CAROLYN CHAINEY-DAVIS
Botanist, Environmental Planner, Waters & Wetland Delineations, Vegetation Mapping

PROFESSIONAL EXPERIENCE

Ms. Davis has more than 23 years experience conducting biological inventories and impact assessments, and preparing mitigation, monitoring, and habitat management plans with an emphasis since 1997 on energy and transmission projects. Recently, she served as the lead botanist in the preparation of staff assessments, mitigation and monitoring plans for seven solar thermal projects in the Mojave and Sonoran Desert regions recently licensed by the California Energy Commission. In this capacity she worked closely with Bureau of Land Management, California Department of Fish and Game, U.S. Fish and Wildlife Service, and a wide variety of experts from various agencies and academia to build consensuses and peer review analyses and mitigation plans for issues relating to: special-status plants, waters of the state and waters of the U.S., groundwater-dependent ecosystems, noxious weeds, revegetation of disturbed lands, and riparian systems. She has also led GIS-based and regional scale assessments of cumulative effects for both wildlife and botanical resources. She has prepared over 300 CEQA and NEPA impact assessments.

She has worked with a wide variety of other federal and state agencies, including BOR, USFS, USACE, USGS and CDFG, and a wide variety of water, power, and transmission providers, including PG&E, SCE, and LADWP. She led the botanical and riparian studies for numerous FERC relicensing projects, prepared draft and final reports, and detailed mitigation and long-term monitoring plans. Ms. Chainey-Davis has mapped over 10,000,000 acres of vegetation across California.

Ms. Davis is currently on the Technical Advisory Committee for a review of state waters delineation practices in the California Desert region for CDFG. She is past President of the California Native Plant Society, Nevada and Placer County Chapter and co-author of a recently published field guide to the flora of Nevada and Placer Counties, published by the California Native Plant Society. Ms. Davis completed her wetland training at Portland State University and is certified for conducting wetland delineations based on the U.S. Army Corps of Engineers Wetland Delineation Manual. She was the senior botanist for Garcia and Associates (GANDA) for seven years, and as an independent she has worked with leading botanists, vegetation and wetland ecologists, including Dr. Robert Holland. Ms. Davis' continuing education includes several annual intensive botanical taxonomy workshops through the U.C. Berkeley Jepson Herbarium.

California Energy Commission Power Plant Siting Work: Ms. Chainey-Davis served as lead botanist for six power plant siting projects, including five complex and controversial solar thermal power projects requiring analysis and permitting on a fast-track schedule. She organized a regional-scale GIS-based cumulative impact assessment for two additional siting projects. As the primary author of the cumulative effects and botanical resource subsections of the staff assessments including state waters and groundwater-dependent ecosystems, Ms. Chainey-Davis represented the Energy Commission in regularly conducted issue resolution workshops and interagency conference calls, provided testimony at the Energy Commission's Evidentiary Hearings, and coordinated extensively with Energy Commission siting and legal staff, as well as state and federal agencies. All siting projects were conducted as a contractor to Aspen Environmental Group, and include the following:

- **Hidden Hills Solar Electric Generating System** – A proposed 5 square mile concentrating solar power project in southeastern Inyo County (2012-2013).
- **Palen Solar Power Project** – A 500 MW, 3000-acre solar parabolic trough power plant east of Desert Center, eastern Riverside County (2009–2011).
- **Blythe Solar Power Project** – A 1000 MW, 7000-acre solar parabolic trough power plant near Blythe in eastern Riverside County (2009–2010).
- **Genesis Solar Power Project** – A 250 MW, 2000-acre solar parabolic trough power plant east of Desert Center, eastern Riverside County (2009–2010).
- **Beacon Solar Energy Project** – A 250 MW, 2000-acre solar parabolic trough power plant north of California City, eastern Kern County (2008–2010).
- **Ivanpah Solar Electric Generating System** – A 370 MW, 3,600-acre concentrating solar power project in eastern San Bernardino County (2008–2011).
- **Calico Solar Project –** A 663 MW Sterling Engine solar power plant in San Bernardino County (2008-2010) (cumulative effects analysis only)
- **Ridgecrest Solar Power Project –** A 250 MW solar parabolic trough power plant in eastern Kern County (2009-2010) (cumulative effects analysis only)

