



THE SAMPLER

VEGETATION COMMITTEE NEWSLETTER

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Introduction by Julie M. Evens

This issue of *The Sampler* provides an overview of several projects being initiated by CNPS chapters over the past two years. In past issues, we've provided an overview of the different standards for sampling and classifying vegetation. Now that chapters have been trained on these methods, they have been starting their own projects. They are occurring across the state, from coastal to interior grasslands, from chaparral and coastal sage scrub to oak woodlands, and beyond, such as in the San Diego, Santa Cruz, East Bay, and Milo Baker (Sonoma) Chapters.

In all of these new CNPS projects, we are working to better survey and represent the diversity of plant communities found locally and regionally. Some chapters are taking further steps to catalog their local plant communities through databases and mapping efforts. Each of these initiatives may be seen as a building process to a greater understanding and future conservation of our varied landscapes found in California.

At the state organization, we also are continuing to train and educate CNPS chapter mem-

bers and the public on our edicts of vegetation, such as in the Sierra Nevada foothills. We hope these articles that follow will serve to inspire more chapters to take on additional roles in vegetation science projects, and we hope to foster stronger ties with the chapters to further advance their goals as well. ◀



Vegetation sampling along a stream terrace adjacent to grasslands and oak woodlands during a workshop with the Sacramento Valley Chapter in June 2005. Photograph by A. Knoche.

San Diego Veg Committee Makes a Comeback! by Lexine Schroeder

After a bit of a hiatus in 2004, the Vegetation Committee of San Diego CNPS was revitalized in 2005. As the awareness spreads that San Diego County is a global hotspot of biodiversity, more and more volunteers are looking for ways to learn about the local vegetation and for ways they can help to preserve it. The mission of our local committee last year was to recruit a core group of volunteers and, with the assistance of CNPS state Vegetation Ecologist Julie Evens, instruct them (and me!)

on how to use the survey protocols correctly.

Learning the Sampling Methods

Our first training session was held in May 2005, in conjunction with volunteers and coordinators from Riverside and Orange counties. Julie came down from Sacramento for the training, which took place at Santa Margarita Ecological Reserve. She took advantage of the overnight, two-day training session to show us how to correctly perform the intensive relevé

(pronounced REH-luh-vay) survey protocol.

We chose a plot in a stand of riparian habitat, which was bursting with new life after heavier-than-usual spring rains had flooded the Santa Margarita River and washed lots of seeds downstream. We were amazed to find over 80 different plant species in our riverbank plot of 400 m²; Julie said this is probably the most she's ever seen in one plot! Many of the plants were still just seedlings, so Julie and other botanists used their incredible identification skills to determine what all of those itty bitty plants were. Those of us who are novices at plant taxonomy really learned a lot that day, or as one volunteer put it, we learned just how much we didn't know! Due to the large number of species, the survey took longer than normal, and we had to complete it the following day. Afterwards, those of us who could stick around were rewarded by an informal but highly informative plant walk through some upland meadows that were in full flower. I was astounded and elated by the incredible diversity we encountered.

Julie returned to San Diego for a weekend in July 2005, to train members from our local chapter on how to perform the Vegetation Rapid Assessment protocol (RA method). We surveyed several plots at Boulder Oaks Preserve, which had recently been acquired by the County of San Diego to add to the network of preserves in the Multiple Species Conservation Plan (MSCP). We are excited to have the opportunity to work with the County, as the MSCP is potentially one of the most valuable tools we have for the conservation of habitat and rare plants in San Diego County.

County Conservation Plans and Monitoring

The MSCP is a cooperative effort between the County, the CA Department of Fish and Game, the U.S. Fish and Wildlife Service, and others to protect targeted endangered and threatened species by creating and monitoring a system of interconnected wildlife preserves. So far, it has been difficult for CNPS to ascertain how effective the MSCP has been at preserving the targeted species or their habitats, as much of the planning and monitoring has looked

at vegetation types in a very general way. For example, in an attempt to preserve the coastal California gnatcatcher (a federally threatened bird), the MSCP requires preserving a certain amount of coastal sage scrub. However, as there are many types of coastal sage scrub, the gnatcatcher's habitat may inadvertently be missed by the plan unless the preferred vegetation of the gnatcatcher is targeted for preservation. Even if it is fortuitously included, it will be difficult to monitor how or if the habitat changes over time without employing a detailed, repeatable survey method such as the RA or relevé method. Our hope is that, through our developing relationship with the County, these nuances will be recognized so that the planning and monitoring efforts will be more effective and consistent.

