DEDICATED TO THE PRESERVATION OF THE CALIFORNIA NATIVE FLORA

The California Native Plant Society

Bristlecone Chapter

Volume 31 No. 2
March-April 2010

March General Meeting
7:00 pm March 24, 2010, White Mountain Research Station, 3000 E. Line St., Bishop, CA. Steve McLaughlin will give a talk entitled "Botany at the other end of the world: the arid and semi-arid plant life of Argentina." Steve recently retired from the University of Arizona and is president of the Bristlecone Chapter. The public is invited.

March Bristlecone Chapter Board Meeting
7:00 pm March 17, 2010. USFS/BLM Conference Room, 351 Pacu Lane, Bishop, CA. Members are welcome.

PRESIDENT'S MESSAGE

Conservation of plant communities

Late last year CNPS published the long-awaited second edition of *A Manual of California Vegetation* (MCV2). The authors, John Sawyer, Todd Keeler-Wolf, and Julie Evens, are to be commended for the scope and scholarship of MCV2. It represents not just a milestone in the continuing development of our understanding of California plant communities, but also it will be an important tool in the struggle for the conservation of these communities.

Plant communities in MCV2, as in the first edition and in the California Natural Diversity Database (CNDDB), maintained by the California Department of Fish and Game, are defined floristically, that is, by their most abundant species. These communities are termed "alliances" in MCV2, and each alliance is given global and state rarity ranks. These ranks are defined essentially the same as for rare and endangered species. Communities ranked G1 to G3 are sufficiently rare to warrant conservation concern globally; those ranked S1 to S3 may or may not be widespread globally but they are rare within California. MCV2 points out that the several legal mechanisms, including the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), can be used to support conservation of rare alliances.

Consider alkali meadows. These are generally defined as groundwater-dependent plant communities dominated by grasses or grass-like plants (rushes, sedges) that are tolerant of alkaline soils. This is the most widespread type of vegetation in the Owens Valley. There are still disagreements on exactly how to define various types of alkali meadow, and more work is needed. I think the best treatment is that done by Sally Manning in her 1997 analysis of the vegetation sampling conducted to develop baseline data for the Inyo County-LADWP Long-term Water Agreement. In fact, one of my few complaints with MCV2 is that they

apparently did not look at Sally's report in developing their treatments of alkali-meadow type vegetation. Alkali meadows are the principal habitat for many rare plants (I count 27 taxa for alkali meadows in Inyo and Mono counties) and a few rare animals. Alkali meadows have been replaced by agricultural development throughout most of their range in California, and Owens Valley is home to much of what remains.

MCV2 defines six alliances that have been included within "alkali meadows" in previous studies. Two of these are fairly widespread: the *Distichlis spicata* (saltgrass) Herbaceous Alliance and the *Juncus arcticus* (var. *balticus, mexicanus*) (Baltic and Mexican rush) Herbaceous Alliance. But the other four are all relatively rare, and therefore should be considered in all CEQA and NEPA analyses. The *Leymus triticoides* (creeping rye grass) Herbaceous Alliance has a G4 S3 rank, common globally but restricted in California. The *Anemopsis californica* (yerba mansa) Herbaceous Alliance is ranked G3 S2, rare both globally and locally. The *Sporobolus airoides* Herbaceous Alliance is ranked G4 S2.2, which means that it is considered a threatened plant community in California.

The rarest form of alkali meadow is the final alliance recognized in MCV2, the *Spartina gracilis* (alkali cordgrass) Herbaceous Alliance, ranked GU S1. I assume "GU" means that its global status is unknown, and S1 indicates that it is known from fewer than "6 viable occurrences" or less than 518 hectares in California. In the Eastern Sierra, this alliance is known from Fish Slough, Deep Springs Valley, and Owens Lake. The Master Plan for Owens Lake, which will be developed this year, needs to pay particular attention to where this community occurs, what its status is, and how it should be conserved.