PREVIOUS PROJECT EXPERIENCE

A sampling Ms. Chainey-Davis' experience, with an emphasis on energy projects, botanical resource studies, and waters delineations:

- **Mokelumne River Hydroelectric Project Relicensing Studies (PG&E)**. Worked with statistician to prepare riparian resources sampling design, data analysis and presentation, and to create a Microsoft Access database for long-term data collection, and prepared manual for field data collection. Led field efforts to collect data, and prepared draft and final reports. PG&E was awarded Environmental Leadership Award for success working with stakeholders to reach an agreement for operating and maintaining the Project, and recognized by the National Hydropower Association for outstanding environmental stewardship of the Mokelumne River in 2003, 2004.

- **Lower Owens River Monitoring Program (Ecosystem Sciences)**. Co-authored long-term monitoring program for collecting and analyzing data on riparian habitat and key wildlife habitat characteristics on 62 miles of the lower Owens River for the Lower Owens River Project (LORP) restoration. Directed and field efforts to collect baseline data at 350 sites. Worked with a statistician in the analysis of the sampling data.

- **Stanislaus River Hydroelectric Project Relicensing Studies (PG&E).** Led field efforts to conduct floristically-based botanical studies for the FERC relicensing of four hydroelectric and transmission line projects located on the Stanislaus River, Stanislaus National Forest. Riparian and watershed vegetation mapping and sampling, special-status plant surveys, noxious weed mapping, and mapping culturally significant Native American botanical resources. Prepared draft and final reports.

- **North Fork Feather River and Poe Hydroelectric Project Relicensing Studies (PG&E).** Led field efforts to conduct floristically-based botanical studies for the FERC relicensing of four hydroelectric and transmission line projects located on the Upper North Fork Feather River and Poe Project (Feather River above Lake Oroville). Riparian and watershed vegetation mapping and sampling, special-status plant surveys, noxious weed mapping, and mapping culturally significant Native American botanical resources. Prepared draft and final reports. Also prepared a long-term habitat management plan for the montane meadows on the north and west side of Lake Almanor.

- **Field Guide to *Epilobium* in the Sierra Nevada, Tahoe National Forest (U.S.D.A. Forest Service, Tahoe and Inyo National Forests -Open-ended Contract)**. Conducted surveys for rare *Epilobium* spp. at seven sites in the Inyo and Tahoe National Forests and prepared a field guide to the genus Epilobium in the Sierra Nevada, with illustrations and keys to identification.

- **Open ended Contract for Biological Services for Southern California Edison (SCE) Transmission Projects (Garcia and Associates)**. Led habitat assessments, mapped vegetation,

and prepared draft reports in support of various SCE construction and relicensing projects in the central and southern Sierras, Sierra east slope and Great Basin region, and the eastern edge of the San Joaquin Valley, including six transmission projects in the southwest region.

- **Open ended Contract for Biological Services for Pacific Gas & Electric Company (PG&E) Transmission Projects (Garcia and Associates)**. Led botanical studies (rare plant surveys, vegetation mapping, habitat assessments, etc.) in support of various PG&E transmission projects throughout California.

- **Vermilion Hydroelectric Project: Botanical Surveys (Entrix)**. Conducted wildlife special-status plant and noxious weed surveys, rare plant surveys for the Vermilion Project in the high elevations of eastern Fresno County, in the central Sierras. Complete floristic surveys were conducted for sensitive plant species, as well as invasive species.

- **Kern River Gas Transmission Project (Entrix)**. Conducted special-status plant surveys across the eastern Mojave segments of the gas pipeline project, into western Nevada.

- **Storrie Fire Salvage Project and other Forest Salvage Project sin the USFS Plumas National Forest (USFS Plumas NF)**. Lead botanist and author for botanical resources components of the Environmental Assessment for the Storrie Fire Salvage Project and other fire salvage projects in the Plumas National Forest. Also prepared special-status plant and noxious weed management plans for avoiding project effects. Led field efforts to conduct floristically-based special-status plant surveys, vegetation mapping, and noxious weed surveys.

