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## **APPENDIX C**

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Consultant Resumes



# Sydney B. Coatsworth, AICP

## PRINCIPAL

**YEARS OF EXPERIENCE:** 30

### EDUCATION

M.A., Geography, University of California, Los Angeles

B.A., Earth Science, California State University, Northridge

### AFFILIATIONS

American Institute of Certified Planners (AICP)

American Planning Association (APA)

Association of Environmental Professionals (AEP)

### REPRESENTATIVE PROFESSIONAL WORKSHOPS/PRESENTATIONS:

AEP State Conference, CEQA Practicum, Sacramento (2012)

AEP Advanced CEQA Series, Sacramento (2011)

AEP Spring Workshops—Advanced CEQA, Sacramento (2013, 2008, 2004, 2003, 2002)

Successful CEQA and NEPA Compliance, UC Davis Extension, Mono County (2010)

Climate Change and CEQA, UC Davis Extension course, Sacramento (2009)

Local Government Commission, Ahwahnee Conference on Adaptation for Climate Change (2009)

Second Climate Change Conference, CEQA Compliance Panel, UC Davis Extension (2008)

Attorney General/Local Government Commission Climate Change Workshops, CEQA Approaches, Statewide (2008)

CCAPA Planning Principles for Climate Change Response (2008)

First Climate Change, Land Use and CEQA Conference, UC Davis Extension (2007)

Special Forum for Cities and Counties on Climate Change, Northern California (2008)

Sydney Coatsworth is a Principal, Vice President, and Senior Project Manager/Director responsible for successful completion of California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA), and Tahoe Regional Planning Agency (TRPA) compliance projects in a wide variety of California environments. Sydney has 30 years of experience in managing large-scale and complex environmental compliance projects and has overseen the preparation of hundreds of environmental documents in accordance with state and federal statutes and regulations. Her practice is diverse, including projects related to water resources, wastewater treatment, floodplain management, public works, affordable housing, urban development, natural resources management, and environmental policy and regulation. She regularly conducts public and agency outreach meetings, workshops, community education, and other public presentations for a variety of projects. She regularly teaches CEQA courses for Association of Environmental Professionals (AEP) American Planning Association (APA), UC Davis Extension, and client agencies. Project experience referenced herein includes Sydney's background during her tenure at other firms.

## WATER SUPPLY PROJECT EXPERIENCE

### City of Rancho Cordova Water Supply Evaluation, Rancho Cordova

City of Rancho Cordova

Project Director/Senior Water Resources Specialist

Sydney supported the City of Rancho Cordova with respect to water supply planning for the City's General Plan. Sydney oversaw preparation of, provided strategy support and senior review for the water supply evaluation that identified total water supply demands associated with the City's proposed Land Use Plan, existing available water supplies, land uses within the City that have been planned for in relevant water supply planning documents, land uses and associated demands that do not have an identified water supply source, and potential future sources of water supplies to meet proposed demand and the associated environmental impacts with delivering these water supplies to the City.

### Eastern County Replacement Water Supply Project EIR, Sacramento

Sacramento County DERA

Project Director

Sydney directed preparation of the EIR for this project that included construction of a water supply conveyance system that would transport remediated water to discharge locations along the Sacramento and American Rivers in Sacramento County. The remediated water would be used for replacement water, would serve new development areas in eastern Sacramento County, and would provide enhanced environmental benefits within Sacramento County, including providing enhanced fishery flows along the Cosumnes River. The EIR comprehensively evaluated the project-related environmental effects of constructing project facilities (i.e., pipelines, pump stations, and discharge and diversion structures) for the discharge of remediated water and diversion of surface water.

### North Vineyard Wellfield Project EIR, Sacramento County

County of Sacramento/Department of Water Resources

Project Director

The County of Sacramento proposed implementation of a water supply plan for replacement water supplies for the Mather Field/Sunrise Corridor area of Sacramento County. Sydney directed preparation and distribution of the EIR for this project. The proposed water supply plan relied on a groundwater supply to provide replacement water for wells lost in the Mather Field/Sunrise Corridor service area as a result of groundwater contamination. Key environmental issues include noise, air quality, biology, and water supply.

### El Dorado County General Plan Update EIR, El Dorado County

El Dorado County Planning Department

Senior Water Resources Specialist

Sydney directed the EIR's assessment of potential water supply, water quality and wastewater-related impacts. She also provided strategy recommendations and senior review of population and water demand estimates and integrated regional water supply, wastewater and land use planning in the study area for the general plan EIR. Key issues for this project included defining the water demand and supply ramifications of the county adopting one of the four growth scenarios/alternatives under consideration in the general plan update process. Potential impacts

to existing and potential water supply sources and the quality of affected surface waters and groundwater were also addressed.

**Sacramento Area Water Forum Agreement EIR, Sacramento**

**Sacramento City-County Office of Metropolitan Water Planning**

**Project Director**

Directed the EIR preparation for the Sacramento Area Water Forum's Regional Water Agreement. The Agreement is the product of a consensus process among water agencies, business leaders, environmentalists, agricultural leaders, local governments, and public interest groups to provide a reliable water supply to Sacramento, El Dorado, and Placer counties while protecting the fisheries and other sensitive natural resources of the American River. Key issues included threatened and endangered fisheries (steelhead, winter-run chinook salmon, and splittail), flood control, recreation, vegetation and wildlife, and growth- inducement impacts. The EIR addressed integrated operations of the Central Valley Project and State Water Project in its impact analysis. The document served as program EIR providing cumulative analyses useful to second tier water facility EIRs. The Association of Environmental Professionals recognized the EIR with an Outstanding Environmental Document award.

**Sunrise Douglas Community Plan/Sun Ridge Specific Plan Project Alternative Water Supply Plan Revised EIR, Sacramento County**

**Sacramento County Department of Environmental Review and Assessment (DERA)**

**Project Director**

The Revised EIR evaluated the environmental impacts of implementing a near-term alternative water supply program to supply potable water to the Sunrise Douglas Community Plan/Sun Ridge Specific Plan areas in Sacramento County. Elements of the project included construction of an off-site well field, and water treatment plant in the Laguna/Vineyard area of Sacramento County. The off-site well-field would accommodate the near-term water demands of projected development at Mather Field, the Sunrise Corridor WMD, and the Citizen Water Resources Security Park franchise area. Key environmental issues included water quality, water supply, air quality, noise, land use, and traffic impacts.

**Zone 40 Water Supply Master Plan Update Draft EIR, Sacramento**

**Sacramento County Department of Environmental Review and Assessment (DERA)**

**Project Director**

The EIR evaluated the environmental impacts of implementing a conjunctive use water supply program for Zone 40 located in the unincorporated portion of Sacramento County. Elements of the project included diversion of surface water from the Sacramento River in amounts consistent with those identified in the Water Forum Proposal, construction of a network of conveyance pipelines, and construction of groundwater extraction and treatment facilities throughout the Zone 40 area. Key environmental issues included water quality, water supply, fisheries, vegetation and wildlife, and growth inducing impacts.

**PUBLIC AND PRIVATE DEVELOPMENT PROJECT EXPERIENCE**

**Raley's Landing EIR, West Sacramento**

**City of West Sacramento**

**Principal-in-Charge**

Sydney managed the preparation of an EIR for the Raley's Landing mixed-use development. The project consisted of multifamily residential units, a hotel with a large conference center, surface and multilevel parking, and commercial, office, and open space features oriented toward the Sacramento River waterfront. Under the proposed project, residences would be located near a large number of workplaces, as well as near present and future public transit systems. The EIR evaluated a full range of environmental issues, with emphasis on traffic and visual resources. EIR was certified February 8, 2006.

**Rio Del Oro Specific Plan EIR/EIS, Rancho Cordova**

**City of Rancho Cordova**

**Water Resources Specialist**

Sydney provided strategy and quality assurance/senior review for the Water Supply Assessment, pursuant to Senate Bill 610 (SB610) for the project. She also supported the preparation of the EIR/EIS (for the City of Rancho Cordova and the USACE) for the Rio del Oro Specific Plan for a mixed-use development project on just over 3,800 acres in eastern Sacramento County. The project site is located within the Aerojet/Gencorp property, formerly used for solid rocket fuel testing. The project would include construction of over 11,000 residential units, commercial mixed-use areas, a large community park as well as neighborhood parks and open spaces, and a proposed 507-acre wetland preserve. Surrounding land uses include Aerojet, Security Industrial Park, Mather Field Airport, Sacramento County Landfill, and other industrial lands and agricultural land uses. Key issues included biological issues, cultural resources, water availability and supply, water quality, air quality and noise, traffic and circulation, hazards and hazardous materials.

**Mariposa Lakes Specific Plan EIR, San Joaquin County**

**PCCP Mariposa Lakes, LLC**

**Principal-in-Charge**

Sydney managed the efforts in substantially revising an administrative draft EIR prepared by another firm and reviewed by the City of Stockton. Proposal includes a general plan amendment and annexation to the City of Stockton. Sydney's team transformed the EIR from a programmatic analysis of development of a specific plan on an over 3,800-acre site into both a project-level evaluation of approximately 1,000 acres proposed for tentative subdivision map approval, and a program-level evaluation of the remaining 2,180 acres proposed for future development. The Mariposa Lakes community would include approximately 10,500 homes, 1 million square feet of commercial uses, and 10 million square feet of industrial uses. The project also includes a system of artificial lakes

and drainage canals to collect stormwater that would be integrated as part of a site-specific groundwater recharge program operated by the City under its NPDES permit. Project tasks included preparation of a conceptual level restoration plan for one of the three creeks that cross the project site. Environmental issues of concern include agricultural, biological, cultural, and paleontological resources, as well as traffic, air quality, noise, hydrology, and public utilities (provision of water and wastewater services).

### **Villages of Laguna San Luis EIR, Merced County**

#### **River West Investments**

**Principal-in-Charge**

Sydney directed preparation of an EIR for a proposed mixed-use development project on 6,214 acres in the lower foothills of the San Joaquin Valley. The site is characterized by rolling hills and rural agricultural and open space lands bordered by similar land uses on all sides. The proposed land plan includes more than 15,000 residential units expecting to house approximately 44,773 people, more than 1.4 million square feet of commercial space, and offering employment to more than 10,000. A primary goal of the project is to plan for an economically viable, self-sustaining community where employment opportunities are provided in proportion to the population generated within the community. Key issues analyzed in the EIR included water supply, traffic impacts, loss of agricultural land, air quality, and biological resources.

### **Central Larkspur Specific Plan EIR, Larkspur**

#### **City of Larkspur**

**Principal-in-Charge**

Sydney directed the preparation of the EIR for a 22-acre infill site in the downtown area of the City of Larkspur. The Specific Plan would permit a mix of land uses, including a variety of residential types, retail commercial uses, a hotel, and a park. Key issues include effects on sensitive marsh habitats in an adjacent creek, potential disturbance to prehistoric artifacts and historic buildings, structural damage caused by settlement of Bay Mud, removal of existing hazardous materials, and deterioration of traffic conditions.

### **College Park at Mountain House Specific Plan 3 EIR, San Joaquin County**

#### **San Joaquin County**

**Principal-in-Charge**

Directed the preparation of an environmental opportunities/constraints analysis and CEQA documentation for an 812-acre mixed use specific plan. The project is proposed as the third of three specific plans under the greater Mountain House Master Plan approved by the County in 1994. The project will include three residential neighborhoods, each with school and park facilities, a commercial component, and the planned Delta Community College. The environmental opportunities/constraints analysis was used as an input to Specific Plan and concept plan development. The EIR evaluated the full range of environmental issues and consistency of the proposal with the Mountain House Master Plan. A preliminary endangerment assessment was prepared to evaluate site suitability for the proposed schools. Challenges included designing around environmental constraints at the project site, interacting with multiple property owners and interest groups, and addressing community concerns in the conceptual plan and EIR to the degree appropriate. The EIR was certified in May, 2005.



## Suzanne Enslow

### ENVIRONMENTAL PLANNER

**YEARS OF EXPERIENCE:** 15

**EDUCATION**

B.A., Environmental Studies/Biology,  
University of California, Santa Cruz, 1996

**AFFILIATIONS**

Association of Environmental  
Professionals

Suzanne is a project manager and environmental planner with 15 years of experience in environmental consulting. Suzanne’s focus is on managing and preparing environmental review documents pursuant to CEQA, TRPA, and NEPA. She has managed environmental compliance documents for projects in the Lake Tahoe Basin and the Sacramento Valley for housing, office and mixed-use developments, infrastructure, linear public facilities, and restoration and recreation projects. Suzanne’s responsibilities have included project management as well as writing, editing, and compiling the various sections of environmental documents. She understands the regulatory guidelines and legal requirements, as well as the nuts and bolts of preparing and delivering these documents. Suzanne has also participated in the planning and implementation of robust public outreach for a number of these projects. Suzanne’s consulting experience also includes biological resource surveys and monitoring as well as preparing regulatory permits for biological resources, including 404 (wetlands) and 401 (water quality) in accordance with the federal Clean Water Act, U.S. Fish and Wildlife Service, and California Department of Fish and Wildlife. Suzanne assisted in the development of permitting strategies, consultation regarding permit and mitigation requirements, preparing permit applications and obtaining approvals.

### PROJECT EXPERIENCE

#### WATER SUPPLY, WASTEWATER, FLOOD

##### **Stockton Regional Wastewater Control Facility Capital Improvement and Energy Management Plan – Phase 2 Improvement Project EIR**

City of Stockton, Municipal Utilities Department

Project Manager

The City of Stockton proposes to implement Phase 2 Improvements identified in the Capital Improvement and Energy Management Plan (CIEMP) for the City’s Regional Wastewater Control Facility (RWCF). The CIEMP identified, budgeted, and prioritized improvements needed at the RWCF through the year 2035 and identified energy development projects to reduce energy costs and provide reliable renewable energy alternatives. The CIEMP consists of two parts: the capital improvement plan (CIP), which focuses on the wastewater treatment facilities improvements, and the energy management plan, which provides an approach for developing energy sources and improving energy efficiency at the RWCF. The CIP projects would increase the reliable capacity of the liquid and solids treatment processes close to the permitted RWCF capacity of 55 mgd and improve reliability in treating existing and projected flows. Suzanne is managing preparation of the EIR for the project. Key issues include air quality, biological resources, cultural resources, GHG emissions, and hydrology and water quality.

##### **City of Galt Wastewater Treatment Plant Facility Master Plan and Immediate Improvements Project CEQA-Plus EIR (CEQA NEPA Compliance) (Ascent)**

City of Galt

Project Manager

Suzanne managed the preparation of an Initial Study and Notice of Preparation and, based on this scoping analysis, prepared a focused program EIR for upgrades at the City’s wastewater treatment plant, including expansion to accommodate General Plan growth projections. The EIR met compliance documentation needed to satisfy the State Water Resources Control Board “CEQA Plus” requirements for State Revolving Fund loans as well as U.S. EPA’s NEPA requirements for Special Appropriation Grants. Suzanne also assisted the EPA in federal agency coordination regarding potential waters and wetlands and giant garter snake habitat. Key issues included water quality, fisheries, terrestrial biological resources, agricultural land conversion, and air quality.