Sampling Efforts in 2005

We surveyed several types of chaparral and coastal sage scrub at Boulder Oaks. In one plot we were delighted to find about 50 seedlings of Lakeside ceanothus (*Ceanothus cyaneus*, rare and endangered in some parts of its limited range), which had sprouted since a severe fire wiped out all of the mature individuals there two years ago. I returned to Boulder Oaks Preserve in August with more volunteers, where we surveyed Engelmann oak woodland (similarly endangered with a limited range), some native grassland, and a meadow overwhelmed with non-native species.

In October 2005, I had the privilege of accompanying freelance botanist Fred Sproul to the Ramona Grasslands, one of few remaining extensive tracts of native grasslands in Southern California. Native grasslands were once common in San Diego County and throughout California; however, historic graz-



Vegetation sampling of grasslands at the Boulder Oaks Preserve, San Diego County. Photograph by L. Pardy.

ing, recent development, and invasive species have diminished or degraded much of this valuable habitat. Another reason the Ramona Grasslands are so special is that they are home to vernal pools containing an extremely rare and

endangered (CNPS list 1B.1) plant species, Parrish's brittlescale (*Atriplex parishii*). If I hadn't been instructed to look for them, I definitely would have walked right over these delicate little belly-plants, just as the grazing cattle have been doing. We are interested to

see if the brittlescale population is increasing, declining, or just hanging in there. Repeat visits will give us some indication as to whether more involved conservation efforts are needed to protect this unusual plant. ◀

Awakenings in Santa Cruz by Casey J. Stewman

A *Manual of California Vegetation* style of vegetation-sampling is just getting off the ground in Santa Cruz County. Our county's well-studied sandhill deposits hold some of the state's richest assemblages of rare and endemic vegetation types. Surprisingly, good vegetation sampling data, in the form of plant community level relevé plots, are lacking for this portion of California. Within this essay I lay out the initial direction our sampling efforts have taken during the first two years and our goals for the future.

Biologist Fred McPherson has long studied and taught about the plant communities of Santa Cruz County. Fred and I have collaborated on ideas and different approaches for documenting and describing the county's vegetation. It appeared that the highest priority

communities to document ought to be those with the highest conservation value.

Training on Sampling Methods

Fred and I invited Julie Evens down for relevé training in June of 2004. Fred had long wanted to get some detailed data of the unique riparian forests in Henry Cowell State Park in Felton. Accompanied by nine volunteers, our first relevé plots were in stands of black cottonwood (*Populus balsamifera* spp. *trichocarpa*) and California bay (*Umbellularia californica*). Both stands had box elder (*Acer negundo*) as a major component. The second day of relevé training occurred in the sands of the Bonny Doon Ecological Reserve. We sampled maritime ponderosa pine (*Pinus ponderosa*) woodland with an understory of interior live oak scrub (*Quercus wislizeni*) as well as a stand of silverleaf manzanita (*Arctostaphylos silvicola*), a CNPS List 1B plant.

Later that fall, in September, vegetation rapid assessment training was held on the UCSC campus and nearby areas. Twenty-six participants, including professionals, agency personnel, and members from the public were led by CNPS Vegetation Ecologist Anne Klein and Dr. Grey Hayes. The group met in the UCSC Arboretum and completed seven rapid assessment plots in Upper Moore Creek and Cave Gulch. Plant communities sampled included redwood and Shreve oak forest, both of which had associations with of California bay. Shreve oak (*Quercus parvula* var. *shrevei*) forests are a widespread and

interesting aspect of Santa Cruz County's evergreen oak forests.

Survey Efforts in 2005

The most recent sampling was accomplished during three days of relevé sampling in the spring of 2005 with the assistance of San Lorenzo Valley High School's science teacher, Terry Umstead, and his watershed academy classes. We followed up at Henry Cowell in sampling a stand dominated by box elder on the upper historic floodplains of the San Lorenzo River. This has been a personal goal of mine, to describe some of the box elder stands in Henry Cowell and at the mouth of Zayante Creek.



Michael Sommers and others assist with a silverleaf manzanita plot in Bonny Doon in June 2004. Photograph by F. McPherson.



