

Italian Ryegrass: *A new Central California dominant?*

Brodiaea santarosae (Santa Rosa basalt brodiaea): a newly described grasslands species from the Santa Rosa Plateau

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Mission Statement:

alífornía latíve rasslands ssociation 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,

P.O. Box 8327 ed Woodland, CA 95776 re 530-661-2280

education, advocacy, research, and stewardship.

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rasslands Submission Guidelines

Send submissions to:

Editor: mrodgers@macnexus.org.

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

All submissions are reviewed by the *Grasslands* Editorial Committee for suitability for publication.

Submissions are accepted electronically as e-mail attachments. Contact the editor for formatting specifications.

Submission deadlines for articles:

Summer 2009: May 15, 2009; Fall 2009: Aug. 15, 2009; Winter 2010: Nov. 15, 2009; Spring 2010: Feb. 15, 2010

From the President's Keyboard



he 2009 CNGA/SERCAL joint Annual Conference promises to be one of the best conferences yet. Members from two sister organizations will have a chance to crosspollinate, broaden their knowledge of restoration, exchange ideas, and make new friends.

For goodness sakes don't let the recession prevent you from attending. This is a time to step up and celebrate Habitat Restoration in California's Central Valley.

Workshops. On Wednesday, April 29, there will be three classic pre-conference workshops:

• Dr. Vic Claassen will be presenting a workshop on *Soil-based Approach to Sustainable Revegetation and Erosion*

Resistance. Vic's pioneering work at UC Davis is incredibly important to vegetation restoration success.

- Kevin MacKay and Steve Seville will be presenting their *Restoration Project Construction Oversight and Management* workshop. More and more, restoration projects need effective and efficient oversight and management, especially when private restoration organizations and agencies take on larger and more complicated projects.
- Richard King and Kelly Mulville will present *Holistic Grazing Planning Principles: Unleashing California Native Perennial Grasses and Forbs.* This is of great interest to many in grassland management.

Plenary Sessions. On Thursday, there will be two plenary topics kicked off by Harry Oaks (SERCAL) and Randi Paris (CNGA).

- The SERCAL plenary presentation will be extremely interesting. Robin Kulakow and Dave Feliz will speak on *The Yolo Wildlife Area: A Restored Treasure, a Balanced Solution.* We're talking about 30 years of work.
- Truman Young's CNGA plenary presentation will review the *Past and Future of Grassland Restoration in California*, much of which was highlighted in *California Grasslands: Ecology and Management*, edited by Mark Stromberg, Jeffrey Corbin, and Carla D'Antonio.

Thursday Technical Sessions. Three concurrent technical sessions will follow after lunch:

- Kevin MacKay will lead the *Reclaiming the Sacramento/San Joaquin Delta: Wetland Restoration in the Delta and Bay Region* session.
- Carol Presley will lead the session on *Restoration Opportunities* within Working Agricultural and Ranching Landscapes.
- I will lead the third session on *Seed and Plant Material Techniques for Site Restoration.*

Friday Technical Sessions. There will be six more concurrent technical sessions on Friday:

PRESIDENT'S KEYBOARD, continued on page 3

PRESIDENT'S KEYBOARD, continued from page 2

Morning Sessions:

- Steve Seville will chair a session on Incorporating Civil Engineering and Modeling into Habitat Restoration.
- The intrepid Michael Hogan will chair the session on *Climate Change: Issues, Impacts and Responses.*
- Kent Reeves will chair the session on Working Grasslands: Managing for Diversity.

Afternoon Sessions:

- Andrew Fulks will chair the session on Advances in Restoring, Monitoring, and Managing Landscapes.
- Carl Jensen will chair the session on Vernal Pool Restoration and Effectiveness Monitoring for Special-Status Species, and

• Randi Paris will chair *Grassland Ecology and Restoration.*

Post-Conference Workshop:

• Wade Belew and I will present a two-day post-conference workshop on *Identifying and Appreciating the Native and Naturalized Grasses of California.* The Saturday hands-on portion will focus on learning the basics in identifying native and the more numerous non-native grasses. The Sunday field day will give you a chance to visit the diverse grasslands of Yolo County in and around Hedgerow Farms.

Post-Conference Field Trips: For

those of you who are not attending the Grass ID Workshop, there will be five great post-conference field trips.

• Matt Gause will lead a trip to the *Burke Ranch Playa Vernal Pools.*

- Andrew Fulks will lead a trip to the UC Davis Russell Ranch.
- Kent Reeves will lead a trip to Yolo County's *Grasslands Regional Park.*
- Harry Oakes will lead a trip to *Central Valley Riparian and Wetland Restoration sites*.
- Neal Funston will lead a tour of *Corn-flower Farms Nursery*, hands down, the best restoration nursery in the Central Valley.

Lake Natoma Inn Reservations.

The special conference room rate ended on April 7. Late reservations will be accepted based on availability. Make reservations by phone to (916) 351-1500 or by e-mail to RESERVATIONS@LAKENATOMAINN.COM.

I'll see you at conference—29 April— 03 May 2009 at the Lake Natoma Inn.

A newly described grasslands species from the Santa Rosa Plateau and surrounding areas

Brodiaea santarosae The Santa Rosa Basalt Brodiaea

TOM CHESTER, WAYNE ARMSTRONG, AND KAY MADORE

Brodiaea santarosae is a newly recognized species found only on basalt soils in areas currently or recently covered by the Santa Rosa Basalt of southwest Riverside County and a neighboring small part of San Diego County.

It is the rarest of the southern California brodiaeas, with just four known populations occupying only a small portion of an area only 10 miles long and 3 miles wide, plus a fifth very small population separated by 7 miles from the rest of the population.

Specimens of *B. santarosae* have been confused with two other rare species, *B. filifolia* and *B. orcuttii*, based solely on two internal parts of its flowers. Our studies have shown these specimens are very different from those other two species; we have found 11 differentiating characteristics. For a complete species description, see Madroño 54(2):187–198 (2007).



Santa Rosa basalt brodiaea (*Brodiaea santarosae*) on Avenaloca Mesa. The long stamen filaments are similar to *B. orcuttii*; however, the long, slender staminodes and larger flowers are unlike *B. orcuttii* or *B. filifolia. Photo: Wayne Armstrong*

Other specimens of *B. santarosae* have been thought to be hybrids between *B. filifolia* and *B. orcuttii*. That hypothesis is ruled out because *B. filifolia* and *B. orcuttii* only occur together well to the south of the Santa Rosa Basalt in San Marcos in San Diego County. In fact, we were lucky enough to find true hybrids of *B. filifolia* and *B. orcuttii* in San Marcos. Those hybrids are clearly distinguished from specimens of *B. santarosae*.

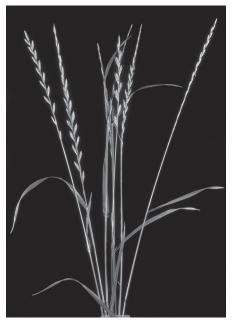
Species found only on a given soil type are of great interest to botanists in how they have adapted to difficult soils such as basalt. In *Introduction to California Soils and Plants* (University of California Press, 2006), A. R. Kruckeberg made a prediction that was borne out by our recognition of this species: "most new species will be in places ... with kooky soils ... in ... remote ... out-of-the-way places in southern California."

Tom Chester (tom@tchester.org) is a retired Caltech astrophysicist. Wayne Armstrong (mrwolffia@cox.net) is a retired Palomar College botany professor. Kay Madore is a volunteer naturalist (docent) at the Nature Conservancy, Santa Rosa Plateau Ecological Reserve.

Italian Ryegrass: A New Central California Dominant?