##### **City of Lathrop Recycled Consolidated Treatment Facility Project IS/MND**

City of Lathrop

Assistant Project Manager

Suzanne prepared an IS/MND tiered from the EIR for the *Lathrop Water, Wastewater, and Recycled Water Master Plan* consistent with CEQA Guidelines Sections 15152 and 15168, to evaluate the potential environmental effects of consolidation of previously-approved wastewater treatment capacity at the City of Lathrop Membrane Bioreactor (MBR) Plant as well as temporarily increasing the percentage of treatment capacity at the Manteca Wastewater Quality Control Facility (Manteca WQCF) available to the City of Lathrop.

**County Sanitation District 1, Upper Northwest Interceptor 9 and Associated Northeast Area Relief Projects, Sacramento County**

Sacramento County, Department of Environmental Review and Assessment

**Project Manager**

Suzanne managed the preparation of technical studies in support of Sacramento County's CEQA document for two new pumping stations, two diversions, and approximately 35,200 linear feet of interceptor, force main, gravity pipe, and sewer relief pipe routed primarily through residential, retail, and commercial areas along roads in Citrus Heights and other parts of eastern Sacramento County. Suzanne and her team conducted agency consultation and prepared permit applications for a Tree Permit, California Department of Fish and Wildlife Streambed Alteration Agreement, Clean Water Act (CWA) Section 401 Water Quality Certification Package, and CWA Section 404 Permit Application.

**Sunrise Douglas Community Plan/SunRidge Specific Plan Long-Term Water Supply, Rancho Cordova**

City of Rancho Cordova

**Project Manager**

Suzanne managed preparation of a court-ordered partially-revised Draft EIR providing a revised analysis of the portions of the Sunrise Douglas Community Plan/SunRidge Specific Plan (SDCP/SRSP) EIR concerning an analysis of long-term water needs of the SDCP/SRSP project and how identified sources are likely to meet those water needs; an analysis of potential project impacts on Cosumnes River flows and fish migration; and an analysis of potential project impacts on public trust resources.

**TRANSPORTATION**

**Port of Oakland Runway 11-29 Rehabilitation Project, Alameda County**

Port of Oakland

**Assistant Project Manager**

Suzanne coordinated with agencies and the client to prepare permits, receive approvals, and translate the permit requirements into mitigation and monitoring goals. Project permits were obtained from the Bay Conservation and Development Commission, US Army Corps of Engineers, and the Regional Water Quality Control Board.

**Eureka to Arcata Route 101 Corridor Improvement Project EIS/EIR, Humboldt County**

California Department of Transportation

**Assistant Project Manager**

Suzanne assisted with the preparation of an EIS/EIR to comply with NEPA and CEQA for a proposed safety improvement project on US Highway 101 between the cities of Eureka and Arcata.

**NATURAL RESOURCES MANAGEMENT**

**Riparian Habitat Restoration of the Codora Unit IS/MND, Glenn County**

California Wildlife Conservancy Board / The Nature Conservancy

**Project Manager**

Suzanne prepared and managed an Initial Study and Mitigated Negative Declaration for riparian habitat restoration of a 274.5-acre walnut orchard within the 399-acre Codora Unit of the Sacramento River National Wildlife Refuge. The project restored riparian and associated habitats in a flood-neutral manner to help fulfill USFWS' congressional mandate to preserve, restore, and enhance riparian habitat for threatened and endangered species, songbirds, waterfowl, other migratory birds, anadromous fish, riparian wildlife, and plants. The project called for the active restoration of the Codora Unit to 208 acres of valley oak savanna, 28.5 acres of mixed riparian forest, 30 acres of cottonwood riparian forest, and 8 acres of grassland. Key issues included conversion of agricultural land and related flood impacts.

**Sierra Nevada Conservancy Grants CEQA Review, Northern California**

Sierra Nevada Conservancy / California Department of General Services

**Project Manager**

Through contract to provide for a full range of environmental, biological, and cultural resources services to the California Department of General Services (DGS) for projects in Northern California, Suzanne assisted DGS in providing CEQA review for the Sierra Nevada Conservancy (SNC), which was reviewing grant applications for consideration of funding. Suzanne reviewed grant applications to determine if SNC (as lead agency providing project funding) needed to complete environmental review for compliance with CEQA. Suzanne and her colleagues prepared CEQA exemptions for numerous Sierra Nevada projects being considered by SNC for funding in the 2007 and 2008 funding cycles.

**On-Call Biologist, Northern California**

Kinder Morgan Energy Partners L.P.

**On-call Biologist**

Suzanne provided support on tasks related to a refined petroleum product pipeline system operated by Kinder Morgan Energy Partners L.P. Suzanne strategized and prepared environmental clearances for required pipeline repairs from the U.S. Army Corps of Engineers, the Regional Water Quality Control Board, the Bay Conservation and Development Commission, the U.S. Fish and Wildlife Service, and the California Department of Fish and Wildlife; on-site biological surveys; and biological construction monitoring.

**Port of Oakland Burrowing Owl Surveys, Oakland International Airport, Alameda County**

Port of Oakland

Assistant Project Manager

Suzanne completed burrowing owl surveys at Oakland International Airport in 2002 and 2003, including implementation of mitigation to passively relocate owls within runway safety areas. She also prepared the 2002 survey report regarding the status of burrowing owls at the airport.

**PUBLIC AND PRIVATE DEVELOPMENT****Level II Infill Correctional Facilities Project**

California Department of Corrections

Assistant Project Manager

Suzanne assisted in the management and preparation of a multi-volume EIR that addressed the potential environmental impacts associated with construction and operation of three infill level II correctional housing facilities at existing CDCR prison facilities in California. As directed by Senate Bill (SB) 1022, the EIR evaluated construction of infill correctional facilities at five locations (San Diego County and the Cities of Chino, Lone, Folsom, and Vacaville); after EIR certification, the state approved construction at two sites: San Diego and Lone. Key issues included air quality, biological resources, transportation, historic resources, and cumulative impacts. [2013]

**Capitol West Side Projects EIR, Sacramento County**

Department of General Services, Real Estate Services Division

Assistant Project Manager

This joint EIR analyzed proposals for both construction of a 1.4-million-square foot Capitol West Side Office Complex in downtown Sacramento and renovation and modernization of the Central Plant. The office complex project included parking facilities and renovation and relocation of the historic Heilbron Mansion. The Central Plant provides chilled water and steam to 23 state buildings, including the State Capitol, for cooling and heating. The Central Plant renovation project addressed operational issues to allow the plant to continue meeting state needs and to provide capacity to heat and cool the proposed Capitol West Side Office Complex. The Central Plant renovation also mitigated a cease and desist order issued over discharges of heated water into the Sacramento River. Suzanne shared management responsibilities for this EIR, particularly in relation to the Central Plant renovation project, and assisted in the organization and implementation of the public outreach plan.

**State Library and Courts Renovation IS/MND, Sacramento County**

California Department of General Services, Real Estate Services Division

Project Manager and Environmental Planner

Suzanne managed preparation of an Initial Study/Mitigated Negative Declaration for renovation of the Library and Courts building, as required for compliance with current safety and Americans with Disabilities Act standards. The California Department of General Services, Real Estate Services Division, proposed to renovate the Stanley Mosk Library and Courts Building (State Office Building No. 1), an important historic building located at 914 Capitol Mall in downtown Sacramento. Because of the building's age, infrastructure elements and some of its architectural features were deteriorating and in need of repair. Key issues included effects on historic architecture, visual resources (the building is located directly west of Capitol Park), and construction impacts.

**Sutter Gould Medical Office Expansion Project, Stanislaus County**

City of Modesto

Project Manager

Suzanne managed preparation of an Initial Study and a finding of conformance with the Modesto Urban Area General Plan Master EIR for the Sutter Gould medical office building expansion. The project included building an expanded replacement medical office facility and parking on the existing site to meet forecasted demand for medical services in the community. The original facility would be demolished along with seven private residences purchased by the Sutter Gould Medical Foundation. The project also included some tree removal, a new bus turnout, and widening of Coffee Road to provide a deceleration lane. This project required rezoning the project area through an amendment to the existing Planned Development Zone to allow expansion of the facility. The facility would continue operations during construction. Key issues included neighborhood encroachment and conformance with the previously prepared Master EIR.

**San Quentin State Prison Condemned Inmate Complex Project EIR, Marin County**

California Department of Corrections and Rehabilitation

Environmental Planner

This EIR evaluated two design options for the Condemned Inmate Complex (CIC) (single-level and stacked buildings) at a project-specific level for all environmental resource areas. Suzanne wrote various sections of the EIR, including land use, utilities, and transportation. The proposed project involved construction of a new condemned inmate complex and electrified fence on approximately 40 acres within the grounds of the existing San Quentin State Prison. The CIC would provide 1,024 cells that would safely and securely house 1,408 condemned inmates. The EIR was certified and challenged, and was upheld in court.

**U.C. Merced Long Range Development Plan EIR, Merced County**

University of California, Merced

Environmental Planner

Suzanne assisted in preparation of the UC Merced Long Range Development Plan (LRDP) EIR, which analyzed the potential environmental impacts associated with implementation of the UC Merced LRDP and construction of Phase 1 of the UC Merced

## Suzanne Enslow

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campus. The University of California proposed to establish a new major research university campus in the San Joaquin Valley for a student population of 25,000 full-time equivalent students. The campus is now located approximately 2 miles northeast of the city limits of Merced, on property owned by the Virginia Smith Trust and the County of Merced. The site is immediately east of Lake Yosemite Regional Park and a portion of Lake Road. The purpose of the LRDP was to guide the physical planning and development to achieve the academic needs and goals of the new campus in Merced County.

### **U.C. Davis Long Range Development Plan EIR, Yolo County**

University of California, Davis

Assistant Project Manager

Suzanne assisted in preparation of the UC Davis 2003 Long Range Development Plan (LRDP) EIR, which analyzed the potential environmental impacts associated with implementation of the 2003 LRDP. The 2003 LRDP was prepared to accommodate an increased enrollment of approximately 5,130 students and increased academic and research activities at UC Davis, to meet the anticipated educational and research demand that is projected through 2015–2016. The EIR consists of five volumes, including: Volumes I and II (program-level analyses of the 2003 LRDP); Volume III (project-specific evaluations of the Neighborhood Master Plan, Research Park Master Plan, Multi-Use Stadium Complex, Robert Mondavi Institute, and Chilled Water Facility Expansion); and Volumes IV & V (responses to comments).

### **Central Lathrop Specific Plan EIR, San Joaquin County**

City of Lathrop

Environmental Planner

Suzanne assisted in preparation of an EIR that evaluated the annexation and development of the Central Lathrop Specific Plan. The plan area is located on approximately 1,540 acres within the City of Lathrop's sphere of influence but not its city limits. Under the proposed project, the Specific Plan area was annexed to the City. A mixed-use development was proposed; most of the plan area was identified for residential zoning, with up to 6,790 housing units. The specific plan also included an internal roadway network, with road alignments connecting with roadways in adjacent planned developments. A network of trails and pedestrian greenways was proposed. Major issues included agricultural resources, endangered species, traffic, and utility infrastructure.

### **Central Larkspur Specific Plan EIR, Marin County**

City of Larkspur

Environmental Planner

This specific plan encompassed a 22.7-acre area near the central business district of Larkspur and bordered by established residential neighborhoods. The site contains a mixture of land uses, including commercial uses and an abandoned nursery. The underutilized nature of the plan area and its pivotal location within the city provides an opportunity for careful redevelopment. A specific plan for the area was created to guide redevelopment while meeting the City's general plan objectives to enhance the historic downtown, encourage development of affordable and diverse housing, create a vibrant town center, and provide additional employment opportunities. Suzanne assisted in preparation of the EIR.

### **San Jose State University Master Plan EIR, Santa Clara County**

San Jose State University

Environmental Planner

Suzanne coordinated technical studies and assisted in writing substantial portions of the program EIR in compliance with CEQA.

### **Chuckawalla Valley State Prison Facility Repairs and Central Chiller Plant Notice of Exemption, Riverside County**

California Department of Corrections and Rehabilitation

Project Manager

Suzanne prepared a Class 1 and Class 2 Notice of Exemption to comply with CEQA for prison facility repairs and the replacement of the existing cooling system with a central chiller plant.

### **Stanford Annual Report 1 and 2, Santa Clara County**

Santa Clara County

Assistant Project Manager

Suzanne researched and wrote the first and second annual reports to document Stanford's development activity and compliance with conditions pursuant to the 2000 General Use Permit for Stanford University. She also coordinated with Santa Clara County and the university to compile data and complete report preparation.

### **Oakland Army Base EIR, Alameda County**

Oakland Army Base

Assistant Project Manager

Suzanne coordinated and managed technical studies for air quality, noise, surface water, biology, and cultural resources in relation to a program EIR in compliance with the CEQA.

### **Genome Launch Facility IS/MND, Yolo County**

University of California, Davis

Environmental Planner

Suzanne researched and prepared an Initial Study and Mitigated Negative Declaration in compliance with CEQA for a fast-track UC Davis laboratory facility.

### **Primate Center IS/ND, Yolo County**

University of California, Davis

Suzanne researched and prepared an Initial Study and Negative Declaration in compliance with CEQA for a fast-track UC Davis primate center project.

Environmental Planner

## **SOLID WASTE/HAZARDOUS WASTE MANAGEMENT**

### **Western Regional Compost Pad Expansion IS/MND, Placer County**

Western Placer Waste Management Authority

Assistant Project Manager

Suzanne assisted the project manager with preparation of an Initial Study and Mitigated Negative Declaration to expand existing composting operations at the Western Regional Sanitary Landfill and Materials Recovery Facility located just outside of the City of Roseville, in unincorporated Placer County. The Authority's goal was to accommodate the anticipated growth in green waste materials accepted at the facility over the next 25 years. The project included expansion of the 7-acre compost pad by approximately 5.5 acres. An additional 2 acres was identified for a second materials screening and stockpiling area and another acre was identified for compost leachate collection and storage.

## **LAKE TAHOE BASIN**

### **Tahoe Regional Plan Update EIS, Lake Tahoe Basin, California and Nevada (Ascent)**

Tahoe Regional Planning Agency

Environmental Planner

The Tahoe Regional Planning Agency completed a comprehensive update to the Tahoe Basin Regional Plan. An important focus of the update was to revitalize urban areas within the Basin through implementation of smart growth principles, focusing development in key locations with the environmental capacity to accommodate such development. TRPA's goal was to encourage compact mix-use projects and walkable communities that achieve environmental benefits for the Basin. Ascent prepared an EIS for the Regional Plan Update. Suzanne assisted with preparation of the Land Use, Geology, Soils, Land Capability and Coverage as well as responding to comments on the Draft EIS.

