California Native Grasslands Association

GRASSLANDS

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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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From the President's Keyboard

Summer reading recommendations for outdoor wanderings *by Jim Hanson, President*

On a recent Sunday morning, I stood on a hillside prairie, with live oaks on the ridges and in the draws with a gentle breeze blowing. Spread far below me were the many square miles that make up Oakland. That place—quiet, peaceful, still native, still wild, and free—is a park named Knowland (or "know-land" if you prefer).

Others from across the East Bay were fanned out across 56 acres of this ecologically rich hilltop section of a city park. We raised 20-ft plastic poles with big red flags into the breeze. We wanted to show the extent of the oak woodlands and rare maritime chaparral and native grasslands that would be carved up by the Oakland Zoo's expansion plan. A photographer on a hill above documented the flags across the landscape.

Why do we show up for these special places, and for our grasslands and prairies in particular? Earlier in the year, I did a search of online book companies, of YouTube, and of current news on the grasslands of North America. I found people and stories from different locales on the continent sharing an unabashed affinity for their grasslands and prairies. Following is a bit of what I found.

John Price's *Not Just Any Land—A Personal and Literary Journey into the American Grasslands* (University of Nebraska Press 2004) is a modern story about connecting with his home in the Midwestern plains. Price starts his journey pitching a tent on an exposed camp site on South Dakota's Buffalo Gap National Grasslands. In the morning he awakes to a cow and a coneflower as he is about to visit four writers of the plains. This is both a personal and literary memoir written with grace.

In the first chapter, Price reacts to a heavy 1993 flood in his Iowa town that turned cornfields into lakes and released all nature of frogs, raptors, and prairie flora for a brief time.

> *I thought a lot about the biblical Noah that summer, about those final days on the ark between the release of the raven and the return of the dove, between the knowledge of*

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 Cathy Little at grasslands@cnga.org. Include a caption and credited photographer's name.

Submission deadlines for articles:	**Fall 2013** — Aug 15, 2013	**Spring 2014** — Feb 15, 2014
	Winter 2014 — Nov 15, 2013	**Summer 2014** — May 15, 2014

President's Keyboard *continued*

a decimated, flooded landscape and the faith in one that was recovering, becoming born anew. I often felt that way, suspended between hope and despair, as I watched the floodwaters swell then recede, as I watched wetlands become cornfields again, the sudden wilderness become tame, the unknown become known, the miraculous become mundane. I had seen in a few short months a little of the wildness that had been lost to the years of cultivation and drainage and poisoning here in the "heartland." And yet I had also become aware of what still remained, pushed to the margins, surviving. As I continued to explore those small patches of native wildflowers and grasses, I began to feel, for the first time, a sense of longing for the lost land. I began to wonder what a thousand acres of prairie, with its attendant wetlands and oak savannahs, might look like, feel like. How might living near or within such a wild place have changed me and my relationship to home? Like many born in the Midwest, I had given little thought to committing to the place where I grew up—had, in fact, always wanted to leave. Sometimes it felt as if I were already gone, a ghost in my own house. What was the source of that inner exile? Was it related in any way to my exile from the land? If so, how might I overcome it? Where might I seek the reasons to commit myself to this damaged place, help it to heal? And would seeking those reasons, in the end, make any difference in my life or in the life of the land? Perhaps we were both too far gone.

He takes these questions with him on visits to writers of the prairie in South Dakota, Kansas, and ends up in an interesting place.

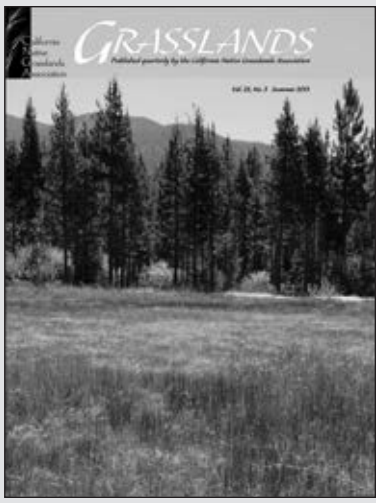
If you happen to be heading north rather than east—to Oregon, Washington, British Columbia, or Alaska—I recommend saving a space in your backpack for *Plants of the Pacific Northwest Coast* (revised) by Jim Pojar and Andy MacKinnon (1994, Lone Pine). In addition to colorfully illustrated descriptions and keys for trees, shrubs, wildflowers, aquatics, ferns, mosses, liverworts, lichens, and "oddballs," they provide a simple key and illustrations to the grass, sedge, and rush families. Jane Svinicki of the Juneau Rainforest Garden first introduced me to the guide, and I was able to order a copy online from Powell's, an independent bookstore in Portland. It is an easy to carry, easy to use guide to the flora of the Northwest Coast temperate rain forest.

