$12

GRASSLANDS

The Publication of the California Native Grass Association Volume VI, No. 3 September 1996

GRASSLANDS NOTES AND OBSERVATIONS

Partners for Wildlife

The U.S. Fish and Wildlife Service Provides Funds
For Native Grass Revegetation Projects
by Dan Strait

The U.S. Fish and Wildlife Service's ***Partners for Wildlife*** program is entering its seventh year in California of providing funds to private landowners to assist them in conducting wildlife habitat restoration and enhancement projects on their properties. The program primarily seeks to fund projects in which wetland, riparian, and/or endangered species habitat will be restored or enhanced. The program does not target projects where native grass revegetation is the sole project goal. However, it is common to incorporate the planting of native grasses as part of a larger wetland or riparian project where native grasses are reestablished in buffer zones or on upland areas adjacent to wetlands or riparian areas. The key points about the program are as follows:

> Projects can only occur on private (non-federal or non-state) lands.
> The project must restore or enhance the habitat originally present on the property. Most creation projects (i.e.upland duck ponds), or projects in which the historic habitat-type is replaced with another are not suited to the program, with some exceptions.
> The landowner signs an agreement with the Fish and Wildlife Service in which he or she agrees to leave the habitat improvements in place for a specified length of time (10 years minimum).
> Certain types of limited agriculture are allowed on the project area only as allowed-for in the agreement.
> Federal cost-share monies cannot exceed 50% of the total project cost, with some exceptions.
> Partnerships among as many agencies and individuals as possible are encouraged. It helps all of our resources go further.

Anyone interested in more information about the Partners for Wildlife program should contact Dan Strait or Debra Schlafmann at the Fish and Wildlife Service's Private Lands Office in Sacramento at (916) 979-2085. We can provide you with an information packet containing a proposal form and an example of an agreement. Most proposals need to be to be filled-out and submitted in the October through December period to apply for funding during the following calendar year.

In This Issue:

Carmel Valley Field Day-1996

by Mark Stromberg

On May 25, CNGA members gathered at the University of California's Hastings Natural History Reservation in upper Carmel Valley. After our breakfast rolls, tea or strong coffee, Mark Stromberg gave a brief introduction to the reserve. Paul Kephart presented a brief overview of his restoration efforts in Carmel Valley ranches, and we proceeded to see a relict stand of Nassella pulchra that had not been grazed for 60 years. Also on the reserve, we inspected a steep hillside of road-cut spill that had been deposited after flood repairs in 1995. Restoration included terraces with native grasses and shrubs.

Next on the tour was an 8 acre site on Carmel Ranch Company. Tim Curran (Manager) met with us, and Mike and Linda Markkula of Rana Creek Ranch joined the group. We hiked to a relict stand of Nassella pulchra that had been grazed continuously for over 200 years for a quick comparison. We moved on to an old field under restoration as cattle pasture. Five years ago, we started the management of several native perennial grasses which were drilled into the site in a winter planting (see:*Grasslands* IV,1; 1994). Successive burning, herbicide treatments, timed grazing, and mowing (at "dough" stage of exotic annual grasses) produced an ever increasing abundance of Elymus glaucus on this deep, sandy old field. Although we planted several other grasses, the wildrye is now the dominant grass. A co-dominant is Bromus carinatus. Summer fire seemed to burn out most of the large annual exotic grasses, but stimulated the Erodium (filaree) so that a subsequent early winter herbicide application was necessary. An abundance of Vulpia is present and covers the areas between the large Elymus. This pasture was never removed from a seasonal grazing regime during the time it was restored to native grasses.

Paul Kephart then hosted a tour of the new native plant business at Rana Creek Ranch. In addition to the usual fields of grasses, Paul demonstrated the underground irrigation system on raised beds. Subsurface pipes, buried about 20" below the surface, leak water along the rows. The pipes contain herbicide that prevents roots from invading the pipe. This system can reduce weeds as no surface water is present for germination between planted plugs or seed rows. The system also allows one to add fertilizers or other agricultural condiments to the water. A computer tracks well depth, amount of water pumped and keeps detailed records from a complete weather station. Paul also showed us the irrigated pasture Rana Creek planted to a mix of native perennial grasses.