### **Vista Village Affordable Housing Project EIR/EIS/EIS, Placer County**

Tahoe Regional Planning Agency

Project Manager

Suzanne managed preparation of an EIR/EIS/EIS that assessed a proposal for deed-restricted housing affordable to low-income households and potentially for-sale condominiums affordable to moderate-income households in Tahoe Vista. Vista Village would include 72–152 residential units. Suzanne managed supporting technical studies to meet requirements of CEQA, Placer County Environmental Review Ordinance, NEPA (due to proposed HUD funding), and TRPA's Code of Ordinances and Rules of Procedure. The EIR/EIS/EIS analyzed potentially increased flows of sediment, contaminants, and nutrient concentrations into Lake Tahoe. Other environmental issues analyzed included land use and coverage, traffic and circulation, noise, air quality, biological resources, scenic quality, and growth-inducement. As part of the EIR/EIS/EIS process, the team prepared alternative site plans, which were used to analyze and compare impacts of potential project alternatives. The review process involved stakeholders, agencies, and the public.

### **Tahoe Vista Partners LLC Affordable Housing and Interval Ownership Development Project EIR/EA, Placer County**

Tahoe Regional Planning Agency and Placer County

Assistant Project Manager

Suzanne assisted the project manager with preparation of an EIR and environmental assessment (EA) that evaluated a proposal to construct a combination resort and affordable housing community in Tahoe Vista, on a site currently occupied by a campground and recreational vehicle park. The project necessitated removal of the campground for redevelopment of the site with 45 tourist accommodation units, a clubhouse/ administration building, 10 affordable residential/employee housing units, and commercial building space. The project included modifications to the two-story building fronting North Lake Tahoe Boulevard (SR 28), new parking, landscaping, street frontage improvements, and granting an easement to the California Tahoe Conservancy for the North Tahoe Bike Trail. Key issues included loss of a privately owned campground, potential scenic impacts, noise, water quality, historic buildings, land use impacts, and cumulative development in Tahoe Vista.

### **Sierra Colina Village Development Project EIS, Lake Tahoe Basin**

Tahoe Regional Planning Agency

Environmental Planner

Suzanne assisted with preparation of an EIS that evaluated a proposed residential development that would include up to 54 residential units adjacent to Burke Creek in the Lake Tahoe Basin. The EIS met the substantive and procedural requirements of TRPA's Code of Ordinances and Rules of Procedure for an undeveloped site proposed for a new housing development. Key issues included affordable housing, Plan Area Statement consistency, traffic, water quality/stream environment zone (Burke Creek), land coverage, growth inducement, and land use planning.

### **Lake Tahoe Beach Club EIS, Douglas County, Nevada**

Tahoe Regional Planning Agency

Environmental Planner

Suzanne assisted with preparation of this EIS evaluating the proposed construction of a 143-unit residential development on 20 acres at the existing Tahoe Shores Mobile Home Park near the community of Stateline. The project proposed removal the mobile homes and redevelopment of the site with 143 residential units in 14 detached structures. The EIS analyzed two other build alternatives and two no-project alternatives in compliance with the TRPA Code of Ordinances and Rules of Procedure.

## **PARKS, TRAILS, AND RECREATION AREAS**

### **Edgewood Lodge and Golf Course Realignment Project EIS, Lake Tahoe, NV**

Tahoe Regional Planning Agency

Environmental Planner

Suzanne assisted the project manager with overall EIS preparation for expansion of the existing Edgewood Golf Course in Stateline, Nevada. The entire golf course encompasses approximately 237 acres of land located within the Edgewood Plan Area Statement (PAS) 070A in California and Nevada. The proposed project would be concentrated on approximately 10 acres of land located entirely within the PAS 070A Special Area #1 (Tourist Area). Access to the project site is provided by Lake Parkway from U.S. Highway 50. The proposed project includes a new 194-unit hotel complex with a full-service spa and wellness center, restaurant and bar, and banquet and meeting space as well as accessory uses on undeveloped higher capability lands at the Edgewood Golf Course. Key issues for the EIS include land coverage, scenic quality, water quality, traffic, air quality, and noise.

### **Singh and Nicolaus Restoration and Public Access Project and EIR, Butte County**

The Nature Conservancy of California / California State Parks

Project Manager

Suzanne managed preparation of and public outreach for an EIR evaluating a riparian habitat restoration and public access project on the Singh and Nicolaus properties, located along the Middle Sacramento River in and adjacent to Bidwell-Sacramento River State Park (Park), west of the city of Chico. This habitat restoration project involved revegetation and restoration of the two agricultural properties with oak woodland, oak savannah, and riparian habitats. The Singh property, owned by California State Parks, is part of Bidwell-Sacramento River State Park. The Nicolaus property was owned by The Nature Conservancy (TNC), but the project included acquisition of the Nicolaus parcel by State Parks from TNC and inclusion of the property in the park. Key issues included conversion of agricultural land and related flood impacts.

### **North Tahoe Bike Trail Project EIR/EIS/EIS, Placer County**

North Tahoe Public Utility District

Assistant Project Manager

Suzanne assisted in management of environmental documentation in compliance with CEQA, NEPA, and TRPA's Code of Ordinances, for the proposed construction of a new 8- to 9-mile Class I bike trail facility from North Tahoe Regional Park in Tahoe Vista to Dollar Point, just east of Tahoe City. Although the project went on hold before an EIR/EIS/EIS went public, Suzanne managed supporting technical and due diligence studies; regulatory permitting services; and mitigation planning, implementation, and monitoring. Key issues included land use compatibility and biological resources, particularly Northern Goshawk.

### **Nevada Stateline-to-Stateline Bicycle Facility/America's Most Beautiful Bikeway, Environmental Review, East Shore Lake Tahoe, NV**

Tahoe Transportation District

Environmental Planner

Suzanne assisted with the environmental review for the South Demonstration Project (extending from the state line in South Lake Tahoe to Round Hill Pines Beach), the first of two near-term 3-mile segments of the larger Nevada Stateline-to-Stateline Bicycle Facility. The environmental review was comprised of a Joint EA (TRPA/NEPA) with TRPA and the U.S. Forest Service, Lake Tahoe Basin Management Unit as the lead agencies.

Suzanne assisted with the environmental review for the North Demonstration Project (extending from Incline Village to the Lake Tahoe-Nevada State Park at Sand Harbor). The environmental review for the North Demonstration Project includes another Joint EA (TRPA/NEPA) with TRPA and the U.S. Federal Highway Administration, Nevada Division as the lead agencies.



## Linda Leeman

### PRINCIPAL / NATURAL RESOURCES PRACTICE LEADER

Linda Leeman is a wildlife biologist and project manager with over 18 years of professional experience. She specializes in habitat assessments, wildlife impact analyses, restoration and mitigation planning, and endangered species permitting. Linda has extensive experience with CEQA, NEPA, and federal and California Endangered Species Act (ESA) compliance for projects throughout northern and central California. She has worked on many complex, multidisciplinary projects requiring a high degree of organization and coordination. She is adept at managing teams of technical specialists and providing senior review, quality assurances, and budgetary oversight. Linda coordinates frequently with local, state, and federal regulatory and resource management agencies, providing reliable, unbiased information to help inform regulatory decisions that allow her clients achieve their objectives. She has been an active member of the regional and local subunits of The Wildlife Society, serving on the executive boards since 2006. She is a Past President of the Western Section of The Wildlife Society and is a Certified Wildlife Biologist.

**YEARS OF EXPERIENCE** 18

#### EDUCATION

M.S., Natural Resources, Humboldt State University

B.S., Wildlife and Fisheries Biology, UC Davis

#### CERTIFICATIONS

Certified Wildlife Biologist by the Wildlife Society since February 2005

Professional Development Certificate by the Wildlife Society

#### PROFESSIONAL AFFILIATIONS

The Wildlife Society Executive Board Member, 2006-2014

Association of Environmental Professionals

Central Valley Bird Club

#### AWARDS AND HONORS

State Wildlife Action Plan 2015 Update, AEP Outstanding Environmental Resource Plan

AEP National Environmental Excellence Award in the category of Environmental Stewardship, April 2013 – San Joaquin River Restoration Program, EIR /EIS

AEP Outstanding Public Involvement/Education Program, March 2009 – Stewardship of the Lower Putah Creek Watershed

#### PRESENTATIONS/PUBLICATIONS

“Counting carcasses: what we can learn about operational effects from long-term monitoring data.” Presentation at The Wildlife Society national conference on September 22, 2009 and Sacramento-Shasta Chapter Natural Resource Symposium, on November 4, 2009

#### WORKSHOPS AND TRAINING

Developing an ESA Section 7 Consultation Biological Assessment, USFWS and NMFS. April 13-14, 2009

### 2015 California State Wildlife Action Plan, Statewide

California Department of Fish and Wildlife

Project Manager

Linda led the consultant team that assisted CDFW with preparation of the 2015 California State Wildlife Action Plan. SWAP 2015 articulates CDFW's vision for conserving the state's wildlife and establishes a solid conservation framework for use over the next decade by CDFW and other federal, state, and local agencies, as well as non-governmental groups and private land owners. It focuses on conservation of wildlife resources in the nation's most biologically diverse state, while recognizing the importance of sustainable socioeconomic activities and the need for resilience in the face of a changing climate. SWAP 2015 describes key conservation factors crucial to the sustainability of California ecosystems, and for each geographic province, provides specific conservation strategies that will reduce or ameliorate negative impacts to ecological systems or enhance the quality vital to the natural landscapes of California.

### Yolo County Habitat Conservation Plan/Natural Community Conservation Plan EIS/EIR

California Department of Fish and Wildlife

Senior Biologist

Ascent is preparing for the U.S. Fish and Wildlife Service (USFWS) and the Yolo Habitat Conservancy (Conservancy) an Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the Yolo County Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP). This is a comprehensive, county-wide plan designed to provide long-term conservation and management of natural communities, sensitive species, and the habitats upon which those species depend, while accommodating various public and private activities in the County, including activities that are essential to the ongoing viability of Yolo County's agricultural and urban economies. The Plan serves as a HCP pursuant to the federal Endangered Species Act, and a NCCP under the California Natural Community Conservation Planning Act. The Conservancy is composed of members representing Yolo County; the Cities of Davis, West Sacramento, Winters, and Woodland; and the University of California at Davis (Local Partners). Linda is providing senior guidance and review for biological resources.

### Independent External Peer Review for USACE Projects

Battelle

Biology and Ecology Expert

The Water Resources Development Act (WRDA) 2007 requires an Independent External Peer Review for all USACE project studies with an estimated total of more than \$45 million, including mitigation costs. Peer reviews are conducted in accordance with procedures described in USACE guidance documents by an outside eligible 501(c)(3) organization. The review panels typically include experts representing several technical disciplines and Linda has been selected as a Biology and Ecology Expert, particularly as it pertains to CEQA and NEPA compliance. The panel reviews technical studies and environmental documents and prepares formal comments that include the supporting basis for the comment, significance of the comment, and recommendations to resolve the comment. Ultimately, these comments are presented to USACE in a final report, and often are presented to the USACE Civil Works Review Board as part of the approval and funding process for the project. Linda participated in the independent external peer review panel as a subcontractor to Battelle for the Sutter Basin Pilot Feasibility Study and Draft Feasibility Report- EIS/EIR; the Berryessa Creek, Santa Clara County, General Reevaluation Study Draft General Reevaluation

Report and EIS/EIR; and Little Colorado River at Winslow, Navajo County, Arizona Flood Risk Management Feasibility Study.

### **Regional San “EchoWater” Wastewater Treatment Plant Upgrade EIR (including CEQA Plus), Sacramento County**

Sacramento Regional County Sanitation District (Regional San)

Senior Biologist

Sacramento County’s wastewater treatment plant is the largest discharger of treated wastewater to inland waterways in California. The discharge location is just upstream of the Sacramento-San Joaquin Delta. Regional San is upgrading several treatment plant processes, including filtration (tertiary), disinfection, and ammonia removal. Thorough modeling was conducted to determine the effect of treated wastewater on downstream water users, fisheries, and the overall Delta resources. Linda led the evaluation of impacts to biological resources, which included Swainson’s hawk, vernal pool fairy shrimp, valley elderberry longhorn beetle, and giant garter snake. She oversaw the preparation of the EIR and Section 404 and Section 401 applications, and the consultation with USFWS under Section 7 of the ESA. USFWS issued a Biological Opinion in December 2014 and USACE issued a wetland permit in January 2015, enabling construction to begin in spring 2015.

## **WATER SUPPLY, WASTEWATER, AND FLOOD CONTROL**

### **United Water Conservation District Multispecies Habitat Conservation Plan EIR, Ventura County**

United Water Conservation District

Natural Resources Task Leader

The United Water Conservation District is preparing a Multispecies Habitat Conservation Plan (MSHCP) to support federal and state ESA Incidental Take Authorization for several of the District’s ongoing activities and potential future increases in water diversions. A key element of the MSHCP is completion of conservation measures, including habitat restoration and enhancement activities and construction and operation of a hardened ramp fish passage facility at the Freeman Diversion structure. The MSHCP addresses five species listed as threatened or endangered, including the Southern California steelhead, tidewater goby, and Least Bell’s vireo, and six currently unlisted species including Pacific lamprey, two-striped garter snake, and yellow-billed cuckoo. Ascent is preparing the EIR providing CEQA compliance for potential District adoption of the MSHCP. Many of the MSHCP conservation measures will result in beneficial effects to covered species, such as construction and operation of the fish passage facility and habitat restoration and enhancement. However, the EIR will also evaluate the potential adverse effects from these activities (e.g., noise, wildlife disturbance, wetland impacts) as well as other activities covered in the MSHCP, such as potential increases in water diversions. Ascent and the District are working closely with NMFS and USFWS, coordinating the agency’s NEPA process with the District’s separate CEQA review process.

### **Chorro Reservoir Maintenance Dredging Environmental Compliance and Monitoring, San Luis Obispo County**

California Department of Corrections and Rehabilitation

Senior Biologist

Chorro Reservoir provides potable water supply for the California Men’s Colony Correctional Facility and adjacent Camp San Luis Obispo. CDCR operates and maintains the reservoir on Chorro Creek, which is occupied by federally listed steelhead trout and California red-legged frog. Ascent Environmental assisted CDCR by developing a work plan to remove vegetation and sediment as required by the Division of Safety of Dams, while complying with CEQA, ESA, and California Fish and Game Code (Section 1602) requirements. Ascent worked with project engineers to avoid impacts to federally listed species and secured a letter of “No Agreement Needed” from CDFW for the first phase of work. Ascent provided an environmental awareness training for construction personnel, conducted pre-construction surveys for California red-legged frog, and provided on-site monitoring during vegetation removal. Ascent will provide permitting and construction monitoring for the second phase of work, which is expected to require consultation with NMFS and USFWS for impacts to federally listed species.

### **Stockton Regional Wastewater Control Facility Capital Improvement and Energy Management Plan – Phase 2 Improvement Project EIR, San Joaquin County**

City of Stockton, Municipal Utilities Department

Senior Biologist

The City of Stockton proposes to implement Phase 2 Improvements identified in the Capital Improvement and Energy Management Plan (CIEMP) for the City’s Regional Wastewater Control Facility (RWCF). The CIEMP identified, budgeted, and prioritized improvements needed at the RWCF through the year 2035 and identified energy development projects to reduce energy costs and provide reliable renewable energy alternatives. The CIEMP consists of two parts: the capital improvement plan (CIP), which focuses on the wastewater treatment facilities improvements, and the energy management plan, which provides an approach for developing energy sources and improving energy efficiency at the RWCF. The CIP projects would increase the reliable capacity of the liquid and solids treatment processes close to the permitted RWCF capacity of 55 mgd and improve reliability in treating existing and projected flows. Linda oversaw preparation of the EIR for the project. Key biological issues included valley elderberry longhorn beetle (VELB), Swainson’s hawk, and giant garter snake.