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The mug shot: annual ryegrass (Lolium multiflorum). Photo courtesy of the Oregon State University Forage Information System's Image Gallery (HTTP://FORAGES.OREGONSTATE.EDU/)

he non-native grass, Italian ryegrass (*Lolium multiflorum*), has long been characterized as a minor player in the Valley Grassland. While this may still be true in drier locations, in wetter areas of the state's annual grasslands, there is increasing evidence that Italian ryegrass is now a regional dominant, dethroning former champs such as wild oats (*Avena* spp.), soft chess (*Bromus hordeaceus*), and ripgut brome (*Bromus diandrus*).

From a cow's point-of-view, this newly emerging dominant is no bad thing because Italian ryegrass makes excellent forage. For a plant conservationist or those with hay fever, however, the news is not so sunny. Italian ryegrass often forms dense stands that may crowd out native plants, the loss of which may affect other native species: ryegrass has already been implicated in the demise of populations of the Bay checkerspot butterfly (*Euphydryas editha bayensis*; Weiss 1999). And as spring allergy sufferers know, when Italian ryegrass begins to release its pollen, several weeks of misery lie ahead!

Evidence for Widespread Italian Ryegrass Dominance in the Bay Area

Native to Europe, Italian ryegrass was probably introduced to California in the late 1700s (Hendry 1931). In most descriptions of the California annual grassland, Italian ryegrass is barely mentioned (e.g., Ornduff 1974, Heady 1977). A more recent review of California grassland states that Italian ryegrass sometimes dominates locally but is generally not as widespread in the grassland as the filarees (*Erodium* species) and bromes (Heady et al. 1991). Even *The Jepson Manual* limits ryegrass habitat to "disturbed sites, abandoned fields."

However, over the past decade, we have observed anecdotally how often Italian ryegrass is the dominant plant in many largely undisturbed grassland areas of the East Bay of the San Francisco Bay Area. Other researchers have made similar observations in the South Bay.

An ongoing study by the UC Berkeley Range Ecology Lab of 40 plots in six East Bay Regional Park District (EBRPD) properties spread over Alameda and Contra Costa counties has provided the data to show that our observations were in fact accurate. Between 2003 and 2007, from a pool of approximately 90 to 115 species, Italian ryegrass was the overall dominant species in our study every year. In the warm, rainy years 2005 and 2006, ryegrass made up 23 percent and 32 percent,



Determining species composition and cover at Vasco Caves Regional Preserve, near Livermore, California, April 2006. Annual ryegrass is the dominant at this site, with greater than 35 percent cover. *Photo courtesy of the Range Ecology Lab, U.C. Berkeley*

respectively, of the plant cover: one species contributing almost a third of the plant cover at our East Bay grassland sites. Even in the drought year of 2007, a tough year for grasses, Italian ryegrass remained dominant at 19 percent cover. Comparing five-year average cover values for the most common species, ryegrass had almost double the cover of the next nearest species, soft chess (Table 1).

Italian ryegrass was not the dominant species at every EBRPD site: some parks had low levels of ryegrass for reasons that are not yet apparent. However, many of the areas with low levels of ryegrass or none at all in 2003 had substantial amounts by 2006, and the percentage of sites in which Italian ryegrass was the dominant increased from 28 percent in 2003 to 63 percent in 2006, falling back to 45 percent during the drought of 2007.

Moreover, ryegrass appears to have been on the increase for at least a decade. In a single East Bay Municipal Utilities District watershed in El Sobrante, a 9-year study by our lab from 1993 to 2001 showed that ryegrass rose steadily from under 10-percent plant cover in 1993 to
 Table 1. Average percent cover for the top ten "species," including litter (previous year's dead plant material) and soil, 2003–2007

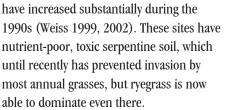
Species	Average percent cover, 2003–2007	Species	Average percent cover, 2003–2007
Lolium multiflorum	21.3	Erodium botrys	4.1
Bromus hordeaceus	11.9	Avena barbata	2.5
litter	10.4	Nassella pulchra	2.3
Avena fatua*	9.5	Trifolium hirtum	2.1
Bromus diandrus	5.6	Phalaris aquatica	2.0
soil	4.6	Vulpia bromoides	1.9

* For 2007 only, Avena sp. included in A. fatua.

dominance at 45–55 percent cover during 1997 to 2001.

These high levels of Italian ryegrass in the late 1990s and the 2000s contrast with the low levels found in a 5-year study from the early 1970s at another East Bay site. From 1969 to 1973 at the University of California Russell Reservation in Lafayette, ryegrass only rose above 8 percent plant cover once, when it reached 16 percent.

Elsewhere in the San Francisco Bay Area, similar trends are being observed. In the South Bay, at Stanford University's Jasper Ridge Biological Preserve and at Edgewood Natural Preserve in San Mateo County, Italian ryegrass also appears to



Four floras produced since the 1930s for Jasper Ridge indicate that ryegrass was not observed in serpentine areas through 1983 (see unpublished report at HTTP:// TREES.STANFORD.EDU/CNPS/ESCOBAR_GRASSES .PDF). In the last few years however, at both Jasper Ridge and Edgewood, ryegrass was the dominant species, at 20–30 percent plant cover in 2001 and 2002 (Weiss 2002). In several other areas, both serpentine and non-serpentine, in south San Jose, Weiss (1999) reports increasing ryegrass plant cover and dominance since the mid-1980s or mid-1990s.

Impacts of Widespread Italian Ryegrass Dominance

If this apparent widespread dominance by Italian ryegrass is a long-lasting change, the ecological impacts may be significant. Economic and health impacts may also be appreciable.

The California Invasive Plant Council's (Cal-IPC) 2006 Invasive Plant Inventory (.CAL-IPC.ORG) categorizes Italian ryegrass as having a moderate negative ecological impact in California. Cal-IPC further describes ryegrass as having a significant effect on native grassland plant communities.



UC Berkeley Range Ecology Lab field crew, Vasco Caves Regional Preserve, near Livermore, California, 2005. *Photo courtesy of the Range Ecology Lab, U.C. Berkeley*

While the actual ecological impacts of ryegrass dominance in California's grasslands are largely unstudied, ryegrass competes strongly against other non-native grasses in California (McKell et al. 1969, Fehmi et al. 2001). In addition, ryegrass may increase mortality of the native bunchgrass Purple needlegrass (*Nassella pulchra*) (Fehmi et al. 2004). Purple needlegrass is the most abundant native species in our East Bay Regional Park District study. It is also frequently used in grassland restoration projects.

In another highly invaded grassland, the pampas of Argentina, Italian ryegrass, which is non-native there too, rapidly outcompeted other species, and within 3 years became the dominant grass in former agricultural fields (Facelli et al. 1987). The increase in ryegrass cover was correlated with an increase in local extinction of other



Annual ryegrass-dominated site, early in the growing season, Vasco Caves Regional Preserve, near Livermore, California, April 2006. Ryegrass makes up over 80 percent of the plant cover here. *Photo courtesy of the Range Ecology Lab, U.C. Berkeley*

plant species and with a reduction in plant species diversity. Whether Italian ryegrass has similar effects in California grasslands is not clear. For the EBRPD study, we could not find a strong relationship between Italian ryegrass cover and native plant cover or diversity.

Italian ryegrass is known to suppress native plants in other California vegetation communities. Since the 1940s, ryegrass has been seeded in chaparral and forests after wildfires to reduce soil erosion caused by post-fire rainfall. Numerous follow-up studies of post-fire ryegrass seeding have shown that plant cover and diversity of native herbaceous species are reduced on sites with high ryegrass cover (reviewed in Beyers 2004).

