



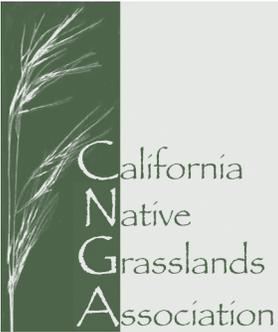
California
Native
Grasslands
Association

Vol. 22, No. 3 Summer 2012

GRASSLANDS

Published quarterly by the California Native Grasslands Association





California
Native
Grasslands
Association

Mission Statement

The mission of the California Native Grasslands Association is to promote, preserve, and restore the diversity of California's native grasses and grassland ecosystems through education, advocacy, research, and stewardship.

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Grasslands is published quarterly by CNGA. ISSN No. 1540-6857
Layout editor: Julie St. John



From the President's Keyboard

Everyday Tools to Conserve Native Grasses in our Watersheds by Jim Hanson, President

They're here! The native perennial, and occasionally native annual, grasses of California. Sometimes, they are right under your feet.

I recently visited a CNGA member's residence in El Sobrante, a San Francisco Bay Area community of mostly self-built houses from the 1940s, to look at the front yard. Missing are the neat, uniform concrete sidewalks and wide streets found in many Bay Area suburbs.

Dave Amme, who lives there and has traveled across the state to study the grass family, held off mowing his large sloping front yard this spring. To his surprise, among patches of exotic plantain and annual grasses, he saw the signature arching seed stalks of California oatgrass (*Danthonia californica*). *Poa secunda* was present also.

Many of California's highways have been widened to keep up with a population increase of 8 million residents since 1990. My work takes me onto the highway right-of-ways that have been newly disturbed by heavy construction and, later, maintenance equipment. While traversing the landscape away from immediate construction areas, I have been amazed to find resilient, sometimes spectacular, areas of California native grasses.

continued next page

Grasslands Submission Guidelines

Send written submissions, as email attachments, to grasslands@cnga.org. All submissions are reviewed by the *Grasslands* Editorial Committee for suitability for publication. Contact the Editorial Committee Chair for formatting specifications: grasslands@cnga.org.

Written submissions include peer-reviewed research reports and non-refereed articles, such as progress reports, observations, field notes, interviews, book reviews, and opinions.

Also considered for publication are high-resolution color photographs. For each issue, the Editorial Committee votes on photos that will be featured on our full-color covers. Photos are selected to reflect the season of each issue. Send photo submissions, as email attachments, to grasslands@cnga.org. Include a caption and credited photographer's name.

Submission deadlines for articles: **Fall 2012** — Aug 15, 2012 **Spring 2013** — Feb 15, 2013
Winter 2013 — Nov 15, 2012 **Summer 2013** — May 15, 2013

President's Keyboard *continued*

Other anecdotal reports are worth noting.

During a tour of ranch land in the Livermore hills east of San Francisco to investigate a possible riparian reference site, the green leafy tufts of purple needlegrass (*Stipa pulchra*) were evident on a slope accidentally burned earlier in the year from someone's fireworks. The rancher uses the perennials for summer forage.

A grape grower in Napa tells me that he protects native grass areas among his oak woodlands. He seems to appreciate their beauty and the sense of place they affirm.

A colleague took me to the dog park in her Richmond neighborhood where perennial native grasses, lupines, and gum plant are clearly visible in the thinner soils.

Scientists from UC Davis tell us that *we need to keep our exemplar native grass stands intact* to more fully understand how these unique plant-soil systems work and thus to have more confidence in restoring them. Likewise, we are only scratching the surface of the genetic information that may be held in isolated native grass populations, along with the ecological services that native grasses provide now and could provide in the future.

From large stands to tough small patches in a sea of annual grasses and forbs, native grasses remain resilient throughout the state. Yet, it is clear that they need our eyes, our voices, and our hands to secure their place in the landscape today and in the future.

What can you do? Taking even one grass identification class will help you see the native grasses that are still around you.

As part of its mission, CNGA speaks for the protection of native grasslands in verbal and written comments on projects under the CEQA process. We often do this in partnership with local chapters of the California Native Plant Society. If an exemplar grassland is eyed for development and also covered by the CEQA process, your voice can be heard by sending an online or written note to request that existing plant communities be mapped, evaluated to determine if they are a natural plant community of special concern, and then protected if they are determined to be of special concern.

What about basic, hands-on conservation action? Here is a simple example involving highway work. To divert heavy mowing equipment from a fragile serpentine prairie, I contacted the maintenance manager for the area, and we marked it with some



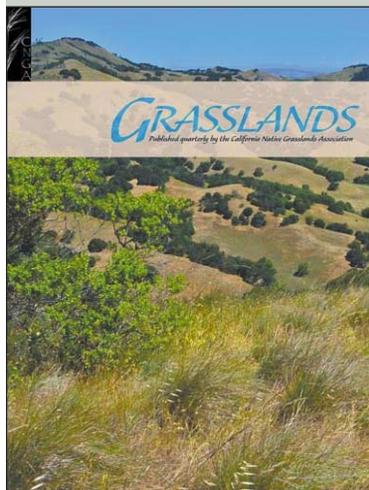
Above: California oatgrass still present in an East Bay front yard. Left: Serpentine prairie with purple needlegrass and tidy tips. Highway 280 roadside along Crystal Springs Reservoir, south of San Francisco. Photos: Jim Hanson

chest-high, green recycled plastic posts so that equipment could avoid that site. Other examples are removing new pioneer yellow star thistle or broom plants from a native prairie, or including invasive weed control in project specifications.

