area; Ellen in Los Osos; and Nancy in Santa Barbara, we hope to have the chance to see more of you newcomers at our next virtual event. The virtual aspects makes it easier on those who aren't present locally. Big thanks to you all for your support and dedication to conservation with the California Native Plant Society and our local chapter here in the Eastern Sierra.



Reflection of fall colors on North Lake. Photo by Kim Cash.

Up-Coming Events

(For updated information, visit
www.bristleconecnps.org/events)

Wednesday, November 18, 6:00 pm

Bristlecone Chapter Board Meeting, ONLINE

All members are welcome to join this meeting by Zoom. Contact Kathleen Nelson at goatheads@aol.com to join.

December, Date TBD

Bristlecone Chapter General Meeting/Annual Holiday (Zoom) Party

We are planning a joint virtual meeting with Eastern Sierra Audubon Society before end of the year. The program and other event details are still TBD. Check your email and our website for updates.

Up-Coming Events

(For updated information, visit
www.bristleconecnps.org/events)

Wednesday, November 4, 7:00 pm

Wildfire in California Landscapes

CNPS Mount Lassen Chapter Virtual Program

Understanding how wildfires behave is basic to understanding fire control, fire effects, the beneficial use of fire, and the nature of threats to property such as homes. Fire behavior is a key to understanding and addressing the "fire problem". This overview will introduce you to how the fire environment affects fire behavior...the roles of humidity, solar heating, fuel type, seasonal drying, slope and wind. We'll consider typical fire rates-of-spread values, how fire will respond to changing conditions, and some common weather processes. We'll take a look at the role of fire behavior in such things as presumed "natural" fire levels and in fire line accidents.

Join Jim Bishop, a Cal Fire retiree who worked on wildland fire control and training. He is also trained as a Fire Behavior Analyst (FBAN), has taught in several national fire-behavior courses, served on the FBAN steering committee, and has developed materials used in those courses. He developed and taught a simplified method for applying the standard fire-behavior model for use by firefighters on the fire line.

Details and Zoom meeting link at
www.facebook.com/events/266557044649770

Check out more virtual events hosted by other CNPS chapters and recorded past events at
www.cnps.org/event/virtual-native-plant-events

Up-Coming Events

(For updated information, visit
www.bristleconecnps.org/events)

November 17, 6:00 pm–7:00 pm

Conservation Stories: A Virtual Lecture Series Featuring Maria Jesus

Maria Jesus is a graduate student at Claremont Graduate University (at California Botanic Garden) where she is completing a vascular flora of the southern Inyo Mountains. She has completed several field seasons monitoring plants in the Chihuahuan Desert, Sonoran Desert, Southern Plains, Southern Cascades, and the Great Basin. Maria is a Switzer Fellow (2019) and is passionate about advancing native plant conservation through her floristic research and beyond.

Join online for this discussion of the Southern Inyo Mountains along with CalBG Director of Conservation Programs, Naomi Fraga. You must register online to receive the Zoom link. The suggested program fee is \$10, but there will be an option to register for the talk free of charge.

www.calbg.org/event/conservation-stories-a-virtual-lecture-series-featuring-maria-jesus

Tuesday, November 17, 7:00 pm–8:15 pm

***Beauty and the Beast: California Wildflowers and Climate Change* by Rob Badger and Nita Winter CNPS San Diego Chapter Virtual Program**

Watch online a program on a 27-year wildflower journey with internationally acclaimed conservation photographers Rob Badger and Nita Winter. While artistically documenting the wildflowers in the magnificent landscapes from locations such as the Mojave Desert and Death Valley, you'll also hear about their non-traditional field approaches to achieve the photographs they published in their latest book.

More information and links to view the presentation is at:

www.cnpssd.org/events/2020/17/11/beauty-and-the-beast-california-wildflowers-and-climate-change

Up-Coming Events

(For updated information, visit
www.bristleconecnps.org/events)

November 17–19

Mitigation Measures & Monitoring With Emphasis on Botanical Resource Issues with David Magney

State CNPS Workshop, Online by Zoom

This workshop is geared towards botanists, wildlife biologists, consultants, and agency staff. The focus is primarily on botanical resources, but other non-botanical biological resources will also be discussed. Learn the framework for mitigation and mitigation monitoring, especially considering botanical resources, and how laws like CEQA can be leveraged to advocate for responsible mitigation measures that keep California's natural habitat resources in mind.

Pre-registration is required.