### **City of Galt Wastewater Treatment Plant Facilities Master Plan and Phase I Immediate Improvements Project EIR, Sacramento County**

City of Galt

Senior Biologist

Ascent prepared an EIR to evaluate the effects of a Facilities Master Plan for the City’s wastewater treatment plant (WWTP). The EIR analyzes the first phase of work identified in the Facilities Master Plan, the Phase I Immediate Improvements. Because construction

of the WWTP Facilities Master Plan may be partially funded with a loan from the State Water Resources Control Board (SWRCB) State Revolving Fund (SRF) Loan Program, which is funded by federal Clean Water Act funds administered by the U.S. Environmental Protection Agency (EPA), it is subject to certain federal environmental regulations, as specified through an agreement between the SWRCB and EPA. Therefore, the EIR complies with the requirements of the *Environmental Review Process Guidelines for State Revolving Fund Applicants*, which requires consideration of certain federal laws intended to protect federally designated endangered species, cultural resources, air quality, and other resources. Linda oversaw the preparation of biological resources section of the EIR and the biological assessment for consultation with USFWS under Section 7 of the ESA. The EIR was certified in August 2013. USFWS provided a letter of concurrence that the project was not likely to adversely affect giant garter snake in March 2014.

### **City of Sacramento Water Treatment Plants Rehabilitation Project, Sacramento County**

**Carollo Engineers**

**Project Manager/Wildlife Biologist**

The City of Sacramento proposed the Water Treatment Plants Rehabilitation Project to replace aging infrastructure and make other improvements at the Sacramento River Water Treatment Plant and E.A. Fairbairn Water Treatment Plant to ensure the Water Treatment Plants provide safe and reliable drinking water supply to the citizens of Sacramento. Ascent evaluated the potential impacts of the project to biological resources and prepared the biological resources section of the IS/MND. Several elderberry shrubs, which are habitat for the federally listed valley elderberry longhorn beetle (VELB), were located within the project area. Ascent surveyed the shrubs for VELB exit holes and classified the stem sizes in accordance with USFWS guidelines. Ascent worked with the project engineers to evaluate the feasibility of avoiding or minimizing impacts to VELB. However, not all impacts could feasibly be avoided while meeting project objectives and Ascent provided strategic guidance for compliance with the ESA, including determining if consultation under Section 10 or Section 7 would be appropriate. A screening form for a low-effect HCP was prepared in absence of a federal nexus. Ultimately, a federal nexus was identified through the U.S. Department of Housing and Urban Development, which is providing a Community Development Block Grant to construct safety improvements along the street front. Ascent prepared a Biological Assessment for USFWS to evaluate the effects of the project on VELB and assisted with the formal consultation. Linda worked with USFWS staff to expedite review and they issued a Biological Opinion in less than 45 days.

### **Natomas Levee Improvement Program EIR/EIS, ESA/CESA Permitting, and Construction Monitoring, Sacramento and Sutter Counties**

**Sacramento Area Flood Control Agency (SAFCA)**

**Senior Biologist**

The Natomas Levee Improvement Program was a multi-phased effort by the Sacramento Area Flood Control Agency (SAFCA) to bring the entire 42-mile Natomas Basin perimeter levee system into compliance with applicable Federal and state standards for levees protecting urban areas. The program involved comprehensive levee improvements to address levee height deficiencies, levee seepage potential, and stream bank erosion conditions along the Natomas Basin perimeter levee system and habitat restoration to mitigate for significant impacts to threatened and endangered species. Linda provided senior review of preparation of the EIR and Biological Assessment for Phase 3 and the EIR/S, Biological Assessment and 2081 application for Phase 4a. In addition, she provided senior oversight of construction monitoring and coordination with regulatory agencies, which included active permitting and construction of 3 phases of the program. Key issues included protection of valley elderberry longhorn beetle, giant garter snake, and Swainson's hawk.

### **Alternative Intake Project EIR/EIS, San Joaquin and Contra Costa Counties**

**Contra Costa Water District**

**Wildlife Biologist**

Contra Costa Water District's Alternative Intake Project was the most significant Delta drinking water quality project to complete planning studies, design and begin construction in the past decade. The Alternative Intake Project was designed to improve water quality for CCCWD's customers and provide benefits for Delta fish populations while not adversely affecting other Delta water users. The USBR was an active participant in the project and oversaw preparation of the EIS and water rights application to add a new point of diversion. Linda conducted wildlife surveys and prepared the terrestrial biological resources section of a joint EIR/EIS and the CALFED Action Specific Implementation Plan (ASIP) to satisfy both federal and state ESA requirements.

### **Calaveras Dam Replacement EIR/EA and Permitting Assistance, Alameda County**

**San Francisco Public Utilities Commission/SF Planning Dept Major Environmental Analysis Division**

**Wildlife Biologist**

The Calaveras Dam Replacement Project proposed to correct deficiencies in the current dam related to seismic stability and to restore reservoir storage operations to provide water supply to its customers. One of the key seismic upgrades for Bay Area water supply facilities, the project involved replacement of the earth fill dam at a location downstream of the current dam. The project restored storage to 96,800 acre-feet and provided releases of up to 6,300 acre-feet per year for fisheries enhancement. Major environmental impacts included fill of waters of the U.S., and potential take of California red-legged frog, California tiger salamander, Alameda whipsnake, Callippe silverspot butterfly, and bald eagle. Components of the project are adjacent to East Bay Regional Park District (EBRPD) lands and sensitive resources. Linda coordinated with EBRPD staff to thoroughly document existing conditions, evaluate potential effects and develop appropriate mitigation. Linda led the effort to prepare a biological assessment for Section 7 consultation under the ESA and assisted with preparation of the terrestrial biological resources section of the EIR and development of comprehensive mitigation and monitoring programs. The project was approved by the SFPUC and the EIR was certified in January 2011.

### **Shasta Lake Water Resources Investigation EIS/EIR, Shasta County**

U.S. Bureau of Reclamation/MWH

Wildlife Biologist

The Shasta Lake Water Resources Investigation project features a dam raise from 6.5 to 18.5 feet and the relocation of numerous recreation facilities surrounding Shasta Reservoir. The project seeks to increase the survival of anadromous fish downstream as well as provide ecosystem restoration, recreation, flood control, and hydropower improvements. Linda prepared the terrestrial biology sections of EIS/R, evaluating potential effects on special-status species with potential to occur in the Sacramento River from Shasta Dam to the Delta and the CVP/SWP service areas.

### **Feather River Levee Repair Project EIR and EIS, Yuba County**

Three Rivers Levee Improvement Authority (TRLIA)

Wildlife Biologist

Draft and final EIRs were prepared to address identified deficiencies in the Feather River levee and make related improvements to the Yuba River levee near its confluence with the Feather River. An EIS was also prepared for USACE to support USACE permission for alteration of the federal levee system under Section 408 of the Rivers and Harbors Act and an individual permit under Section 404 of the Clean Water Act was prepared. The environmental documents addressed three project alternatives at an equal level of detail involving various combinations of strengthening existing levees and construction of setback levees. Key issues include flood control, impacts to upstream and downstream flood stage elevations, endangered species, wetlands, fisheries, conversion of agricultural land, and potential impacts to known cultural resources sites. The EIR was certified and the project was approved. Linda contributed to biological resources section of EIR and EIS and permit applications.

### **American River Floodway Management Plan, Sacramento County**

Sacramento County

Wildlife Biologist/Project Manager

Linda oversaw development of a Floodplain Vegetation Management Plan (FVMP) for the American River Parkway for the Sacramento County Department of Regional Parks. The main purpose of the FVMP was to plan and secure environmental compliance for vegetation removal, maintenance, and restoration activities within the state-designated floodway. As project manager, Linda coordinated with several project partners and stakeholders, including SAFCA, CVFPB, USFWS, USACE, and RD 1000. An informational presentation was given to the CVFPB on the hydraulic modeling and permitting strategy in preparation for application of a floodway encroachment permit.

### **CEQA Compliance for Vineyard Water Rights, California Central Coast**

Private Clients and State Water Resources Control Board (SWRCB)

Wildlife Biologist

Numerous vintners in Central Coast watersheds required water right permits or modifications to a permitted or licensed appropriate water right from the SWRCB. Typically, these water rights are to divert or temporarily store water for irrigation and frost control. The SWRCB required that these water right applicants comply with CEQA for their projects. Linda prepared biological resource analyses, habitat assessments, and proposed mitigation measures to compensate for impacts.

### **Patterson Wastewater Treatment Plant Upgrade EIR, Stanislaus County**

City of Patterson

Wildlife Biologist

The City of Patterson proposed to upgrade its existing wastewater treatment plant. Linda evaluated a 950-acre study area for potential biological constraints to locate additional storage ponds. In addition, she directed focused surveys for raptors and valley elderberry longhorn beetle and prepared the biology section for the EIR, which included impact analysis and mitigation measures.

### **Patterson Wastewater Master Plan EIR, Stanislaus County**

City of Patterson

Wildlife Biologist

Linda assisted in the preparation of the EIR for the proposed phased improvements of the City's wastewater, collection, treatment, and disposal system to accommodate full build out of the City of Patterson consistent with the Patterson General Plan and wastewater generated by the Diablo Grande project in an unincorporated portion of the county. Reconnaissance-level plant and wildlife surveys were conducted for the proposed sewer trunk line system and additional percolation ponds. Evaluation of potential impacts on sensitive species include movement corridor for San Joaquin kit fox and suitable habitat for valley elderberry longhorn beetle, Swainson's hawk, tricolored blackbirds, and other special-status species. Mitigation measures were developed to avoid significant project-related impacts to sensitive species and wetlands/riparian vegetation and to comply with applicable regulations, plans, and other certified CEQA documents for related projects.

### **Bass Lake Water Storage Tank and Pipeline, El Dorado County**

El Dorado Irrigation District (EID)

Wildlife Biologist

Under contract with the El Dorado Irrigation District to provide as-needed environmental services, Linda assisted EID in complying with environmental laws and regulations for numerous proposed capital improvement projects. Potential impacts to wintering bald eagles from the Bass Lake Water Storage Tank and Pipeline Project were minimized and avoided by consulting with DFG personnel and developing a monitoring protocol for the wintering period during construction activities. Weekly surveys were conducted to determine the location of bald eagles that may be wintering in the area and the effects, if any, of construction activities on bald eagle

behavior. This information was used to assist EID with construction scheduling to avoid/minimize impacts to wintering bald eagles. Additional avoidance surveys were conducted during the nesting season for raptors and other migratory birds as needed.

### **Orestimba Creek Flood Control Project, Stanislaus County**

Stanislaus County Department of Public Works

Wildlife Biologist/Project Manager

Stanislaus County Department of Public Works and USACE considered a flood control project to protect the town of Newman and surrounding farmlands from repeated flood damage. Project alternatives included construction of attenuation basins, bypass channel, chevron levee, and setback levee. Linda conducted field surveys to characterize common and sensitive biological resources to support preparation of a joint EIS/EIR for a proposed flood control project on Orestimba Creek. Focused surveys for sensitive species included Swainson's hawk, California red-legged frog, and San Joaquin kit fox. Survey area included over 4 creek miles of aquatic habitat, sensitive sycamore alluvial woodland, and approximately 8,400 acres of upland habitat. She used aerial photos and field surveys to classify vegetation along 15 miles of creek. Linda coordinated with USFWS who were conducting a Habitat Evaluation Procedure (HEP) analysis for compliance with Fish and Wildlife Coordination Act.

### **Stream Maintenance Program EIR and Section 7 Consultation, Santa Clara County**

Santa Clara Valley Water District

Project Biologist

The Stream Maintenance Program involves a comprehensive approach for the long-term maintenance of flood control facilities within the Santa Clara Valley and allows the District to perform sediment removal, vegetation management, and bank stabilization in streams under their jurisdiction. Linda analyzed potential impacts to 67 special-status wildlife species and 69 plant species for the EIR. Avoidance and enhancement measures were developed as part of the program and incorporated into the project description. The mitigation measures developed to compensate for residual impacts to special-status species took a watershed-wide approach, blending habitat preservation, riparian and wetland restoration, and exotic species control to enhance the natural values of the District's streams. Linda prepared a Biological Assessment for formal Section 7 consultation with USFWS and NMFS and assisted the client in obtaining Biological Opinion. Key species included California red-legged frog, California clapper rail, bay checkerspot butterfly, steelhead, and others.

### **North Vineyard Wellfield Project, Sacramento County**

County of Sacramento/Department of Water Resources

Wildlife Biologist

Linda identified key biological constraints for a replacement water supply program for the County of Sacramento. The proposed water supply plan would rely on groundwater supply to provide replacement water for wells lost in the Mather Field/Sunrise Corridor service area as a result of groundwater contamination. Potential impacts to Swainson's hawk, giant garter snake, vernal pool fairy shrimp, and wetlands were identified and mitigation measures were developed.

### **Conaway Ranch Woodland-Davis CWA Water Assignment EA/FONSI, Yolo County**

Conaway Ranch, LLC

Wildlife Biologist

Ascent prepared an EA/FONSI for the U.S. Bureau of Reclamation for the Conaway Ranch water assignment project. Conaway Ranch proposed to transfer approximately 10,000 acre-feet of water per year from their surface water entitlements to the Woodland-Davis Clean Water Agency to be used as drinking water for the surrounding communities. Conaway Ranch would supplement this water transfer by increasing their groundwater pumping from onsite groundwater wells. The increase in groundwater pumping has the potential to effect environmental resources such as water quality and hydrology, agriculture land, and geology and soils. Linda oversaw the analysis of effects to biological resources, including potential changes to concentrations of water quality constituents such as selenium, boron, arsenic, and mercury.

## **TRANSPORTATION**

### **2016 Metropolitan Transportation Plan / Sustainable Communities Strategy Update EIR, Sacramento**

Sacramento Area Council of Governments

Senior Biologist

The Sacramento Area Council of Governments (SACOG) 2012 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) achieves significant performance benefits on a number of regional travel, environmental, and quality of life measures in keeping with the statutory requirements of the Climate Protection and Sustainable Communities Act of 2008 (i.e., SB 375). However, the MTP/SCS must be updated every four years in keeping with federal and state requirements. Ascent assisted SACOG with updating the Biological Resources section of the EIR for the proposed MTP/SCS Update, including technical updates to the environmental and regulatory settings, to address changes in land cover, vegetation, and presence of habitat and species. The analysis included a thorough discussion of impacts and development of mitigation measures. Linda served as senior biologist and guided development of the biology section. [2014-2015]

### **14<sup>th</sup> Avenue Extension Project, Sacramento**

City of Sacramento

Wildlife Biologist

The 14th Avenue Extension Project is located in the City of Sacramento on 14th Avenue between Power Inn Road and Florin Perkins Road. The purpose of the project is to provide an east-west connection that will relieve congestion, provide connectivity for vehicles,

bicyclists, and pedestrians, and accommodate future development in the area. The proposed improvements consist of widening and extending the roadway; constructing new sidewalk, planters, curb and gutter, retaining wall, landscaped median, and ADA-compliant curb ramps; installing water and storm drain lines, streetlights, and the appropriate traffic signs and markings; modifying the existing traffic signal at 14th Avenue and Power Inn Road; and installing a new traffic signal at 14th Avenue and Florin Perkins Road. Ascent is conducting environmental analysis and preparing NEPA documentation, which is a detailed Categorical Exclusion consistent with Federal Highway Administration procedures. Linda oversaw analysis of impacts to biological resources, development of mitigation measures, and wetland and endangered species permitting.

