

California Conservation Garden and Native Plant Program

Interactive Ecology Internship <https://vimeo.com/136939981>

Internship Agency Sponsor: Brett Hall, California Native Plant Program Director

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During Winter Quarter, 2017 Interactive Ecology interns will work primarily in the California Native Plant Conservation Gardens and Native Plant Program in the UC Santa Cruz Arboretum. Internship days are best Tuesday through Thursdays but accommodations may be made outside of that. Customized internships are also possible for students with excellent follow through.

Physical activities will include building plant collections through seed germination, propagation, nursery work, planting, garden work and invasive weed control. We will take field trips to local wild areas to learn plant communities and techniques involved in vegetation mapping, classification, habitat assessment and surveys.

The internship includes informal discussions, observation and questions about conservation and land management, evolution & ecology, and goals for the Arboretum native gardens. There will be assigned and optional readings. All participants will keep a journal. Photography, illustration, and art. Use of gps and smart phone technology will be encouraged (e.g. I naturalist, calflora, back pack tracker, GPS, google earth, etc).

The Interactive Ecology internship will also explore, more broadly, the gardens and collections in the Arboretum, with room for individual participants to diverge into areas of special interest.

The Arboretum is also partnering with the California Native Plant Society where GIS and research on rare natural communities is available as a focus. Information about this follows:

Interns can help CNPS and the Arboretum in developing the content for specific aspects of the MCV alliance descriptions, including research of plant species for their 'Life History Traits of the Principal Species' and 'Fire Characteristics'. Since we are beginning to develop new vegetation alliance descriptions, which we intend to serve up on this online MCV resource, student intern work can include providing background research of 'life history traits' and 'fire regime' information on specific plant taxa. The definitions for what we have included within the Life History table is found on a resource page of this MCV website -- see <http://vegetation.cnps.org/appendix1>, and the definitions for the Fire Regime table is found on another page -- see <http://vegetation.cnps.org/appendix2>. The tasks could include performing research through online websites, journal articles, books, and gray literature for a select set of plant taxa.

Other work that an advanced intern could do is help us perform field data collection and/or GIS map digitizing of rare and sensitive vegetation types in project areas where we need more information to better define, describe, and map out vegetation (or plant community) types. Field data can be collected (Our standard sampling protocol is found at <http://www.cnps.org/cnps/vegetation/protocol.php>), entered into standard databases, and classified to help us in describing and locating vegetation alliances and associations in particular areas, so that they can be used in resource assessment and mapping projects to guide conservation and management planning. GIS maps can be created (E.g., See

http://www.cnps.org/cnps/vegetation/pdf/guidelines-rare_veg_mapping.pdf) from extrapolating information from the ground-based field data and from interpreting digital aerial imagery to digitize the vegetation types (plant communities) of specific areas.

Prerequisites: Outline the skills and background information necessary to participate in this internship.

- Attention to detail
- Basic knowledge about California floristics
- Ability to use online and hard-copy resources (e.g., online search tools and websites, library books, journal articles, etc.) to research characteristics about plants
- Ability to critically think and compile information from various sources
- Enthusiasm about learning about different plants/vegetation, doing plant/vegetation research, data entry and quality control of data, and synthesis of information
- Basic understanding of field data collection techniques and Geographic Information Systems (GIS)

About CNPS

The overall mission of the California Native Plant Society is to conserve California native plants and their natural habitats, and increase understanding, appreciation, and horticultural use of native plants. The mission of the CNPS Vegetation Program is to develop and disseminate quantifiable definitions of all types of vegetation in California. These definitions will be used to promote science-based conservation at the natural community and ecosystem level throughout the State. We have developed a new online tool with our Manual of California Vegetation (MCV) project (see <http://vegetation.cnps.org/>). This is a research compendium for statewide classification and mapping of vegetation in California, developed over numerous years (see a general summary about the Manual at http://www.cnps.org/cnps/vegetation/manual_2ed.php). Within individual Alliance descriptions within this MCV are a variety of sections on life history strategies, quantitatively-based rules to distinguish between alliance types, remarks on plant taxonomy, fire characteristics and other natural processes that shape the ecology of each type, and regional distribution information. Some of the information compiled for these descriptions has come from ground-based vegetation surveys and some from synthesizing existing literature and data.