One well-studied ecological result of Italian ryegrass dominance is unequivocally negative: the disappearance of threatened Bay checkerspot butterfly populations. Stuart Weiss has spent years studying the checkerspot in its South Bay serpentine habitat and has documented how the fairly recent invasion of ryegrass into serpentine sites has caused populations of California plantain (Plantago erecta) and other checkerspot larvae host plants to plummet (Weiss 1999). As go the host plants, so go the butterflies. Both the Jasper Ridge and the Edgewood butterfly populations have gone extinct, as have populations in south San Jose, with ryegrass the prime suspect (Weiss 2002). Other native plants are also declining as Italian ryegrass invades the serpentine grassland (U.S. Fish and Wildlife Service 1998).

And before you chuckle at the allergy problems that Italian ryegrass causes, a recent analysis estimates that allergyrelated consequences of non-native grasses cost Californians between \$400 million to \$1 billion per year in missed work, medication, and Kleenex (Anderson 2005). Ryegrass pollen is an abundant and potent allergen (Pollart et al. 1988; Spangenberg et al. 2000) and is likely to be responsible

for a significant portion of the grass pollen allergies in California. At least three of this article's authors are highly allergic to ryegrass, one of whom had to go to the hospital due to a severe ryegrass reaction during the field season.

Why is Italian Ryegrass Increasing?

If the effects of Italian ryegrass dominance are undesirable, is there anything we can do to cut short its reign? To answer this question, it would be helpful to know why the widespread increase in ryegrass cover has occurred.

Several factors may underlie the change. Stuart Weiss has presented a strong case for air pollution being a primary cause. In addition, warmer and wetter weather may have given Italian ryegrass the boost it needed to become a common dominant.

Nitrogen "fertilization" of the soil by automobile air pollution is strongly implicated as the cause of ryegrass' invasion of serpentine soils in the South Bay and Peninsula. At Jasper Ridge, Edgewood, and sites in south San Jose, Weiss has shown that various forms of nitrogen are deposited on plants and soil at much higher levels in areas with bad air pollution problems (Weiss 1999, 2002). Experiments by other Stanford University researchers (reviewed in Weiss 1999) have demonstrated that nitrogen fertilization can rapidly turn a study plot from forb-dominated to grassdominated, and that ryegrass, in particular, grows quickly and vigorously with nitrogen fertilization. It appears that over many years, air pollution has added enough nitrogen to the soil that a threshold has been crossed, allowing Italian ryegrass to flourish even in harsh soils.

In combination with nitrogen enrichment, warmer and wetter weather is likely to promote increases in Italian ryegrass cover. Weiss notes that ryegrass was rare at Jasper Ridge until 1998, a year of record El Niño rains. Experiments by Sherry Gulmon showed that ryegrass is favored in



Annual ryegrass-dominated site, late in the growing season, Sycamore Valley Regional Open Space Preserve, near Danville, California, June 2006. Ryegrass makes up 55 percent of the plant cover at this site. *Photo courtesy of the Range Ecology Lab, U.C. Berkeley*

conditions with temperatures above 68°F and consistently available nitrogen and moisture (Gulmon 1979). When all three conditions were met, ryegrass was able to outcompete wild oats and soft chess.

Gulmon's work suggests that if global climate change brings higher temperatures, especially during the growing season, California's climate may be even more suitable for Italian ryegrass domination. With continued nitrogen deposition from air pollution, increased temperatures due to global climate change, and periodic high rainfall events, such as El Niño years, Italian ryegrass may come to dominate large parts of California's central coast grasslands.

Ryegrass Control

There is not much we can do about warmer and wetter weather, and even reducing air pollution from cars requires large-scale societal changes. Drought years reduce Italian ryegrass cover somewhat (Weiss 1999), but it appears likely that a wet and warm year would allow ryegrass to reestablish dominance.

Livestock grazing may be one management action that can mitigate some of the deleterious effects of ryegrass dominance, at least on serpentine soil. At Weiss' serpentine sites in south San Jose, nearby areas that were grazed by cattle maintained large populations of plantain and checkerspot butterflies, and cover of Italian ryegrass was much lower. When grazing was reintroduced to one of the ungrazed sites, although the butterflies did not return, grass cover, dominated by ryegrass, fell from 75 percent to 45 percent, while forb cover increased from 10 percent to 30 percent (Weiss 1999).

The impacts of livestock grazing on Italian ryegrass and native plant cover were not so clear-cut at our EBRPD study sites, which are not on serpentine soil. In three parks (only two in 2007), there are grazed and ungrazed sites. Ryegrass cover was higher on grazed sites in all years, but this difference was only statistically significant in 2004 and 2006. Native plant cover and diversity, however, did not differ between the grazed and ungrazed sites in any year.

Conclusion

Data from several studies suggest that, over the past decade, Italian ryegrass has emerged as a dominant species in the annual grassland of the San Francisco Bay Area. Although the ecological repercussions of ryegrass dominance are little studied, several lines of evidence suggest that native plants and animals could be negatively impacted. Increased ryegrass pollen may also cause higher levels of allergies and asthma in people. Consequently, research into the causes, ecological impacts, public health impacts, and control of Italian ryegrass dominance should be made a priority. Research priorities include:

- Collecting further evidence documenting the extent of Italian ryegrass dominance in the Bay Area and elsewhere in California.
- If long-term data sets are available, evaluating how much ryegrass abundance

has changed over the past several decades.

- Analyzing the relationship between nitrogen deposition and Italian ryegrass dominance in the Bay Area with deposition models and field data.
- Conducting greenhouse and field experiments in serpentine and non-serpentine soils designed to investigate the effects of ryegrass on native grassland plant species richness and abundance.
 Experiments should be conducted under several levels of nitrogen, moisture, and temperature, including at levels predicted by regional climate change models.

Acknowledgments

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SERCAL AND CNGA present

A Confluence of Perspectives and Experience Habitat Restoration in California's Central Valley

29 April - 1 May at the Lake Natoma Inn on the American River in Folsom

Full Conference Schedule At-a-Glance

Pre-Conference Workshops (April 29)

- I. Soil-based Approach to Sustainable Revegetation and Erosion Resistance *Instructor: Dr. Vic Claassen*
- II. Restoration Project Construction Oversight and Management Instructors: Kevin MacKay and Steve Seville
- III. Holistic Grazing Planning Principles: Unleashing California Native Perennial Grasses and Forbs Instructors: Richard King and Kelly Mulville

Conference (April 30–May 1) (detailed description begins on page 11)

Plenary Speakers: Truman Young, Professor, Dept. of Plant Sciences, U.C. Davis

Robin Kulakow, Executive Director, Yolo Basin Foundation

Dave Feliz, Manager, Yolo Bypass Wildlife Area

Technical Sessions (over 45 presentations in 9 sessions) Poster Sessions, and more (14 poster presentations confirmed)

Post-Conference Field Trips (May 2)

- A. Burke Ranch Playa Vernal Pools; Leader: Matt Gause
- B. UC Davis Russell Ranch: Integrating Research with Habitat Restoration and Management; *Leader: Andrew Fulks*
- C. Yolo County's Grasslands Regional Park; Leader: Kent Reeves
- D. Central Valley Riparian and Wetland Restoration: Major Rivers to Managed Wetlands; Leader: Harry Oakes
- E. Cornflower Farms Nursery Tour; Leader: Neal Funston

Post-Conference Workshop (May 2–3)

Identifying and Appreciating the Native and Naturalized Grasses of California Instructors: David Amme and Wade Belew

Information/Questions: Susan Clark, Conference Coordinator: smclark@lightspeed.net or 661-634.9228

SERCAL AND CNGA present

A Confluence of Perspectives and Experience Habitat Restoration in California's Central Valley

Wednesday, April 29 Pre-Conference Workshops

I. Soil-based Approach to Sustainable Revegetation and Erosion Resistance

Instructor: Dr. Vic Claassen, Soil Scientist, UC Davis

The basic mechanics of soil function (infiltration, erosion resistance, plant nutrients and water) as well as a range of soil-based regeneration treatments will be reviewed. Many examples come from degraded substrates, since these have obvious problems, but the concepts and target levels are applicable to all field projects, including vegetation management on sites with "undisturbed" soils. Participants are invited to submit their own problem issues. Morning session in class and afternoon in the field.