## RENEWABLE ENERGY AND TRANSMISSION

### Cabin Creek Biomass Facility Project EIR, Placer County

Placer County

Wildlife Biologist

The proposed facility is a 2-megawatt wood-to-energy plant that would produce electricity and heat, and produce indirect benefits related to fuels management and reduced potential for catastrophic wildfire. The facility consists of an 80-foot by 80-foot two-story building and an open structure for biomass storage. The EIR assessed impacts of construction and operation of the facility, including land use, air quality, GHG emissions, noise, truck traffic, water supply and water quality, sustainable forest practices, and biological resources. Impacts to resources were analyzed at both the facility site and the areas from which biomass fuel will be obtained. Linda prepared the biological resources analysis for the EIR. The EIR was certified in May 2013. [4/2012 – 5/2012]

### Buena Vista Biomass Facility EIR, Amador County

Amador County

Wildlife Biologist

Ascent prepared the Subsequent EIR for Amador County for the Buena Vista Biomass Facility. The proposed facility is an 18 megawatt (MW) wood-to-energy plant that would produce indirect benefits related to fire fuels management and reduced potential for catastrophic wildfire. The project would reuse and retrofit an existing coal-fired power plant adjacent to a landfill. The plant's fuel stock would include agricultural wood waste (e.g., orchard prunings), urban and construction wood waste, and debris from forest thinning activities in nearby National Forest lands. The EIR assessed impacts of construction and operation of the facility, including land use, air quality, GHG emissions (including whether the facility is carbon neutral), noise, truck traffic, water supply, sustainable forest practices, and biological resources. Key issues addressed by Ascent included the air pollutant and GHG emission balance of the project and the project's potential influence of forest health. Linda prepared the biological resources section of the EIR.

### City of Sacramento 28<sup>th</sup> Street Solar Project at Sutter's Landing Park, Sacramento County

Conergy Projects

Project Manager/Senior Biologist

The City of Sacramento proposed development of a solar park located at the former 28th Street Landfill (now known as Sutter's Landing Park) to generate an estimated 1.5 megawatts. The power from the facility will be sold and will help generate revenue for the City. Linda evaluated the potential impacts of the early design plans for the project, including developing avoidance measures for valley elderberry longhorn beetle and preparing a detailed assessment of Swainson's hawk foraging habitat. Ascent also conducted pre-construction surveys and an environmental awareness training for construction personnel.

### Solar Projects at California State Prisons

California Department of Corrections and Rehabilitation

Project Manager/Senior Biologist

California DGS is proposing to lease undeveloped land near existing state prisons to Sun Edison to develop photovoltaic solar arrays. Because many of the state prisons operate a lethal electrified fence under a permit from USFWS and CDFW, CDCR raised concerns about the consistency of the solar projects with their HCP for the electrified fences. Linda evaluated the proposed solar project for consistency with measures in the HCP to reduce wildlife mortality from the lethal electrified fences and worked with project engineers to develop site plans and management practices to avoid conflicts with the HCP.

### Oroville Hydroelectric Relicensing Project, Butte County

Department of Water Resources

Wildlife Biologist

As part of the Federal Energy Relicensing Commission process, a fuel-load management study was conducted for the Lake Oroville project area because of concerns raised by relicensing stakeholders. Current fuel load information for the study area was gathered from existing sources, including CALFIRE, California State Parks, and USFS. Techniques for managing and reducing fuel loads were investigated. The existing fuel-load conditions, based on CALFIRE and USFS models, and their implications for surrounding communities were presented along with recommendations for fuel-load management and reduction techniques.

## NATURAL RESOURCES MANAGEMENT

### Site-Specific Weed and Pest Management Project IS/MND, Santa Clara and San Mateo Counties

Midpeninsula Regional Open Space District

Senior Biologist

Linda oversaw preparation of biological resources section of the IS/MND for a site-specific weed and pest management project on 42 distinct treatment sites within open space preserves managed by the Midpeninsula Regional Open Space District in San Mateo and Santa Clara counties. The purpose of the project is to control noxious and invasive weed and pest species in high priority natural areas of the District in order to halt or minimize the spread of those species in areas where substantial progress has been made towards eradication or site restoration. The District is carrying out an Integrated Pest Management approach in the implementation of the project. Key environmental issues included hazards and hazardous materials, hydrology and water quality, cultural resources, and biological resources.

### Integrated Pest Management Plan Program EIR, San Mateo and Santa Clara Counties

Midpeninsula Regional Open Space District

Senior Biologist

Ascent prepared an EIR to address a broad range of invasive plant and pest management treatments in open space lands of the Midpeninsula Regional Open Space District. A primary goal of the plan was to conduct a comprehensive assessment of environmental impacts of the vegetation management and other pest control actions on tens of thousands of acres of District lands to facilitate CEQA streamlining and rapid approval of individual actions in the future. Extensive community involvement was sought along with a coordination strategy with regulatory and other affected agencies. Key issues include wildlife habitat effects, sensitive species, fire hazard management, watershed effects, and water quality.

### Implementation of Habitat Conservation Plan for California State Prisons with Lethal Electrified Fences, Statewide

California Department of Corrections and Rehabilitation

Wildlife Biologist/Project Manager

CDCR operates lethal electrified fences at state prisons in order to increase public safety and effectively manage operational costs. Contact with the electrified fence results in the accidental electrocution of wildlife species. CDCR prepared an HCP and has a 50-year incidental take permit from USFWS and CDFW. Linda oversees the compliance with the terms and conditions of the permits for operation of 30 lethal electrified fences located at prisons throughout California. The HCP includes over 40 covered species and 2,500 acres of habitat conservation areas to compensate for the take potential. The HCP also includes implementing a detailed monitoring program that requires all electrocuted animals to be collected by CDCR staff and stored in a freezer until inspection by a biologist to verify species. Linda oversees compliance with the ESA and CESA permit terms and provides management recommendations to address site specific issues, including strategies to deter wildlife use of the area and ensure that mortality is minimized, while not conflicting with security requirements. She coordinates with the compensatory mitigation partners and regulatory agencies and prepares annual monitoring reports. In addition, as CDCR develops plans for construction and operation of new lethal electrified fences, she is developing additional habitat mitigation strategies to compensate for the future loss of wildlife species. Linda has been actively involved with the program for over 15 years while at another firm and continuing at Ascent.

### South Sacramento Habitat Conservation Plan EIS/EIR, Sacramento County

Dudek/U.S. Fish and Wildlife Service/Sacramento County

Senior Biologist

The South Sacramento HCP and Aquatic Resources Plan (ARP) are intended to resolve species conservation and wetland issues in the developing portions of unincorporated Sacramento County and the Cities of Rancho Cordova and Elk Grove. The County of Sacramento and USFWS are preparing the HCP/ARP to address conservation of approximately 30 covered species and a diverse aquatic complex of vernal pools, streams, and rivers in the plan area. Ascent is a key member of the EIR/EIS preparation team, focusing on the environmental issues of Federal interest (i.e., biology, wetlands, water resources, water quality, air quality, GHG, and environmental justice). The goal of the EIR/EIS is to evaluate the environmental impacts of covered activities and support the approval of a permitting strategy for compliance with Section 404 of the Clean Water Act to be developed by USACE. Covered activities include five major land developments proposed in the plan area, as well as a regional highway connector. The SSHCP will be an agreement that will allow the County and cities to extend incidental take coverage to third parties. Linda is currently overseeing the preparation of the biological resource-related chapters of the EIS/EIR. Sensitive issues for the project involve wetlands, vernal pool associated brachiopods and plants, as well as Swainson's hawk foraging habitat.

### San Joaquin River Restoration Program, Fresno, Madera, and Merced Counties

U.S. Bureau of Reclamation/MWH

Wildlife Biologist

The San Joaquin River Restoration Program was established in 2006 to implement the Stipulation of Settlement in *Natural Resources Defense Council et al., v. Rodgers, et al.* The Settlement establishes two primary goals: (1) restore and maintain fish populations in "good condition" in the main stem of the San Joaquin River below Friant Dam to the confluence of the Merced River, including naturally reproducing and self-sustaining populations of salmon and other fish; and (2) reduce or avoid adverse water supply impacts to all of the Friant Division long-term contractors that may result from the Interim Flows and Restoration Flows provided for in the Settlement. Linda prepared the biological resources section of the program EIR/EIS, which combines an analysis of the Settlement, addressing future river channel modifications, installation of water management and fish protection facilities, replacement of affected infrastructure, and implementation of management actions to restore both riparian and aquatic habitats,

along with project-specific analyses of the initial interim water releases and alternative conveyance routes. In addition, she prepared a biological assessment for WY 2010 Interim Flows and secured letters of concurrence from USFWS and NMFS. The project's study area included over 150 miles of river reaches and involved federal and state ESA compliance, biological resources restoration and management, plant species and riparian ecosystem management, river channel morphology and dynamics, and expertise in other environmental, social, and institutional topics. The project was recently selected by the National Association of Environmental Professionals for a 2013 National Environmental Excellence Award in the category of Environmental Stewardship.

### **UCLA Delta Levee Field Testing Experimental Program**

University of California, Los Angeles

Project Manager/Lead

#### **Biologist**

Researchers from UCLA and Cal Poly, San Luis Obispo evaluated the seismic deformation mechanisms of levees on peaty organic soils through a research grant sponsored by the National Science Foundation. A site of approximately 400 square feet was required to construct an earth embankment to field test the response to simulated seismic vibration. Linda conducted an assessment of potential biological constraints, as well as provided technical assistance to identify opportunities for site planning that would avoid or minimize potential impacts to biological resources. Linda conducted pre-activity surveys for giant garter snake and burrowing owl and conducted environmental awareness trainings.

### **Forest Green Project ESA Compliance, Richmond**

Forest Green Estates L.L.C.

Wildlife Biologist

Linda conducted protocol-level surveys for California red-legged frog and prepared a biological assessment for USFWS to evaluate potential effects of an 81-acre residential development, open space, and a wetland mitigation project on federally listed species.

### **California Red-legged Frog Protocol Surveys, El Dorado County**

El Dorado Irrigation District

Wildlife Biologist

Linda provided the El Dorado Irrigation District (EID) as-needed environmental services such as IS/NDs, EIRs, project permitting services, and botanical, wildlife, and cultural surveys. These services were provided to assist EID in complying with environmental laws and regulations for numerous proposed capital improvement projects. Detailed habitat assessments and focused surveys for California red-legged frogs were conducted in accordance with USFWS protocol on Deer Creek and Carson Creek for projects at two wastewater treatment plants in El Dorado County.

### **Putah Creek Restoration Area Wildlife Surveys and Habitat Characterization, Solano County**

Solano County Water Agency/LPCCC

Wildlife Biologist

In preparation for future fish and wildlife habitat restoration projects, Linda conducted wildlife surveys and habitat characterization for four properties along lower Putah Creek. She prepared a report to provide background wildlife resource information for the properties as well as a setting/existing conditions section suitable for inclusion in a CEQA document. The wildlife surveys focused on mapping occurrences of elderberry shrubs, collecting Global Positioning System (GPS) data, and determining whether raptors are currently nesting on the project sites. The wildlife habitat characterization included characterization of plant communities/habitat types in terms of dominant and typical vegetation and structure. Project tasks included preparation of maps that indicated locations and extents of general habitats, elderberry shrubs, invasive weeds, and other wildlife resources (e.g., active or inactive nests).

### **Los Rios II Riparian Corridor Enhancement Project, Yolo County**

City of Davis Parks and Community Services

Wildlife Biologist

The purpose of this project was to recommend habitat enhancement actions to be implemented in the riparian corridor along the City of Davis' 252-acre Los Rios property along lower Putah Creek at the confluence with the Yolo Bypass. The goals for the site included improving aquatic and terrestrial habitat quality within the existing riparian corridor and to implement practices on adjacent farmland that are sustainable and enhance riparian habitat values. Additional goals are to reduce erosion, improve water quality, and maintain existing flood protection. Linda prepared a report that included the results of a site assessment of habitat quality for different wildlife groups and an analysis of the suitability of onsite habitats to support special-status species. General and location-specific habitat enhancement recommendations were developed based on these existing conditions and the potential for such actions to improve wildlife habitat value.

### **Putah Creek Watershed Management Action Plan, Solano and Yolo Counties**

Lower Putah Creek Coordinating Committee (LPCCC)

Wildlife Biologist

Linda developed and conducted resource assessment protocol to evaluate habitat quality for wildlife and distribution of invasive plants for the lower Putah Creek watershed. She contributed to a Watershed Management Action Plan that addresses sensitive biological resources, including Swainson's hawk and other nesting raptors, and western pond turtles; invasive plant species; water quality; bank stability; illegal dumping; and terrestrial and aquatic habitat restoration needs. Project also included development and expansion of an Adopt-A-Reach program involving university, school, and community groups as volunteer stewards in Putah Creek restoration, invasive weed abatement, and monitoring projects on public and private lands. Primary invasive weeds include arundo, tamarisk, tree-of-heaven, and blue gum eucalyptus.

### **Integrated Natural Resource Management Plan, 5-year Update, Beale Air Force Base, Yuba County**

Beale Air Force Base/U.S. Army Corps of Engineers

Project Manager/Wildlife Biologist

Linda oversaw completion of the 5-year update to the Integrated Natural Resources Management Plan (INRMP) for Beale Air Force Base (AFB). The project contributed to the goal of continued protection and management of natural resources at Beale AFB in accordance with current laws and regulations while advancing both biodiversity conservation objectives and continued military operations. The update included substantial revisions to the INRMP including integration of new biological and management information and updates of known species occurrences and changes to legal status. To supplement new data provided by Beale AFB, biologists conducted an inventory of amphibian and reptiles; surveyed for bats and valley elderberry longhorn beetle; and conducted giant garter snake trapping. A system to track success of projects in support of management goals and objectives was developed with performance standards. In addition, Linda oversaw the evaluation of the existing system of firebreaks on base to provide recommendations for modification to the firebreaks to protect vernal pools and sensitive vernal pool species, while ensuring adequate fire protection. Linda worked closely with biologists and other key staff at Beale AFB to ensure that the INRMP adhered to the strict guidelines established by the U.S. Air Force.