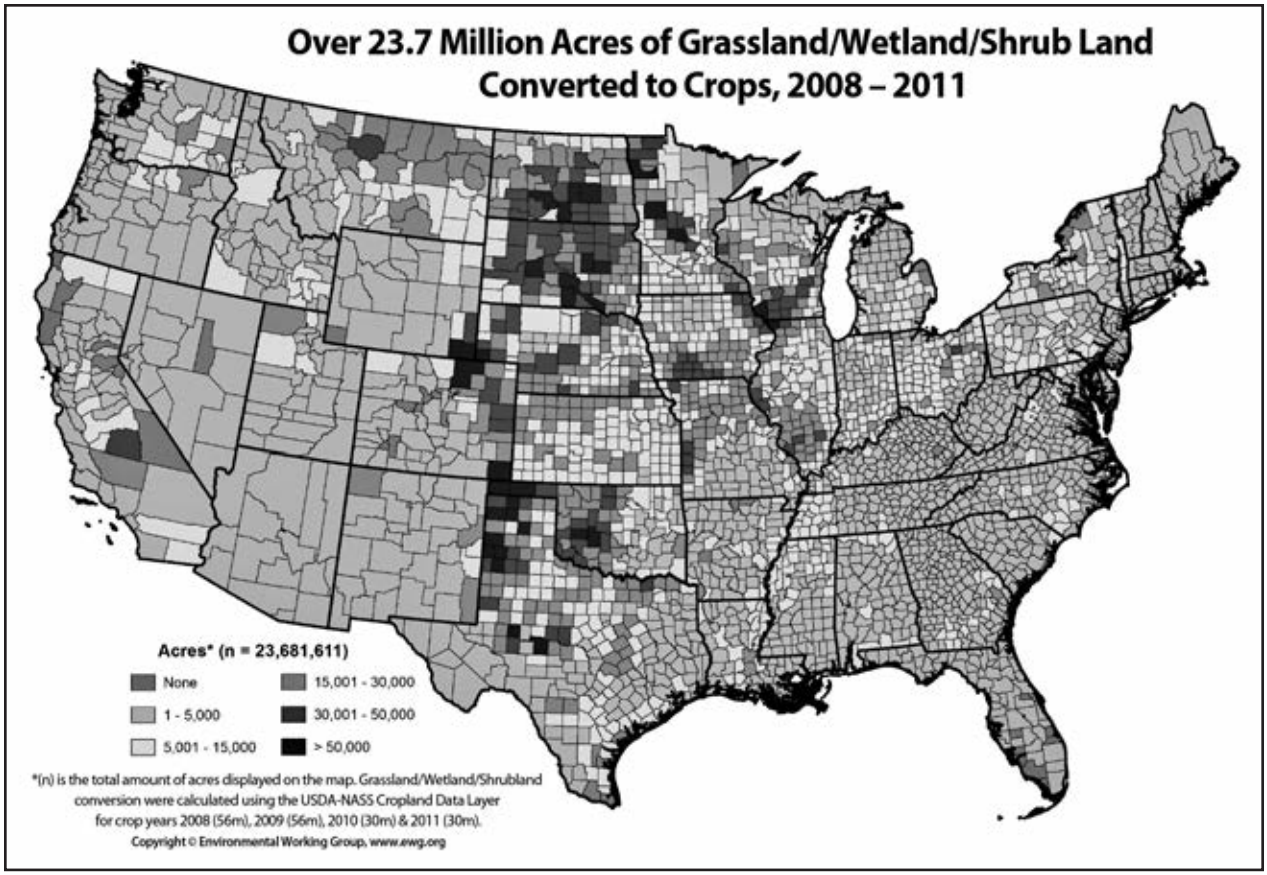
If stuck in an airport terminal, just for fun there are a whole series of YouTube videos from British Columbia to Mongolia—on grasslands no less. Check out ZAGO Productions' "I Love the Grasslands," produced for a Vancouver College science project on the upper prairie biome and scored by the student producers. There is also the very sweet and soothing Zhang Lizhong choral concert "Love for Grassland" performed at Carnegie Mellon.