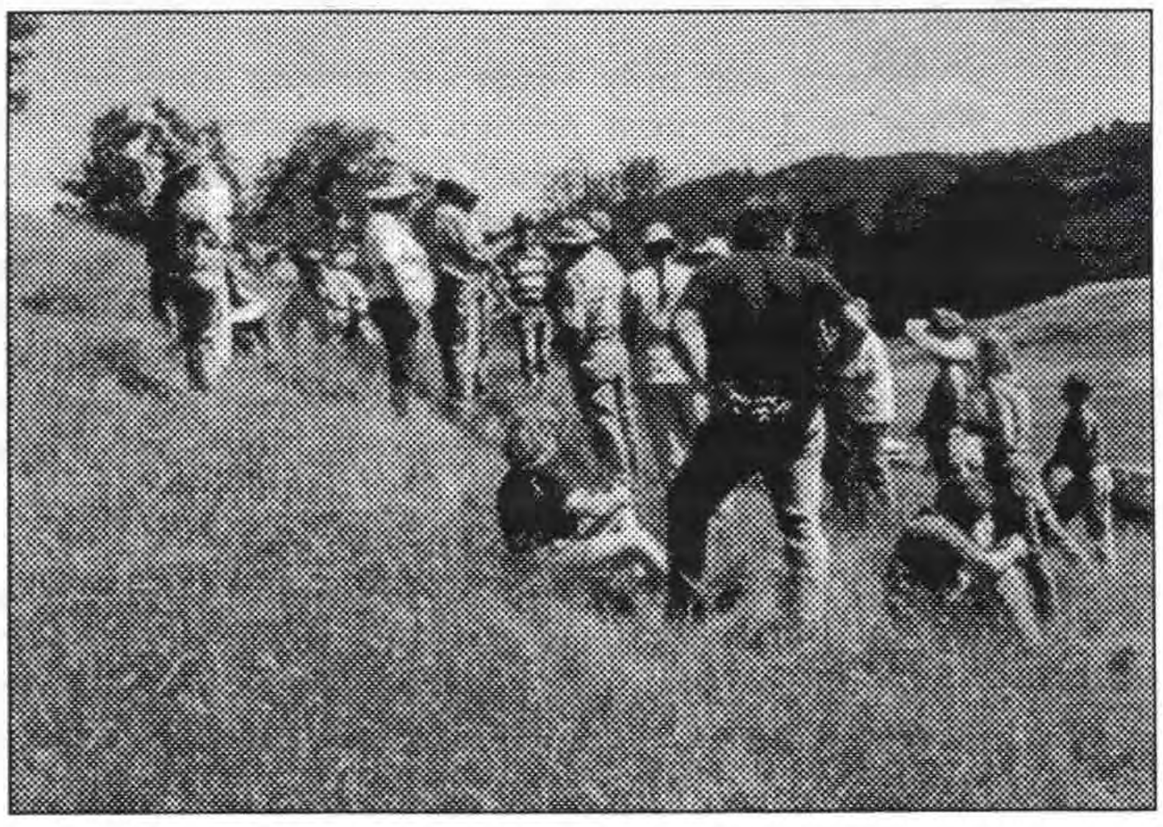
Lunch was a grand affair hosted by Mike Markkula at Rana Creek Ranch. Dick Lundy (Ranch Manager) worked the barbecue in a masterful presentation of chicken and tri-tip and grilled vegetables. Dana Lundy and Kate Richter helped put on the lunch. We had to pry several folks from the shaded picnic tables to load up the vehicles for the rest of the trip!

Rob Reynolds, of Carmel Ranch Company, next showed us one of several old barley fields planted with a mix of native perennial grasses last winter. Star thistle infests these old fields. Grazing, mowing and herbicides- the usual start-up for a native grass program- are also what is necessary to control the star thistle. We hope the competition with the native grasses and the aggressive weed control program will generate a vigorous, perennial pasture for this ranch.

Moving on down Carmel Valley Road, we toured the seed production fields at Rancho San Carlos. Rancho San Carlos, just southeast of Carmel, is an area under study for low density home sites on 2,000 acres of land nestled in 18,000 acres of dedicated open space. Local Koeleria cristata, N. pulchra, E. glaucus, Festuca rubra, H brachyantherum californicum and B. carinatus are now i production for local restoration and for use around home sites for mown lawns or as landscaping. We looked over their turf trials of Deschampsia cespitosa var. holciformis, E. glaucus (San Simeon), F. rubra and N. pulchra. These trials were of interest to the Pebble Beach Company as they suggested uses of native grasses in their famous golf courses. This led us to the last stop of the day.

Joey Dorrell-Canepa and Steve Canepa, with help from Ted Horton in the administration, are leading the efforts to use native grasses in the golf courses owned by the Pebble Beach Company. Joey showed us her plantings on the dune areas of the Spanish Bay course. Along with many rare and endangered plants, Joey has worked Deschampsia cespitosa into the landscape. Scampering to avoid getting beaned by golfers, we admired the restored areas! Strains of bagpipe music surrounded us as we entered the bus for a sunset tour to the main Lodge at Pebble Beach. On the Pebble Beach Links, Steve Canepa is using Deschampsia cespitosa between the main courses. As usual, weeds are a major problem. Steve is experimenting with several fertilizers and herbicides on his turf trials. As the sun set over the Pacific, we enjoyed the golden light of sunset through these natives.