We could probably have used MCV2 to put up a better defense of Little Lake. Alkali meadow vegetation occurs there, but what specific alliances are present was never defined. Inyo County and its consultants got around this problem by simply ignoring its existence. The "certified wetlands specialist" hired by the County showed a good aerial photograph of a large extent of these alkali meadows to the Board of Supervisors and called it sagebrush-bitterbrush scrub! The County thus failed to determine whether any rare plant communities occurred at Little Lake, or to determine what effect groundwater pumping by the Coso Geothermal company in Rose Valley might have on that vegetation.

The lesson I hope I've learned from Little Lake is that not only is it important to have the best tools, but it is necessary to learn to use them effectively. With MCV2 we now have a better tool to help us in our efforts to conserve rare and threatened plant communities. Let's put it to good and effective use.

Steve McLaughlin

FROM THE EDITOR

If you haven't already contacted me, please leave a message stating your preference as to whether you would accept an electronic version of this newsletter or would prefer a hard copy. So far 37 people are receiving the newsletter electronically. The Bristlecone Chapter Board encourages members to choose the electronic option to save energy, trees, and money. Contact me at: 760-873-8943 or newsletter@bristleconecnps.org.

Next Newsletter Deadline: April 25, 2010

Send articles to: newsletter@bristleconecnps.org

EVENTS

2010 Field Trips

Another great line-up of field trips is planned for 2010 – read all about them and mark your calendars here: http://bristleconecnps.org/events/ .

2010 Spring Wildflower Exhibit

The Maturango Museum will be hosting its annual Wildflower exhibit April 9th-11th. Things are looking good this year, thanks to some early rainfall. Last year, despite lack of rain, we gathered a total of 218 species of flora from 45 plant families. Plants are arranged by family. Each plant is identified by its botanical name, as well its common name if it has one. The general area from which it was collected is also given.

In 2009 we had a new family, *Grossulariacea* (represented by *Ribes quercetorun* and *G. velutinum*), as well as new species of

Claytonia, *Caulanthus*, and a tiny *Gilia* that wasn't in any of the books.

Our range of collection is inside the drainage to our valley. This gives us from well over 6000 feet in the Sierras to below 2000 to the east. It also extends from the perimeters of Red Rock State Park on the south to the Fossil Falls area on the north.

Our total number of volunteers is usually over fifty and includes collectors with BLM permits, helpers to prepare specimens for display in the museum, and botanists to do the identifications. **Anyone from the Bristlecone Chapter who would like to assist us in any capacity is more than welcome.** Please contact Charlotte at 760-608-7884.

At 2 o'clock Sunday afternoon there will be a presentation of slides taken by local photographers. We have several with talent to match their cameras. These may include flowers that bloom in other seasons.

Sunday night, when all is done, new plants will go into the Museum Herbarium. An annual report is compiled of every species included in the current wildflower exhibit. (Such reports were started in 1985, and are an eye opener. They serve as a permanent record of the flora of our region of the desert.

The Maturango Museum is open daily from 10:00 to 5:00. For further information call 760-375-6900 or www.maturango.org See you there!!

Charlotte Goodson

FEATURES

Birch Creek Journal

We are teetering on the brink of spring here at Birch Creek. Ravens fly overhead with slender twigs in their bills. Pairs of Say's phoebes perform delicate aerial acrobatics along fence wires and telephone wires. Bewick's wrens, house finches, and lesser goldfinches sing with increasing conviction. Along the creek by our house, black cottonwoods (*Populus balsamifera* ssp. *trichocarpa*) have tight clusters of bracts at the tip of every branch, and the furry gray buds of arroyo willow (*Salix lasiolepis*) are pushing aside their yellow scales in preparation for bloom. Half a mile down the road, in fact, two arroyo willows already are in bloom, stamens poking from the catkins like bristles on a bottlebrush.