Students from San Lorenzo Valley High School observe Ben Lomond spineflower blooming at Quail Hollow County Park. Photograph by F. McPherson.

In April, we got a large group of students out to Quail Hollow County Park and accomplished relevés in ponderosa pine woodland and silverleaf manzanita chaparral. Rare species associ-

ated with these vegetation types include the federally endangered Santa Cruz wallflower (*Erysimum teretifolium*), Ben Lomond spineflower (*Chorizanthe pungens* var. *hartwegiana*), Ben Lomond buckwheat (*Eriogonum nudum* ssp. *decurrans*) and, of course, silverleaf manzanita.

I consulted with ecologist Val Haley in selecting a site for our last relevé of the spring. At the end of April, we sampled a canyon live oak – knobcone pine (*Quercus chrysolepis* – *Pinus attenuata*) stand with an open understory of Santa Cruz manzanita (*Arctostaphylos andersonii*). This stand had all of the

rare species mentioned previously as well as wavy leaf monardella (*Monardella undulata*), a CNPS List 4 species.

Goals for 2006

- My aspirations for this year include organizing a group of dedicated volunteers to form a vegetation sampling team and continuing to conduct relevés in other rare communities here. Top priorities include Santa Cruz cypress (*Cupressus abramsiana*) stands, the Schreiber's manzanita (*Arctostaphylos glutinosa*) stands of the coastside outcrops known as "the Chalks" and, other peculiar types, like knobcone pine (*Pinus attenuata*) with

sensitive manzanita (*A. nummularia*). Chaparral pea (*Pickeringia montana*) and bear-grass (*Xerophyllum tenax*) are often associated with these knobcone pine stands in Bonny Doon. Also of interest are the coast whitethorn (*Ceanothus incanus*) stands on the northern end of Ben Lomond Mountain. There are still plenty of things to accomplish here in Santa Cruz in regards to vegetation sampling. Documenting our coastal prairies and native grassland types would be another great project for a future spring. ◀

Table 1. Summary of vegetation sampling by location, vegetation type, date & method. * RE = Relevé, RA = Rapid Assessment.

| LOCATION | VEGETATION TYPE | DATE SAMPLED | SAMPLING METHOD * |
|-----------------------------------|--|--------------|-------------------|
| Henry Cowell State Park | Black cottonwood-box elder forest | 6-04 | RE |
| | California bay-box elder forest | 6-04 | RE |
| | Box elder forest | 3-05 | RE |
| Bonny Doon Ecological Reserve | Maritime ponderosa pine-interior live oak woodland | 6-04 | RE |
| | Silverleaf manzanita maritime chaparral | 6-04 | RE |
| | Canyon live oak-knobcone pine/Santa Cruz manzanita | 4-05 | RE |
| Quail Hollow County Park | Maritime ponderosa pine woodland | 4-05 | RE |
| | Silverleaf manzanita maritime chaparral | 4-05 | RE |
| Moore Creek and Cave Gulch (UCSC) | Redwood–California bay forest | 9-04 | RA |
| | Shreve oak – California bay forest | 9-04 | RA |

Vegetation Sampling Boosts Milo Baker Chapter Conservation Work by John Herrick and Lynn Houser

Adopting a vegetation-sampling program within the Milo Baker (Sonoma County) Chapter has enhanced the chapter's Rare Plant Group activities in 2005. This sampling program is a bridge between our Rare Plant Group and our Conservation Committee. It also forges a link between the chapter and those in the Sonoma County conservation community who are concerned about the well being

of local habitats and ecosystems.

Landscape Approach in the Effort

The decision to take a landscape-oriented approach was influenced by chapter interest. This approach begged for more involved analysis and negotiations with local conservation organizations and agencies, which has provided chapter members access to high quality habitat.

A CNPS Vegetation Rapid Assessment workshop, held in Sonoma County in March 2005, provided the methodology and confidence-building necessary for us to embark on our present course. Nineteen of the workshop participants resided or worked in Sonoma County. Five attendees were already involved in chapter Rare Plant Group work, and this core group passed on the tech-

niques learned at the workshop to other Rare Plant Group members. All local workshop participants have been encouraged to participate in the Milo Baker chapter's 2006 sampling activities, and perhaps they will invite us to participate in their sampling efforts as well.