Here is a list of the participants; if you want to get in touch with any of them, contact me- I kept a list of addresses, etc. Jerry Allison, Bruce Berlin, Steve Canepa, Susan Callopy, Jerome Domurat, Joey Dorrell-Canepa, Rebecca Dye, Dennis Fox, Crisand Giles, David Gilpin, War Hastings, Hank Helbush, Paul Kephart, Lenora Kirby, Louis Lacey, Gloria Lee, Donna Linquist, Donna Logsdon, Lloyd Mason, John Menke, Hugh Musser, Richard Nichols, Julie Oliver, John Pritchard, Lawrence Ray, Diane Renshaw, Linda Spahr, Dan Strait, Mark Stromberg, Steven Talley, Scott Volmer, Sally Walter, George Work, and Ben Work.



Viewing Relic Native Grass Stand at Hastings Reserve

Native Grasses Featured At Pebble Beach Links and Spanish Bay Golf Course

by Mark R. Stromberg

For many years, Stephen Canepa has had a vision for more than turf grass on golf courses. A long-time gardener and landscaper and native plant advocate, Stephen recognized that there were many areas along golf courses which could be restored to native plants. Over the years, Stephen's interest in native grasses and plants pushed him to find ways to use native plants to provide biologically diverse and pleasing visual contrasts in what can seem like endless turf on golf courses. With the support of Jack Holt, field supervisor at Pebble Beach Links, and Mark Michaud, the course superintendent, and with the interest shown by Ted Horton, vice president for resource management for Pebble Beach Company, Steve was able to find time around his regular chores as a greenskeeper, to begin filling out-of-the-way niches with native plants. Support for restoration of native plants is strong in the local chapter of the California Native Plant Society, as well as several local organizations working to protect and restore Monterey County. Reflecting that community support, Steve now includes "Native Plant Specialist" with his regular title of greenskeeper, and he has eight to ten projects underway. Several more are planned, some depending on the outcome of his ongoing trials. Working to restore native grasses in a golf landscape presents unique challenges.

Recently joining her husband Stephen in these efforts, Joey Dorrell-Canepa is a coastal biologist with the Pebble Beach Company, primarily working in the dunes on the Links at Spanish Bay. Joey's involvement with coastal dunes in Monterey County goes back many years. She coordinates the Beach Garden Project, a hands-on dune restoration program for volunteers. For the last five years, Joey and other dedicated volunteers have worked with over 1,000 people to plant 22,000 native dune seedlings in the Monterey Bay dunes. Areas restored include Seaside Beach, Monterey State Beach, and Del Monte Dunes Beach (Tide Ave.). Volunteers learn seed collection and native plant propagation; nurturing seedlings in their back yards or classrooms, and later planting them on the dunes. The Beach Garden Project was created by the Monterey Dunes Coalition, a group that has worked to preserve and educate the public about the dunes around Monterey Bay for the last twelve years. Joey is also on the board of directors for the Monterey Dunes Natural History Association, an educational group that coordinates the annual beach cleanup and hosts an informative lecture series on dune topics.

Both Joey and Steve have found, as have so many others, that establishing native grasses means a long, consistent battle with weeds. Steve has many small projects scattered around the course along golf cart paths and other "non-playable" areas, including around a refreshment cart, around bunkers and along the cliffs. Most planted areas are around 2,000 square feet and are often a mix of native flowering plants with native grasses. Species featured include Hair grass-Deschampsia cespitosa and Deschampsia c.'holciformis', Red fescue-Festuca rubra, Pacific Reed Grass-Calamagrostis nutkaensis, Creeping Wild Rye- Leymus triticoides, and Giant Wild Rye- Leymus condensatus. These striking natives are displayed in small gardens, offering a season-long visual display. One of the most amazing plantings was done on very steep areas around the 9th and 10th hole. Stephen plugged hair grass into what are almost cliff faces, and it spread, controlling erosion and presenting a shaggy, golden curtain or in the spring a bright green carpet. Kikuyu grass- Pennisetum clandestinum is the most troublesome weed invading these small gardens, and without constant weeding it easily chokes out the native species. Other weeds include the lamentable list of European annuals, including Ripgut Brome- Bromus diandrus, Wild Oats- Avena fatua, and English plantain- Plantago lanceolata, also known as White-Man's Footsteps by the Native Americans. Curiously, when Tim Barlow of the National Trust in Australia visited in May to compare our work in grassland restoration to that in Australia, he was amazed to see the same troublesome exotics here as in coastal grassland restoration in Australia! Small world....