Wednesday 29 April • 8 a.m.-5 p.m.

Maximum # Registrants: 30

Registration Fee: \$200 SERCAL or CNGA Member / \$240 Non-Member

Instructor **Vic Claassen** completed graduate work from UC Davis in soil science and plant nutrition. Since then he has held a research position studying degraded soils with the objective of reestablishing the soil process necessary for sustainable revegetation and erosion resistance in wildlands conditions.

II. Restoration Project Construction Oversight and Management

Instructors: **Kevin MacKay**, Senior Restoration Ecologist/Project Director, ICF Jones & Stokes; **Steve Seville**, PE, Civil Engineer of Record, ICF Jones & Stokes

The number of restoration projects continues to grow on an annual basis. However, there are still only a handful of contractors that specialize in implementing restoration projects. This places the responsibility on project designers to produce plans that clearly communicate the design intent and that can be constructed by a general grading or revegetation contractor. It also increases the need for project designers to work directly with contractors to interpret the construction documents, oversee critical phases of construction, and "field fit" project components as needed. This workshop will focus on developing understandable and enforceable construction documents and overseeing construction of restoration projects. Instructors will discuss and present examples of grading and planting plans and specifications, site observation documentation and punch lists. The workshop will also include discussions about performance standards, contractor accountability, payment, and penalties.

Wednesday 29 April • 11:30 a.m.-3 p.m.

Maximum # Registrants: 30

Registration Fee: \$145 SERCAL or CNGA Member / \$185 Non-Member

III. Holistic Grazing Principles: Unleashing California Native Perennial Grasses and Forbs

Instructors: **Richard J. King**, USDA-NRCS, Certified Educator in Holistic Management; **Kelly Mulville**, Rancher/Grazier, Certified Educator in Holistic Management

Whether you love cows or hate them, learn why and how livestock can either help protect and restore native species in our California grasslands or destroy them. The key is how they are managed. And that requires sound planning to ensure that livestock are in the right place at the right time and for the right reasons. Need help? This workshop is for you.

A morning indoor session will explain the principles, and during an afternoon field trip you will see how they can be applied. Hosted buffet lunch provided. (See registration form on p. 15.)

Wednesday 29 April • 7:30 a.m.-4 p.m.

Maximum # Registrants: 30

Registration Fee: \$145 SERCAL or CNGA Member / \$185 Non-Member

You may register for a Pre-Conference Workshop without being registered for the Conference.

Thursday, April 30 Plenary Sessions

The Yolo Wildlife Area: A Restored Treasure, A Balanced Solution, Robin Kulakow and Dave Feliz

Robin Kulakow is the founding Executive Director of the Yolo Basin Foundation. Ms. Kulakow's vision, resource management background, and partnership-building skills enabled her to facilitate the creation of the Yolo Bypass Wildlife Area, an effort that began in 1989. She organized the Yolo Basin Working Group in 1990 and continued to manage it for seven years as the agreements for creating the Wildlife Area were negotiated. She serves as a community and state resource for information on habitat restoration, flood control, and stakeholder concerns throughout the Yolo Basin. Robin has a B.S. in soil science from UC Berkeley and a Master of Administration degree from the UC Davis Graduate School of Management. She is the recipient of numerous state and local awards recognizing her commitment to the environment.

Dave Feliz has been the manager of the Yolo Wildlife Area for over 10 years. He began his 25-year career with Fish and Game working on

fish and invertebrates in the San Francisco Bay and Delta, and for the last 20 years has been working on wildlife areas. He holds a B.S. in Wildlife Management from Humboldt State University. Dave appreciates the opportunities that Yolo County offers to creatively restore and manage historic wetlands for a variety of species and to provide outdoor educational and recreational opportunities for the public.

An Academic View of the Past and Future of Grassland Restoration in California, *Truman Young*

Truman Young is a Professor in the Department of Plant Sciences at UC Davis. He was born and raised in Colorado. His wife Lynne Isbell is a primatologist, and his son Peter is starting high school. He has been carrying out research in California since 1996 and in East Africa since 1977. Studying grasslands (rangelands) on both continents, his research emphasizes restoration ecology and biodiversity conservation in human-dominated environments. He continues to be a student of the amazing restoration practitioners in Northern California.

Concurrent Sessions

Session 1. Reclaiming the Sacramento/San Joaquin Delta: Wetland Restoration in the Delta and Bay Region. *Chair: Kevin MacKay, Senior Restoration Ecologist, ICF Jones & Stokes*

- Decker Island Habitat Improvement Project: an Overview at Completion. Chad Aakre, Restoration Resources
- Blacklock Restoration Project: 70 Acres Down ... Terri Gaines, California Dept. of Water Resources
- Recommended Best Management Practices for Reversing Subsidence on Delta Islands. Brad Hall, Brady McDaniel, Robert MacArthur, Northwest Hydraulic Consultants; Keane Sommers, Nevada Irrigation District, Grass Valley; Edward Schmidt, California Dept. of Water Resources;
- Design and Establishment of the Liberty Island Conservation Bank. *Carl Jensen,* Wildlands, Inc.
- Creation and Restoration: Designing Wetlands in a South Bay Valley. Gale Rankin, Santa Clara Valley Water District
- Water Primrose (Ludwigia hexapetala) Control for Giant Garter Snake (Thamnophis gigas) Habitat Restoration. Sara Sweet, Jaymee Marty, The Nature Conservancy; Harry McQuillen, U.S. Bureau of Land Management; Eric C. Hansen, Consulting Environmental Biologist; Larry Rodriguez, Robertson-Bryan, Inc.

Session 2. Restoration Opportunities within Working Agricultural and Ranching Landscapes. *Chair, Carol Presley,* P.E., Pajaro River Regional Programs Manager, Santa Clara Valley Water District

Farmland Habitat Restoration in Yolo County: Results and Vision after 20 Years. John Anderson, Hedgerow Farms

Conservation-Based Agriculture. Jo Ann Baumgartner, Wild Farm Alliance

- **Restoring Pollinator Habitat on Agricultural Lands.** *Jessa Guisse,* Pollinator Conservation Program, Xerces Society for Invertebrate Conservation
- Treatment Wetlands at the Edge of Vegetable Farms Targeting Nutrients, Pesticides, and Sediment. Bryan Largay, Elkhorn Slough National Estuarine Research Reserve
- Agricultural Easements Can Raise Interesting Issues Regarding Habitat Restoration. *Tom Scharffenberger*, Scharffenberger Land Planning & Design
- Watershed Protection, Resource Conservation, and Beyond: Pioneering Sustainable Practices at Fetzer Vineyards. L. Ann Thrupp, Fetzer Vineyards

Session 3. Seed and Plant Material Techniques for Site Restoration. *Chair: David Amme,* Wildland Vegetation Program Manager, East Bay Regional Park District

- Sediment Source Control Handbook: An Adaptive Approach to Restoration of Disturbed Areas. *Michael Hogan, Kevin Drake,* Integrated Environmental Restoration Services, Inc.
- Native vs. Non-Native Grass Erosion Control Seeding. Clare Golec, California Dept. of Transportation
- Plumas and Sierra Nevada Native Grass Seed Zone Studies: What does it mean and where do we go from here? Linnea Hanson, Plumas National Forest; Jay Kitzmiller, Kevin Rice, Dept. of Plant Sciences, UC Davis
- The Practice of Implementing and Managing California Native Grass Projects. Chris Rose, Solano Resource Conservation District; John Anderson, Hedgerow Farms
- Seeding: Some Lessons Learned. David Steinfeld, USDA Forest Service, Pacific Northwest Region