In 2005, we focused our efforts on a specific locale rather than sampling communities at random as opportunities arose, although there were exceptions when the temptation was overwhelming. We sought a candidate area that had a significant number of rare plant taxa, reasonable accessibility, and a level of threat that would give our efforts conservation value. Member interest in serpentine sub-shrubs and discussions with the Sonoma Land Trust and the Sonoma County Regional Parks Department led the chapter to select the southern Mayacamas Mountains for vegetation sampling.

Southern Mayacamas Mountains

The southern Mayacamas encompasses approximately 50 square miles bordering Napa County to the east, Santa Rosa Creek to the north (steelhead trout spawning grounds), and Highway 121 to south. The area is home to 13 rare taxa, including eight CNPS 1B-listed species. Many of the CNDDDB occurrence reports are over ten years old. Knobcone pines and chamise chaparral indicate the important role fire plays in shaping the area landscape. Douglas fir is the predominant conifer species, and coast redwood is found in several ravines. Oak woodland, grassland and vineyards dominate lower elevations. Serpentine grasslands are scattered at mid and upper elevations.

The southern Mayacamas provide the best access opportunities for a project of this nature in Sonoma County. Six



Mayacamas (on left) looking south towards San Francisco Bay. Photograph by G. Hundt.

agencies and organizations own or manage significant tracts of land in the study area: Bureau of Land Management, Sugarloaf State Park, Hood Mountain Regional Park, Audubon Bouverie Preserve, Sonoma Agricultural Preservation and Open Space District, and Sonoma Land Trust. Private property owners, including some who are not Milo Baker Chapter members, have granted access.

Resource organizations and agencies have many active interests in the Southern Mayacamas. The Department of Fish and Game has CEQA oversight affecting land use proposals, and the California Department of Forestry and local fire districts have vegetation management concerns associated with wildfire suppression. The local Resource Conservation District promotes minimizing erosion

threats associated with vineyard conversion, and the Sonoma Ecology Center manages weed abatement and riparian enhancement projects in the area.

The vegetation program is part of our Southern Mayacamas Stewardship Project which includes the following activities:

- Survey for and report rare plant occurrences to CNDDDB.
- Describe and delineate native plant communities.
- Review management plans.
- Encourage native species/communities conservation efforts by recruiting chapter volunteers to assist agencies and local resource

conservation organizations in conservation activities appropriate for volunteer skills and abilities.

- For each property, propose monitoring protocols appropriate to the involved agencies or groups, which will provide consistent, ongoing accounts of the condition of native plant species and communities.
- Provide the participating property owner and/or management agency feedback on management activities.

We believe that with the cooperation of agencies, resource conservation organizations, Mayacamas property owners, and property managers, we will provide high quality information on the location and condition of native plant species and communities. Our vegetation-sampling program is an important component in our conservation toolbox, and our ongoing fieldwork will assist in our promotion of appropriate land management practices in Sonoma County. ◀



Rapid assessment outing in October with (left to right) Sandra Cleisz and authors John Herrick and Lynn Houser. Parcel owned by the family of Herbert Mason. Photograph by G. Hundt.

Vegetation Inventory and Surveying in the East Bay by Susan Bainbridge

The East Bay Chapter region comprises the ecologically and biologically rich wildlands of Alameda and Contra Costa counties. Portions of ten different U.S. Forest Service Ecological Subsections occur in the region, representing a broad range of substrates, topographies, and climates. For example, climates range from maritime to interior. As a result, the region supports community types characteristic of both the coastal and interior Coast Range regions of California. Contrasting vegetation types include various associations of coastal prairie and interior grasslands, coastal bluff scrub and interior sage scrub, maritime chaparral and interior live oak chaparral, coast live oak woodland and blue oak woodland, redwood forests and juniper woodlands, salt marsh and alkali sinks, and many other coastal and interior vegetation types.

The Need for Vegetation Documentation

Despite the many reserves and parks in the East Bay, much of the biodiversity in the East Bay is threatened. Greenbelt Alliance (2000) ranked Contra Costa and Alameda Counties as number one and number five in terms of percentage of total land area at risk for development in the Bay Area. However, a complete plant community classification and inventory is sorely lacking. Information on the distribution and status of East Bay plant communities is needed, sometimes on a weekly basis, for evaluating potential impacts of land use changes, or for documenting the ecological significance of a threatened site. In addition, as in much of California, empirical information to drive appropriate management and restoration in protected areas is lacking. Documentation of the diversity and distribution of vegetation types would allow for science-based conservation planning, and would help to guide scientific studies and restora-

tion efforts.