If you are closer to home and just happen to bump into one of your federal legislators on the trail or at a music fundraiser, surprise them by introducing yourself as a Californian interested in the Farm Bill. The Nature Conservancy considers it "the most important piece of legislation for conserving private lands in America." As of this writing, the already Senate-passed bipartisan bill keeps the easement programs and includes a welcomed "sod-saver program" to reduce extravagant crop insurance payments that have led to the tilling of 23.7 million acres of wildlife habitat and native grasslands under the 2008 Farm Bill (see page 3 for map, and for more information read "Plowed Under—How Crop Subsidies Contribute to Massive Habitat Losses" by the Environmental Working Group and Defenders of Wildlife, 2012, available online). If you don't happen to bump into your federal representatives, consider mailing them, and surprise your friends and relatives with a post about the 2013 Farm Bill on Facebook.

Nationally and internationally, there are like-minded people speaking and singing for the prairies, steppes, and grasslands. May your summer adventures to discover or reconnect with your special places refresh and renew.

In this issue





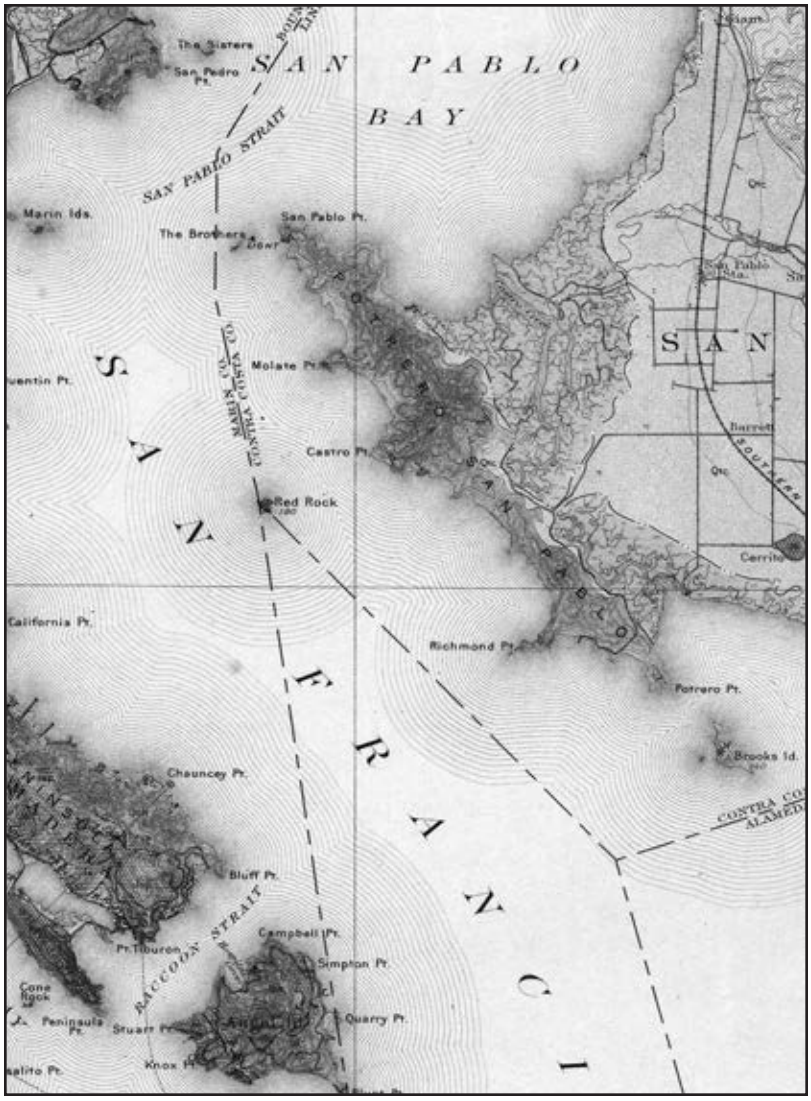
Above: High crop prices and extravagant crop insurance subsidies included in the 2008 Farm Bill contributed to the conversion of over 23 million acres of grasslands, wetlands, and scrub land to crop land from 2008-2011, according to the 2012 report from the Environmental Working Group that used U.S. Dept. of Agriculture satellite data to produce the most accurate estimate of habitat conversion currently available. The full report is available at **static.ewg.org/pdf/plowed_under.pdf**

The Grasslands of the Potrero San Pablo and Point Molate Shore

Slightly modified version reprinted with permission from the California Native Plant Society (CNPS) from the East Bay CNPS Newsletter March 2013

by David Amme, Wildland Vegetation Program Manager, East Bay Regional Park District

When the first Spanish explorers ventured through the Golden Gate into San Francisco Bay, they mapped out two large bays, one to the south, San Francisco Bay, and one to the north, San Pablo Bay. The gap between the two bays was cut off by a low grassy island mountain barely connected to the East Bay via a large inner maritime marshland that separated the island from the mainland. The mariners named this marsh "Potrero San Pablo" after the Spanish word for "open grassland/meadow" (i.e., *potrero*). On the Marin side of the bay, the mountain topography is higher, dominated by an oak/bay forest and glens of open valley oak, black oak, and Oregon oak woodland with manzanitas and chamise. The eastern end of this range is known as China Point. Between China Point and Potrero San Pablo are the narrows where the waters of the Sacramento and San Joaquin Rivers pass into San Francisco Bay. Today, Potrero San Pablo, including the western shore facing Mt. Tamalpais, is one of the last undeveloped tracts of shoreline habitat in the East Bay where the hills come right down to the water's edge.



