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Patricia Gordon-Reedy is a Botanist/Senior Vegetation Ecologist with 30 years of experience in endangered species research and conservation planning for private, government, and non-profit sectors throughout the western U.S. and in Europe. She has been involved in all phases of Natural Community Conservation Planning programs in multiple ecosystem types throughout California—preserve design for endangered species, developing protocols and conducting rare plant surveys, large-scale vegetation mapping and classification, research and risk assessments for invasive plants, and writing prescriptive habitat management and monitoring plans. She is effective in working with scientists and land managers to synthesize and apply the latest scientific research to practical land management and conservation issues. Ms. Gordon-Reedy developed an adaptive management framework plan for the federally threatened and state endangered plant, Acanthomintha ilicifolia, and worked with the California Invasive Plant Council and other partners to map invasive species and develop a regional strategy for prioritizing treatments of invasive plants in San Diego County, CA. She serves on several regional subcommittees and working groups in San Diego, including subcommittees on Vegetation Mapping and Rare Plant Survey Protocols and an Acanthomintha working group.

EDUCATION

M.A., Ecology and Systematic Biology (Botany), San Francisco State University, 1983.
Thesis: A biosystematic investigation of variation in the Leptodactylon californicum (Polemoniaceae) complex.

Graduate Botany courses, University of California, Santa Barbara, 1979-1980.

B.A., Environmental Biology, California State University, Fresno, 1979.

EMPLOYMENT HISTORY

2008 – present. Conservation Biologist, Conservation Biology Institute, San Diego, California.

Responsibilities include project management, technical and research studies (focusing on conservation assessments/analyses, vegetation mapping, sensitive and invasive species mapping and management), developing strategic and management plans, and participation in regional advisory committees.

1999 – 2000. Senior Botanist, Conservation Biology Institute, San Diego, California.
Responsibilities included conducting vegetation mapping and sensitive plant surveys on reserve lands, developing habitat and species management plans, analyzing potential long-term viability of conserved species based on preserve design, and working with agency biologists on preserve design issues.

1986 – 1999. Senior Botanist/Project Manager, Ogden Environmental and Energy Services Co., Inc., (formerly ERCE and WESTEC Services), San Diego, California.
Senior Botanist for multiple species conservation plans, natural resource management plans, and habitat management plans utilizing GIS modeling approaches to preserve design and project manager for large-scale, long-term water resources, energy, and development projects. Responsibilities included designing and directing plant research studies for restoration and/or recovery purposes; conducting and managing vegetation mapping, floral and faunal inventories, habitat assessments, and wetland delineations; negotiating regulatory permits and agreements with federal and state agencies; preparing, reviewing, and editing technical documents, including biological reports, vegetation classification schemes, conservation and land management plans, mitigation and monitoring plans, and strategy papers; and developing proposals and budgets.

1985 – 1986. Botanist, Wier Biological, San Diego, California.
Responsibilities included conducting biological surveys, focused sensitive species surveys, and vegetation mapping, and preparing environmental documentation.

1984 – 1985. Assistant Curator, Botany Department, San Diego Natural History Museum, San Diego, California.
Responsibilities included curation of the vascular plant collection and management of specimen loans.

1980 – 1983. Botanical Consultant (part-time), CWESA, Fresno, California.

Responsibilities included conducting botanical surveys, vegetation mapping, and vegetation transects in the southern San Joaquin Valley, California.

1979 – 1980. Field Biologist/Botanist. Bureau of Land Management, Salt Lake City, Utah and Gunnison, Colorado.
Responsibilities included sage grouse censuses and small mammal trapping in northeastern Utah, and Soils and Vegetation Inventory Method (SVIM) mapping in Great Basin scrub habitats in southwestern Colorado.

1979. Field Biologist/Botanist. California State University, Fresno, California.
Responsibilities included conducting protocol surveys for blunt-nosed leopard lizards in the southern San Joaquin Valley, California, and floral inventories and vegetation transects to characterize leopard lizard habitat.