Steve has recently expanded his early efforts, only to run into the very unique challenges of establishing grasses on an active golf course. One of the big challenges is that the prime planting season for native grasses- January and February- is the same time reserved for course preparation of the AT&T golf tournament. (formerly, The Bing Crosby Pro Am). Pebble Beach is again hosting the U. S. Open for its 100th anniversary in 2000 as well as the U.S. Amateur in 1999. Potential areas for native grass restoration ("non-playable" areas) are often "gallery areas" for spectators to stand and walk, or used as commercial space to be covered with tents. Golf courses require a finished look, and large muddy areas, newly planted to native grasses during the rainy season, are not acceptable. Stephen is working around these constraints and can often turn to the turf experts at Pebble Beach for assistance or suggestions. For instance, one project called the "triangle", has benefited from the use of broadleaf herbicides. This triangle, about 1/3 acre between the 6th and 14th hole, is a haven for gophers in a loose, dry, black soil full of old shell fragments. This soil drains very quickly- it was watered once with 2 inches of water and one day later was dry. Working with Paul Kephart as a consultant, they started with 35 lbs of Deschampsia cespitosa 'holciformis' seed and about 1000 plugs of Purple Needlegrass, Nassella pulchra. A November gale in 1994 seemed to blow half the seed away, but even after that deluge, a good stand of grasses germinated and no sooner started to grow than it was buried under a wave of weeds. These included many European annuals (above) as well as Rye- Lolium, filaree- Erodium spp. Foxtail- Hordeum marinum, sow thistle-Sonchus oleraceus, pineapple weed and mallow. As late winter came on, demands of the golf tournaments and other activities meant the triangle went on the back burner. By April, it got a badly needed mowing and was sprayed with Trimec, a broadleafed herbicide from the turf manager's arsenal. After a second spraying a month later, good control of the broadleaf weeds was accomplished, but the weed grasses persisted. These were kept from seeding by mowing or pulling. Areas of bare soil began appearing in the stand due to gophers, weeding, or from the Deschampsia 'selecting out' to the plants that were adapted to the local conditions. These bare areas were plugged with a mix of natives throughout the summer of 1995, including: Red fescue- Festuca rubra, Kephart's South Coast Thingrass- Agrostis diegoensis, Deer grass- Muhlenbergia rigens, California Oatgrass-Danthonia californica, Meadow Barley- Hordeum brachyantherum, Purple Needlegrass, and Festuca californica. Most of these plugged plants were unsuccessful, perhaps because of the 'out of season' planting, with the exception of Festuca californica. In May 1996, the triangle was given a massive hand-weeding (particularly for Lolium). Much of the original stand of Deschampsia and Nassella were thriving, despite the weeds and gopher assaults. No extra water was applied in the summer of 1996. The grass was mowed once at 4 inches and the dormant stand has a golden, attractive look. This fall, Steve will water the area several times to bring up the annual weeds, mow, and spray with Trimec once more. This is to try to get a jump on the weeds and allow diversification through the addition of several wild flower species to be

scratched into the bare areas. Allbright Seeds supplied the seeds which include: California poppy- Eschscholzia californica 'maritima' , Gold fields-Lasthenia chrysostoma, Baby Blue eyes- Nemophila menziesii, Five spot-Nemophila maculata, Tidy tips- Layia platyglossa, Chinese houses- Collinsia heterophylla, Blue-eyed grass Sisyrinchium bellum and lupine-Lupinus nanus. All of these species are native and were once part of the coastal grasslands. Some California sage- Artemesia californica, has arrived naturally. Stephen hopes these native shrubs and wildflowers will compete with the weeds for the open soil provided by gophers every few days. With continued mowing and some weeding, hopefully all the native plants will become stabilized and render maintenance and spraying obsolete.

Steve's next project covered about 1-1/2 acres on the inland side of the 10th hole on the main Pebble Beach Links. In 1993, Steve planted it with a mix of Zorro fescue (Vulpia myuros), Molate Fescue (Festuca rubra) and Idaho fescue (Festuca idahoensis). The Vulpia myuros was too dense and the natives could not compete. Kikuyu grass invaded the site as well. In June 1995, the area was sprayed with 2% glyphosphate and in October, it was hit with Turflon (for Kikuyu grass) and Progress (for Poa annua). The soil was ripped, tilled and dragged. The area remained fallow until Jan 10, when it was sprayed again with glyphosphate and then hydro-seeded with 130 pounds of Deschampsia cespitosa 'holciformis'. This was a single-pass hydroseeding. In retrospect, two passes would have been better; one with water and seed, and a second pass spraying the mulch alone. Daily wet-dry cycles caused the mulch to pull up from the ground, in turn tearing out the tiny seedling roots. Ten days after planting, two inches of rain in a single storm lined up much of the mulch and seed into rills. Steve spent hours with a shovel moving the seed mix back up the hill after that deluge. Nevertheless, establishment was decent and bare areas were plugged with F. rubra and F. californica. Lolium and Kikuyu grass are still present, but despite watering all summer and repeated close mowing, most of the annual weeds seem to be under control. This site is now looking pretty good, and with some patience, and continued weeding and/or spot applications of herbicides, this 10th hole restoration promises to be a premier demonstration.

One of Stephen's most important goals in the next year is to try several of the traditional golf turf herbicides in the process of establishing native grasses. Mark Mahady, a research agronomist for Mark M. Mahady & Associates, has developed a plan that would look at 5 different herbicides and combinations to study the efficacy of various concentrations and the phyto-toxicity in the Deschampsia plot. He promises to keep us informed of his progress. Such findings are important to any subsequent attempts at native grass establishment. We all would benefit from any new weed control options.