San Francisco Quadrangle—AREAL GEOLOGY, U.S. Geological Survey, A.H. Thompson (geographer), Andrew C. Larson (geology), Edition of 1913. *Map provided by Jim Hanson*

I was drawn to explore the Potrero San Pablo grasslands in the early 1970s while searching for local populations of native grasses for restoring the soon-to-be-built Berkeley waterfront park. To my amazement, I found a native red fescue growing in the grasslands. In 1970, no one took much notice of native grasses, and most assumed that any red fescue in the Bay Area was introduced. However, this red fescue was a very special ecotype with thick bluish leaves. I was amazed that it grew vigorously along the shoreline from the water's edge to the top of the Potrero. We named it "Molate fescue" after Point Molate on the western side of the range facing Mt. Tamalpais. I have found myself returning to the Potrero San Pablo/Point Molate shore often and have identified a rich variety of native grasses. Over the years I have led many field trips there because it is one of the best places to see a remnant coastal prairie meet the edge of the Bay.

For over 5,000 years, before the Spanish arrived, the Native Americans harvested abundant shellfish along these shores and marshes, creating large middens. Potrero San Pablo was occupied during the Mexican land grant period, followed by the 49ers and Chinese shrimpers until the early 1900s. The grassland was grazed primarily by horses and cattle. Later in the 20th century, Standard Oil bought a large portion of the Potrero and built an oil refinery that fortunately is largely hidden on the eastern side of the grassland where much of the marsh was filled. One of the earliest and most imposing structures along the Point Molate shore is the large brick building that once housed the Winehaven wine bottling and shipping business at Point Molate from the early 1900s until Prohibition. Later, this area became a Navy base for storing fuels and oil, which was abandoned in the late 1970s.

Point Molate and the surrounding grasslands are uniquely situated. They seem to sit in the rain shadow of Mt. Tamalpais, but they actually receive abundant rainfall during major rain storms, more than the rest of the East Bay shoreline. The bluish Molate fescue ecotype in the Bay Area is found on either side of the Bay, from China Point in Marin County to Point Molate/Potrero San Pablo in the East Bay, and from San Bruno Mountain in San Mateo County to the coast of Pacifica where it grows with tufted hairgrass *(Deschampsia caespitosa)* along Highway 1. There are several forms of the Molate fescue growing along the coast from Big Sur north to

continued next page

Grasslands *continued*

Point Arena, the Mendocino Coast, and to Arcata and Patrick's Point in Humboldt County.

Geologically and botanically, the Potrero San Pablo ridge is part of the narrow gap between the San Pablo and San Francisco bays. From Point Molate, the summer fogbank can be seen rolling in from the Golden Gate and drifting into San Pablo Bay along the Point Molate shore. The western shoreline stays mostly sunny, with Mt. Tamalpais dominating the distance. Other outlier features include Cerrito Hill in Richmond and the Albany Hill. Molate fescue grows on rocky and loamy coastal soils and is found on the Marin shore in the China Camp State Park grasslands and shore sites.

Any time of day or year the views are beautiful and the sunsets spectacular. Point Molate, by far, has some of the best views of Mt. Tamalpais with all its changes and textures in the sunsets and late afternoon fogs. The special combination of climate and topography has created a vibrant plant community. In addition to the Molate red fescue (*Festuca rubra*), the coastal prairie contains beautiful stands of California oatgrass (*Danthonia californica*), purple needlegrass (*Stipa pulchra*), one-sided bluegrass (*Poa secunda*), California melic (*Melica californica*), Torrey's melic (*Melica torreyana*), California brome (*Bromus carinatus*), blue wildrye (*Elymus glaucus*), squirreltail (*E. elymoides*), including a large hybrid form (*E. x hansenii*), junegrass (*Koeleria macrantha*), California fescue (*Festuca californica*), and the creeping Diego bentgrass (*Agrostis pallens*).