SELECT PROJECT EXPERIENCE

Senior Botanist/Project Manager for Conservation Vision and Management Strategy for Dehesa nolina (*Nolina interrata*) – San Diego Association of Governments (SANDAG).
Evaluated status and threats for the state-endangered plant species, Dehesa nolina, on conserved lands in San Diego County, prioritized management actions by population, and identified survey and research needs. Project components included habitat assessments, land manager interviews, attribute data collection and analyses (potential vegetation and soils correlates, threats and stressors), development of a regional population structure, and identification of data gaps, opportunity areas for future surveys, and priority research questions.

Lead Biologist/Project Manager for Conservation Assessment of Orange County, CA — Orange County Transportation Authority (OCTA).
Conducted landscape-level project to identify unprotected, natural lands that would contribute the most to conserving the remaining natural resource values of Orange County, while ensuring that the existing conservation investments remain intact and functional. Worked with OCTA and members of the Mitigation Resource Protection Program (MRPP) Environmental Oversight Committee Working Group to conduct a science-based assessment to describe and map selected conservation values across Orange County. This study provided decision-makers with the framework for prioritizing lands for acquisition.

Senior Botanist for San Diego County Grasslands Adaptive Management Plan — San Diego Association of Governments (SANDAG).
Senior Botanist for adaptive management plan for grasslands across the Otay-Sweetwater landscape management unit, with the objective of replicating this process in other management units in San Diego County. The project uses detailed habitat assessments and conceptual models to design cost-effective ways of controlling exotic grasses to benefit target grassland species (Otay tarplant, Quino checkerspot butterfly, burrowing owl), and will test different treatment methods informed by past management practices. The project also includes restoration of native grassland/forbs following exotics treatment in priority locations, and requires extensive coordination between land managers of local, state, and federal agencies.

Senior Biologist for Regional Framework and Strategy for Management of Invasive Plants in San Diego County, CA — San Diego Association of Governments (SANDAG).
Worked with other team members to develop a regional framework and strategic plan for invasive plant species in San Diego County. Invasive plants have been identified as one of the highest priorities for management in the region; invasives threaten 26 MSCP covered plant species, including 11 narrow endemics. Worked with project partners, including the California Invasive Plant Council, to develop guidelines for collecting and reporting data to inform regional management; detailed impact assessments for regionally important invasive plants that may not be priorities at a statewide level; priorities for immediate management actions across the region; an organizational framework for implementation; and a regional database and spatially explicit tools for monitoring status of permitting, treatments, and controls. This plan will provide the strategic direction and structure for implementing a coordinated invasive species management program within the region.

Senior Botanist for Adaptive Management Framework for Acanthomintha ilicifolia – California Department of Fish and Wildlife.
Developed an adaptive management framework for future research and monitoring for the federally and state-endangered plant, *Acanthomintha ilicifolia* (San Diego thornmint). Work was being conducted under a Local Assistance Grant from CDFW. CBI collaborated with the San Diego Management and Monitoring Program

to develop habitat suitability and climatic modeling tools to assist in prioritizing management and monitoring actions.

Senior Botanist/Project Manager for *Brachypodium* Control Project – San Diego Association of Governments (SANDAG) Transnet Environmental Mitigation Program.
Led multi-year grant to develop a science-based approach to develop and implement treatment strategies for the emerging invasive plant species, *Brachypodium distachyon*, on conserved lands in San Diego County, and restore habitat for covered species and focal habitats impacted by this plant on specific preserves.

Senior Botanist/Vegetation Ecologist for Vegetation Classification for Western San Diego County — San Diego Association of Governments (SANDAG).
Served in an advisory capacity for a regional vegetation mapping project conducted by AECOM and the California Department of Fish and Game for SANDAG. Participated in rapid assessment training and field mapping, reviewed methodology and results; provided editing and technical review for the vegetation classification manual.