I am not alone in believing that improved public policy is needed to protect our ecologically and scenically valuable native grasslands (and shrublands and forests) in tandem with strategic control of ecologically destructive invasive weeds. Good policy helps, but it will ultimately be the eyes, voices, and hands of each one of us taking everyday actions that will continue to keep native grasses and native grass communities thriving in our watersheds.



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Poaceae Name Changes of Note¹

by Liz Cieslak, Hedgerow Farms, and past CNGA Board Member, egoebel@hedgerowfarms.com

A thoroughly revised and updated second edition of the *Jepson Manual*² came out in January 2012. The new edition brings many botanical name changes, including in the grass family (Poaceae). To refresh your native grass knowledge, here is a sampling of some of the name changes that have occurred and additional descriptions of these selected native grasses.

Leymus triticoides* is now *Elymus triticoides

Commonly called creeping or beardless wildrye, *Leymus triticoides* has returned to its originally published name (called a *basionym*): *Elymus triticoides* (Buckley). Creeping wildrye is a rhizomatous species found throughout California in areas with adequate soil moisture, such as riparian zones and floodplains, although it is drought tolerant. It is an excellent choice for soil stabilization, and once established it competes well with weeds. Creeping wildrye also provides excellent wildlife habitat, including nesting areas for many types of birds. This species can be established from plug plants or seed. Once planted, *Elymus triticoides* seed can take 2 to 4 weeks to germinate and several years to form a dense mature stand.

Nassella* is now *Stipa

The three native *Nassella* species, *N. cernua*, *N. lepida*, and *N. pulchra* (nodding, foothill, and purple needlegrasses, respectively), have all returned to their basionyms of *Stipa cernua*, *S. lepida*, and *S. pulchra*. The new *Stipa* contains not only the old *Nassellas*, but also species formerly in these genera: *Achnatherum* (such as native Lemmon's needlegrass), *Ampleodesmos* (a rare non-native grass), *Hesperostipa* (including native needle and thread grass), *Piptatherum* (includes non-native smilo grass), *Piptochaetium* (a non-native from Chile), and *Ptilagrostis* (the native king's ricegrass). The three needlegrasses noted here are distinguished by the minute hairs on the lemma (generally the lower and larger bract on a grass floret). These three *Stipas* are all long-lived, cool season bunchgrasses.

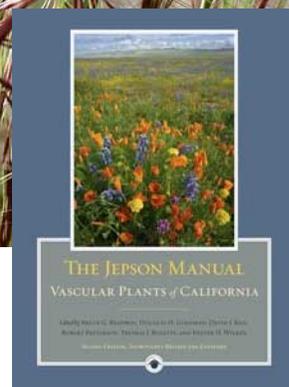
Stipa cernua is a good choice for restoration and revegetation on harsh sites, as this species can tolerate subsoils, low fertility soils, hot and dry meadows, roadcuts, and roadsides. This species is found in grasslands, chaparral, and juniper woodland mostly in the coastal range and a little inland.

Stipa lepida is found mostly on the coast and coastal range and some inland areas on dry slopes, grassland, chaparral, savanna, and coastal scrub.

Stipa pulchra is the California State Grass and the largest of these three needlegrasses. It is a long-lived, deep-rooted, fine-leaved bunchgrass and tolerates many soil types, including clay and serpentine soils. In spring, the purple hue of a *S. pulchra* grassland in flower is



Above: *Stipa* (formerly *Nassella*) *pulchra*. Photo: Phil Hogan



Right: *Jepson Manual*, Second Edition (January 2012). Photo: UC Press

breathtaking. This species is found in oak woodlands, chaparral, and open grassland and is frequently used in restoration seed mixes due to its versatility. Purple needlegrass is found in the Coast Ranges, Central Valley, and foothill woodlands.

Vulpia microstachys* is now *Festuca microstachys

Festuca microstachys, or small fescue, is one of California's few native annual grasses. It looks quite similar to the non-native invasive *Festuca myuros* (formerly *Vulpia myuros*; Zorro or rattail fescue), and these two species are discerned in the *Jepson Manual* by the size of the lower glume of a floret, though this trait can be similar in both species. Small fescue has more branched, reflexed panicles than Zorro fescue, and this feature can be used to tell the two species apart more easily. Small fescue is found throughout the state in diverse plant communities: forest and woodland understory, chaparral, and open grassland. It should be used in place of Zorro fescue in seed mixes and is a good addition to any native erosion control mix, as it provides soil cover more quickly than some perennials.



¹Species information for this article was derived from the new *Jepson Manual*, the USDA NRCS *Fact Sheets and Plant Guides* (plants.usda.gov/java/factSheet), Calflora (www.calflora.org), and internal communications at Hedgerow Farms.

²Baldwin, B.G., D.H. Goldman, and D.J. Keil, eds. 2012. *The Jepson Manual: Vascular Plants of California*, 2nd Edition. Berkeley: UC Press.

Diane Crumley Joins CNGA as Administrative Director

Hello California native grasslands enthusiasts! On June 1, 2012, I began the transition into my new role as Administrative Director (AD) for CNGA. I am very grateful to outgoing AD, Judy G-Scott, who has been generous with her time, expertise, and good humor throughout my training. I see this as a new chapter for both of us. Judy will no doubt be embarking on an active, adventurous “retirement,” and I look forward to the chance to collaborate with CNGA’s dedicated and talented group of resource professionals.