Original/early photograph of the "Molate Fescue" (*Festuca rubra*) along the Potrero San Pablo summit. *Photo: David Amme*

Native woody plant communities include California sagebrush *(Artemisia californica)* and the ubiquitous coyote brush (*Baccharis pilularis*). There are beautiful stands of mule's ears (*Wyethia angustifolia*) and pipevine (*Aristolochia californica*) and a host of large and small understory native woody plants. The primary native trees are coast live oak (*Quercus agrifolia*), bay (*Umbellularia californica*), toyon *(Heteromeles arbutifolia*), and willow (*Salix* spp.). The undisturbed native grassland is very stable. The coyote brush remains in check, unlike most of the disturbed East Bay grasslands that have turned into solid thickets over ten feet tall. This is due primarily to the grassland soil stability and the creeping native *Agrostis pallens* that climbs into the coyote brush keeping the plants small and far apart, often snuffing them out into weak, dying, and dead branches. The most critical threat to the Point Molate grasslands are the large, solid French broom (*Genista monspessulana*) infestations that were spread by road graders.

The plant communities of the Potrero Hills support gray fox, coyotes, mule deer, black-tailed jackrabbits, and an endless variety of native birds including jays, seagulls, buzzards, and several soaring raptors. The subtidal zone supports one of the largest beds of the rare eelgrass, which provides critical habitat for herring to feed and spawn, and a host of other aquatic species, including salmon, Dungeness crab, striped bass, steelhead trout, and starry flounder. In turn, the fish and invertebrates are an important food source for ducks, shorebirds, and the endangered least tern. It is not difficult to imagine such a productive ecosystem and interface.

In 2010, the western side of the Point Molate shore near the Winehaven building was almost made into a huge Indian casino complex with all the trimmings. Fortunately, this was summarily defeated by the City of Richmond voters. However, the Point Molate coast and hills are still not safe. Proposals for condominiums on the shore are still in the works. The California Native Plant Society, CNGA, Sierra Club, and other activist organizations will hopefully band together with the City of Richmond to save this precious resource for future generations.

NEW!

Photography Workshop for Ecological Projects and Presentations:

Creating Captivating Images of California Grasslands

August 24, 2013
8am–5pm
Richmond, CA

This 8-hour intensive course (half-day in classroom followed by field photography practice in nearby coastal prairie park) will provide an overview of macro and landscape photography techniques led by two professional photographers who are also botanitists with extensive experience with California grasslands.

Includes: In-field instruction; tips and techniques on lighting; time for participants to take photos; composition and content; demonstration on post-processing using Adobe Lightroom 5 software.

Equipment to bring: Camera (preferably with manual option, DSLR recommended), tripod, laptop. Light reflector optional.

Enrollment is limited to 15 participants. Sign-up deadline is August 14, 2013.

Instructors:

Jim Coleman *lives and works at the Occidental Arts and Ecology Center as an ecologist and photographer. He specializes in ecological restoration, including California grasslands.*

Lech Naumovich *lives in Alameda where he works as a professional photographer and ecologist. He is the executive director of the field-based nonprofit Golden Hour Restoration Institute. Photo above of springtime grassland courtesy of Lech Naumovich.*

Registration Form: Grassland Photography Workshop | August 24, 2013

Mail to: CNGA, P.O. Box 72405, Davis, CA 95617 ⁕ Fax to: 530.297.0500

Participant's name (print or type) _____

Affiliation _____

Street Address _____

City _____ State ____ Zip_____

Preferred phone _____ _____ Preferred email _____

Registration Fee ❑ **$170**/CNGA members ❑ **$185**/non-members ❑ **$150**/students w ID

Payment: ❑ **Check** *Payable to California Native Grasslands Association*

❑ **Credit card** *Check type:* ❑ Visa ❑ MasterCard ❑ American Express

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

Above: CNGA Vice-President Andrew Fulks leads a tour through a restored meadow and pollinator corridor at 2013 Field Day at Hedgerow Farms. *Photo: Phil Hogan, USDA-NRCS*

NOTES FROM THE FIELD: **A Lively Spring Workshop Season**

by Diane Crumley, Administrative Director, CNGA, admin@cnga.org

As summer begins, we at CNGA send out congratulations to all our recent "Class of 2013" Grass ID graduates. This spring, we offered both the 1-day introductory course and the 2-day, intensive weekend course, and we are happy to report there are now 50 more "native grass ambassadors" out in the coastal prairies, inland grasslands, and mountain meadows who are advocating for California's most endangered and resilient habitats.