Last year, these same two willows did the same thing: they bloomed before all the other arroyo willows in the neighborhood. Like many botanists, I am interested in plant phenology–the timing of flowering, fruiting, leafing, and so forth–so I made a note about the two arroyo willows when Steve and I first noticed them blooming last year. But my interest in phenology took a nosedive as we continued on our walk and noticed a flock of small gray birds that looked like bushtits, darted like bushtits, and jingled like bushtits but had yellow breasts and yellow spots on their heads. It was a moment of staggering perplexity. Back at home, we combed our bird guides and came up with nothing. The birds we had seen clearly did not exist. It took a while, but the penny finally dropped. While foraging for bugs among the early-blooming willows–the only plants in flower in the entire neighborhood–our birds must have been liberally dusted with willow pollen. They were not some mysterious gray and yellow bird but, purely and simply, bushtits in need of a bath.

This year the same two willows started to flower on February 18, give or take a day or two, which is a week later than last year. Because development of flower buds and flowers is a function of heat–more heat means faster development–spring-flowering plants bloom earlier after a warm winter than a cold one. Yet I doubt that this winter was colder than last, although I have no data to prove it. All I know is that near our house the creek did not freeze over for the first time in three years, which suggests that this winter was warmer, not colder, than the previous one. And yet the willows bloomed a week later this year.

I suspect that the discrepancy comes down to sample size. I knew a geologist who liked to say that sampling is the sick side of science, by which he meant that you sample until you can't get the boredom out of your head, and then you sample some more. Two trees are not much of a sample, and two years are hardly any time at all. In a properly conducted phenological study, I would mark ten to twenty trees growing near a weather station. Every week throughout the growing season, I would examine the same branch on each tree and record its phenological status: buds, first flowers, full bloom, green fruits, ripe fruits, dispersing seeds. After ten years, I might have some data worth talking about. After fifty years, I could make a good guess as to whether arroyo willow had responded to

climatic warming with earlier and earlier bloom (hint: it probably already has). By then, I might have answers to subsidiary questions having to do with the animals that depend on arroyo willow for food–the beetles that eat the leaves, the bees that gather the pollen, and the bushtits that find tiny insects in the newly opened flowers.

Fortunately, you need not wait decades for me to get my act together. About six years ago, Julio Betancourt, a scientist with the U. S. Geological Survey in Tucson, teamed up with Mark Schwartz of the University of Wisconsin in Milwaukee to form the National Phenology Network (http://www.usanpn.org/home). The goal of the program is to gather enough data on enough species for enough years that scientists can not only observe phenological changes as the climate grows warmer but also predict how these changes will ramify through the ecosystem. The program depends on citizen scientists to make phenological observations of selected plant species throughout the growing season. Program scientists have come up with a list of two hundred plant species that seem likely to provide the kind of information needed. A number of these are common in and near the Owens Valley, including big sagebrush (*Artemisia tridentata*), antelope bitterbrush (*Purshia tridentata*), black locust (*Robinia pseudoacacia*), common sunflower (*Helianthus annuus*), creosote bush (*Larrea tridentata*), Woods rose (*Rosa woodsii*), and many more. For Woods rose, the common wild rose along roadsides and in pastures throughout the Owens Valley, citizen scientists are asked to note the presence of flowers or fruits and to keep track of leaf development from emergence of new leaves in spring to coloring and dropping of old leaves in autumn. The web page has full details for each species of interest as well as helpful videos explaining how to collect the data.