I have previously served as Education and Outreach Coordinator for five years at the Yolo County Resource Conservation District. I regularly witnessed success stories of “conservation in action,” where both the land and the landowners experienced the many benefits from restoring native trees, shrubs, and grasses to their farms and ranches. I enjoyed getting out in the field, organizing and attending workshops, helping with the public education via their newsletter and website, and designing place-based environmental curriculum for youth stewardship programs.



Diane and Jim with their rescue dog, Kellie.

My academic background is in biological anthropology (at UCLA) and resource ecology from the University of New Mexico. I continue to have an interest in California archaeology and its focus on how native peoples utilized and managed the landscape and its resources for millennia prior to European contact.

I currently live in Davis with my husband Jim Buchanan, our two rescue dogs, and two cats who think they rescued us. We share a passion for supporting local music in Davis and have both volunteered at the community radio station KDRT (pronounced K-DIRT) for the past seven years since its first broadcast. It is a labor of love that has also yielded a great deal of hands-on experience in fundraising, seeking memberships, sponsorships, underwriting, event planning, and grant writing.

I look forward to rolling up my sleeves and getting involved with the wide variety of programs, projects, partnerships, publications, research, and advocacy that CNGA has planned for the ongoing year. Additionally, I look forward to meeting you — CNGA members and supporters — at upcoming workshops and regional symposia.



CNGA's Bunchgrass Circle

As a nonprofit organization, CNGA depends on the generous support of our Corporate and Associate members. Through their donations, these farmers, ranchers, companies, and agencies advocate for the preservation and stewardship of our state's native grasses and the mission of CNGA. If you are interested in regular giving at a higher level — either as an individual, agency, or company—please contact Administrative Director Diane Crumley at 530.297.0500 or admin@cnga.org. *Your support is deeply appreciated.*

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Jessa Guisse of the Xerces Society spoke about pollinator conservation within a blooming field of *Lasthenia* during the walking tour. Photo: Cathy Little

CNGA Hedgerow Farms Field Day: A Success!

by Liz Cieslak, Hedgerow Farms, and past CNGA Board Member, egoebel@hedgerowfarms.com

On April 20, the Fifth Annual CNGA Field Day was held at Hedgerow Farms, north of Winters. Hedgerow Farms is a Yolo County seed production farm, offering seed and plug transplants of California native grasses, forbs, sedges, and rushes.

A very popular CNGA event, Field Day 2012 was made possible by the generous donations and sponsorship of Hedgerow Farms, Delta Bluegrass Company, Dow AgroSciences, Pacific Coast Seed, and S & S Seeds. A number of CNGA's sister organizations were also in attendance with their displays: California Invasive Plant Council,

Center for Natural Lands Management, and the Xerces Society. Together with 125 registered attendees, you can imagine the grass talk and networking during breaks and lunch (catered by the Buckhorn)!

Attendees enjoyed 2 tours — one walking and another driving — and multiple demonstrations along the way. The walking tour, led by grass experts John Anderson (Hedgerow Farms' owner) and David Amme (East Bay Regional Park District), showcased many research and development plots, small seed increase plots, small restored meadows,

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Left: Chad Aakre, of Restoration Resources, speaks about grassland monitoring during the driving tour. Right: Vic Claassen, a soil scientist with UC Davis, spoke about soil considerations in grassland restoration while standing in a soil pit. Photos: Liz Cieslak



Nodding needlegrass (*Stipa cernua*; formerly *Nassella cernua*). Photo: David Amme

A California Treasury of Native Perennial Grasses PART TWO

by Stephen W. Edwards, Botanic Garden Director, Regional Parks Botanic Garden, Berkeley

Reprinted with permission from the Rancho Santa Ana Botanic Garden Occasional Publications Number 1, Symposium Proceedings: Out of the Wild and into the Garden, 1, edited by Bart C. O'Brien et al. 1997, pp. 129-138. This article was reprinted as is and therefore contains some scientific names that have not been updated according to the new *Jepson Manual, Second Edition* (2012).

Article continued from last issue (Spring 2012):

Emerging into the open grasslands of the Inner Coast Ranges and ultimately into the Great Central Valley, a new set of ornamental grasses becomes dominant. Leading the pack is Purple Needlegrass, *Nassella pulchra*. Volumes could be written about this species—and they have been! It is the subject of intense controversy, lately by those who feel that grazing helps it vs. those who argue that grazing hurts it (my own position is that well managed grazing promotes it, and overgrazing, as defined earlier, usually eliminates it).

In the Berkeley Hills, this grass (along with *Nassella lepida*) thrives in the otherwise “bare” zones adjacent to or within stands of Coyote Brush, *Baccharis pilularis* var. *consanguinea*. *Sylvilagus* rabbits hide in the brush from raptors, but emerge just far enough to eat away competing exotic annual grasses and to graze the needlegrasses, too, thus controlling residue. My preliminary observations suggest that the larger the livestock-free grassland patch in or adjacent to *Baccharis*, the more likely its center is beyond the rabbit grazing, and the more likely it will be dominated by exotics rather than by *Nassella*. Horticulturists and home gardeners will usually find that some form of occasional “pseudograzing” is beneficial, though it may not be necessary, depending on garden conditions.