We are also thrilled and grateful for the success of our 6th Annual Field Day at Hedgerow Farms on April 19th. With close to 130 in attendance (and several members traveling from as far as San Diego, Oregon, and Nevada), Hedgerow Farms was brimming with CNGA's diverse and enthusiastic group of native grassland admirers. A huge thank you goes to John Anderson and the entire staff at Hedgerow Farms, whose long-term commitment to native grass seed production and grassland conservation contributes greatly to the growing field of ecological restoration throughout the state. In addition, we were fortunate to have the support of several generous sponsors this year, including Hedgerow Farms, Delta Bluegrass Company, Pacific Coast Seed, S & S Seeds, Bay Natives, and Dow AgroSciences.

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Left: David Amme was instrumental in our workshop leadership this spring. *Center:* Field Day Organizer, Bryan Young and Workshop Committee members JP Marié, Jon O' Brien, and Chris Rose led the large-scale restoration tour with stops along the roadside and canal-side hedgerows, production fields, and rangeland. CNGA Board member Richard King spoke on rangeland management, soil health, and native grasses. *Right:* Drew Rayburn,, postdoctoral fellow with the UC Davis Department of Plant Sciences discusses his work in monitoring restored grasslands and developing cost-effective strategies for large-scale projects. *Photos: Phil Hogan, USDA-NRCS*




From left: The Field Day 2013 lunch program was introduced by Bryan Young and John Anderson, both essential contributors to the logistics of this annual event. Lunchtime speakers included John Greenlee, Paul Aigner, and Rachael Long. *Photos: Phil Hogan, USDA-NRCS*

Spring Workshops *continued*

I am also very grateful for the expertise and dedication of CNGA's Board of Directors and Workshop Committee, who have tirelessly worked both behind the scenes and as instructors and tour leaders this season. A special thank you goes to David Amme, founding member of CNGA, past president and director, who served as lead instructor for both of our Grass ID programs this spring, and was on-hand at Field Day as tour leader with Andrew Fulks for the small-scale restoration, lawn alternatives, and pollinator corridor walking tour.

The Field Day lunchtime speakers were lively, entertaining and informative. John Greenlee, author of *The American Meadow Garden: Creating a Natural Alternative to the Traditional Lawn* brought over a dozen examples of native and naturalized grasses and sedges to show us, as he spoke about their uses in various settings.

Paul Aigner, co-director of the UC McLaughlin Natural Reserve, known for its unusual serpentine habitats, hosting many rare endemic plants and insects, spoke about the natural history of serpentine habitats, and the challenges associated with managing them.

Rachael F. Long, Yolo County UCCE director, has over 20 years of experience researching innovative solutions for crop pests and the benefits of native hedgerows. She gave an update on the latest findings.

After lunch, Field Day guests visited the Citrona Farms long-term grassland restoration site located in the foothills above Hedgerow Farms. It was seeded with a variety of native grasses over a decade ago and is recovering well from a fire in September of 2012. UC Davis postdoctoral researcher and CNGA Board member Drew Rayburn spoke about his research that involves monitoring this and several other local grassland restoration sites.

At the end of the day, guests and volunteers were treated to a CNGA-hosted Social Hour with live bluegrass music provided by the multi-talented Putah Creek Muckrakers and accompanied by a tasting of local beer and wines. It was a treat to see so many CNGA members and supporters all under one barn-roof, enthusiastically sharing their favorite parts of the tours and exchanging creative ideas about restoration projects and interests. We thank all of you who attended, who helped out, and who shared suggestions for next year. Our programs, projects, and advocacy efforts are all supported by our membership and workshop fees, so we thank you for your engagement in our mission to preserve and restore California's grasslands' biodiversity.

Visiting California Grasslands: Palo Corona Regional Park

by Meghan J. Skaer[1], Department of Plant Sciences, UC Davis, mjskaer@ucdavis.edu

Hidden in plain sight!

You can discover a recently protected gem of coastal prairie in Monterey County, just off Highway 1 south of Carmel. Up to 3 miles of newly restored trails will take you through coastal prairie, annual grasslands, and oak woodlands and yield sweeping views of the Carmel River Valley and Carmel coastline.

History

The conservation of this 10,000-acre park managed by Monterey Peninsula Regional Parks District (MPRPD) has been ongoing since public acquisition in 2004 and has included collaboration with the Big Sur Land Trust, California Department of Fish and Wildlife, and Sonoma State University, among others. Ecological research has played an important role in developing effective management of native and endangered species in the park, including native grasses and the endangered Smith's blue butterfly *(Euphilotes enoptes smithi)*. This 7-mile-long park extended a protected wildlands corridor, which now stretches 70 miles between the Carmel River and Hearst Ranch in San Luis Obispo County.