Three days for \$180, two days for \$140, or a single workshop for \$80

Capacity: 25 participants

Last Day to Register: Nov. 4, 2020

Go to the CNPS Workshops page for details and to register. www.cnps.org/education/workshops

Up-Coming Events

(For updated information, visit
www.bristleconecnps.org/events)

Thursday, November 19, 7:00 pm

Fuels management and forest restoration in the Sierra Nevada: the case for active forest management on the Valentine Reserve

Presented by Dr. Hugh Safford and Ashely Grupenhoff, UC Davis

**UC Santa Barbara Natural Reserve System
Fall 2020 Virtual Seminar Series**

Hugh Safford is Regional Ecologist for the US Forest Services (USFS) Pacific Southwest Region and a member of the research faculty in the Department of Environmental Science and Policy, UC Davis. Safford manages a staff of ecologists that provide expertise in vegetation and fire ecology, inventory, monitoring, and general applied science to resource management on the National Forests in California. Safford is the director of the Sierra Nevada region of the California Fire Science Consortium and manager of the USFS Research Natural Area program in California.

Ashley Grupenhoff is a current graduate student pursuing a PhD in Ecology with Dr. Hugh Safford at UC Davis. Her research focus is on the effects of prescribed fire and fuels treatments on tree physiology, species composition, and fire behavior. At Valentine Reserve, she wishes to assess the impacts of fuels treatment on fire behavior and tree growth, mortality, and regeneration.

Please register to watch this presentation. Go to the webpage below and find the link to this and other seminar topics to be presented this month.

<https://nrs.ucsb.edu/events/ucsb-natural-reserve-system-fall-2020-seminar-series>

Up-Coming Events

(For updated information, visit
www.bristleconecnps.org/events)

December 10–11 and 12–13

Poaceae I and II with J. Travis Columbus

UC Berkeley and local field site

Jepson Herbarium Workshop (Hosted Online)

This is a series of two courses offered for professional development in grass identification. Gain a better understanding of the ubiquitous, species-rich family, Poaceae. Participants will be instructed in detail on the vegetative and reproductive features of grasses. Aspects of anatomy, physiology, and ecology will also be addressed. Most of our time will be spent learning to use the identification keys in the second edition of The Jepson Manual. Common genera will be covered in the first course. The second course will focus on a greater variety of California genera and species.

Each course fee: \$350/380

Credit: This workshop has been approved for 7 Professional Development Credits by the California Consulting Botanist Board of Certification.

Go to <https://ucjeps.berkeley.edu/workshops/> for more information and to register.

**Please send any submissions to us by
December 15, 2020 for the next issue.**

Bristlecone Chapter Directory

President: **OPEN**

Vice President: Michèle Slaton 760-920-8693

Secretary: Kathleen Nelson goatheads@aol.com

Treasurer: Sue Weis treasurer@bristleconecnps.org

Chapter Council Delegate: Stephen Ingram

stephen@ingramphoto.com

Conservation/Partnerships: **OPEN**

Programs: Michèle Slaton 760-920-8693

DeDecker Grants: Michèle Slaton 760-920-8693

Field Trips: Sue Weis treasurer@bristleconecnps.org

Historian: **OPEN**

Bishop Plant Sales: Katie Quinlan

plant_sale@bristleconecnps.org

Mammoth Plant Sales: **OPEN**

Publicity: Gaylene Kinzy gkinzyreische@gmail.com

Newsletter: Elaine Chow newsletter@bristleconecnps.org

Membership: Elaine Chow membership@bristleconecnps.org

Website: **OPEN** webmaster@bristleconecnps.org

Hospitality: **OPEN**

T-shirt Sales: Stephen Ingram stephen@ingramphoto.com

DeDecker Gardener: Kelly Bahr

The California Native Plant Society

Bristlecone Chapter

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Note: If you still receive this newsletter via US Mail, please help the Bristlecone chapter save money, energy, and trees by sending your email address to newsletter@bristleconecnps.org so you can receive the electronic version.

Membership

The California Native Plant Society is an organization of laypersons and professionals united by an interest in the plants of California. It is open to all. The society, working through its local chapters, seeks to increase the understanding of California's native flora and to preserve this rich resource for future generations.

To join or renew online: Go to www.cnps.org and click on the JOIN/RENEW button at the top of the page, or mail the form below:

Name: _____

Address: _____

City: _____ **State:** _____

Zip Code: _____ **Phone:** _____

Email: _____

I wish to be affiliated with the Bristlecone Chapter: _____

Other: _____

Mail To / Make Payable To:

California Native Plant Society, Attn: Membership

2707 K Street, Suite 1

Sacramento, CA 95816

Gift Contribution: _____ Wherever needed ☐
Specific Area: _____

Membership Category

<input type="checkbox"/> Student / Fixed Income	\$25
<input type="checkbox"/> Individual	\$50
<input type="checkbox"/> Plant Lover	\$120
<input type="checkbox"/> Supporter	\$500
<input type="checkbox"/> Patron	\$1,000
<input type="checkbox"/> Benefactor	\$2,500
<input type="checkbox"/> Steward	\$5,000
<input type="checkbox"/> Guardian	\$10,000
<input type="checkbox"/> Additional Contribution	_____

Go Perennial! To become a monthly sustaining (perennial) member, join or renew online at www.cnps.org/perennial

Membership Type: ☐ New Member
☐ Renewal