When I worked at the Desert Laboratory in Tucson, I undertook a five-year phenological study. I marked ten plants each of ten different species, and every week I went from plant to plant with clipboard and pencil in hand, recording what I saw. It was tedious sometimes (the sick side of science, you know) but on the whole it was more marvelous than tedious. Engelmann prickly pear was one of my study plants for a time, and I got to know it well. Every spring I watched as tiny buds no bigger than a child's thimble swelled to the size of ping-pong balls then opened into teacup-sized flowers. Inside every flower was a single pistil, a veritable forest of stamens, and, hidden deep within the flower, a pool of honey-scented nectar. Bees, no doubt with the feeling of taking their lives in their hands, dove into the mass of stamens and completely disappeared, leaving no sign except the coordinated wiggling of anthers and filaments as the bee worked its way deeper and deeper into the blossom. Some of the thimble-sized buds swelled not into flowers but into new pads so tender and juicy that it was no surprise when half of them every year were eaten by javelina, packrat, and ground squirrel. In late summer, long after the flowers had dried up and dropped off, the fertilized ovaries turned from green to reddish-purple, nature's way of flagging sweet and luscious fruits that are ready to eat. An Engelmann prickly pear in full fruit is a late-summer feast for every mammal in the vicinity. And not just mammals: one day I got to see a desert tortoise tear at and eventually consume an entire fruit, spines and all. (Full disclosure: I deliberately knocked the fruit on the ground, then nudged it toward the tortoise with the tip of my pencil.) Even yellow jackets got into the act, wallowing in the juices of split fruits that lay on the ground.

The other species I monitored were no less interesting than Engelmann prickly pear. You can see a lot in five years of careful observation. My phenology study was an education in itself and eminently worth doing. Take a look at the web page for the National Phenology Network. You might find a niche as a citizen scientist.

Jan Bowers

CONSERVATION

DFG Capitulates, DWP Prevaricates

In the Jan-Feb 2010 issue of this newsletter I wrote about the California Department of Fish and Game's (DFG) DEIR regarding operation of their statewide fish hatchery and stocking operation. In response to comments I submitted for the Bristlecone Chapter, DFG had proposed to reduce pumping for the Blackrock Hatchery to mitigate the devastation to rare alkali meadow habitat the excessive pumping is causing. I had noted in my Jan-Feb newsletter article that neither Inyo County nor DWP were pleased with the proposed mitigation and wondered whether DFG would have

the backbone to retain the mitigation in the final EIR in light of this opposition.

Will any readers be surprised to learn that DFG capitulated?! To justify its capitulation, DFG was reduced to arguing that the pumping impacts occurring in response to groundwater drawdowns of 1988 mysteriously ceased to occur after the 2004-2008 baseline period used in DFG's analysis. The water table drawdown remained, but resulting desertification, for no reason, suddenly ceased. Pretty lame! So lame, in fact that the Owens Valley Committee has sued DFG over the inadequacy of the EIR regarding pumping for the Blackrock and Fish Springs hatcheries. After working so hard and litigating for years regarding mitigation projects, it is very gratifying to see OVC becoming active in groundwater management issues. Please consider making a contribution to support their work: for details visit the OVC website at www.ovcweb.org.

While it was disheartening to read of DFG's capitulation, reading DWP's comments on the DEIR (printed in the final EIR) was fascinating and very instructive. I'll restrain myself to two examples.

First, DWP's comments provided further proof that someone at DWP not only reads the Bristlecone Chapter newsletter, but reads my articles in particular (I wonder how much the poor soul who has that job gets paid?)! I know this is true because DWP's comments actually included a quote from my Nov-Dec article. The quote was "I was particularly surprised and pleased to see this pumping reduction proposed as mitigation." I was referring to DFG's proposed mitigation measure BIO-13, which would have put an 8000 af/yr ceiling on pumping for the Blackrock hatchery. The surprise I expressed was cited by DWP in its comments to imply that CNPS members are rank amateurs, not accustomed to being taken seriously, unlike DWP's professional staff and renowned consultants!

Elsewhere in its DEIR comments, DWP contradicted a story it had been telling for at least 21 years. In an article in the July 1989 issue of this newsletter, Bristlecone Chapter founder Mary DeDecker wrote: "When extreme groundwater pumping [by DWP] began to reduce the flow in Black Rock Spring… the Department of Fish and Game expressed concern. So the DWP gave them [DFG] permission to drill a new well just north of the Black Rock rearing ponds…When embarrassing questions are raised [regarding pumping impacts], now, the DWP finds it easy to blame the Dept. of Fish and Game."