Meanwhile at Spanish Bay Golf Links, Joey inherited a very complex dune restoration program. Started in 1986, the Pebble Beach Co. has added several "endangered" plant species to the project as they have become listed, and updated mitigation efforts as state and federal rules have changed. For the past 2 years or so, Joey has been busy monitoring and finalizing the restoration of approximately 45 acres of dunes, intertwined with golf cart paths, tees and greens. Wetlands, riparian areas and forest conservation areas comprise another 20 acres of "habitat". Of the 45 acres of dunes, 17 acres are remnant dunes composed of pure sand, and 28 acres were rebuilt with a "sandy loam" from a nearby quarry while the golf course was being constructed. Some of these rebuilt dunes received a 2-3 foot cap of good sand, but there was not enough sand to complete the capping and much of the sand blew away. When wetted and consolidated, the sandy loam is extremely hard and lacks the nutrients, organic matter and structure found in true soils. Joey's unique challenge includes the fact that native plants struggle to survive in this substrate. Coastal strand species originally planned for the project were changed to coastal scrub species which can better tolerate the poor soil. In sor areas a 100% cover of dune scrub is striving to outcompete th inevitable weeds that flourish in poor soils. However, like the Asilomar dunes, which in some areas have accreted 2-3 feet in the last ten years, the Spanish Bay dunes still have a source of sand in the weathering of granitic rocks along the coast. Someday, at least the reconstructed dunes adjacent to the beach may build up to become real dunes once again.

Originally, the only grasses used in the dune restoration at Spanish Bay were Leymus mollis, American dune grass and Poa douglasii, dune blue grass. Calamagrostis nutkaensis already existed at the forest margins and is being increased as much as possible. Recently, Deschampsia cespitosa 'holciformis' has been added to some golf areas, since it was known from along 17 Mile Drive in coastal prairie habitat. Joey has supervised the planting of Deschampsia cespitosa 'holciformis' along the golf cart path and in front of the 18th tee at Spanish Bay, in the hard substrate. The first planting (1/3 acre) started in September of 1995. Crews rototilled the gravely "sandy loam", adding 3-4 inches of amendment mulch from the Pebble Beach composting/ recycling program. The amendment added organic matter and provided some soil structure. The area was watered for 5 weeks to bring up the weeds but very few germinated in October. On November 1, four pounds of seed per thousand square feet was sown and covered with a light dusting of amendment. The amendment and seed was then compressed by using a "sand pro", a tractor- like vehicle with nubby tires. The grass germinated thickly and was 1/2" to 1" tall in two weeks. Granular weed and feed w added in February, 1996. The pelletized weed and feed did not seem to get down to the broad-leafed weeds nor did it improve the "yellow" (by golf standards) grass. Joey now suggests liquid fertilizer or herbicide for more complete coverage and penetration. Common weeds in the area included the usual European annual suspects, Senecio vulgaris, common groundsel, Lolium and thistle- Sonchus oleraceus. A crew of five worked on and off for five days to hand-weed the plot, and virtually all the weeds were removed. It is now a solid stand of Deschampsia, having turned a golden brown in the fall, falling over and covering the ground with a thick thatch. Only a few individuals flowered in 1996.

On the other side of the golf cart path, a spring planting of D. cespitosa was started in middle February, 1996. The area was rototilled twice, adding amendment as before. On April 30, it was seeded. Immediately after seeding, they had five days of extreme heat (90 F!) so it was watered daily.

. Germination was lower and patchier than that observed across the path in the fall planting. There was very little weed growth at this stage, but the grasses only grew to one inch in height and then stopped growing. Watering continues, but the plants seem to be at a standstill. More annual weeds germinated, as seeds are constantly blowing in from adjacent areas. A broadleaf herbicide will be used in September and the site will be mowed. Joey is hoping the winter growing season will see the hairgrass on this plot rapidly grow to full size. And, anything Stephen learns about herbicides will be used on Joey' Deschampsia plots as well.

On the CNGA field day in May, we toured the Deschampsia area near the 18th tee at Spanish Bay and saw the native grasses planted by Stephen on the 6th and 10 holes at Pebble Beach Links golf course.

So how do "golf people" like the natives? "Well, they're

whackin' 'em out of that place" said Joey. "And we know we have created a good "environment" when we find lots of golf balls during our weeding forays". (In other words the natives are so thick, the balls get totally lost) The established stands of Deschampsia have a very lush, flowing, texture that is acceptable to the golf course managers. A wonderful display garden with signs naming the native plants is maintained at the Spanish Bay golf shop. No signs as yet adorn the native grasslands under restoration on the links at Pebble Beach. Certainly there is a great potential for the local community and visiting golfers to learn about and support the restoration efforts by Steve and Joey. Visitors to these famous courses can get a glimpse into our native past and California's diverse natural heritage. Already, many in the local community and some in the management of the Pebble Beach Company share the satisfaction of once again sharing that fantastic scenic coastal landscape with our native grasses. And like the wild links of Scotland, the addition of some wild grasses may make the magic of Pebble Beach just that more attractive to the golfer.