Friday, May 1 Concurrent Sessions

Session 4. Incorporating Civil Engineering and Modeling into Habitat Restoration. Chair, Steve Seville, P.E., ICF Jones & Stokes

- Green Grass and High Tides: Hydraulic Engineering in Support of Environmental Design on the Sacramento River Bank Protection Project. *Lea Adams*, Hydraulic Design Section, USACE Sacramento District
- Protect, Restore, or Manage for the New Condition: Degraded River Systems and Development. Chris Bowles, CBEC Eco Engineering; Eric Berntsen, State Water Resources Control Board
- Noise Considerations for Restoration Construction Projects. Dave Buehler, Joshua Carman, ICF Jones & Stokes
- Erosion Modeling in the Tahoe Basin: Scaling from Plots to Forest Catchments. *Mark E. Grismer,* Dept. of Land, Air, and Water Resources–Hydrology, UC Davis
- Biological Engineering and Managed Seasonal Wetland Habitat Designs on a Large Scale. *Chadd Santerre,* California Waterfowl Association
- Understanding and Applying Your Survey Data to the Ground and Your Project Site. *Steve Seville*, ICF Jones & Stokes

Session 5. Climate Change: Issues, Impacts, and Responses. *Chair: Michael Hogan,* President, Integrated Environmental Restoration Services

- Potential Impacts of Climate Change on Pacific Salmonids. Doug Demko, Michele Palmer, FISHBIO Environmental
- Assessing Potential for Establishing and Restoring California Native Bees to Human-Impacted Landscapes. Gordon Frankie, Division of Insect Biology, UC Berkeley; Jaime Pawelek, Robbin Thorp, Jennifer Hernandez
- Determining the Effects of Floral Diversity and Abundance, Habitat Patch Size and Nesting Site Availability on Bee Communities in the California Central Valley. Jennifer Hernandez, Ph.D. candidate, Environmental Science, Policy, and Management— Organisms and Environment, UC Berkeley
- Everyone Can Make a Difference: Reducing Greenhouse Gas Emissions at the Local Level. John Mott-Smith, Climate Change Coordinator, Yolo County
- Restoration Genetics in the Context of Climate Change. Deborah L. Rogers, Center for Natural Lands Management

Session 6. Working Grasslands: Managing for Diversity. Chair: Kent Reeves, Natural Resources Division Manager, County of Yolo Parks & Resources Dept.

Using Grazing to Maintain Grassland Habitat for Ohlone Tiger Beetle. Philip Greer, WRA, Inc.; Richard A. Arnold, Entomological Consulting Services, Ltd.; David Amme, East Bay Regional Park District

Native Grassland Species and Livestock Grazing: Does it Really Matter? Michele Hammond, Peter Hopkinson, James Bartolome, Reginald Barrett, Dept. of Environmental Science, Policy, and Management, UC Berkeley Vernal Pool Native Species Respond to Climate, Burning and Grazing. Bobby Kamansky, Kamansky's Ecological Consulting

- Restoring Wet Meadows and Wetland Edges on Old Agricultural Fields in the Pajaro Valley. Jonathan Pilch, Watsonville Wetlands Watch
- Innovative Grazing Management for Diversity and Much More. John Wick, Marin Carbon Project
- Session 7. Technology in Habitat Restoration: Recent Advances in Restoring, Monitoring, and Managing Landscapes. Chair: Andrew Fulks, Manager, Putah Creek Riparian Reserve, UC Davis

LIDAR Applications for Creek Restoration. *Rich Marovich,* Lower Putah Creek Coordinating Committee, Solano County Water Agency

An Interim Evaluation of Stream Restoration in Blackwood Creek. Joshua S.E. Meidav, EDAW Inc.; Charles R. Goldman, Dept. of Environmental Science and Policy, UC Davis; Michael G. Barbour, Dept. of Plant Sciences, UC Davis

- Ecohydrology Modeling of Northern Hardpan Vernal Pool Systems for Restoration. *Niall McCarten,* Hydrological Science Program, Dept. of Land, Air, and Water Resources, UC Davis
- Software Application for Large-scale, Multiple-objective Landscape Restoration. Julie Rentner, Chris Stevenson, Tom Griggs, River Partners
- Optimizing Mesh Networks for Environmental Monitoring at Quail Ridge Reserve. Shane Waddell, UC Davis Quail Ridge Reserve

Session 8. Vernal Pool Restoration & Effectiveness Monitoring for Special-Status Species. Chair: Carl Jensen, Design-Build Director/Landscape Architect, Wildlands, Inc. (2 abstracts pending)

- Stillwater Plains Mitigation Bank. Brent Helm, Helm Biological Consulting
- The Use of Soil Inoculum in Vernal Pool Restoration: What it Does and Doesn't Do. *Bill Roper,* Wildlands, Inc.
- Vernal Pool Restoration: Notes for the Future. Carol Witham, California Native Plant Society

Session 9. Grassland Ecology and Restoration. Chair: Randi Paris, Klamath Basin Watershed Team, USDA Natural Resource Conservation Service (2 abstracts pending)

California Prairie: Our Unknown Landscape. *Glen Holstein,* California Native Plant Society, Sacramento Valley Chapter.

Grasslands of California State Parks: A Selective Quantitative Survey. Peter Hopkinson, Michele Hammond, Sheri Spiegal, James Bartolome, Dept. of Environmental Science, Policy, and Management, UC Berkeley

Grassland Fire Management at the Santa Rosa Plateau. Zachary Principe, The Nature Conservancy

Short-term Priority Influences Competitive Ability of Native Perennial Grasses. Kurt Vaughn, Plant Sciences Dept., UC Davis

Poster Sessions

Native Grass/Forb Sod is a Viable Option for Today's Restoration Projects. Paul Albright, Bruce Berlin, S & S Seeds

- Wetland Restoration during Early Implementation of the East Contra Costa County HCP/NCCP. Kevin MacKay, Kate Bode, ICF Jones & Stokes; John Kopchik, Abigail Fateman, East Contra Costa County Habitat Conservancy
- Sundance Properties Grassland and Wetland Vegetation Installation Techniques. *Ian Boyd, Riley Swift, Ralph Vigil, Chad Aakre, Lucas Piper, Chuck Hatch, Christi Owens,* Restoration Resources
- Developing Revegetation Palettes for Active Ski Slopes. Jennifer W. Burt. Kevin J. Rice, Dept. of Plant Sciences, UC Davis; Shana Gross, Lake Tahoe Basin Management Unit, USDA Forest Service
- Developing Native Seed Recommendations for Southern California Ecoregions. Arlee M. Montalvo, Riverside-Corona Resource Conservation District; Jan L. Beyers, U.S. Forest Service, Pacific Southwest Research Station, Riverside Fire Lab; Laurel K. Goode, Center for Conservation Biology, UC Riverside
- Seedballs as a Tool for Restoring Coleogyne rammosisima Communities. Joshua D. Hoines, National Park Service, Lake Mead NRA; Fred S. Edwards, Bureau of Land Management, Las Vegas Field Office
- California Prairie: Our Unknown Landscape. *Glen Holstein,* California Native Plant Society, Sacramento Valley Chapter

Upland Habitat Restoration on Retired Farmlands in the Tulare Basin. Karl Kraft, Bureau of Land Management, Bakersfield Field Office, Atwell Island Restoration Project

Comparing Strategies to Restore Riparian Forests Along the Sacramento River. Charles D. McClain, David M. Wood, Colleen A. Hatfield, Dept. of Biological Sciences, California State University, Chico; Karen D. Holl, Environmental Studies Dept., UC Santa Cruz

- Quartermaster Reach Restoration. Tania Pollak, Natural Resource Planner/Project Manager, Presidio Trust; Jeff Peters, Geomorphologist/Restoration Specialist, ICF Jones & Stokes
- The Role of Citizen Scientist in Plant Conservation: The Santa Rosa Plain "Adopt a Vernal Pool" Endangered Plant Survey Program. Christina M. Sloop, Laguna de Santa Rosa Foundation
- King Range Native Perennial Bunchgrass Program. Jennifer Wheeler, USDI Bureau of Land Management, Arcata Field Office
- Innovative Grazing Management for Diversity and Much More. John Wick, Marin Carbon Project
- Planting California Hedgerows: Native Forb Mix Success at Different Densities. Marit L. Wilkerson, Truman Young, Dept. of Plant Sciences, UC Davis; Katharina Ullmann, Xerxes Society and Honey Bee Research Laboratory, UC Davis; Claire Kremen, Dept. of Environmental Science, Policy and Management, UC Berkeley

Outdoor Offerings Await Folsom Conference Goers, Partners, and Families

JIM HANSON, CNGA Board of Directors

 onveniently located about twenty miles east of Sacramento, the SERCAL/CNGA conference in Folsom abounds in a variety of reasonably priced outdoor opportunities for conference goers,
 their partners, and families.