Inventory of East Bay Vegetation

In addition to sampling vegetation through Chapter and other efforts, we are compiling in a Microsoft Access database containing a preliminary list of alliances and associations in the East Bay using information from the existing natural community list for California (CNDDDB 2003), literature, plot data, and observations in the East Bay. The database attributes are listed in Table 1. The Access database documents the source for the alliance and association name, the certainty that they are correctly identified in the East Bay, and the type of evidence for the occurrences. Floristic evidence for the presence of a vegetation type is the least reliable, as it simply indicates that the diagnostic species for a recognized type occurs in the East Bay, but does not necessarily indicate that the species are assembled into the specific alliance or association in question. The East Bay floristic checklist (Erter 1997), the Consortium of California Herbaria database (online at <http://ucjeps.berkeley.edu/consortium/>), and regional floras for the Coast Ranges are useful sources of floristic information. The Access database also is used so that lists can be compiled and sorted based on geography, vegetation types or by other attributes of the database such as management unit, alliance, etc. Sometimes the database even works as it was intended!

The main purpose of the preliminary list of East Bay vegetation types is not to replace data collection and analysis efforts. Currently, it is used in the field to record observations and locations of

additional vegetation types, and to confirm and record the localities (by Ecological Subsection, watershed, and management unit) of the types on the list. Although much more data collection and quantitative analysis will occur before the list is publicly accessible, the list is a useful tool for prioritizing types to sample, and it provides a first step in determining the conservation status and distribution of vegetation in the East Bay.

The working inventory suggests at least 336 associations or unique stands occur in the East Bay, but the list is far from complete. Some of my favorite vegetation types are Coulter pine / Mount Diablo manzanita, Blue oak / Linearleaf goldenbush / One-sided bluegrass, and Desert olive.

Alkali Wetlands and Grasslands

In the East Bay, alkali plant communities occur in the Coast Range and western edge of the San Joaquin Valley. More than half of the original acreage of these communities has been converted to agriculture or urban development. These alkali communities include claypan vernal pools, sinks, playas, springs, marshes, meadows, and grasslands. Environmental documents and conservation plans tend to use these general headings, if not simply "alkali wetlands and grasslands," to address these communities, and thus do not recognize the ecological richness and complexity within a given alkali habitat or within and between sites.

Chapter Data Collection Efforts

We have been collecting plant species composition data for alkali community associations and data on their spatial patterns in the East Bay. In many areas, the richness of associations is high, while the species richness in many of these associations is low. (The lowest richness value in a 100-square

meter alkali community plot was 2.) Changes in plant community associations can be associated with subtle differences in topography, soil, and hydrology. The high richness and patchy distribution of these community types in some areas suggest that development could easily result in the loss of associations within a site or region, leading to the related loss of species richness. In addition, restoration efforts should recognize the high richness of associations that occur in these areas. We hope this work will help ensure protection of the full range of alkali community types in the East Bay, and that our results will increase awareness of the complexity and richness of this habitat type.

Other major sampling efforts include grasslands and wildflower fields, conifer-

ous forests, interior scrubs, as well as location-based efforts. We have found that our efforts have stimulated us to visit new sites, hike off the trail, and make observations that have vastly widened our perspective of the vegetation in the East Bay. Each time we go into the field, we learn something new and increase our appreciation of the East Bay. Like so many other vegetation sampling projects in California, during reconnaissance and sampling trips, we have located several new occurrences of rare plants and some taxa previously not documented in the East Bay. The support of many volunteers, the Jepson Herbarium, and East Bay Chapter of CNPS is greatly appreciated. Please contact me if you are interested in participating.

Table 1. East Bay Plant Community Inventory Database Attributes

Vegetation Type and Documentation

Alliance

Name source [CNDDDB, literature, proposed, new]

Identification certainty

Occurrence source [East Bay data, observation, literature, floristic]

Association name [CNDDDB, literature, proposed, new]

Name source [CNDDDB, literature, proposed, new]

Identification certainty

Occurrence source [East Bay data, observation, literature, floristic]

Ecological notes [substrate, stand size, etc.]