BOOK REVIEWS AND RECOMMENDED READING

by Kitren G. Weis

Beyond the Rangeland Conflict: Toward a West that Works. $19.95. The Good Stewards Project, P.O. Box 23713, Flagstaff, AZ 86002.

'This was an impressive book, both from the personal stories it portrayed of families committed to living cooperatively with the environment as part of their rangeland ranching, but also as a documentary photographic depiction of these unusual people. This book was nominated for a Pulitzer and that recognition is well-deserved. As a Californian, I asked myself why our rangelands don't look as lush as those in the book, which are found in Arizona, Idaho, and other Western States, excluding California specifically. John Anderson, who is familiar with rangelands in these areas, as well as the problems inherent in our own state, told me that our rangelands were and are far more abused and exploited, and that the ecosystems shown in the book never deteriorated to the extent that California's have. For anyone interested in rangeland management from the perspective of land stewardship, take a look at 'Beyond the Rangeland Conflict: Toward a West that Works'.

The Prairie Keepers. Secrets of the Grasslands. 1995. Marcy Houle. Addison-Wesley Publishing Company, Menlo Park, CA ISBN 0-201-843-X (hardback) or 0-201-40821-X (paperback). $11.00.

'The Prairie Keepers is a true story of research on the Swainson's hawk in the Zumwalt Prairie of Oregon. The prairie ecology is described in this anecdotal chronicling of the researcher's experiences while studying a remote grassland prairie in northeastern Oregon. Both the research involved and personal recounting of the adventure are well-written in a lively manner that lends itself to the sympathetic ecological researcher as well as the general public.

A Vegetative Guide to Selected Native Grasses of California. 1996. Gene Bishop. USDA/NRCS Tech Note PM-40. For information: F. Eugene Bishop Jr., Assistant Manager, Lockeford Plant Materials Center, Natural Resources Conservation Service, USDA, P.O. Bos 68, Lockeford, CA 95237. 209-727-5319.

The Vegetative Guide is a valuable resource to native grass ID and is packed with information on selected California natives—geographical location, growth characteristics, seed data, etc. There is much practical information here for the restorationist, the botanist, and native grass enthusiast. Supplies are limited (and you can't have mine!).

STATUS OF NATIVE GRASS BOOK: California Native Grasses-Basic and Applied Technology

By Frank J. Chan (Fjchan@aol.com)
The Native Grass Database Group

A single source reference is needed for practical and technical information on California native grasses. Basic information has been lacking for the professional user and non-professional enthusiast for erosion and fire control, restoration plantings and ecologically sound landscaping. This basic information is the foundation for proper species selection and plant establishment. The proposed text will compile currently diffused information into a single reference filling the existing information gap. Also included are: a user-friendly approach for identifying native grasses; infomation on how to acquire seeds and plants; line drawings of native grasses; and photographs of native grasses in their natural habitat.

The book is being written by the Native Grass Database Group consisting of a coalition of individuals with diverse backgrounds dedicated to the promotion and utilization of California native grasses. The authors and producers of the book are Kevin Rice and Eric Knapp—UC Davis, Chris Meacham-Jepson Herbarium, Ann Dennis-US Forest Service, Dan Strait-US Fish & Wildlife Service, Bruce Potterton-Potterton West, Lance Walheim-horticultural author, and Frank Chan-Native Plant Resources. A major sponsor and an important resource for the book is the Jepson Herbarium of UC Berkeley. In addition, one of the goals of the book is to include contributors who have been active in the native grass movement.

The approximate completion of the book is scheduled for the late Fall or early Winter of 1998.

The CNGA poster is scheduled to be on display at the following locations in October:

October 5: SF Bay Care Faire, 10:00 am to 4:00 pm, at the Don Edwards SF Bay National Wildlife Refuge. An environmental faire, in which 1000 to 5000 attendees are expected, will feature a wildlife art auction and native plant sale.

October 12: "A Walk on the Wild Side" at Stone Lakes National Wildlife Refuge in South Sacramento. In celebration of National Refuge Week, the Refuge will feature entertainment, live animal presentations, and guided walking tours of the Refuge. Information booths from public agencies and environmental groups will be available for visitors. Call (916) 979-2085 for details and ask for Kris

GET INVOLVED!

Entering our sixth full year in existence, CNGA has a loyal membership, hardworking Board of Directors, and superb outreach efforts including excellent spring and fall meetings and training workshops, administrative support, and an outstanding *Grasslands* newsletter. CNGA has a critical role to play in promoting the development and use of native grasses in diverse settings of California in addition to expanding our knowledge of native grasses. CNGA periodically seeks member candidates for Board and Committee chair positions and always desires member participation. Feel free to contact any Board member about possible candidates or your interest in serving CNGA. Good ideas, enthusiasm about native grasses,a and time and willingness to help CNGA meet its goals, are all that is needed. Thank you.