You can go out with a group for a lazy **paddle on Lake Natoma**. Kayaks and canoes can be rented from the Sacramento State University Boat Dock at Nimbus Dam. Several outfitters take basic and advanced river kayakers for lessons on the mildly challenging American River off historic Hwy. 49.

This year, after a day of stimulating conference session offerings, I plan to bring the road bike for an early evening spin on the Lake Natoma bike trail.



Then again ... my Craigslist mountain bike is itching to join other recreational riders for the "Prairie City Race Series" on Wednesday eve before the conference starts. This locally organized spring race takes over the State OHV park just outside of town for a variety of events for all ages and skills. Here's a flavor of what's available ...

- April 29, Wednesday night **Prairie City Race Series**—mountain biking get-together for all ages. Register ahead at HTTP://WWW .RACEMTB.COM/.
- **Biking around Lake Natoma** (see excellent bike map at VISITFOLSOM.COM).
- One hour of Pro Mountain Bike lessons from George Stephenson at the City's Cummings Skate and Bike Park.

And more outdoor activities . . .



In Folsom and nearby ...

- Wine Tasting at foothill wineries
- Historic downtown Folsom
- Outlet stores

For a rundown of other activities and details, look up VISITFOLSOM.COM.

Nimbus Fish Hatchery Folsom Zoo and Sanctuary ries

Rafting and kayaking on the

CSUS Boat Dock at Nimbus Dam

American River Parkway

Olympic Swimming Pool

Sierra hiking and fishing

American River



Saturay, May 2 Post-Conference Field Trips

You may register for a Pre-Conference Field Trip without being registered for the Conference.

All field trips: \$15 SERCAL or CNGA Members / \$25 Non-Members

A. Burke Ranch Playa Vernal Pools. Leader: Matt Gause, Senior Ecologist, Westervelt Ecological Services

Vernal pool ecology, preserve management, and vernal pool restoration issues will be explored at this 960-acre preserve in Solano County. Species include nesting Swainson's hawk (*Buteo swainsoni*), California tiger salamander (*Ambystoma californiense*), Delta green ground beetle (*Elaphrus viridis*), Conservancy fairy shrimp (*Branchinecta conservatio*), vernal pool tadpole shrimp (*Lepidurus packardi*), vernal pool fairy shrimp (*Branchinecta lynchi*), Sacramento saltbush (*Atriplex persistens*), and alkali milk-vetch (*Astragalus tener* var. *tener*).

Please bring a sack lunch. Limited to 25 participants:

B. UC Davis Russell Ranch: Integrating Research with Habitat Restoration and Management. Leader: Andrew Fulks, Manager, Putah Creek Riparian Reserve, UC Davis

Learn the steps required to convert acreage to native grassland habitat, including pre-planning, preparation, implementation, and follow-up maintenance and monitoring at this 380-acre habitat mitigation area not normally open to the public. The Ranch is also an active UC Davis research area, and participants will hear about the latest research into forb estab-lishment, valley elderberry longhorn beetle mitigation, erosion control, tamarisk and arundo control, use of prescribed burns, and related management issues. The tour will involve moderate hiking through level grasslands and will run about 3 hours.

Please bring a sack lunch and water. Limited to 30 participants

C. Yolo County's Grasslands Regional Park. Leader: Kent Reeves, Natural Resources Division Manager, Yolo County Parks & Resources Dept. Observe examples of grassland restoration techniques, including drill seeding, controlled burns, grazing, and invasive species management. This 620-acre site, one of the largest contiguous upland grasslands in Yolo County, has some of the best examples of alkali vernal pools. The grasslands provide habitat for burrowing owl (Athene cunicularia), northern harrier (Circus cyaneus), and Swainson's hawk (Buteo swainsoni); seasonal wetlands and alkali vernal pools sustain populations of special status species [Colusa grass (Neostapfia colusana), alkali milk-vetch (Astragalus tener var. tener), vernal pool tadpole shrimp (Lepidurus packardi), and California

linderiella (*Linderiella occidentalis*)]. The site contains the largest remaining populations of Crampton's tuctoria (*Tuctoria mucronata*).

Dress comfortably for a day of easy hiking. Bring water, a daypack, and a sack lunch. Cowboy poetry is included at no extra charge. The tour will conclude at 4:00p. Limited to 30 participants

D. Central Valley Riparian and Wetland Restoration: Major Rivers to Managed Wetlands. Leader: *Harry Oakes*, Habitat Restoration Planner, ICF Jones & Stokes

First, explore several bank protection and revegetation sites along the Sacramento and American Rivers. These rivers provide water for agricultural and human consumption throughout California, and provide important (and limited) habitat for several federally and state listed species, including Chinook salmon (*Oncorhynchus tshawytscha*), steelhead (*Oncorhynchus mykiss*), and Swainson's hawk (*Buteo swainsoni*).

Next, explore the Yolo Wildlife Area, a 16,000-acre preserve managed by the California Department of Fish and Game. The Wildlife Area is an incredible example of the hard work and dedication of the community-based Yolo Basin Foundation. The Yolo Wildlife Area provides important wintering habitat for waterfowl and shorebirds and breeding habitat for numerous other wildlife species.

Please bring a sack lunch. Limited to 30 participants

E. Cornflower Farms Nursery Tour. Leader: *Neal Funston,* Cornflower Farms

Neal will demonstrate the nursery's wholesale production of plants from seed/cutting to finished plant, detail how Cornflower handles and tracks restoration projects, show timelines needed for growing plants needed for projects, and introduce people new to the field to restoration containers. The importance of preplanning for acquisition of plants for restoration projects will be emphasized. Contractors often request plants from a certain area or watershed when the plants are not available. With adequate lead time, Cornflower Farms can provide all needed plants by the proposed planting date, so that installers aren't scrambling to find what they need to complete the project. The nursery will be open after the 1-hour tour.

Limited to 20 participants. If more than 20 registrants sign up, a second tour will be offered at the conclusion of the first.

Saturay–Sunday, May 2–3 Post-Conference Workshop

You may register for the Post-Conference Workshop without being registered for the Conference.

Sing up early, the workshop is limited to 30 people. Registration deadline is April 24.

Identifying and Appreciating the Native and Naturalized Grasses of California—Grass Identification Workshop: A two-day class and field course for the beginner. Leaders: *David Amme*, Wildland Vegetation Program Manager, East Bay Regional Park District, and *Wade Belew*, Restorationist, Cotati Creek Critters

\$220 CNGA/SERCAL Members; \$260 Non-Members (see registration form, page 16)



Holistic Grazing Planning Principles: Unleashing California Native Perennial Grasses and Forbs

Tasslands Wednesday, April 29, 2009 ssociation 8:00 a.m.- 4:00 p.m.