### **Beale Special Status Species Surveys, Yuba County**

Beale AFB

Project Manager/Wildlife Biologist

Linda oversaw biologists who conducted surveys using the appropriate survey protocols for vernal pool crustaceans, Central Valley fall-run Chinook salmon and steelhead, foothill yellow-legged frog, California horned lizard, western spadefoot toad, northwestern pond turtle, and Greene's legener. Using global positioning system (GPS) and geographic information system (GIS) technologies, detailed maps were prepared for each survey to document survey locations. A report was prepared to thoroughly document survey methods and results.

### **Beale Special Shrimp Surveys, Yuba County**

Beale AFB

Project Manager/Wildlife Biologist

Vernal pools and other wetlands were identified as potential habitat for vernal pool branchiopods during dry and wet-season surveys conducted in 2007-2008 at Beale AFB. Follow up surveys are being conducted to provide both wet-season and dry-season data in accordance with the USFWS guidelines. Approximately 75 additional pools were identified in the dry season and required wet-season sampling or were sampled as reference sites based on past positive detection of listed vernal pool branchiopods. An additional 52 pools were identified in the wet season and require follow up dry-season surveys. Authorization to conduct surveys for vernal pool branchiopods was approved by USFWS and all permit requirements were followed.

### **Statewide Lethal Electrified Fence Habitat Conservation Plan, Statewide**

California Department of Corrections and Rehabilitation

Wildlife Biologist/Project Manager

In response to the potential for loss of listed animals on lethal electrified fences to be installed at 27 prisons throughout the state, CDCR prepared a statewide HCP to secure Section 10(a) and FGC Section 2081 take authorization. The HCP included over 40 covered species and 2,500 acres of conservation areas to compensate for the take potential. A detail monitoring program was included to collect and identify all electrocuted birds and animals to verify species. Both NEPA and CEQA documents were prepared. Linda oversees compliance with the ESA and CESA permit terms, provides management recommendations to address site specific issues, coordinates with the mitigation partners, and prepares reports to the resource agencies.

### **Mitigation Planning for Loss of Wildlife, Statewide**

California Department of Corrections and Rehabilitation

Wildlife Biologist/Project Manager

CDCR operates lethal electrified fences at prisons throughout the state as an enhanced security and escape deterrent. Although measures are implemented to minimize wildlife contact with the fence, some wildlife mortality does occur. Linda has led development of compensatory mitigation to offset the loss of native wildlife species, working to identify conservation and restoration projects. Project have included establishing conservation easements on large tracts of land in Butte, Lassen, and Kern counties.

### **Sierra Azul and Bear Creek Redwoods Preserve Master Plan, Santa Clara and San Mateo Counties**

MidPeninsula Regional Open Space District

Senior Wildlife Biologist

Linda prepared the biological resources section of the Sierra Azul and Bear Creek Redwoods Preserve Master Plan. The master planning process aimed to provide the public with greater opportunities for recreation access, interpretation, and education, while protecting the natural, cultural, and historic resources of the landscape. The District developed a long-term vision for these public lands and addressing opportunities for access and regional trail connectivity, species and habitat protection, safety concerns, and maintenance issues, among others. Dominant vegetation communities in the Sierra Azul study area include oak woodland, riparian woodland, chaparral, and serpentine grasslands. In the Bear Creek Redwood Preserve, Douglas fir and redwood forests, oak and madrone woodlands, as well as riparian habitats are present. Special-status species include California tiger salamander, California red-legged frog, San Francisco dusky-footed woodrat, and several rare plants.

### **Wildcat Canyon Road Enhancement Project, Wildlife Movement Study, San Diego County**

San Diego County Department of Public Works

Wildlife Biologist

The project proposed to widen an approximate 1-mile segment of road through a potential wildlife movement corridor, considered by local wildlife agencies to have high biological resource value. The objectives of the wildlife movement study were to identify large mammals using the area, determine the location of existing corridors along and across Wildcat Canyon Road, and to recommend locations and design criteria for wildlife crossings. Linda established and monitored 20 track plates and 5 remotely-triggered camera stations. She also trained other staff in operation of monitoring equipment and identification of tracks and scat.

### **Stanislaus County Kit Fox Study, Stanislaus County**

Stanislaus County Department of Public Works

Wildlife Biologist

Linda assisted in preparation of a Regional Conservation Strategy for San Joaquin kit fox in western Stanislaus County. The purpose of the report was to serve as the framework of a long-term regional plan for protecting a movement corridor for San Joaquin kit fox and enhancing habitat for the kit fox and other native wildlife species in western Stanislaus County. In addition to benefiting wildlife, the conservation strategy was intended to help streamline and expedite the approval process for future public works projects proposed or supported by Stanislaus County. The strategy identified a process and criteria for the selection, acquisition, and funding of habitat conservation and mitigation that would likely be required by regulatory agencies prior to approval of public works projects in western Stanislaus County.

### **Joshua Hills Biological Inventory, Riverside County**

California Intelligent Communities

Wildlife Biologist/Tracking Study Task Manager

Linda conducted large mammal movement study over a 9,000-acre site located between Joshua Tree National Park and the Coachella Valley Preserve to develop baseline inventory of the site and to help support CEQA analysis. She participated in a mammalian track identification workshop conducted by the San Diego Tracking Team. Linda surveyed major drainages on the site for tracks and other signs by walking transects. She established and monitored 20 baited track plates and 5 baited camera stations for 10 survey nights. She identified tracks, scat, and/or photos of kit fox, gray fox, coyote, and other animals.

### **Rose Drive/Blake Court Project, Benicia**

City of Benicia

Wildlife Biologist

Linda assessed potential habitat on the site for California red-legged frogs. This proposed development included ponds and marshes that represent potential breeding habitat for this federally Threatened species. Methods approved by the USFWS were used to determine if the site represented critical habitat as defined by the federal ESA. She consulted with a USFWS biologist to discuss the presence of critical habitat in the project vicinity and the potential for significant impacts to result from implementation of the proposed project.

### **Evaluation of Impacts to Winter Shorebird Communities, Humboldt Bay**

California Department of Fish and Game, Office of Spill Prevention and Response

Ornithologist

Linda examined winter shorebird use at 19 Humboldt Bay sites to assess the impact of an oil spill in 1997. She conducted two-hour surveys on rising tides, recording species and abundance within a delineated area within the mudflats. Linda analyzed species richness, species densities, and incidences (presence/absence) at oiled and non-oiled sites. She co-authored final report to California Department of Fish and Game (DFG) with graduate advisor and other graduate students.

### **Foraging Behavior of Long-billed Curlews During the Nonbreeding Season in a Northern California Estuary, Humboldt Bay**

Humboldt State University, Graduate Thesis

Ornithologist

Linda designed and conducted independent research on the foraging behavior of long-billed curlews at Elk River Estuary, Humboldt Bay. She conducted two-hour focal surveys to record behavior and diet. She observed individuals defending feeding territories during the nonbreeding season from late June to mid March. Linda estimated energy intake rates and compared diets among individuals and seasons. She prepared a thesis and presented research at the university's ecology seminar and at a professional society meeting.

### **Field Studies in Alaska, California, Arizona, and Central America**

U.S. Fish and Wildlife Service/U.S. Forest Service

Field Biologist

Linda conducted point count surveys, raptor surveys, and nest searches and monitoring. In Alaska, she conducted breeding and migration landbird studies, as well as baseline ecosystem studies in remote field stations, for USFWS and USFS. She oversaw operation of a long-term banding station and bald eagle re-introduction in Big Sur, California, for Ventana Wildlife Society. In Arizona, she monitored bald eagle nest chronology and success. In Central America, she studied complex courtship and breeding behavior of long-tailed manakins and trained Earthwatch volunteers.

## **Sacramento Metropolitan Fire District Community Wildfire Protection Plan and IS/MND, Sacramento County**

**Sacramento Metropolitan Fire District**

**Wildlife Biologist**

Ascent developed a Community Wildfire Protection Plan (CWPP) for the Sacramento Metropolitan Fire District (District), the 7th largest fire agency in California with a service area of approximately 417 square miles in Sacramento County. The CWPP compiles and maps risk factors for wildland fire, implements risk reduction and response planning actions, including a monitoring program, and shares data with interested stakeholders throughout the emergency management area and response cycle. The CWPP identifies wildfire risk reduction measures and incorporates mitigation actions with a focus on the wildland urban interface (WUI). With data from Cal Adapt and in collaboration with a fire ecologist, Ascent's assessment of the risk factors examined the potential increase in the frequency and intensity of wildfire associated with climate change-related effects such as hotter dryer conditions, and a longer fire season. Ascent also prepared the IS/MND for the CWPP that evaluates the potential environmental impacts associated with several fuel treatment activities. Key issues included balancing fire risk reduction actions with habitat quality protection in sensitive locations, such as the American River Parkway. Linda oversaw the analysis of impacts to biological resources and development of feasible mitigation measures.

## **ENVIRONMENTAL REGULATION**

### **AB 32 Cap-and-Trade and Offsets Quantification Methods Regulation Functionally Equivalent CEQA Document**

**California Air Resources Board**

**Senior Biologist**

Ascent assisted ARB with the preparation of a Functionally Equivalent Document (FED) under ARB's CEQA certified regulatory program for the Cap-and-Trade Program and the Offsets Quantification Methods Regulation. This regulation is a cornerstone of California's implementation of AB 32, the Global Warming Solutions Act of 2006. The FED examined the potential environmental impacts related to reasonably foreseeable compliance approaches by covered (i.e., regulated) entities, such as effects of changed industrial processes or combustion fuel switches. Key issues include co-pollutants and environmental justice. The Cap-and-Trade Regulation establishes the framework for setting GHG emissions limits for the covered entities, allocating allowances for emitting GHGs within the limits, and trading allowances for covered entities that need to acquire them to comply with their limit or who may sell them if their emissions are below the regulated limit. The Offset Quantification Methods established consistent procedures for calculating and managing GHG credits from four programs: Forests, Urban Forests, Livestock Manure Digesters, and Ozone Depleting Substances. The FED addressed the reasonably foreseeable environmental impacts resulting from projects intended to provide GHG offset credits pursuant to the regulation. Key issues included sustainable forest practices and by-products of manure digestion or ODS destruction. Linda prepared the impact analysis for offset quantification method for the forest program.

### **33 Percent Renewable Electricity Standard Regulation Functionally Equivalent CEQA Document**

**California Air Resources Board**

**Senior Biologist**

Ascent assisted ARB with the preparation of a FED under ARB's CEQA certified regulatory program for the 33 Percent Renewable Electricity Standard Regulation. This regulation is a key strategy for California's implementation of AB 32, the Global Warming Solutions Act of 2006. The FED examined the potential environmental impacts related to reasonably foreseeable compliance approaches by covered (i.e., regulated) utilities, such as effects of developing expanded renewable electricity generation and additional transmission capacities, much of which is expected to occur in the California desert. Key issues included landscape-scale assessment of biological and physical resources impacts. In addition, the potential for out-of-state environmental impacts was examined. The Renewable Electricity Standard establishes the framework for the requirement for Independently Owned Utilities (IOU) and Publicly Owned Utilities (POU) to achieve 33 percent of their electrical generation from qualifying renewable sources. The FED addressed the reasonably foreseeable environmental impacts resulting from projects intended to provide Renewable Electricity Credits pursuant to the regulation. Linda prepared the biological resources section of the FED.

## **PUBLIC AND PRIVATE DEVELOPMENT**

### **River Islands at Lathrop, Endangered Species Permitting, San Joaquin County**

**Cambay Group**

**Wildlife Biologist**

The River Islands at Lathrop Project consists of a mixed-use development on approximately 4,900 acres in the Sacramento/San Joaquin River Delta. The project is surrounded by water on three sides (San Joaquin River, Old River, and Paradise Cut) and includes construction of bays, set back levees, piers, docks, and other water features. The project also includes habitat restoration and protection for riparian brush rabbit, Swainson's hawk, and anadromous fishes. Discussions with the regulatory agencies resulted in several major changes to the project description and required re-analysis of potential effects on listed species. At Ascent, Linda prepared the updated biological assessment for the National Marine Fisheries Service and USFWS. Linda had prepared the earlier version of the biological assessment for USFWS and completed the biological resources section of the Subsequent EIR for the project in 2003 while at another firm.

### **County Jail Project EIR, Napa County**

Napa County

Senior Biologist

Napa County proposed to acquire property and construct a new jail on 15 to 20 acres in unincorporated Napa County. The new facility would provide increased capacity to house the growing number of inmates expected as a result of passage of California's 2011 "Realignment" Act. Ascent prepared an EIR that analyzed a facility designed with an initial capacity of 366 beds, but would include core support facilities designed for expansion and occupancy of up to 526 beds in the event the County needs to add bed capacity at some point in the future. Additionally, a staff-secure facility would be constructed to house 50 to 100 additional inmates, and would serve as a transitional step for inmates moving back to the community. The existing jail, located in downtown Napa, would remain in use as a day-holding facility for pre-trial inmates with Court appointments, and would also continue to accommodate County offices and meeting space. Linda oversaw preparation of a biological technical memo to support the EIR preparation. The EIR was certified in February 2014.

### **Level II Infill Correctional Facilities Project, San Diego, Amador, Solano and El Dorado Counties**

California Department of Corrections and Rehabilitation

Senior Biologist

Ascent prepared four EIRs concurrently to evaluate the development of three, stand-alone, correctional facilities at four different locations throughout the state (including San Diego County and the Cities of Chino, Lone, Folsom, and Vacaville). In total, the proposed project involves the construction of a total of 2,376 infill housing units (beds) and associated accessory uses. Linda oversaw the preparation of the biological resources sections of the EIRs. Key biological issues included nesting burrowing owl, upland habitat for California red-legged frog and California tiger salamander, riparian habitat, and wetlands and waters of the United States. The EIR was certified in November 2013. Linda oversaw the preparation and implementation of a burrowing owl exclusion plan on the Otay Mesa in San Diego County. She also has been actively engaged with the wildlife agencies in developing appropriate mitigation for the construction impacts and for the on-going impacts of operation of new lethal electrified fences at the infill sites. [2012 – ongoing]

### **California Health Care Facility—Stockton EIR, San Joaquin County**

Clark Kelso (Federal Prison Health Care Receiver)

Senior Biologist

Under contract to the California Prison Receivership Program, Linda provided senior guidance for preparation of the biological impact analyses and mitigation development. In addition, she discussed the use of the San Joaquin County Multispecies Habitat Conservation and Open Space Plan and the Statewide Electrified Fence HCP to compensate for impacts to biological resources.