Lead Biologist for Hollenbeck Canyon Expansion Area Conceptual Area Protection Plan (CAPP) – The Nature Conservancy.
Developed CAPP for an identified expansion area adjacent to the existing 5,502-acre Hollenbeck Canyon Wildlife Area. Project involved identification and prioritization of properties for acquisition based on existing resources, condition, and potential contribution to regional conservation efforts. Key acquisitions will serve as a landscape linkage between existing conservation investments near the coast (e.g., Hollenbeck Canyon Wildlife Area, Rancho Jamul Ecological Reserve, San Diego National Wildlife Refuge) and those in montane areas (e.g., Cleveland National Forest), thus enhancing long-term viability of biological resources across the region. These acquisitions will also buffer protected areas and protect diverse habitats.

Senior Botanist/Project Manager for Biological Monitoring and Management on the Crestridge Ecological Reserve and South Crest Properties, San Diego County, CA – California Department of Fish and Wildlife, Endangered Habitats Conservancy, San Diego Association of Governments (SANDAG).

Conducted or directed multi-year studies on these conserved lands, including baseline mapping for covered and invasive plant species, risk assessments to formulate long-term management and monitoring strategies, prioritization of invasive species for control, development of an early detection invasive control plan, and multi-year management and restoration experiments.

Senior Botanist for San Diego Multiple Species Conservation Plan (MSCP) — City of San Diego.
Directed photo-interpretation, vegetation mapping, and rare plant studies used to delineate a network of preserves within an 800-square-mile area. Contributed to a Habitat Evaluation Model, developed plant species conservation guidelines, prepared a rare plant preservation strategy paper, conducted species coverage analyses, and prepared technical appendices and management and monitoring guidelines.

Senior Botanist for Lower Colorado River Multiple Species Conservation Plan (MSCP) — LCR MSCP Steering Committee.
Prepared or directed the preparation of technical documents for this ecosystem-based conservation program for the lower Colorado River in Nevada, Arizona, and California, including the proposed vegetation classification, priority and planning species accounts (99 taxa); species conservation goals, and target restoration parameters. Worked closely with agency staff and local biologists in compiling an extensive database and reaching a consensus on specific rare plant and vegetation issues.

Lead Biologist/Project Manager for Military Installation Management Plans — U.S. Army Corps of Engineers (ACOE), Transatlantic Programs and the U.S. Army Europe and 7th Army (USAREUR).
Provided the USAREUR with a graphic database for threatened and endangered species on four U.S. military installations in Germany. Coordinated comprehensive surveys on 2,300 acres in the Klosterforst Training Area and Harvey Barracks of Kitzingen, Germany, and coordinated/field-verified biological data on 9,000 acres at the Miesau Ammunition Depot and Rhine Ordnance Barracks in Kaiserslautern, Germany, in conjunction with German biologists. Prepared a management plan for the Kitzingen installations, and developed management recommendations for the Kaiserslautern installations.

Senior Botanist/Project Manager for Eastern Reservoirs Project — Metropolitan Water District of Southern California (MWD).
Led multi-year effort to conduct general biological studies, focused rare plant surveys, and mitigation planning in western Riverside County, CA. Coordinated/managed intensive, multi-phased, multi-year field surveys; conducted construction monitoring, mitigation site surveys, and wetlands mapping; and developed/implemented a seed collection and long-term seed storage program, seed germination and viability studies, and revegetation and species introduction programs.

Senior Botanist/Project Manager for Point Loma Natural Resources Management Plan (NRMP) — U.S. Navy, Southwestern Division.
Led project to develop a resource management plan for the Point Loma Peninsula in southwestern San Diego County, California. Directed refinement of an existing database into a GIS database, designation of an optimal biological reserve through the use of a habitat evaluation model, and designation of a final reserve system by reconciling operational needs of several Navy commands and other jurisdictions with the maintenance of key biological values. Prepared a management plan that provided specific recommendations on a number of issues, including long-term viability of vegetation onsite, species reintroductions, sensitive wildlife, erosion control, revegetation/restoration potential, landscaping (including control of invasive plant species), recreation/public access/interpretation, prescribed burning, and fencing. Coordinated with the Environmental Planning staff and made briefings to the various commands. The proposed preserve was designated an Ecological Reserve Area (ERA) by the Chief of Naval Operations.