Instructors: Richard J. King, USDA-NRCS, Certified Educator in Holistic Management Kelly Mulville, Rancher/Grazier, Certified Educator in Holistic Management

Registration: offered in conjunction with the 2009 CNGA/SERCAL Joint Annual Conference Lake Natoma Inn, Folsom, CA (Conference registration is optional)

CNGA/SERCAL Members: \$145; Non-Members: \$185

See www.CNGA.org> and www.sercal.org> for details.

hether you love cows or hate them, learn why and how livestock can either help protect and restore native species in our California grasslands or destroy them. The key is how they are managed. And that requires sound planning to ensure that livestock are in the right place at the right time and for the right reasons. Need help? This workshop is for you.

A morning indoor session will explain the principles, and during an afternoon field trip you will see how they can be applied.

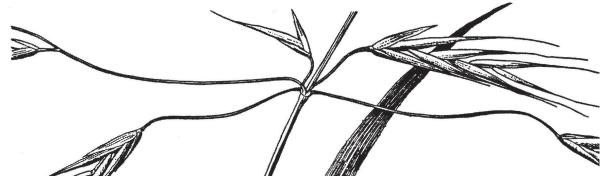
Hosted buffet lunch.



When you realize life on both sides of the fence is suffering and begin to think there's got to be a better way, what will you do?

Mail to: SERCAL/CNGA Conference 2009	Enroll now; classes fill quickly. 9, 2701 20th Street, Bakersfield, CA 93301 Sec	:ure Fax: 661-634-	9540
Participant's name (type or print please)			
Address: Street	City	State	Zip code
Phone	E-mail (required for confirmation)		
Registration fee: \$145/CNGA/SERCAL Members Payment by check, payable to SERCAL	□ \$185 Non-Members	🗆 Vegetaria	in?
Payment by credit card (please check type)	Visa 🗆 MasterCard 🗆 America	an Express	
Card NumberAuthorized signature	Expiration date	/	
Questions about registration ar	nd venue? Contact Susan Clark, Conference Coo	ordinator, SERCAL	
5	3) 634-9228 E- <i>mail</i> : smclark@lightspee		

IDENTIFYING AND APPRECIATING THE NATIVE AND NATURALIZED GRASSES OF CALIFORNIA



Grass Identification Workshop: A two-day class and field course for the beginner

Northern California Workshop

Saturday and Sunday, May 2–3, 2009 • 8:30 a.m.–4 p.m.

Offered in conjunction with the 2009 CNGA/SERCAL Joint Annual Conference Lake Natoma Inn, Folsom, CA (Conference registration is optional)

\$220/Members; \$260 Non-Members

Hosted lunch

Day #1: We will learn about California's grassland ecology, the qualities of specific native grasses for restoration, and become skilled at recognizing the basic groups and common species through plant samples in a classroom setting. We will review both the old Tribe method of identifying grasses as well as the artificial key methodology focusing on the important distinguishing traits. A valuable class syllabus binder and basic keys will be provided.

Day #2: We will explore local grasslands in the field, rich with a diverse assemblage of native and naturalized grasses, and make use of our new understanding and skills. Bring a 10x hand lens, notebook, scotch tape, and any field guides to grasses you may have. Recommended texts are the Jepson Manual, the Hitchcock Manual, and Beecher Crampton's Grasses in California (U.C. Press). Information and directions will be sent with paid registration.

The theme of this workshop is "Grasses are fun and easy to identify." Our goal is to learn the basic skills of identifying grasses.

Sign up early, the workshop is limited to 30 people. Signup Deadline: April 24, 2009.

Instructors: David Amme, Wildland Vegetation Program Manager, East Bay Regional Park District, and Wade Belew, Restorationist, Cotati Creek Critters

Mail to: SERCAL Conference, 2701 20th	St., Bakersfield, CA 93301	ecure Fax: (530) 661-228	30
Participant's name (type or print please)		Vege	tarian?
Address: Street	City	State	Zip code
Phone E-m	ail (required for confirmation)		
Registration fee: \$220/CNGA/SERCAL Members Payment by check, payable to SERCAL	\$260 Non-Members		
Payment by credit card (please check type) Visa Card Number Authorized signature		merican Express	

IDENTIFYING AND APPRECIATING THE NATIVE AND NATURALIZED GRASSES OF CALIFORNIA

Grass Identification Workshop: A two-day class and field course for the beginner Central California Workshop—San Luis Obispo & Field Sites Saturday and Sunday, May 16–17, 2009 • 8:30 a.m.–4 p.m.

Room A, Ludwick Community Center, 864 Santa Rosa Street, San Luis Obispo

\$220/Members; \$260 Non-Members

Day #1: We will learn about California's grassland ecology, the qualities of specific native grasses for restoration, and become skilled at recognizing the basic groups and common species through plant samples in a classroom setting. We will review both the old Tribe method of identifying grasses as well as the artificial key methodology focusing on the important distinguishing traits. A valuable class syllabus binder and basic keys will be provided.

Day #2: We will explore local grasslands in the field, rich with a diverse assemblage of native and naturalized grasses, and make use of our new understanding and skills. Bring a 10x hand lens, notebook, scotch tape, and any field guides to grasses you may have. Recommended texts are the Jepson Manual, the Hitchcock Manual, and Beecher Crampton's Grasses in California (U.C. Press). Information and directions will be sent with paid registration.

The theme of this workshop is "Grasses are fun and easy to identify." Our goal is to learn the basic skills of identifying grasses.

Sign up early, the workshop is limited to 30 people. Signup Deadline: May 8, 2009.

Instructors: David Amme, Wildland Vegetation Program Manager, East Bay Regional Park District, and Wade Belew, Restorationist, Cotati Creek Critters

	omplete and return as soon as possible.	(520) ((1 2200	
· · · · · · · · · · · · · · · · · · ·	3327, Woodland, CA 95776 Secure Fax:	(530) 661-2280	
Participant's name (type or print please)		Vege	etarian?
Address: Street	City	State	Zip code _
Phone	E-mail (required for confirmation)		
Registration fee: \$220/CNGA Members	□ \$260 Non-Members		
Payment by check, payable to CNGA			
Payment by credit card (please check type)	🛛 Visa 🛛 🗆 MasterCard 🖾 Amer	rican Express	
Card Number	Expiration da	te/	
Authorized signature			
Quest	tions? Contact Judy G-Scott, CNGA Director		
Phone/Fax	r: (530) 661-2280 <i>E-mail</i> : admin@CNGA	.org	

The Work of CNGA: Committees for 2009

ot some time on your hands? Feel like helping in your own creative way? Are you good at collaboration and consensus? Then we want you!

The Committees listed below are active for 2009, and additional volunteers are welcome. With the exception of the Executive Committee, you do not have to be a member of the CNGA Board of Directors to be an active participant on the CNGA committees.

Take a look at the tasks and the Committee Chair s indicated below, and if you are interested, please contact the Committee Chair or the CNGA Administrative Director. Committees operate under an annual plan, and there's a lot to be done this year.

Annual Conference Committee

Chair: Randi Paris, Past President *e-mail: randiparis@yaboo.com*

The Annual Conference Committee plans the Annual Conference; establishes conference focus, goals, and objectives; selects and confirms speakers; plans field trips and banquet activities; and sets the general fee structure for the conference.

Grasslands Editorial Committee

Chair: Melissa Mooney

e-mail: mjmoon@charter.net

Working with the Managing Editor, the Grasslands Editorial Committee solicits submissions for *Grasslands;* establishes themes for each issue; and reviews submissions and recommends modification or editing as needed.

Workshop Committee

Chair: Bryan Young

e-mail: youngb@sacsewer.com

The Workshop Committee reviews and approves workshop binder materials; establishes and maintains policy for distribution of all workshop materials to the public; plans workshop logistics; and leads development of new workshops.