### **Yountville Hill Winery Project EIR, Napa County**

Napa County

Senior Biologist

CS2 Wines (applicant) is proposing to construct a new winery on a 10.9-acre site in unincorporated Napa County, near the Town of Yountville. The project would include construction of two winery buildings, unenclosed terraces, wine cave areas, parking, winery and domestic wastewater treatment system, landscaping, driveway improvements, and signage. The County prepared an IS/MND for the project in 2014. In response to public comment, the applicant modified the project. Nonetheless, an appeal was filed and, despite mediation, the appeal could not be resolved. The County determined that a Focused EIR would be prepared to more fully evaluate the project's potential impacts. Linda is overseeing preparation of the biology section for the Focused EIR. [3/2015 – present]

### **Folsom South of US Highway 50 Annexation EIR/EIS, Sacramento County**

City of Folsom and USACE, Sacramento District

Wildlife Biologist

Linda prepared the biological resources section of the draft EIR/EIS for the annexation of 3,585 acres south of U.S. Highway 50 to the City of Folsom. Sacramento Local Agency Formation Commission (LAFCo) must approve the annexation. The EIR/EIS provides the detail and foresight to allow for tiering and efficiency for use at later stages of planning and project development by evaluating potential environmental impacts at both a program and project level. The EIS was required by USACE for issuance of a Section 404 individual permit for direct and indirect impacts to wetlands from land use development and by the U.S. Bureau of Reclamation due to water supply and conveyance issues. Key biological issues included wetlands, vernal pool invertebrates, oak woodlands, Swainson's hawk and other nesting raptors.

### **Arboretum Community Specific Plan and Environmental Services, Sacramento County**

Lewis Investment Company

Wildlife Biologist

A specific plan and technical studies were prepared to support CEQA and NEPA analyses for a sustainable new community on 1,400 acres in Rancho Cordova. The specific plan includes site-specific sustainability policies and design guidelines and about half the site would be set aside as wetland and riparian preserves. Surveys were conducted to assess wetlands function using the California Rapid Assessment Methodology for vernal pools, seasonal wetlands, and creeks; to determine presence of branchiopods, western spadefoot, burrowing owl, and Swainson's hawk; to assess micro-watersheds for vernal pool preserve planning; and to map plant communities and habitats. Several new special-status species occurrences were recorded, including fairy shrimp, tadpole shrimp, and Swainson's hawk nest sites. Linda oversaw field surveys and led preparation of the biological resources technical report and biological resources section of the EIR/S.

### **California Prison Receivership Program, Statewide**

California Department of Corrections and Rehabilitation

Wildlife Biologist

Under contract to the California Prison Receivership Program, Linda assisted with a biological constraint studies and development of full CEQA/NEPA impact analyses, as well as consultation and applications necessary to secure environmental approvals by other state or federal agencies.

### **Northern California Youth Correctional Center EIR, San Joaquin County**

California Prison Receivership

Senior Biologist

Under contract to the California Prison Receivership Program, Linda provided senior guidance for preparation of the biological impact analyses and mitigation development. In addition, she discussed the use of the San Joaquin County Multispecies Habitat Conservation and Open Space Plan and the Statewide Electrified Fence HCP to compensate for impacts to biological resources.

### **Garibaldi Ranch Development Project, City of Fairfield, Solano County**

Discovery Builders, Inc.

Wildlife Biologist

Linda conducted protocol-level surveys for California red-legged frog and prepared a habitat assessment report for USFWS to evaluate potential effects of a 222-acre residential development, public space, and open space project. Several adult California red-legged frogs were documented on the project site. Survey results and report were used in support of acquiring state and federal permits for the project.

### **Alma Helitack Base and Forest Fire Station Replacement Facility, Santa Clara County**

California Department of General Services

Wildlife Biologist

Linda conducted field surveys and prepared biological resources section of an EIR for the proposed replacement of CALFIRE's Alma Helitack Base and Forest Fire Station. The project proposed the relocation of the helipad and helicopter hanger, requiring leveling an existing knoll and excavating approximately 19,600 cubic yards of soil. The project also included demolition of five existing buildings and construction of new facilities replacement to meet current building codes. The site is located on 6.3 acres in the Santa Cruz Mountains and potential impacts to sensitive amphibians, reptiles, nesting raptors and native oak trees represent the primary biological issues.

### **Wildlife Sanctuary Development, Sonoma County**

City of Santa Rosa

Wildlife Biologist

Linda developed design plans for a wildlife sanctuary to be located adjacent to an urban park and recreation area. The objective of the project was to optimize wildlife habitat and provide opportunities for wildlife education. Constraints to the project include limited land availability, urban setting, and water storage requirements. Key tasks include an analysis of existing natural vegetation, wildlife habitats, and locations of sensitive species; literature review and consultation with local experts; and identification of appropriate design and uses for the wildlife sanctuary.

### **Biological Impact Studies for Batterson Fire Station, Madera County**

California Department of General Services/CALFIRE

Wildlife Biologist

Linda evaluated potential impacts on special-status species for a new CALFIRE station in the Sierra National Forest. Because the site is on National Forest land, the project must comply with Standards and Guidelines provided by the Sierra Nevada Forest Plan. She conducted habitat assessment for bald eagle and California red-legged frog. Linda prepared a Biological Assessment to evaluate potential effects on species listed under the ESA, and Biological Evaluation to evaluate potential effects on species considered sensitive by the USFS.

### **Biological Impact Studies for Fire Station, Lassen County**

California Department of General Services - Real Estate Services Division

Wildlife Biologist

Linda evaluated potential impacts on special-status species for CALFIRE at the request of DGS. She completed field surveys, which included habitat mapping and habitat assessments for special-status plants and animals.

### **Northern California Reentry Facility and DeWitt Nelson Youth Correctional Facility Conversion Projects, San Joaquin County**

California Department of Corrections and Rehabilitation

Wildlife Biologist

Ascent prepared, on behalf of CDCR, the EIR for the demolition, redevelopment, and/or reuse of the former Northern California Youth Correctional Center (NCYCC) in Stockton, California. Two separate (but related) projects were proposed and were evaluated in one EIR. The Northern California Reentry Facility involves the construction of a new medical building and renovation of existing buildings at the former Northern California Women's Facility to provide facilities and services to inmates in their last year of incarceration the training and tools necessary to effectively succeed in society. The DeWitt-Nelson conversion project was proposed in response to a federal court order and is one element of a series of projects that would provide adequate mental health care to inmates. Key environmental issues with these projects include traffic impacts, stormwater drainage, farmland resources, air quality, water supply, and hazardous materials. Linda oversaw the analysis of impacts to biological resources and mitigation for impacts to wildlife from operation of a new lethal electrified fence.

## SOLID WASTE AND HAZARDOUS MATERIALS WASTE MANAGEMENT

### **Pacheco Pass Composting Facility Expansion, Santa Clara County**

NorCal Waste Systems

Wildlife Biologist

Linda conducted a habitat assessment and focused surveys for California red-legged frogs using USFWS survey protocol for a proposed expansion of an existing composting facility near the city of Gilroy in Santa Clara County. She documented occurrence of an adult California red-legged frog in the vicinity and prepared report to be submitted to USFWS.

## LAKE TAHOE BASIN

### **Forest Habitat Enhancement Program, Lake Tahoe Basin**

California Tahoe Conservancy

Wildlife Biologist/Project Manager

Linda assisted the California Tahoe Conservancy to develop and implement a forest habitat enhancement program for Conservancy-owned properties in the Tahoe Basin. The objective of the program was to identify and implement measures to reestablish natural ecological processes and thereby improve the wildlife habitat of these parcels. Initial tasks included literature review, development of GIS data layers, and biological reconnaissance surveys of the parcels. From the baseline surveys, general habitat suitability was described and recommendations for any needed directed surveys for sensitive species, such as northern goshawk, American marten, and willow flycatcher were developed. Subsequent tasks included leading a northern goshawk and California spotted owl identification and survey technique workshop for Conservancy staff and developing an opportunities and constraints analysis for restoration of an 800-acre parcel near Kings Beach.

### **Ward Creek/Tahoe Rim Trail Bridge Crossing Biological Assessment/Biological Evaluation, Placer County**

Auerbach Engineering

Project Manager

The Tahoe Rim Trail Association and USFS–Lake Tahoe Basin Management Unit (LTBMU) proposed to construct a wooden bridge near the existing unimproved crossing of the Tahoe Rim Trail over Ward Creek. The project also included minor realignment of the existing trail, restoration, and creek bank stabilization at the creek crossing to reduce adverse effects on water quality in Ward Creek. Biologists conducted field surveys for sensitive plant species, evaluated wildlife habitats, mapped wetland boundaries, and prepared a joint BA/BE. The BA/BE evaluated the potential for special-status wildlife species to be adversely affected by the project and provided avoidance and minimization measures to be incorporated into the project description to reduce effects on sensitive species.

### **Upper Truckee River and Wetland Restoration Project, South Lake Tahoe**

California Tahoe Conservancy/California Department of General Services

Wildlife Biologist

Linda identified key biological opportunities and critical constraints to support preliminary planning for enhancement of the Upper Truckee Marsh. She was authored a document describing primary ecological processes and functions affecting wildlife populations to provide a benchmark and common understanding of what is known about the site. The wildlife processes and function description, in addition to other descriptions addressing soils and vegetation, were used to develop the restoration concepts and design plan for the site.

### **Tahoe City Marina Expansion Master Plan EIR/EIS, Placer County**

Tahoe Regional Planning Agency (TRPA)/Placer County

Wildlife Biologist

Linda conducted field surveys and prepared biological resources sections for an EIR/EIS for the Tahoe City Marina Expansion Master Plan. The proposed expansion involved an additional 144 boat slips built in two phases. Additional space was provided for water taxi and excursion boats using the marina to reach Tahoe City as a destination. Key biological issues include attainment of TRPA thresholds, tree removal, potential spread of invasive aquatic weeds, and protection of areas designated as Stream Environment Zones by TRPA.

### **North Tahoe Beach Center IS/MND, Kings Beach**

California Department of General Services - Real Estate Services Division

Biologist

As part of an on-call contract for environmental services in the Tahoe Basin, Linda assisted in the preparation of an IS/MND for the reconstruction and reconfiguration of facilities at the former North Tahoe Beach Center site in Kings Beach, CA. The site provides visitor-serving facilities at the state beach, including a group picnic shelter, parking, restrooms, and sand volleyball courts. Key biological issues in the MND include impacts to Tahoe yellow cress, which is a state-listed plant species. Tahoe yellow cress grows on sandy beaches and is endemic to Lake Tahoe. King's Beach is one of the most heavily visited public beaches on Lake Tahoe.

## PARKS, TRAILS, AND RECREATION AREAS

### Mount Umunhum Environmental Restoration and Public Access Project EIR, San Mateo and Santa Clara Counties

Midpeninsula Regional Open Space District

Wildlife Biologist

Ascent prepared an EIR for the Mount Umunhum Environmental Restoration and Public Access Project. The third highest in the Santa Cruz mountains, the peak of Mount Umunhum is currently occupied by the former Almaden Air Force Station (AFS), a NORAD facility that functioned as part of chain of radar stations monitoring the Pacific during the cold war. The project included options for complete or partial demolition or retention and sealing of existing structures associated with the former AFS. The project involved ecological and landform restoration, and would include several recreational trail connections, as well as several open space amenities, such as campground, viewing and ceremonial areas, and a visitors center. Linda prepared the biological resources section of the EIR.

### La Honda Creek Open Space Master Plan IS/MND, San Mateo and Santa Clara Counties

Midpeninsula Regional Open Space District

Wildlife Biologist

Ascent prepared the IS/MND for the La Honda Creek Open Space Master Plan. La Honda Creek Open Space Preserve encompasses 5,759 acres of coastal hills and forest in San Mateo County. The La Honda Creek Open Space Preserve Master Plan establishes a long-term (30-year) vision for the Preserve to guide future decisions affecting use and management of the land. The Master Plan includes retention of all existing uses within the Preserve with the addition of: expanded public access; reintroduction of grazing into the northern portion; construction of additional parking areas, facilities and trails; habitat restoration and enhancement; and adoption of resource management and public access policies. Key issues included a restoration plan for San Francisco garter snake and California red-legged frog. The District recently approved the Master Plan and IS/MND.

### Castle Rock State Park Entrance Project IS/MND, Santa Cruz County

Sempervirens Fund/Santa Cruz County

Wildlife Biologist

Ascent Environmental prepared an IS/MND to evaluate the potential effects of the Castle Rock State Park Entrance Project. Sempervirens Fund submitted an application to Santa Cruz County for the development of an open space facility on a 32.8-acre private parcel located on Skyline Boulevard that is adjacent to the existing Castle Rock State Park. After completion, the open space facility and property would be transferred to California State Parks and would function as an entrance feature, visitor center, parking area, and recreational area for the state park. Castle Rock State Park provides habitat for many sensitive biological resources, including the state and federally protected marbled murrelet, rare plants, anadromous fish, and sensitive bat species. Linda evaluated the potential impacts to sensitive biological resources and developed feasible mitigation measure to reduce the impacts to less than significant levels.

### Dry Creek Greenway Multi-Use Trail Project EIR, Placer County

City of Roseville

Senior Biologist

The proposed Dry Creek Greenway Multi-Use Trail consists of a 4.25 mile multi-use pathway between the existing Saugstad/Royer Park trail near Darling Way/Riverside Avenue on the west, to the City limits past the Old Auburn Road/South Cirby Way intersection on the east. The trail will serve as an alternative to using the busy City streets, as well as an important recreational amenity for residents and will ultimately provide an important regional connection that will form a loop around the greater South Placer/Sacramento area. The NEPA document is being prepared under Caltrans and FHWA procedures. Key issues include protection of the creek floodways, riparian habitat effects, construction noise and air quality, and neighborhood compatibility. Linda oversaw evaluation of impacts to biological resources from several project alternatives and assistance with strategies for wetland and endangered species permitting.

### North Fork American River Trail EIR and EA/FONSI, Placer County

Placer County Facilities Services Department

Wildlife Biologist

Linda evaluated potential for special-status wildlife species to occur along a proposed 12.6-mile trail, beginning at the confluence of the North and Middle Forks of the American River and terminating at Ponderosa Road, 4 miles west of the town of Foresthill in Placer County. This is a cooperative project between Placer County, California State Parks, and the U.S. Bureau of Reclamation. Linda prepared the wildlife section of a joint environmental document EIR and EA/FONSI for compliance with CEQA and NEPA.

### Sonoma Coast State Beach General Plan and EIR, Sonoma County

California State Parks

Wildlife Biologist

Linda assisted with the preparation of the General Plan and EIR for the Sonoma Coast State Beach in Sonoma County. The park is one of California's most often visited State Parks and contains 19 mile of scenic coastline with rugged headlands, sandy beaches and sweeping ocean vistas. The park contains diverse biological resources including an underwater preserve, coastal bluff wetlands, the mouth of the Russian River, marine resources, coastal streams and a mosaic of diverse plant communities and abundant wildlife. Several sensitive wildlife species are known to occur, including western snowy plover, northern spotted owl, and foothill yellow-legged frog. Field surveys of suitable habitat for sensitive wildlife species were conducted to supplement summaries of existing information and used to develop an updated General Plan for the State Beach. The General Plan defined State Park's vision for the future of Sonoma Coast State Beach and set the framework for resource management and facility planning in the park for the next

20 years. It included a comprehensive inventory and analysis of the natural, cultural, recreational and operational resources present and explored opportunities and constraints presented by the presence of these resources. The approved General Plan and EIR will help guide future management and facility planning in the park unit.