Conservation and Management

The latest Grassland Monitoring Report, which can be obtained from MPRPD, is part of an ongoing, adaptive management program intended to ensure the health of the grassland. Palo Corona is host to a number of native grasses, including purple needlegrass *(Stipa pulchra),* reed canarygrass *(Phalaris arundinacea),* june grass *(Koeleria macrantha),* meadow barley *(Hordeum brachyantherum),* and blue wildrye *(Elymus glaucus),* among others.

Obtaining Access

Palo Corona Park is open to the public via access permit reservation. Permit requests are processed on a "first come, first served" basis and should be submitted **at least 2 weekdays in advance** of planned hike. The District will issue up to 13 permits per day (1 per vehicle or walk-in/bike-in request) for the Highway 1 (west) entrance and up to 8 permits per day (1 per vehicle or walk-in/bike-in request) for the entrance from the Big Sur Land Trust's South Bank Trail (east). Permits will be issued a maximum of 30 days in advance of the requested permit date.

For more information or to request access, visit: **www.mprpd.org/index.cfm/id/10/Palo-Corona-Regional-Park**

Palo Corona Regional Park. *Photo: Meghan Skaer*

Directions

Via Highway 1 main entrance (west gate):

Take Highway 1 south past Rio Road intersection in Carmel; proceed south of Carmel River Bridge approximately 200 yards. Make the left-hand turn into the park entrance driveway. Do not block driveway. Limited parking is available on the shoulder of Highway 1.

Via the new South Bank Trail (east gate):

Parking is available in the new Big Sur Land Trust parking lot at 26700 Rancho San Carlos Road, which is about 0.40 miles from Carmel Valley Road, over the Carmel River bridge. **There is no parking along the road shoulders.** Turn right at the mailbox into the first small, gravel parking area. Parking is very limited and available on a first-come, first served basis.

[1]Meghan Skaer is a doctoral candidate in the Ecology Graduate Group at UC Davis and aims to advance native grassland conservation through her dissertation work, which focuses on the ecology and management of invasive grassland weeds.

front, men's cut

back, women's cut

CNGA Merchandise Order Form

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Mailing address _____

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Item	Price*	S/H	Qty	Total
**All prices include tax. Call for combined shipping.*				
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T-shirts				
Men's cut, natural color, short-sleeve Circle size: S M L XL XXL	$20	$5	___	____
Women's cut, army-green, short-sleeve Circle size: S M L XL XXL	$25	$5	___	____
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GRASSLANDS (quarterly journal)				
Individual issue (includes shipping), each	$5	$0	___	____
		Total		$_____

Make check payable to California Native Grasslands Association or CNGA, or you may authorize payment by (circle one): Mastercard / Visa / AMEX

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Black angus beef cattle in Marin County. *Photo: Michael Woolsey*

SPECIES SPOTLIGHT: **Black Angus Beef Cattle (*Aberdeen Angus*)**

by Michelle Cooper[1], Conservation Easement Stewardship Associate, Marin Agricultural Land Trust (MALT), mcooper@malt.org

When looking across the California landscape, one of the most common views a person is likely to see is a bucolic one – grazing cattle scattered across rolling pastures. If the cattle are all black in color, chances are you're looking at black angus beef cattle, the most common breed of beef cattle in the United States. Not only are they a driving economic force in California, black angus meet the needs of the cattle industry in many ways and provide us with a significant portion of the 66 pounds of beef the average person in the United States eats every year. They are also one of the most cost-effective means of managing grasslands. Their highly sought after traits, including quality of meat and hardiness, have made them a nearly ubiquitous feature of California's countryside.

George Grant first introduced black angus from Scotland to the United States in 1873. Black angus, as opposed to the closely related red angus breed, have solid black fur and are naturally polled (hornless). Producers initially mocked them as oddities as they were more accustomed to the red, horned breed of Shorthorn at the time. Soon, however, this breed grew popular due to its many attractive traits and usefulness for crossbreeding (Burke et al. 2004). Their lack of horns minimizes injuries in close quarters, such as feedlots. This is a popular and genetically dominant trait that is easily passed on to succeeding generations. Crossbreeding with angus also reduces the risk of dystocia, which results in difficult calving. They are a docile breed, relatively robust, calve easily, have excellent maternal instincts, and produce superior quality meat. American ranchers quickly realized their virtues, and many more purebred angus were imported from their native range in Scotland (Aberdeenshire and Angus counties).

Considered the sixth largest commodity in California, all breeds of beef cattle and calves garnered cash receipts totaling 1.63 billion dollars in 2004. Their numbers for the last decade have remained stable in the United States with 315,000 head of angus registered in 2012. These make up a small fraction of the 5.4 million cattle raised in the United States, including 14,000 beef and 2,500 dairy operations in California alone (American Angus Association 2006).