Advocacy and Collaboration Committee

Chair: Wade Belew, President-elect *e-mail: wadekb@sonic.net*

The Advocacy and Collaboration Committee develops and evaluates opportunities for conservation-oriented projects; leads advocacy for legislation promoting native grass/grasslands conservation; and reviews information and current thought pertaining to conservation issues.

Development Committee

Chair: JP Marié

for Board approval.

e-*mail: jpmarie@ucdavis.edu* The Development Committee conducts general outreach, researches potential grants, and suggests fundraising objectives

The following committees are required by CNGA bylaws:

Executive Committee

Chair: David Amme, President *e-mail: seed@tdl.com*

The Executive Committee is made up of the President, the President-Elect, the Immediate Past-President, the Treasurer, the Secretary, and one Member-at Large selected by the Board.

The Executive Committee is a committee of the Board that has the same authority as the Board to act when the Board is not in session.

Traditionally, this committee develops the organization's annual budget for presentation to the full Board at the fall meeting; solicits recommendations and selects the organization's annual award recipient; and performs other duties as spelled out in the bylaws and the annual plan.

Elections Committee

Chair: TBD

The Election Committee, consisting of *at least* three members and *at most* six members, is annually appointed by the Board.

This committee handles the mechanics of the mailed ballot and counts votes.

Nominating Committee Chair: TBD

The Nominating Committee is a standing committee annually appointed by the Board. Any CNGA member is eligible to be a member. This committee contacts incumbent officers to determine whether the officer will seek reelection. The committee recommends candidates, including incumbent officers seeking reelection, to be put on the ballot for each vacant voting position. The Board then decides on the candidates best qualified to be on the ballot.

The **Board of Directors** meets as necessary, generally quarterly, throughout the year to conduct the business of the Association.

Free Restoration Training Program

Back to Natives Restoration (BTN) in San Juan Capistrano has partnered with the U.S. Forest Service to educate volunteers in dry restoration practices within the Cleveland National Forest. To sign up for this *free* training program, please e-mail RESTORATION@ BACKTONATIVES.ORG.

The remaining 2008–2009 dates are:

- April 25, and
- May 16

Visit HTTP://www.BACKTONATIVES.ORG/USFS .HTM for a registration form and an event waiver.

Volunteer Habitat Restoration

BTN also offers volunteer habitat restoration opportunities (weeding, planting, and seeding) in Southern California. RSVP at VOLUNTEER@ BACKTONATIVES.ORG or 949-509-4787; BTN will send directions and more info. Always bring gloves, sunscreen, a re-useable water bottle, snacks, a hat, and closed-toed shoes.

Upcoming dates:

- Apr. 26, 9 a.m.–12 p.m., Mason Regional Park, Irvine
- May 10, 9 a.m.–12 p.m., Caspers Wilderness Park, San Juan Capistrano
- May 24, 9 a.m.–12 p.m., Mason Regional Park, Irvine

Salendar

Send calendar entries and announcements for the summer '09 issue by May 29, to ADMIN@CNGA.org.

Sun., Apr. 19

Carrizo Plain field trip. 8 a.m. Sponsored by the San Luis Obispo Chapter of the California Native Plant Society. Leader: George Butterworth, GEORGE.BUTTERWORTH75@GMAIL.COM or 438-3641. Meeting points in San Luis Obispo (8 a.m.) and Santa Margarita (8:30 a.m.). All-day trip; call George for details. SUVs and trucks are best.

Wed., Apr. 29

Holistic Grazing Planning Principles: Unleashing California Native Perennial Grasses and Forbs. 8 a.m.–4 p.m., in conjunction with CNGA/SERCAL joint Annual Conference, Lake Natoma Inn, Folsom, CA. Instructors: Richard King and Kelly Mulville. See page 15.

Wed. Apr. 29–Sun., May 3

CNGA/SERCAL Joint Annual Conference—A Confluence of Perspectives and Experience: Habitat Restoration in California's Central Valley. Lake Natoma Inn, Folsom, CA. Technical sessions, posters, workshops, field trips, more. See pages 9–14. Check (www.CNGA.org) for registration information and updates.

Sat.-Sun., May 2-3

CNGA Spring Grass ID Workshop–Northern California, in conjunction with CNGA/SERCAL joint Annual Conference, Lake Natoma Inn, Folsom, CA. 8:30 a.m.–4 p.m. Learn the basic skills of identifying grasses; classroom and field study. Instructors: Dave Amme and Wade Belew. See page 16.

Tues.-Thurs., May 12-14

Climate Change and Carbon Sequestration on California Rangelands. A spring tour and meeting of the California Pacific Society for Range Management, Santa Rosa, Hyatt Vineyard Creek Hotel and Spa. SRM has opened this meeting to CNGA members. Information: John Harper, JMHARPER@UCDAVIS.EDU. Registration: HTTP://WWW .RANGELANDS.ORG/CASRM/CALENDAR.HTML.

Sat.–Sun., May 16–17

CNGA Spring Grass ID Workshop–Central California, San Luis Obispo,. 8:30 a.m.–4 p.m. Learn the basic skills of identifying grasses; classroom and field study. Instructors: Dave Amme, Wade Belew. Registration deadline May 8. See page 17.

Draft EIS for Tejon Ranch Habitat Conservation Plan Available

Draft Environmental Impact Statement (EIS) for the Tehachapi Uplands Multi-Species Habitat Conservation Plan (MSHCP) was released by the USFWS in January 2009. Comments will be accepted by FWS until May 5, 2009. The draft EIS is available at the Ventura Fish and Wildlife web site at HTTP:// WWW.FWS.GOV/VENTURA/. The Fish and Wildlife Service is issuing the DEIS to evaluate impacts associated with issuance of an incidental take permit (ITP) for implementation of the MSHCP. There are thirteen bird, three amphibian, one insect, two mammal, two reptile, and six plant species covered in the plan.

Activities covered by the permit would include, but not be limited to, planned future community development of approximately 5,533 acres within and adjacent to the Interstate 5 corridor in the Tejon Mountain Village Planning Area. The Tejon Ranch is located in Los Angeles and Kern Counties.

According to the draft document, savannah and grassland communities, including 1,149 acres of native grassland, are dominant vegetation communities on the "covered" lands.

Draft Resource Management Plan and Draft EIS for Carrizo Plain National Monument Available

Draft Resource Management Plan and Draft EIS for 206,000 acres of public lands in the Carrizo Plain National Monument in San Luis Obispo and Kern Counties has been released by the U.S. Bureau of Land Management (BLM).

Copies are available at http://www.blm.gov/ca/bakersfield/carrizo/2009DraftRMP.

The document is intended to provide direction for managing the National Monument and to analyze the environmental effects resulting from implementing a preferred alternative approach to management of the Monument. Lands within the Monument contain valley saltbush scrub, annual grasslands, juniper woodland, and stands of native bunchgrasses.

Comments on the Draft EIS and Plan are due April 23, 2009.

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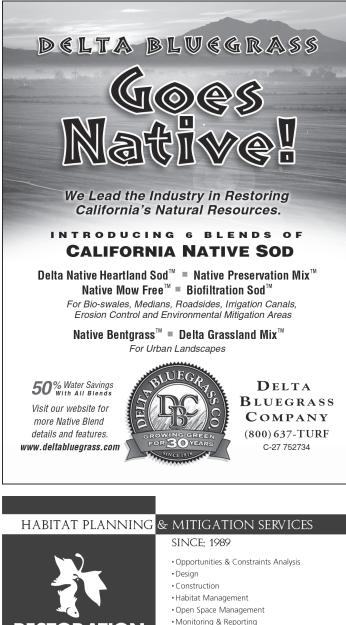
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Front cover: Santa Rosa basalt brodiaea (*Brodiaea santarosae*) growing near a lichen-covered basalt outcrop on Avenaloca Mesa. The total perianth spread of this flower is nearly 50 mm. *Photo: Wayne Armstrong*