Distribution of Occurrences in East Bay

Ecoregions [USFS Ecological subsection]

Major watersheds

Ownership/management units

Specific localities

Conservation Status

Inherent Rarity

Relictual (yes/no/unknown)

Edaphic Restriction (yes/no/unknown)

Edge of Range (yes/no/unknown)

Distribution and Integrity

Habitat loss (yes/no/unknown)

Degradation (yes/no/unknown)

Threat

Land use change potential (yes/no/unknown)

Management neglect (yes/no/unknown)

Other

Literature Cited

CNDDDB. 2003. List of Terrestrial Natural Communities Recognized by The California Natural Diversity Database. California Department of Fish and Game, Wildlife and Habitat Data Analysis Branch. Sacramento, CA.

Ertter, B. 1997. Annotated Checklist of the East Bay Flora. Special Publication of the California Native Plant Society East Bay Chapter in Association with the University and Jepson Herbaria. Berkeley, CA.

Greenbelt Alliance. 2000. At Risk: the Bay Area Greenbelt. Report published by the Greenbelt Alliance. San Francisco, CA. ◀



Eric Wrubel and Caitlin Smith initiating a grassland relevé at the city of Oakland's King Estates Open Space, Alameda County, California, in April 2005. Photograph by S. Bainbridge.

A Clarion Call to Clipboards: Second Year of the Northern Sierra Nevada Foothills Project by Josie Crawford

In flatlands of Sacramento, a team of plant ecologists eagerly awaited the spring season after a long winter season of data entry, analysis, and report writing. Can you relate? With spring returning, the CNPS Vegetation Program is continuing an important vegetation classification project in the northern Sierra Nevada foothills. Our second field season begins in late March, 2006, and we need your help!

Protect the Foothills Now

Two years ago, the California Department of Fish and Game (CDFG) decided, of all regions in the state, the Sierra Nevada foothills would benefit most from resource assessment and conservation planning efforts for two main reasons: 1) The foothills have vast undeveloped and under-described areas; 2) large-scale development is quickly encroaching with most of the

land held privately (vulnerable to cash-flashing developers).

In 2005, CDFG awarded the CNPS Vegetation Program a two year contract to create a classification and description of the vege-

tation in the northern Sierra Nevada foothills. In conjunction with this contract, CNPS has received two successive grants from the National Fish and Wildlife Foundation (NFWF) to conduct vegetation workshops in the foothills.



CNPS and CDFG staff sampling vegetation along a creek on North Table Mountain, Butte County, in April 2006. Photograph by D. Tibor.

The grant allows us to provide public education and to get the public engaged in thoroughly surveying the region.

Our goal is to describe the range and diversity of the vegetation in the northern foothills of the Sierra Nevada. The project area encompasses nearly 2.5 million acres (in the northern sub-region). We are collecting plant community surveys on public and private lands over the two year period. These surveys are being conducted by CNPS field crews and by teams of volunteers who have received the necessary training in the NFWF-funded workshops. The data will be used to classify the vegetation using the system presented in the *Manual of California Vegetation*, by John O. Sawyer and Todd Keeler-Wolf.

How this Project May Benefit You, Your Chapter, and Community

This collaborative project will greatly increase our knowledge of plant communities and rare vegetation across the northern Sierra Nevada foothills, and it will serve as a guide for prioritizing areas for conservation. If you become involved with the project, you will most likely learn a great deal as well. If you participate in a workshop, we will teach you valuable vegetation surveying skills, the tools to continue collecting data, and a broader understanding of local plant communities.

With 85% of the foothills owned by private landholders and the human population expected to double in the next 20 years, our wildlands and rural/agricultural way of life are in jeopardy. One way we can prepare for and possibly prevent the mass paving is to figure out what we've got and what we've got to keep – by quantifying and documenting our natural plant communities.

Our final report, scheduled for publica-

tion in 2007, will be useful to citizens and organizations seeking to preserve rare vegetation types via Natural Community Conservation Plans (NCCPs), Habitat Conservation Plans (HCPs), and other conservation efforts.

How You May Contribute to the Sierra Nevada Foothills Project

Local chapter involvement is key to the success of our foothills project. We need your help collecting information on the unique vegetation of your area. Collectively, chapter members know more about local plant communities, and how to access to them, than anyone else. By assisting with this project, chapters can help lead the change from a conservation strategy based on single species preservation to one based on preserving entire natural plant communities.