Purple Needlegrass is a lovely, expressive grass. Its name comes from the purple glumes of the young spikelets, which bear long needles that twist like a corkscrew and bend sharply in one or two places. With wetting and drying of unpredictable weather, the awns soften and

straighten and then reink, thus levering themselves into the ground. This takes place rapidly, and the process is easily demonstrated with a cup of water and some paper towels. This is the native grass most recognized by Californians, and most evocative of nostalgia in those who long for renewal of our state’s ancient, pristine prairies. Personally I cannot be comfortable without *Nassella pulchra* nearby. No truly Californian (dry) garden should be without it. It is worth noting that even miserable-clay gardens are acceptable to *Nassella pulchra*. In the wild the species thrives on diverse “soil” types, from basalt bedrock to pure clay.

Around the southern margins of the Central Valley, in the south coast ranges, and in the southern part of the inner north coast ranges, *Nassella pulchra* is joined by its even more comely congener, Nodding Needlegrass, *Nassella cernua*. *N. cernua* is distinguished by its larger number of flowering culms per branch, slightly later flowering, narrower seed, more nodding panicles, and thinner awns. The overall effect of this character array is stunning: it is like looking through a backlit waterfall. This is my favorite ornamental among all the lowland grasses of California. It is easy to grow (it only wants full sun); but it will last longer if it is occasionally rejuvenated through pseudograzing.

Several charming melicas are common in the Coast Ranges. The most horticulturally useful are *M. torreyana*, *M. harfordii*, and *M. imperfecta*, the last extending as far south as the Mojave Desert. These are all smallish bunches with thin culms and contracted inflorescences, except that a very nice form of *imperfecta*, the var. *refracta* [Jepson =

continued next page



Deergrass (*Muhlenbergia rigens*). Photo: Mary Fahey

A California Treasury *continued*

Melica imperfecta], has lower branches of the inflorescence spreading or reflexed, and other forms of *imperfecta* share this feature to varying degrees. In Coast-Central California, *Melica torreyana* prefers light shade, *M. imperfecta* full sun, and *M. harfordii* will take either. These are not conspicuous open-pasture grasses like *Nassella pulchra*, more typically inhabiting woodland, small meadows in woodland openings, or clearings in chaparral. Each has its own characteristic hue and form, but all give a feeling of delicacy to the landscape. In the Regional Parks Botanic Garden, *M. harfordii* and *M. imperfecta* have proven to be more robust and long-lived than *M. torreyana*. *M. harfordii*, which has more rigid culms than the others, has proven especially popular. The RPBG's beautiful selection is from the summit of Little Grayback in Siskiyou County.

One of the most arresting (hence most popular) of California's ornamental bunchgrasses is Deer Grass, *Muhlenbergia rigens*, also known as Basket Grass because its culms were used as foundation coils by the Indians of the San Joaquin Valley and Sierran foothills. Recently the grass has been reintroduced in Yosemite Valley, where it had been eliminated in historic times. This is a large bunchgrass, and I have often thought of it as California's native alternative to Pampas Grass. It is much more tasteful than that gross exotic, for it lacks the razor edges on its blades, and it does not require a studio production if you ultimately wish to remove it.

Basket Grass grows to perhaps 5 ft tall (with culms) and to 6 ft wide. It tolerates a diversity of garden conditions, and it can fulfill a wide range of functions—hedge, border, framework, weed suppression, bank stabilization, or just plain “sit there and be beautiful.” I find myself recommending this species for dry landscape uses more than I do any other plant. Kat Anderson, studying traditional burning practices of the Indians of Yosemite, found that young Basket Grass

plants without much residue accumulation were neither injured nor benefited by fire; but that older bunches with substantial residue were clearly benefited. This follows the pattern of most of the other grasses I have described: management is easy and it helps.

Traversing the Sierra Nevada and descending to the deserts beyond, we will find no shortage of splendid native grasses, and quite a number have great horticultural value. Several grasses of horticultural interest grow in Sierran wet meadows, i.e., meadows that have surface water in spring. Mountain Hairgrass, *Deschampsia cespitosa* (ssp. *cespitosa*) is widespread in such meadows, and a tantalizing beauty—tantalizing, because it has *not* proven amenable to lowland gardening. However, there are morphologically indistinguishable populations referable to this taxon growing in wet places on serpentinite in the Central and North Coast Ranges, and some of these, given adequate moisture, are indescribably beautiful garden subjects. Their delicate, open, lax panicles are extremely elegant.

Tickle Grass, *Agrostis scabra*, grows in montane or boreal places across northern North America from Alaska to Newfoundland. In the Sierra I have seen marsh channels ringed with a zone of rufous/pink (resembling, but more intense than, the *Deschampsia danthonioides* haze that encircles many vernal pools) made of massed bunches of *Agrostis scabra*. Its exceedingly light, whispering panicles tremble in the slightest breeze. Tickle grass seeds around readily if moist substrates are at hand, but it is such a delicate, shallow-rooted species that it does not become a problem. Tickle Grass was recently the experimental subject of a research report (Tilman, D., and D. Wedin 1991. Oscillations and Chaos in the Dynamics of a Perennial Grass, *Nature* 353: 653–55), which concluded that the grass populations are not stable without some form of management, e.g. fire, mowing, or grazing.

Sierran elevations support many potential horticultural “items.” Some, like *Festuca viridula*, are practically impossible to grow decently, and arguably should be avoided, despite their great beauty. Also questionable are Sierran populations of Mutton Grass, *Poa fendleriana*, and Rock Melica, *Melica stricta*: all beautiful, interesting, and consistently frustrating. Typically these do reasonably well for one season. During our soggy lowland winters, however, they go dormant (as they do under snow in the mountains), dying back to a mass of gray foliage. The following spring they do not resprout, or resprout only weakly, never recovering.