President's Address

Mark Stromberg

What was your first book of grasses? For me, it was Agnes Chase's First Book of Grasses. Now, nearly 20 years later, I find that Lynn Clark and Richard Pohl and the Smithsonian Press have honored another one of our elders in a most thorough revision of that classic book. Clark and Pohl have incorporated the newer grass taxonomy and added many new illustrations, while keeping many of the original Chase drawings. Pamela Henson's foreword adds a wonderful dimension by introducing us to the extraordinary life and times of Mary Agnes Chase.

Chase, denied education opportunities after grammar school in the 1880's, worked her way up from a proofreader in a newspaper, to an illustrator at the Chicago Field Museum, and then to an illustrator position to the U. S. National Herbarium. A gifted artist, she worked with Albert Hitchcock but soon established her reputation as a world expert on grasses. Her field work was impressive; she and Hitchcock produced "Tropical North American Species of Panicum", then "Grasses of the West Indies". Agnes also worked for the U. S. Dept. of Agriculture, determining the varieties of commercial grasses in order to expose many of the fraudulent claims made by traveling salesmen on the merits of the common grasses they sold for livestock forage.

Agnes Chase was very active in the suffrage movement. Aligning herself with the more radical Woman's Party, she was sentenced to jail for five days for her part in keeping a continuous fire going in front of Woodrow Wilson's White House; the fire was fed by copies of any Wilson speech which mentioned the word "freedom" or "liberty". Throughout her career, she maintained a welcome home in Washington D. C. for younger women starting careers in botany and she provided a training course for these women.

Chase's First Book of Grasses was published in 1922, reprinted many times and was translated into Spanish and Portuguese. Also in 1922, Agnes made her first tour of European herbaria and was named custodian of the Grass Herbarium in the U. S. National Museum. Her office for the next 30 years was in the red stone tower of the famous Smithsonian "castle". She thrived on field trips to remote parts of Venezuela and Brazil. She is credited as the first woman to have climbed the highest point in South America- Mt. Aconcagua in Argentina (in 1929!). Over 12,000 sheets from her field work alone are curated at the U. S. National Museum; many thousand more were sent to her during her active and extensive correspondence with agrostologists for over 50 years. She retired in 1939, after substantially helping Hitchcock revise the "Manual of the Grasses of the United States". Agnes continued to work 5-6 days a week for the next 20 years. Using her book of grasses, she trained students from Argentina, Brazil, Chile, China, Canada, and the Philippines. After serving in World War II (examining grasses for hays purchased by the U. S. Cavalry) she revised the "Manual of Grasses" once more (1951 edition). In 1958, she was awarded a doctorate in Science by the University of Illinois. In 1962, Agnes published a 3-volume index to all published names in the Gramineae, based on more than 80,000 index cards she maintained. Agnes died in 1963.

"Grass is what holds the earth together. Grass made it possible for the human race to abandon the cave and follow herds. Civilization was based on grass, everywhere in the world" - Agnes Chase. One of our true "elders".

This has been a good year for CNGA. We have made many changes in the operations and have an active board and wonderful support for our publication, activities and annual meeting. For those of you with a passion for native grasses, we would be pleased to have you attend a board meeting and find out how you can be more active.

Each of you have special knowledge to share about our native grasses. As you experiment with restoration, or try new marketing ideas, or deal with governmental agencies, keep in mind that a 1-2 page article on your experiences would be welcome at Grasslands and of interest to all of us.

~ California Native Grass Association ~

1996 Board of Directors

Officers

President
Dr. Mark Stromberg
Mgr. UC Hastings Natural
History Reservation
38601 E. Carmel Valley Rd.
Carmel Valley, CA 93924
(408) 659-2664 (O)
(408) 659-7208 (Fax)
(408) 659-5307 (H)
stromber@violet.berkeley.edu

President-elect
Dr. John Menke
11263 North Hwy 3
Fort Jones, CA 96032
(916) 468-5351 (O)
(916) 468-5341 (H)

Past President
Dan Strait
US Fish & Wildlife Service
2233 Watt Ave., Suite 375
Sacramento, CA 95825-0509
(91 6) 979-2085 (O)
(916) 979-2092 (FAX)
daniel_strait@mail.fws.gov

Secretary
Phil Hogan
USDA Natural Res.
Conservation Service
221 W. Court St., Ste 5
Woodland, CA 95695
(916) 662-2037 (O)
(916) 662-4876 (FAX)

Treasurer
Donna S. Lindquist
Pacific Gas & Electric Co.
2303 Camino Ramon, Suite 200
San Ramon, CA 94583

Members at Large

Tony Norris (1995-1996)
3765 Clara Drive
Napa, CA 94558
(707) 648-4481 (O)
(707) 255-5777 (FAX)

David Dyer, Mgr. (1995-1996)
USDA Natural Resources
Conservation Service
P.O. Box 68
Lockeford, CA 95237
(209) 727-531 9/3205 (O)
(209) 727-5923 (FAX)
(209) 727-3205 (H)