- **Rock Creek/Cresta Hydroelectric Project (CH2M Hill)**. Conducted floristically-based special status plant surveys and habitat mapping for PG&E's Rock Creek-Cresta hydroelectric facility project area and 72-mile transmission line in Plumas, Butte, Yuba and Sutter counties. PG&E was awarded the National Hydro Association's "Outstanding Stewards of America's Rivers" Award for outstanding work on the Rock Creek-Cresta and Mokelumne River Projects.

- **Hamilton Branch Hydrolelectric Project (PG&E)**. Led field efforts to conduct floristically-based special-status plant surveys, vegetation mapping, and noxious weed surveys for the PG&E Hamilton Branch Hydrolelectric Project in Lassen County. Conducted surveys on all facilities and access roads associated with the license, including Mountain Meadows Reservoir near Westwood, CA. Project created GIS-based vegetation and noxious weed maps and tabular data. Prepared draft and final reports.

- **AT&T Dunnigan to Manchester Fiber Optic Upgrade (Ecology & Environment)**. Led field efforts to conduct floristically-based special-status plant surveys, vegetation mapping, and noxious weed surveys for the AT&T Dunnigan to Manchester Fiber Optic Upgrade, from the Central Valley, across the North Coast Range, to Manchester. In Mendocino County. Lead author for botanical resources report.

- **Over 300 Biological Inventories, Impact Assessments, and Wetland Delineations for Residential and Commercial Developments (Susan Sanders Biological Consulting, Beedy Environmental Consulting, Ecobridges Consulting).** Prepared biological inventories, impact assessments and mitigation plans for hundreds of large and small projects across California since 1996.

- **U.S. Borax Mine Reclamation (Garcia and Associates).** Worked with statistician to prepare an analysis of 15 years of monitoring data for a large-scale mine reclamation (revegetation) project in the western Mojave Desert.

- **Natural Heritage 2020 Nevada County Watershed Assessment (County of Nevada and Sierra Business Council)**. Lead botanist for a countywide watershed and ecosystem assessment for 98 sub-watershed basins in the county. Verified accuracy of more than 40 countywide GIS data themes, assessed the extent and quality of each of the county's large and small-patch ecosystem types and their suitability or occurrence potential for special-status plants and animals. Mapped, photo-logged,

described and collected GPS coordinates, and prepared draft report for sections on habitats, special-status plants, and noxious weeds.

- **Dog Ranch-Salmon Creek Conservation Project (Robert Holland)**. Conducted endangered species surveys and documented over 300 occurrences of special status plants (using Trimble data dictionary and population sampling protocol) for a proposed conservation easement/land swap on a 400+ acre ranch in Humboldt County on the Samoa Peninsula.
- **Delineation of Episodic Streams in Drylands (California Department of Fish and Game)**. Conducted nearly 100 plot-based assessments of vegetation characteristics of alluvial fan stream networks in the California desert region. Utilized paired plots to compare vegetation along washes and in adjacent uplands. Helped develop and beta-tested a draft field data sheet of fluvial geomorphic indicators.
- **Parks Reserve Forces Training Area (Booz-Allen)**. Conducted wetland delineation of vernal pools and other seasonal wetlands at the Parks Reserve Forces Training Area in Dublin, CA.
- **Various CalTrans Natural Environment Study (NES) (PAR Environmental Consulting and Beedy Environmental Consulting).** Conducted routine wetland delineations, biological inventory and impact assessment, and mitigation plans in support of various CalTrans NES.
- **Travis Air Force Base Vernal Pool Study and Wetland Delineation (CH2M Hill)**. Conducted floristically-based special status plant surveys, wetland delineation and habitat-ranking of natural and artificially-created pools at Travis Air Force Base in Fairfield.
- **Beale Air Force Base Best Slough Vernal Pool Study and Wetland Delineation (CH2M Hill)**. Conducted floristically-based special status plant surveys, and wetland delineation of vernal pools and other seasonal wetlands at the Best Slough Super Fund site at Beale Air Force Base in Yuba County.
- **Owens Lake Dust Control Project Wetland Delineation and Rare Plant Surveys (CH2M Hill)**. Conducted two years of floristically-based special status plant surveys and wetland delineations for the Los Angeles Department of Water and Power Owens Lake Dust Control mitigation project.