The following high mountaineers have been more successful, though all have special requirements. All require extremely sharp drainage. Mountain Muhly, *Muhlenbergia montana*, which forms a gray pincushion less than a foot high, and clearly must one day become a favorite of rock garden enthusiasts, is drought tolerant. Brewer’s Reed Grass, *Calamagrostis breweri*, is small for a reed grass. Its open purple panicles can be seen in masses adjacent to lingering snowbanks, along lake margins, or close to gushing streams. It requires more moisture than Mountain Muhly. King’s Rice Grass, *Ptilagrostis kingii*, is a very fine-textured denizen of moist meadows. It is a small bunchgrass vaguely recalling *Festuca idahoensis* in form, but with shorter, more gracile inflorescences and finer blades.

Traversing the Sierran passes, we find ourselves in a drier climate with more extreme temperatures, the realm of Jeffrey Pine, and, eastward into the Basin and Range, a landscape ruled by *Artemisia tridentata* and Pinyon-Juniper Woodland. These regions are providing durable and interesting ornamental grasses, but more exploration is needed. Mat Muhly, *Muhlenbergia richardsonis*, is a low-spreading hummocker of about the same stature as Mountain Muhly, but it expands by creeping rhizomes into an undulating surface typically 2 to 3 ft across. It provides appealing textural relief in a dry bed devoted to low shrubs or xerophytic perennials. Mat Muhly also grows in the mountains of the Mojave Desert.

Among many excellent “east-side” needle grasses, I will point out two that have worked out well in the garden. The first, Needle-and-Thread, *Hesperostipa comata*, has the longest awns of any Californian grass—up to 6 inches. The species is worth growing just for that curiosity. Those prodigious needles are not only curious, though, they’re also beautiful—resplendent with sunlight, dazzling against a dark background. A *Hesperostipa comata* plant consists mostly of tall grayish culms rising straight up from a basal bunch that seems disproportionately small. The long needles spread widely at the summit of the narrow column of culms. Secondly, Thurber’s Needlegrass, *Achnatherum thurberianum*, inhabits the Pacific Northwest interior and extends down to the White Mountains of Inyo County. It is a smallish bunchgrass, about 24 inches tall, with narrow blades and a dense, refined texture.

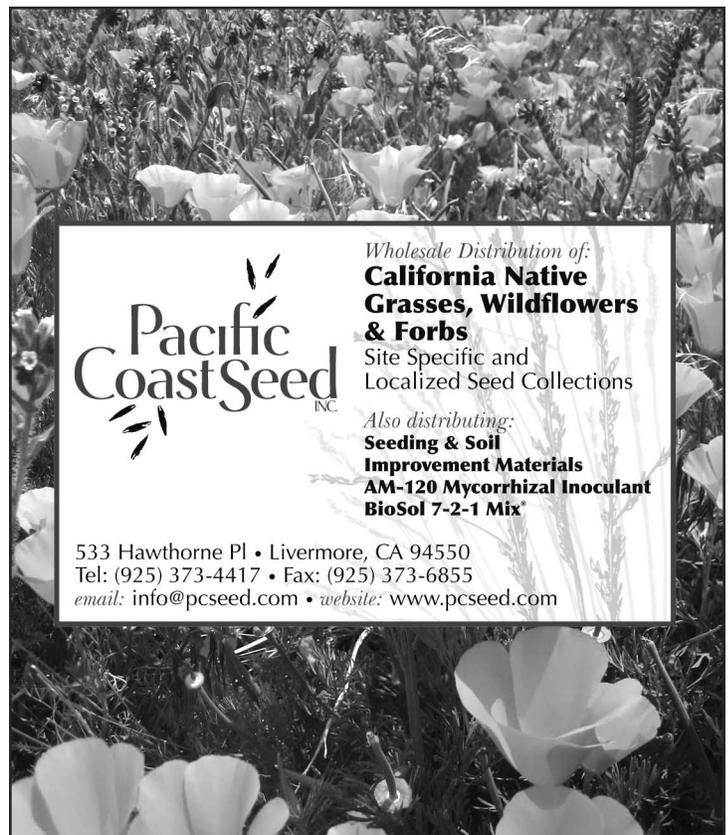
Basin Wildrye, *Elymus cinereus* [Jepson = *Leymus cinereus*], is a huge bunchgrass up to 7 ft tall, frequent in the Great Basin of southeast

Oregon and down along the east side of the Sierra. It is conspicuous along Highway 395 south of Mono Lake. Its very broad gray green leaves are usually densely massed, although this bunching effect can be lost in a garden setting that is too shady or moist.

Alkali Sacaton, *Sporobolus airoides*, was probably once a major forage grass from the Sacramento Delta to the desert. Though little remains of it near the north end of its range, it is still abundant in Owens Valley and Death Valley. A lover of parched, sweltering, salt-crusts flats (with moisture at depth), this large bunchgrass is capable of enduring (and being beautiful) under stressful landscape or garden conditions. In the Regional Parks Botanic Garden we have a sizable colony growing in full sun, in tight clay adjacent to tarmac. It is seldom watered and certainly does not need to be watered at all. The bunches are tough, having endured the occasional poor backing job that runs a truck tire over the center of a bunch. It is a superb weed suppresser and works well in the landscape as a framework plant, a border, a tight group, or a single prized specimen. Alkali Sacaton makes large bunches to 3-4 ft in diameter, with coarse pallid-green blades massed in a low fountain. The purple panicles are disarmingly delicate, shivering over the massive bunches. When its toughness and beauty become better known, Alkali Sacaton will undoubtedly be one of the most valued native landscape ornamentals in California.