As a grassland-dependent species, beef cattle typically require 1–1.5 acres of forage or approximately 27 pounds of dry weight forage material to maintain one cow-calf pair per year. They consume 6–12% of their body weight in water, or 0.75–1.5 gallons of water per 100 pounds of body weight per day, depending on climatic conditions, feed type, production level and salt intake. In California, many cow-calf, stocker, and certainly grass-fed operators raise their beef cattle primarily on pasture or rangelands and on other forms of roughage as opposed to grain feeds. During low forage production periods, supplementary feed may be provided, though this is not ideal due to the high cost of bringing feed in from other areas and the risks associated with introducing invasive species from potentially infested forage. With the dependence of livestock survival and growth so closely tied to the

continued next page

[1]Michelle Cooper is responsible for assisting with the monitoring of MALT-protected farms and rangelands. She represents MALT in local and regional organizations, activities, and projects related to land stewardship and conservation planning. She also serves on the Education Committee for CNGA.

SPECIES SPOTLIGHT *continued*

grasslands that support them, the health and productivity of rangeland systems are absolutely critical to sustainable livestock production.

Beyond food production, well-managed grazing also has the potential to provide an array of ecosystem services. These include essential habitat for native animal species such as wintering birds and waterfowl, mammals and invertebrates, as well as freshwater and anadromous fish (by reducing brush and invasive plant species in riparian corridors). Targeted grazing is used to 1) decrease fire hazards by reducing fuel loads, 2) reduce competitive non-native plant species, 3) encourage specific native plant species and/or communities, and 4) increase soil-carbon sequestration. Other benefits provided by managed grazing land include water catchments for public drinking supplies, as well as providing open space, beautiful vistas, and recreational opportunities.

Perhaps not the first to come to mind when considering the vast array of species that California's grasslands support, black angus beef cattle may be among the most common. They are the basis for a significant commodity in the state, produce a high-energy food source, and provide numerous ecosystem services when properly managed.

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CNGA Contact List

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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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CNGA members have voting status, and receive the quarterly *Grasslands* publication, discounts at workshops, and monthly email news.

NEW! Half-Year Memberships**

** CNGA is moving to an end-of-year membership cycle (similar to SERCAL). Therefore, we are currently offering a half-year option to facilitate this transition. If you have not renewed yet for 2013, we invite you to take advantage of this affordable option and remain current with your CNGA membership and its benefits. This membership runs from July 1 – December, 31, 2013.

❒ **Individual Half-Year: $22** ❒ **Student Half-Year: $12** ❒ **Retired Half-Year: $12**

❒ **Half-Year & 2014 Joint CNGA-SERCAL: $100** ❒ **Lifetime Membership one-time payment: $500**

Corporate Membership and Benefits

All employees of a corporate member receive member pricing when registering for CNGA events. All membership benefits are good for one year from the month of purchase. All copies of *Grasslands* will be sent to the main contact at the organization.

	Membership Level	Annual Cost	Online (color) Ads w/link to member website[1]	*Grasslands* (b&w) Ads currently 4 issues per year	Employee Memberships[2]	*Grasslands* Subscriptions[3]
❒	*Muhlenbergia rigens*	$1,000	Half page (570 x 330 pixels) at top of CNGA sponsor page	Half page (7.625 x 4.375) 300 dpi jpeg, tif or pdf file	6	4
❒	*Stipa pulchra*	$500	Quarter page (256 x 296 pixels) below *Muhlenbergia* listings	Quarter page (3.75 x 4.375) 300 dpi jpeg, tif or pdf file	5	3
❒	*Poa secunda*	$250	Bus.-card size (129 x 200 pixels) below *Stipa* listings	Bus.-card size (3.5 x 2.25) below *Stipa* listings	4	2
❒	*Associate/Agency*	$125	Text listing below *Poa* sponsors for 1 calendar year	Text listing published in *Grasslands* for 1 calendar year	3	1

[1]If there is more than one sponsor per level, the sponsors will be listed alphabetically by the sponsor's name. [2]Employee memberships include all the benefits of a personal membership, the organization determines the recipients of Grasslands *subscriptions. [3]Company may opt for fewer subscriptions.*

California Native Grasslands Association

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New! Photography Workshop for Ecological Projects & Presentations
see page 6

Front cover: Annual hairgrass (*Deschampsia danthonioides*) growing with an assemblage of rushes and sedges in a wet meadow on the fringe of Lake Tahoe, South Lake Tahoe. *Photo: Chad Aakre*

Back cover: California fescue (*Festuca californica*) under blue oak (*Quercus douglasii*) woodland in the Vaca Range, east of Napa. *Photo: Morgan Trieger*