Rachel Long (1995-1996)
UC Cooperabve Extension
70 Cottonwood Street
Woodland, CA 95695
(916) 666-8143 (O)
(916) 666-8736 (FAX)

Dr. John Anderson (1996-1997)
21740 County Road 88
Winters, CA 95694
(916) 662-4570 (H)
(916) 668-8369 (FAX0

Glen Holstein (1996-1997)
1509 Pacific Drive
Davis, CA 95616-1330
(916) 758-6787

Sally Walter (1996-1997)
551 Jean St. #301
Oakland, CA 94610
(510) 286-6226 (O)
(510) 654-9708 (H)

CNGA Mailing Address
CNGA
P.O. Box 72405
Davis, CA 95617

Lawyer
Zad Leavy
3785 Via Nona Marie, Ste 309
Carmel, CA 93923
(408) 624-6060 (O)
(408) 625-1250 (FAX)
Katherine Petty, Secretary

***Grasslands* Managing Editor**
Dr. Kitren G. Weis
19871 County Road 79
Capay, CA 95607
(916) 754-4096 (O)
(916) 796-2180 (H)
kgweis@ucdavis.edu

***Grasslands* Science Editor**
Dr. Mark Stromberg
Mgr. UC Hastings Natural
History Reservation
38601 E. Carmel Valley Rd.
Carmel Valley, CA 93924
(408) 659-2664 (O)
(408) 659-7208 (Fax)
stromber@violet.berkeley.edu

CNGA Corporate Members
Jones & Stokes Associates
CNGA Life Members
John Anderson
Polly Anderson
Bob Battagin
Sally Casey
Charlice Danielsen
Jim Dekloe
Bob Delzell
Jim Eagan
David Gilpin
Charlotte Glenn
Paul Kephardt
Rod MacDonald
Eugene Majerowicz
Warren Roberts
Vic Schaff
Jacob Sigg
Scott Stewart
David Yam

Join CNGA

Date_____ Name_____
Title_____ Organization_____
Address_____
City, State, Zip_____
Phone/FAX_____

Membership Satus

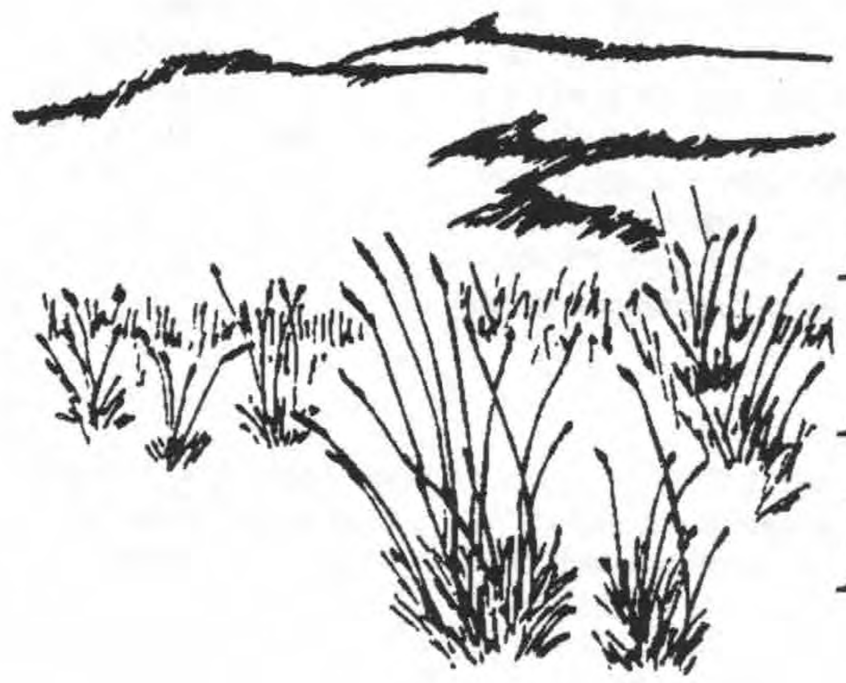
Regular	$35/year
Student	$20/year (include school, grad. yr.)
Retired	$20/year
Life	$350
Corporate	$500/year
Associate	$100/year

Benefits: Regular, Student, Retired, or a business on a Regular Membership--1 person at member rates at functions; Family, Commercial or Associate--all members of group at member rates.
Donations: In any category designed (see committees), to support CNGA in its efforts to Develop, Promote, and Restore, I am enclosing a donation of $_____ for _____

Donations are tax deductible to the extent allowed under federal and state law.

Dues are for a twelve--month period dating from receipt of payment.
Detach and mail to:

California Native Grass Association
P.O. Box 72405
Davis, CA 95617



DEVELOP
PROMOTE
RESTORE

California Native Grass Association
P.O. Box 72405
Davis, CA 95617

ADDRESS CORRECTION REQUESTED

RECYCLED PAPER

Non-Profit Org.
U.S. Postage
PAID
Permit No. 19
Dixon, CA