Highway 395 leads south from the Owens Valley into the Mojave Desert. There a variety of alluring grasses are available for horticultural

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A California Treasury *continued*

experimentation, so we are looking forward to great discoveries and introductions from Southern California growers and botanical gardens. The desert is beyond the focal bailiwick of the RPBG (with its fungus-rich soils and cooling maritime influences in summer), so I will mention only telegraphically a few full-desert grasses we have tried. *Achnatherum speciosum* is among the most beautiful bunchgrasses in California, and indeed the specific epithet means “beautiful.” We have had reasonable success with it. The species has done well at the University of California Botanical Garden in Berkeley. Indian Rice Grass, *Oryzopsis hymenoides* [Jepson = *Achnatherum hymenoides*], another exceptional beauty and a signature of the desert, has been a complete failure for us. Its ecological range is wide, however, and we still hope to try populations from the Central Sierran passes.

On the bright side, three desert grasses have been great successes and are very popular parts of our landscape. Wright’s Triple-awn, *Aristida wrightii* [Jepson = *A. purpurea* var. *wrightii*], collected near Banner in San Diego County, has established itself through long persistence of individual bunches (clipped back every year to prevent residue accumulation) and by slowly seeding itself around. It is a small dense bunchgrass, only about a foot high. When in seed it looks bristly because its awns are divided into three spreading points. We have made a large colony on both sides of a path, and the grass is attractive enough in itself to make the path inviting.

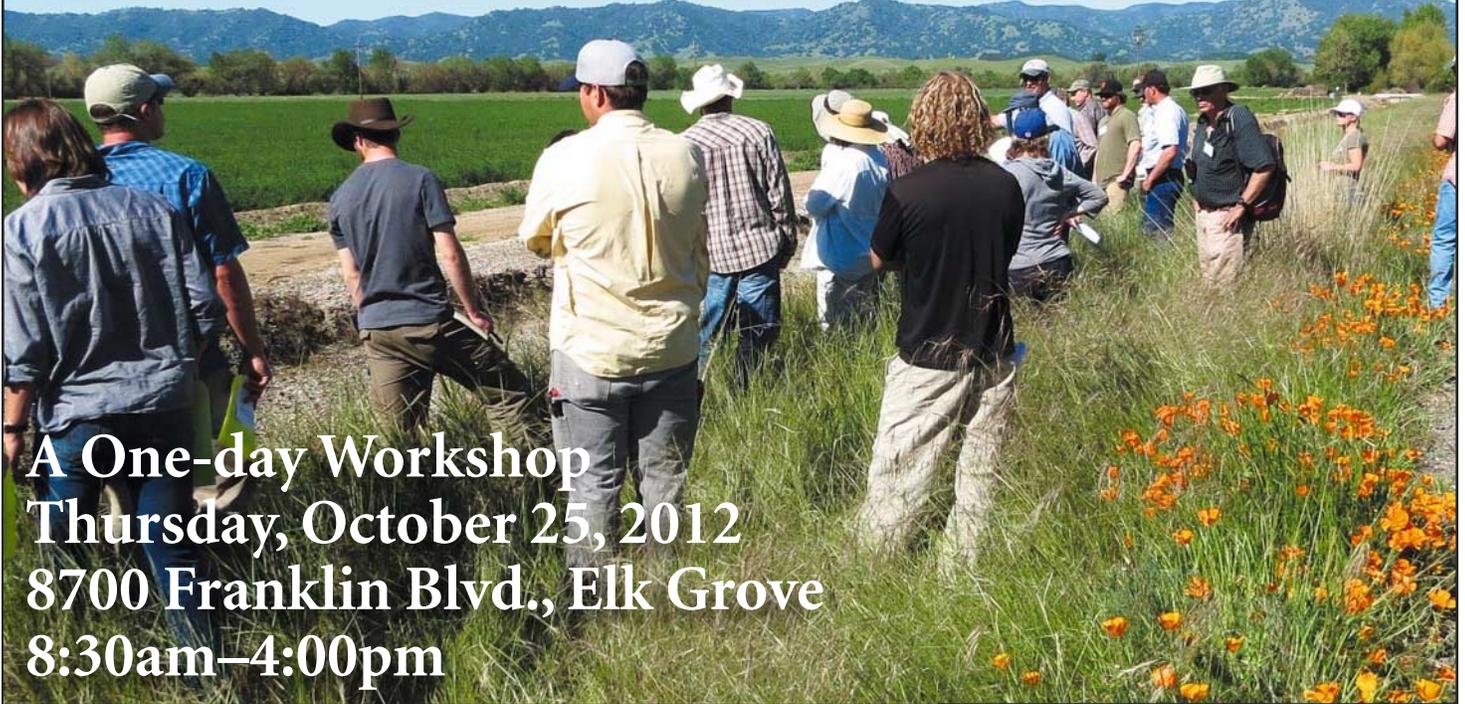
Big Galleta Grass, *Hilaria rigida* [Jepson = *Pleuraphis rigida*], is a conspicuous resident of sandy desert washes. In dry field years it is “twiggy,” grayish, and unattractive, seemingly the least likely candidate for a garden. Given infrequent irrigation, however, it becomes a striking, woolly stemmed “shrubby” grass with purple spikelike panicles. It is easy to grow and gives a sagey feeling that can be useful among the hard-leaved xerophytic shrubs of a desert garden.