Since CNPS is able to provide free workshops to CNPS chapter members in the foothills under the NFWF grant, people can learn how to use the standardized protocols for surveying vegetation. We are offering five free vegetation sampling workshops (one or two-day sessions) to interested chapters in the spring/summer of 2006. In addition to the workshops, the training coordinator (me!) is available to survey with any chapter members interested in going out in the field from late March to early July. If you or your chapter are interested in having a workshop or volunteering, please call or email me (Josie Crawford) using the contact information listed on p. 11. If you have land owner contacts or know of any important or rare plant communities, contact Anne Klein (also on p. 11). See sidebar for a list of ways to contribute to the project.

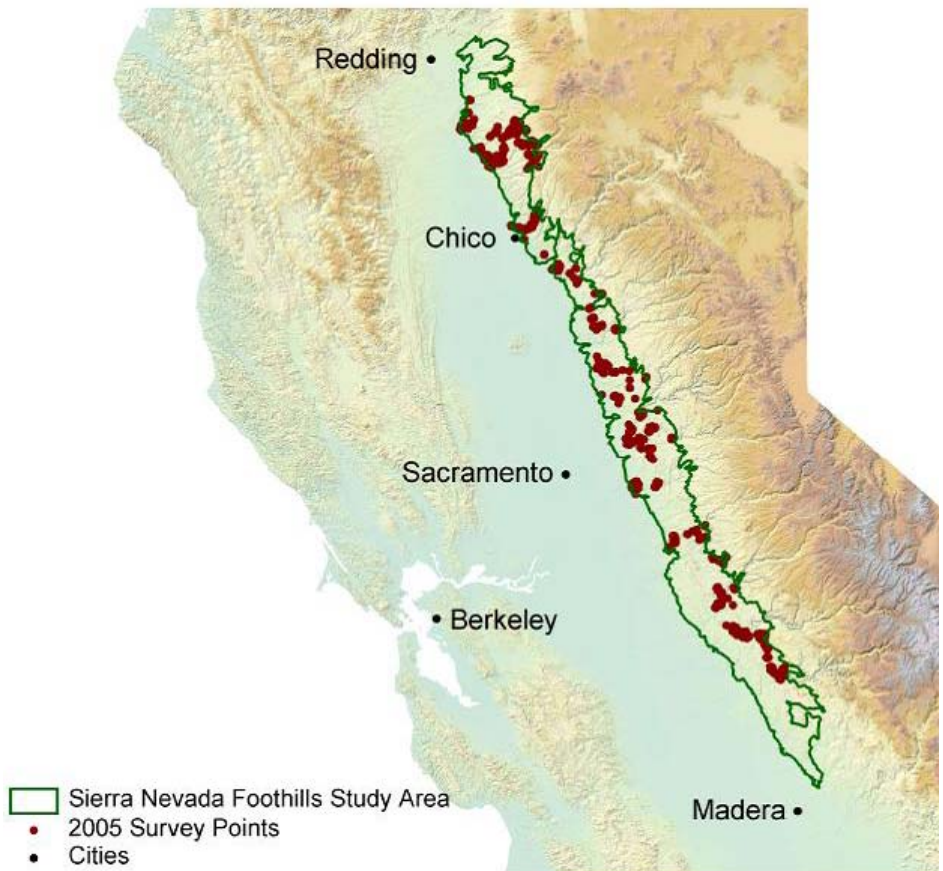


Figure 1. Study area (green outline) for the northern Sierra Nevada foothills project based on the USDA Ecological Subregion boundaries for the Sierra Nevada foothills. Survey points in 2005 (red) are indicated for the Sierra Nevada foothills project. Map by A. Klein.

Vegetation Program Staff and Field Crew Involved in the Project

The Sierra Nevada foothills project is overseen by the Vegetation Program Chair, Todd Keeler-Wolf. The project director is CNPS Lead Vegetation Ecologist, Julie Evens. Anne Klein is the Field/Data Coordinator who is making the arrangements with landowners for access and then compiling the data for the analysis. Field crews, composed of a Team Leader and Field Assistant, primarily are collecting the field data. In 2005, CNPS had three field crews and this year we will have two crews. The Team Leaders are Mark Bibbo, Ed Kentner, and also Jeanne Taylor in 2005. I (Josie Crawford) am the Training Coordinator.