Lead Biologist for San Fernando Valley Spineflower (*Chorizanthe parryi var. fernandina*) — Ahmanson Land Company, West Covina, California and Beveridge & Diamond, LLP, San Francisco, California.
Conducted a comprehensive review of the scientific literature on potential edge effects for plant species. Results were used in analyzing identified risk factors to San Fernando Valley spineflower in relation to the proposed preserve design, and in proposing management actions and alternative scenarios to minimize or reduce potential impacts of those risk factors.

Principle Investigator/Project Manager for Smooth Tarplant (*Centromadia pungens ssp. laevis*) studies — Metropolitan Water District of Southern California.

Led multi-year research program for the sensitive plant, smooth tarplant, in western Riverside County, California. The primary objectives of this study were to characterize critical habitat parameters for this species and identify management techniques for potential reintroduction/enhancement efforts. Studies included characterizing physical and biological parameters, soil seed bank analyses, and habitat manipulations. Directed field coordination, research design review, quality assurance and technical editing, project management, contract administration, and submittal of yearly reports.

Principle Investigator/Project Manager for Sensitive Plant Seed Studies — Metropolitan Water District of Southern California.

Designed and directed a 5-year seed-testing program for selected sensitive plant species in conjunction with staff at Rancho Santa Ana Botanic Garden. Studies focused on germination requirements, dormancy mechanisms, and short- and long-term seed viability. Limited propagation studies were also conducted. Species tested included San Jacinto Valley crownscale (*Atriplex coronata var. notatior*), Parry's spineflower (*Chorizanthe parryi var. parryi*), slender-horned spineflower (*Dodecahema leptoceras*), and smooth tarplant (*Centromadia pungens ssp. laevis*).

PROFESSIONAL REGISTRATIONS AND PERMITS

California Botanical Society
Southern California Botanists

PUBLICATIONS

Gordon-Reedy, P. 1998. Noteworthy collections: Dodecahema leptoceras. Madroño 45(1):83.

Gordon-Reedy, P. and O. Mistretta. 1997. Endangered slender-horned spineflower: germination and propagation studies reported (California). Restoration and Management Notes 15(1):91.

Gordon-Reedy, P.J. 1990. Trichome patterns and geographic variation in Leptodactylon californicum (Polemoniaceae). Madroño 37(1):28-42.

Tanowitz, B. and P.J. Gordon. 1980. Hemizonia minthornii: Madroño 27(4).

Tanowitz, B. and P.J. Gordon. 1981. Chromosome reports: Taxon 30(4).

SELECT PRESENTATIONS

Invasive plant management across the San Diego NCCPs. Symposium presentation, California Invasive Plant Council (Cal-IPC), special section on Habitat Conservation Plans (HCPs), San Diego, CA. October 2015.

Brachypodium distachyon: An adaptive approach to controlling an invasive species to conserve endemic species and sensitive habitats. Symposium presentation, California Invasive Plant Council (Cal-IPC), San Diego, CA. October 2015.

Brachypodium distachyon: An adaptive approach to controlling an invasive species to conserve endemic species and sensitive habitats. Conference presentation, California Native Plant Society, San Jose, CA. January 2015.

Adaptive grasslands management, south San Diego County: conserving costs through collaborative conservation. Joint meeting presentation, Environmental Mitigation Program Working Group and South County Land Managers, San Diego, CA. October 2014.

Adaptive grasslands management, south San Diego County: conserving costs through collaborative conservation. Meeting presentation, San Diego Management and Monitoring Group, San Diego, CA. October 2014.

San Diego thornmint adaptive management framework. Meeting presentation, San Diego Thornmint Working Group, San Diego, CA. September 2014.

Where have all the flowers gone? A management approach to save Acanthomintha. Symposium presentation, Enhancing the persistence of narrow endemic plant species: research to inform adaptive management, San Diego, CA. November 2013

Biological monitoring and management on the Crestridge Ecological Reserve, San Diego County, CA. Meeting presentation, San Diego Management and Monitoring Program, San Diego, CA. June 2012.

Conservation assessment of Orange County. Conference presentation, California Native Plant Society Symposium: Planning tools for rare plant conservation, San Diego, CA. January 2012.