Blue Grama, *Bouteloua gracilis*, is one of the dominants of the Great Plains “grazing lawns” that once supported vast herds of bison. It barely reaches California, with populations in the mountains of the eastern Mojave as well as in the San Bernardino. We found it in *Pinus edulis* woodland in the New York Mountains, where it was a small “bunchgrass.” Under favorable garden conditions it slowly spreads, making a very low, dense turf of broad, short, curved blades. Its outstanding feature is its purple flag- or semaphorelike inflorescences, projecting nearly horizontally from the tops of the culms and with all their spikelets arrayed on one side of each rachis. Blue Grama has been easy to grow and completely reliable. Many visitors touring our extensive statewide perennial grass collection remark that their favorite grass was “the one with the little flags.”

California is indeed a treasury of native perennial grasses. Nowadays no native garden can be regarded as “finished” without them. Lacking their elegance, it misses the diversity, depth, and beauty of the Californian landscape.



CNGA presents: Grassland Restoration Field Practices



Fall is the time to plant native grasslands! This field course provides attendees with hands-on experience in grassland restoration. Instructors will demonstrate tools and techniques for site preparation, planting, and establishment.

Demonstrations will be applicable to large- and small-scale restoration projects. Be prepared to get dirty! DPR and SRM CEUs are pending. Includes morning refreshments and lunch; check-in at 8:30am.

Your workshop site is the 2,650-acre Bufferlands, which surrounds the Sacramento Regional Wastewater Treatment Plant — a phenomenal wildlife area that is seldom open to the public.

Instructors:

Bryan Young is Natural Resource Supervisor of the Sacramento Regional County Sanitation District. He has more than 20 years experience in habitat restoration, including the establishment of hundreds of acres of native grasslands.

JP Marié is Steward, UC Davis Putah Creek Riparian Reserve, where he manages the day-to-day operations of the Reserve. JP has 17 years of experience in restoration implementation and weed control.

Registration Form: Grassland Restoration Field Practices | October 25, 2012

Mail to: CNGA, P.O. Box 8327, Woodland, CA 95776 ☎ Fax to: 530.297.0500

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Affiliation _____

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Questions? Contact Diane Crumley, Administrative Director, by phone/fax: 530.297.0500 or email: admin@cnga.org.

Grass is Burned to Study Indian Culture

by Peter Fimrite, Chronicle Staff Writer

Reprinted with permission from Peter Fimrite and the *San Francisco Chronicle*, originally published December 12, 2011.

A smoke-signal-like plume rose up as flames rolled through two acres of deergrass at the Pinnacles National Monument to the delight of Indian tribal leaders who lit the blaze and naturalists who monitored it.

The fire was small, but it loomed very large for the American Indian community in California.

The prescribed burn last week was part of a project by the National Park Service, the California Department of Forestry and Fire Protection, and the Amah Mutsun tribal band to learn more about the traditional Indian uses of fire in Central California before European contact.

Deergrass, known scientifically as *Muhlenbergia rigens*, was historically used by California Indian tribes to weave baskets. The preparation of the grasses for use in weaving apparently required regular burning, a process that caused the plant to flower and grow straighter stocks, which make better baskets.

“For us as a tribe, this is a hugely significant event,” said Chuck Striplen, a member of the Amah Mutsun tribe and an associate environmental scientist with the San Francisco Estuary Institute. “This

is the first time in well over 100 years that we have been able to deliberately start a cultural burn anywhere on our territory.”

Fire ceremony

The burn was on a 2,700-acre site that was recently acquired by the National Park Service on the east side of the Pinnacles, about 30 miles outside of Hollister (San Benito County). The fire was lit using flint by a tribal representative, who then joined a group of American Indians in a ceremonial song, accompanied by the rhythmic beat of clapper sticks.

The 2-acre plot of burned deergrass will be studied over the next few years to see how the grassland habitat reacts to fire. It is adjacent to land thick with root sedge, or *Carex barbarae*, another plant traditionally used in basket weaving. The sedge will also be thinned out and managed, but not burned, officials said. The health of the two plots will then be compared.

“The Europeans who first arrived in California weren’t looking at pristine untouched land. These lands had been managed for some time before them,” said Brent Johnson, a botanist for the Pinnacles

continued next page

NEWS ANNOUNCEMENT: *Four Prominent Botanical Institutions Announce Plans to Create First Online World Flora*

The Royal Botanic Gardens, Kew (RBG Kew), the Royal Botanic Garden Edinburgh (RBGE), The New York Botanical Garden (NYBG) and the Missouri Botanical Garden (MBG), have announced plans to develop the World Flora—the first modern, online catalog of the world’s plants—to be made available by the year 2020. This massive undertaking will include the compilation of information on up to 400,000 plant species worldwide. It will also achieve a primary target of the Global Strategy for Plant Conservation, an ambitious effort first adopted by the United Nations’ Convention on Biological Diversity in 2002, to halt the continuing loss of plant biodiversity around the globe. Representatives of the four botanical gardens recently met to organize a framework to guide their efforts and respond to this need for a baseline survey on the plants of the world that has been called for by the international community. A Memorandum of Understanding (MOU) detailing plans to create the World Flora was recently signed into effect by the four institutions.