Fast forward to the Inyo-LA Technical Group discussion of the 2009 pumping program (May 2009). DWP asserted that DFG controls pumping at fish hatchery wells. Fast Forward to the Technical Group meeting of Dec 11, 2009. DWP staff asserted that hatchery well 409 had been "paid for [and] drilled 100% by DFG."

Now, consider what Gene Coufal wrote in DWP's DEIR comments, submitted just a few weeks before the Technical Group meeting "LADWP …is the owner and operator of wells supplying both [Blackrock and Fish Springs] hatcheries. Hmmm.

Remember this example the next time you read about Mayor Villaraigosa's commitment to environmental protection in Owens Valley, or hear about how DWP has changed and "gone green."

Daniel Pritchett

MEMBERSHIP

The Bristlecone Chapter heartily welcomes the following new members:

Meredith Jabis - Bishop
Russell Kokx - Lone Pine
Edith Trimmer - Big Pine

Membership Application

The California Native Plant Society is an organization of lay persons 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. Varied interests are represented. To join, please see back of newsletter.

To RENEW: please contact Sally Manning or
RENEW ONLINE:
Using a credit card, go to www.cnps.org
And click on the JOIN button

The California Native Plant Society
Bristlecone Chapter
P.O. Box 364
Bishop, CA 93515-0364
PERMIT NO. 47
RETURN SERVICE REQUESTED

Non-Profit Org.
U.S. Postage
BISHOP, CA
93515-0364

Name: _____
P.O. Box or Street: _____
City: _____ State: _____
Zip Code: _____ Phone: _____
Email address: _____
I wish to be affiliated with the Bristlecone Chapter: _____
Other: _____

Membership Category

___ Student, Limited Income	$25.00
___ Individual	$45.00
___ International	$45.00
___ Family, Group, or Library	$75.00
___ Supporting	$75.00
___ Plant Lover	$100.00
___ Patron	$300.00
___ Benefactor	$600.00
___Mariposa Lily	$1,500.00

Please make membership checks payable to and send to:
CNPS – Membership Coordinator
2707 K. Street, Suite 1
Sacramento, CA 95816

Gift Contribution: Where most needed _____
Conservation _____

Bristlecone Chapter Directory

President: Steve McLaughlin (760) 938-3140
Vice President: Stephen Ingram (760) 387-2913
Treasurer: Rosanne Higley (760) 387-2803
Secretary: Connie Spenger (760) 938-2159
Membership: Sally Manning (760) 873-3790
Newsletter Editor: Daniel Pritchett (760) 873-8943
Conservation: Daniel Pritchett (760) 873-8943
Plant Communities: Sally Manning (760) 873-3790
Education: Nancy Hadlock (760) 878-2379
Programs: Stephen Ingram (760) 387-2913
Field Trips: Sue Weis (760) 873-3485
DeDecker Native Plant Garden: Jerry Zatorski (760) 872-3818
Publicity: Denise Waterbury (760) 873-7639
Historian: Ann Fulton (760) 873-9261
Librarian: EvelynMae Nikolaus (760) 878-2149
Rare Plant Committee Chair: Anne Halford (760) 872-5022
Plant Sale Committee: Anne Halford, Diana Pietrasanta, Sherryl Taylor (924-8742), Denise Waterbury (873-4344)
Book Sales: Sue Weis (760) 873-3485
Posters: Stephen Ingram (760) 387-2913
Creosote Ring Sub-Chapter: Kathy LaShure (760) 377-4541
Webmaster: Maggie Riley webmaster@bristleconecnps.org
DeDecker Grant Program: Jan Bowers (760) 938-3140

THE CALIFORNIA NATIVE PLANT SOCIETY (www.bristleconecnps.org) Bristlecone Chapter Newsletter comes out bimonthly. It is free to chapter members. To subscribe to this newsletter without joining CNPS, please send $5.00 per year to CNPS, P.O. Box 364, Bishop, CA 93515-0364. ATTN: subscriptions. Send newsletter articles (not memberships) to newsletter editor Daniel Pritchett at newsletter@bristleconecnps.org.