Sampling and Analysis Techniques

We use Relevé and Rapid Assessment sampling methods to assess the vegetation and wildlife habitat types. First, we use the Relevé method to collect detailed surveys during the period of peak

spring and summer phenology (when plants are in bloom and/or leafed-out). Later in the season, we switch to the rapid assessment method (which takes a quarter of the time it takes to do a Relevé).

Once the information has been collected, we enter it into databases and analyze it statistically using standard ecological analyses. The analyses place vegetation surveys into groups of species assemblages, in that they repeat across the landscape. Based on the results of the analysis and the characteristic or dominant species of the vegetation, Todd Keeler-Wolf and Julie Evens interpret these assemblages and give them Alliance and Association names.

Following the naming, staff and volunteers will write detailed descriptions of each Alliance. An intermediate report on the first year's results is nearly complete, and will be disseminated soon to agencies, chapters, and other interested parties. Both the intermediate and the final report on the project will be accessible online on the CNPS website (www.cnps.org).

Table 1. Number of vegetation types surveyed in 2005.

| Type | Lifeform | Count |
|--------------------|-----------------|-------|
| Upland | Herbaceous | 167 |
| Upland | Shrubland | 192 |
| Upland | Woodland/forest | 347 |
| Wetland / Riparian | Herbaceous | 61 |
| Wetland / Riparian | Shrubland | 13 |
| Wetland / Riparian | Woodland/forest | 159 |
| Unknown | Herbaceous | 4 |
| Unknown | Woodland/forest | 1 |

First year Achievements

In 2005, we exceeded our goals for the numbers of surveys completed and for the number people trained. Altogether, the CNPS staff and volunteers completed over 960 surveys in the northern Sierra Nevada foothills, including 315 Relevés and 650 Rapid Assessments. Julie Evens and I conducted nine workshops in the foothills and trained 98 people to use the Relevé and Rapid Assessment methods. The chapters involved include the El Dorado, Kern, Redbud, and Sacramento Valley Chapters, as well as the Chapter Council (including members from 11 additional Chapters). Additionally, we held three public/agency workshops. Placer Legacy (Placer County) hosted a workshop in June, which included 25 participants from many agencies and consulting firms. Other training participants included about 20 staff and students from The Nature Conservancy at Dye Creek Preserve (Butte County) and from Sacramento State University.

To date, the surveys have occurred primarily on public lands, which are managed by agencies and conservan-



Field crew and Todd Keeler-Wolf (far left) during the first week of field sampling, March 2005. Photograph by J. Evens.

We Need *Your* Help With:

- Ideas and contacts for private land access.
- Ideas on locations containing unique or rare plant communities.
- Chapters to host workshops: a “no cost” training for chapter members and other interested conservation groups.
- Volunteers to collect important vegetation data with us or as paired volunteers.
- Volunteers to help us write descriptions on sensitive natural communities.

cies such as the BLM, CDFG, US Forest Service, The Nature Conservancy, and Placer Legacy. The project also has focused sampling efforts in counties threatened by development such as Placer, Nevada, El Dorado, Sacramento, and Butte counties.

The preliminary classification of the data from the 2005 surveys is complete and identifies approximately 70 vegetation alliances and 150 associations, including herbaceous stands, shrublands, woodlands, and forests (Table 1). Some of the alliances are newly described and others, such as



Todd Keeler-Wolf (with hands raised) giving field lecture during a CNPS public vegetation workshop. Photograph by A. Klein.

Pine Hill Ceanothus (*Ceanothus roderickii*), are very rare. The analysis has also revealed a diversity of associations found within some of the more common alliances. For example we have named approximately 20 associations of the Blue Oak (*Quercus douglasii*) Alliance and a similar number of associations of the Interior Live Oak (*Quercus wislizeni*) Alliance.

If you live in or near the Sierra Nevada foothills, please join us this year, and contribute to this important project. Read over the ways (see sidebar) that you can contribute and see what fits your interests and busy schedule. In the end our goal is to preserve some of the natural plant communities in your neighborhood that otherwise may be lost to development. ◀

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The mission of the California Native Plant Society is to increase understanding and appreciation of California's native plants and to conserve them and their natural habitats through science, education, advocacy, horticulture, and land stewardship.

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Evens ◀



Vegetation training session in Yosemite National Park in Fall 2004, debuting the integrated vegetation mapping and classification efforts, as part of the Jepson Herbarium Workshop series (see <http://ucjeps.berkeley.edu/workshops/>). Photograph by J. Evens.