Plants are one of Earth’s greatest resources. They are sources of food, medicines and materials with vast economic and cultural importance. They stabilize ecosystems and form the habitats that sustain the planet’s animal life. They are also threatened by climate change, environmental factors and human interaction. There are an estimated 400,000 species of vascular plants on Earth, with some 10 percent more yet to be discovered. These plants, both known and unknown may hold answers to some of the world’s health, social and economic problems. A full inventory of plant life is vital if their full potential is to be realized before many of these species, and the possibilities they offer, become extinct.

The team tackling the World Flora will build a collaborative partnership for this work worldwide and create a structure and program able to incorporate data from institutions and individuals all over the world. In some cases, existing electronic data sets will be combined and augmented with the results of botanical research published over more than a century around the world. Much historic information will require a thorough review and update, along with a conversion to an electronic medium. As new plants are subsequently collected, named and described, they too will be added to the World Flora.

Grass is Burned to Study Indian Culture *continued*

National Monument. “Our objective is to collect some data and see how these traditional management practices affect native plant populations.”

Quiroste village

The burn project, which received \$245,000 from the Joint Fire Science Program of the Bureau of Land Management, is an extension of a study the Amah Mutsun band started several years ago at the Quiroste Indian village site in Año Nuevo State Park.

The Quiroste village is where the sick and exhausted members of the expedition led by Gaspar de Portolá rested in 1769. A few days later, the expedition climbed Sweeney Ridge and became the first Europeans to spot San Francisco Bay.

It was another Indian group — the Chalon band — that lived in the Pinnacles area before Europeans arrived, Striplen said. The Chalon and Quiroste were among many small bands scattered throughout Northern and Central California, which was one of the most densely populated areas in the Western Hemisphere before colonization. At the time, eight languages and many dialects were spoken by Indians just between what became San Francisco and Monterey.

Cultures vanish

By 1805, less than half a century after European contact, almost all of the Indian cultures in the region had been absorbed into the Spanish missions, with only a few scattered bands hiding in the hills.

The Amah Mutsun are documented descendants of the Indians from Mission San Juan Bautista and Mission Santa Cruz, where most of the

surviving Indians in the area ended up.

Striplen said the fire history of Año Nuevo and the Pinnacles site will be analyzed using, among other things, tree ring data and other biological and chemical techniques.

The burning will give researchers a chance to study the effect of fire on plant fitness and biology, invasive species, wildlife habitat, groundwater and soil nutrients.

“The idea is not to restore the landscape to what we had in 1769, but to understand it better so that we can manage the land better,” Striplen said. “We’re spending a lot of money on restoration these days, and there is still a question about what we should restore it to. We’re looking at how Native Americans managed their cultural resources and how that information is pertinent to contemporary land-use restoration.”

Relearning traditions

It is important, Johnson said, because California will need to know how best to manage the land as the ecosystem changes as a result of climate change. It is also important for American Indians, many of whom are trying to relearn their cultural traditions.

“Certainly the information we come up with will be shared and certainly could be used by other tribes and other land managers,” Johnson said. “Native Americans used to burn almost every year, and then one day it stopped and it never happened again. What we’re hoping to do is bring back that process that has all but disappeared in California. That, to me, is moving.”



CNGA Hedgerow Farms Field Day: A Success! *continued from page 5*

hedgerows, and landscaped areas. During this tour, Jessa Guisse of the Xerces Society for Invertebrate Conservation talked about pollinator enhancement in agroecosystems.

The driving tour, led by restorationists (and former Hedgerow Farms employees) Bryan Young and Chris Rose, rolled through the many large production fields, where Hedgerow Farms harvests the majority of its seed. In one small grassland area, Chad Aakre, of Restoration Resources, gave tips on grassland monitoring. At another grassland restoration site, Vic Claassen, of UC Davis, taught attendees about soils while standing in a soil pit. Attendees also learned about canal revegetation, hedgerows, pollinator plantings, and roadside plantings.

Lunchtime speakers included Andrew Rayburn (post-doctoral fellow, UC Davis Plant Sciences), who spoke about spatial methods for grassland restoration, and Melanie Truan (UC Davis Museum of

Wildlife and Fish Biology), who spoke about grassland wildlife. Truan brought many wildlife specimens for attendees to view up close. Rachael Long (UC Cooperative Extension) gave a yearly update on insects harbored by hedgerows.

The Field Day concluded with a demonstration of Hedgerow Farms’ seed cleaning machinery by Farm Operations Manager Chris Place. Throughout the day, attendees viewed exhibits and species identification displays, signed up for CNGA membership and workshops, and purchased posters and logo merchandise. Best of all, they enjoyed the amazing scenery that Hedgerow Farms has to offer. If you have not had the chance to take in this event, be sure to sign up next year!



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*SERCAL = California Society for Ecological Restoration **CAL-IPC = California Invasive Plant Council

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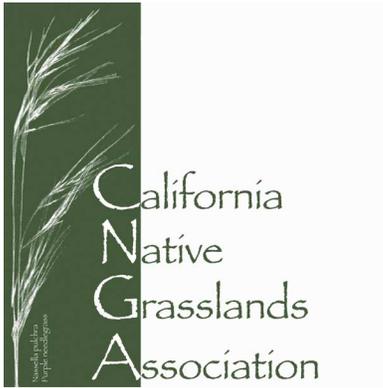
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see page 10

Front cover: A stand of *Festuca idahoensis* looking north on top of "Little Mountain," Novato in mid June, 2011. Photo: Jim Coleman
Back cover: Song sparrow guarding its nest in a stand of *Juncus effusus*. Photo: Jim Coleman