### **Sinkyone Wilderness State Park General Plan and EIR, Mendocino County**

California State Parks

Project Wildlife Biologist

Linda assisted with the preparation of the General Plan and EIR for Sinkyone Wilderness State Park in Mendocino and Humboldt Counties. The park is part of California's "lost coast" and is characterized by steep terrain, heavily wooded slopes and sweeping ocean vistas. The park contains diverse biological resources including old growth redwood groves, marine resources, coastal streams and a mosaic of diverse plant communities and abundant wildlife. The General Plan defined State Park's vision for the future of Sinkyone Wilderness State Park and set the framework for resource management and facility planning in the park for the next 20 years. It included a comprehensive inventory and analysis of the natural resources present and explored opportunities and constraints presented by the presence of these resources. The plan also addressed important issues such as designation of large parts of the park as wilderness, and cooperative management with other agencies and stakeholders in the region such as the BLM and the Sinkyone Tribal Council. The General Plan and EIR will help guide future management and facility planning in the park unit.

## **COMMUNITY PLANNING**

### **Solano County General Plan Update and EIR, Solano County**

Solano County

Wildlife Biologist

The Solano County General Plan Update Program involved a comprehensive revision to most of the County's General Plan elements. The majority of these elements were prepared in the mid- to late-1970s. This EIR evaluated the broad-scale impacts of the 2008 Solano County General Plan Update. Linda assisted with the preparation of the biological resources section of the General Plan EIR.

### **Mindego Ranch Use and Management Plan IS/MND, San Mateo County**

Midpeninsula Regional Open Space District

Wildlife Biologist

Midpeninsula Regional Open Space District hired Ascent to prepare an IS/MND for the Mindego Ranch Use and Management Plan, which will direct future land management, operations, and public actions and activities at Mindego Ranch, located near Skyline Boulevard in San Mateo County. The goal of the Use and Management Plan is to protect and enhance habitat for sensitive wildlife species while responsibly integrating land management activities and limited public access at Mindego Ranch. Specific project components include habitat enhancement actions (including eradicating non-native fish and bullfrogs, increasing capacity of smaller ponds, and installing livestock exclusion fencing); establishing conservation grazing (which includes installation of feeding/water facilities and implementation of water quality protection measures); providing minimal public access (including opening a new trail section); and maintenance/operations projects (including erosion treatment and structure removal). Key issues included impacts to endangered species and water quality, especially associated with livestock-related *cryptosporidium* entering the nearby municipal surface water source. The IS/MND was adopted and the Use and Management Plan approved in January 2014.

# DEREK HITCHCOCK Senior Ecologist/Project Manager

## EDUCATION

B.A. Integrative Biology (concentration in ecology and evolution), University of California, Berkeley, 1994  
Ecosystem Ecology Doctoral Program, University of Colorado, Boulder, CO, 1999-2000  
Organization for Tropical Studies graduate course, University of Costa Rica, San Jose, 2000

## EMPLOYMENT HISTORY

Vollmar Natural Lands Consulting	Senior Ecologist/Project Manager	2015 - present
The Watershed Project	Greening Urban Watersheds Program Manager	2013 - 2015
California Land Stewardship Institute	Project Manager	2012-2013
Hitchcock Ecological	Principal/Senior Ecologist	2009-2011
South Yuba River Citizen's League (SYRCL)	Yuba Strategy Program Director/ Senior Ecologist	2007-2009
North Fork Mono Rancheria	Environmental Director	2005-2006
University of Nevada Reno	Researcher	2005
Natural Heritage Institute	Project Manager	2003-2004
University of Arizona	Researcher	1998
Forest Restoration Research Unit	Independent Researcher	1996-1998
University of California at Berkeley	Researcher	1992-1995

## PROFESSIONAL SUMMARY

Mr. Hitchcock has an educational background in ecosystem ecology and natural history. He spent the first 10 years of his career conducting independent ecological research in tropical ecosystems. A 6th generation Californian, he returned to his native land and over the past 11 years has managed a series of complex projects and programs that support an improved understanding of native habitat and accomplish the preservation or restoration of ecological processes. With these projects he has worked in the public, private, non-profit, and Tribal sectors. He has conducted watershed assessment and restoration planning and implementation in the San Joaquin, Yuba, and Napa River Watersheds as well as numerous streams in the Bay Area. He has authored numerous natural resource management plans and coordinated the development of several natural resource databases.

Mr. Hitchcock possesses a deep knowledge of California landscapes at multiple scales, with specific knowledge of the flora and fauna in riparian, freshwater aquatic, foothill, mountain and grassland habitats. He is strongly collaborative and has a track record of successfully bringing together disparate stakeholders toward the shared goal preserving or improving our natural heritage. He has worked extensively with ranchers and farmers, as well as Tribal and urban communities. Mr. Hitchcock regularly speaks at public forums, convenes meetings of stakeholders, and has participated in the expert scientific review process often associated with regional conservation planning and land conservation projects.

## REPRESENTATIVE PROJECT EXPERIENCE

### **Analysis of Potential Effects to Surface Biological Resources from Groundwater Pumping in Middle Green Valley (Solano County, CA)**

Lead ecologist and author of an analysis to evaluate potential impacts to existing surface biological resources from additional proposed annual groundwater pumping for the planned Middle Green Valley Project. Results focused on the potential for intra-annual drawdown near pumps to impact special-status species in the riparian corridors, including central California coast steelhead, California red-legged frog, western pond turtle, Swainson's hawk, and valley elderberry longhorn beetle. The analysis was included in the environmental documents prepared for the project pursuant to the CEQA permitting. (Vollmar Natural Lands Consulting 2016)

### **Lower Chowchilla River Final Riparian Restoration Design (Madera County, CA)**

Lead ecologist and author of the final design for 4-acres of riparian restoration along the Lower Chowchilla River, as part of a Permittee-Responsible Mitigation Preserve for the California High Speed Rail Project. Design incorporated an analysis of severely altered hydrology, resulting in a shift in the underlying physical processes that support different riparian habitat types at different geomorphic locations within the river corridor. Final planting design included Valley Oak Riparian, Mixed Riparian, and Elderberry Savanna habitat zones. (Vollmar Natural Lands Consulting 2016)

### **UC Merced Reserve Assessment of Wetland Restoration Opportunities (Merced County, CA)**

Project Manager and lead author of an assessment restoration opportunities in the 6500 acre UC Merced Vernal Pools and Grassland Reserve. Following remote site analysis, field surveys, and post-survey data analysis results indicated significant opportunities to modify existing stock ponds to release up to 60 ac. ft. of water downstream for vernal wetland and enhancement and riparian restoration. (Vollmar Natural Lands Consulting 2015)

### **Yuba River Watershed Assessment (Nevada & Yuba Counties, CA)**

Lead scientist and author of "*21<sup>st</sup> Century Assessment of the Yuba River Watershed,*" including major sections on impacts to watershed health, restoration priorities, and toward a regenerative future. The assessment incorporated extensive historical and scientific research, used citizen generated data, and consolidated existing data to pinpoint trends and identify restoration priorities. (Hitchcock Ecological 2009 - 2011)

### **Lower Yuba River Restoration Concept Design (Yuba County, CA)**

Successfully grant funded and contributed to a conceptual framework for *Rehabilitation Concepts for the Parks Bar to Hammon Bar Reach of the Lower Yuba River*, prepared by cbec eco engineering. The restoration concepts plan outlines 10 specific projects aimed at rehabilitation of channel and riparian conditions along the severely degraded Lower Yuba River, ranging from riparian planting and placement of large woody debris to re-creation of backwater and side channel habitat. (SYRCL 2007-2009)

### **Yuba Conceptual Area Protection Plan (Nevada & Yuba Counties, CA)**

Completed the Yuba Conceptual Area Protection Plan, a biological resources inventory and planning document required by the Wildlife Conservation Board to fund the purchase and transfer of large riverfront parcels containing critical fisheries habitat to public trust through purchase by the Trust for Public Land. (SYRCL 2007-2009)

### **Fish Friendly Farming Conservation Plans (Napa, Sonoma, & El Dorado Counties)**

Lead author of over 30 Farm Conservation Plans for vineyards and orchards. Plans identify sediment and chemical inputs to waterways and prescribe best management practices for erosion control and the minimization of impacts to aquatic and riparian ecosystems. Plans include GIS-based map products and result in a 5 year certification for growers. (California Land Stewardship Institute 2012-2013)

### **Napa River Restoration: Oakville to Oak Knoll (Napa County, CA)**

Project Manager for the implementation of restoration on 9.5 miles of the Napa River between Oakville Cross Rd. & Oak Knoll. The Napa River suffers from severe channel incision with bank collapse and erosion of channel bedforms, and a reduced riparian corridor due to lack of functional floodplain. Restoration activities include invasive species removal (*Arundo donax*) and re-vegetation, bank setback and re-grading to below 2-yr. flood elevation, secondary channel re-creation, and managed retreat. Duties include lead ecologist on design and implementation of riparian re-vegetation, managing landowner relationships and generating formal agreements, subcontractor selection and management, and review of all final restoration designs. (California Land Stewardship Institute 2012-2013)

### **North Fork Mono Rancheria Integrated Resource Management Plan (Madera County, CA)**

As Environmental Director of the North Fork Mono Rancheria, contributed primary authorship to an IRMP for the Tribe. Incorporating input from a series of community scoping meetings, major sections included a Forest and Fire Management Plan (with a subsection on biomass to energy), Solid Waste & Septic System Management Plan, Healthy Watershed Plan, and Cultural Resource Protection and Education Plan. (North Fork Mono Rancheria 2005-2006)

### **Richmond Greenway Stormwater Management (Contra Costa County, CA)**

Provide vision, design, fundraising, and supervision of the construction of a series of bioswales and rain gardens on the Richmond Greenway that restore pre-development hydrologic and ecologic function while mitigating flooding, processing pollutants, and beautifying the neighborhood. Projects built include a 500' bioswale from 6<sup>th</sup>-8<sup>th</sup> Street and rain gardens and tree box filters at 3<sup>rd</sup>, 7<sup>th</sup>, 9<sup>th</sup>, 17<sup>th</sup>, and 21<sup>st</sup> Street. (The Watershed Project 2013 - 2015)

### **Madera County Integrated Regional Water Management Plan (IRWMP)**

Advisory Committee member for the IRWMP, providing input on the development of the plan, with particular emphasis on the cultural land use history and water supply (groundwater and surface water) in the foothills and mountains. (North Fork Mono Rancheria 2005-2006)

### **Sharing Water: Towards Transboundary Consensus on the Management of the Okavango River Basin (Angola, Namibia, Botswana & South Africa)**

Project Manager of the *Sharing Water* project, coordinating activities resulting in the preliminary development of a long term management plan for the transboundary Okavango River Basin. Duties included managing the cooperation of the nine project partner organizations and over 50 participants, building support at Ministerial levels of government, coordination of three international technical training workshops for relevant stakeholders, coordination of the development of a river basin planning model, authorship of project newsletter, budget tracking (\$2.5 million), drafting of project reports and presentation of project and ecology of the river basin at international academic conferences. (Natural Heritage Institute 2003-2004)

### **Yuba Libre Ecological Preserve Management (Nevada County, CA)**

Land Manager (and part-owner) of 22 acre ecological preserve on the South Yuba River. Responsible for implementing a habitat enhancement plan for the Preserve. Ecological research is underway comparing restoration treatments, including the application of controlled burning in collaboration with Tsi-Akim Maidu Tribe. Long term goal is a collaborative management agreement with the BLM and CA State Parks to share stewardship responsibilities of adjoining 750 acres. (Hitchcock Ecological Oct. 2009 - Present)

### **Lower Yuba Stakeholder Assessment (Yuba County, CA)**

As Project Manager of the Yuba Strategy Initiative subcontracted and worked with the Center for Collaborative Policy (Sacramento St. University) to convene 42 disparate stakeholders in the Lower Yuba River to participate in a stakeholder assessment. The assessment established stakeholder consensus to improve fisheries habitat, significantly advancing the funding and implementation of restoration design and habitat enhancement projects. (SYRCL 2007-2009)

### **Consortium of 7 Central California Tribal Environmental Departments**

As Environmental Director of the North Fork Mono Rancheria, instrumental in the formation of a consortium of the Environmental Departments of the North Fork, Big Sandy, Cold Springs, Picayune, and Table Mountain Rancheria's and the Tule River Indian Tribe and Tuolumne Band of Miwok. The realized intention of the consortium was to approach more successfully larger issues such as government to government relations with agencies in relation to traditional natural resource stewardship and FERC hydro-power relicensing. (North Fork Mono Rancheria 2005-2006)

### **Yuba Stewards Program (Nevada County, CA)**

As Project Manager of the Yuba Strategy Initiative designed, directed, and grant-funded the Yuba Stewards program, successfully creating local capacity to assess watershed health and implement conservation and restoration objectives. Trained Citizen Stewards collected useable SWAMP protocol data on water quality, and surveyed special status species and abandoned mine lands. (SYRCL 2007-2009)

### **Yuba Shed Natural Resource Database (Nevada & Yuba Counties, CA)**

Coordinated the development, population, and maintenance of an online interactive natural resource database and information system for the Yuba River Basin (see [www.yubashed.org](http://www.yubashed.org)). Yuba Shed is designed to facilitate collaborative work among all stakeholder organizations, and to promote a science-based understanding of the Yuba River and the entire Yuba River watershed. (SYRCL 2007-2009)

### **Sacramento Watershed Information Module (SWIM)**

Identified, compiled, organized and delivered all relevant spatial and document based data in useable format for the Sacramento Watershed Information Module (SWIM) for the Cosumnes, American, Bear and Yuba watersheds of the CABY region. (Hitchcock Ecological 2009 - 2011)

### **Okavango Database Project (Angola, Namibia, Botswana)**

Coordinated the development, population, and maintenance of an internet accessible shared natural resource database for the Okavango River Basin (Microsoft Access format). The availability of a common, shared data system supported the generation of shared assumptions about the river basin and proposed management alternatives. (Natural Heritage Institute 2003-2004)

### **Biological Control of *Tamarisk spp.* in the western Great Basin**

Field research conducted on the biocontrol of *Tamarisk spp.* in the western Great Basin, including testing of an approved insect (*Diorhabda elongata*), vegetation monitoring, and insect growth response. Lead researcher on bird point count studies in the Walker River Indian Reservation establishing increase in bird population density and diversity at sites following insect release. (University of Nevada Reno 2005)

### **Foraging Ecology of the Lesser Long-nosed Bat (southeast Arizona)**

The research team investigated the symbiotic relationship between the flowers of *Agave palmeri* and the endangered nectivorous Lesser Long-nosed Bat. Field work included radio-collaring bats, radio telemetry data collection, observation using night vision equipment, and vegetation sampling. Results significantly improved the management of this endangered species. (University of Arizona, 1998)

### **The Role of Birds in Dry Tropical Forest Restoration (northern Thailand)**

Lead Ecologist studying the role of birds in dry tropical forest restoration as part of a research group established to determine the most effective methods to accelerate natural forest regeneration on deforested sites using the framework species method. Data collection included observing birds feeding in fruiting trees and sampling seedlings under remnant trees in deforested areas. Published results directed the selection of tree species targeting specific avian dispersal agents. (Forest Restoration Research Unit 1996-1998)

### **Mangrove Forest Regeneration (Panama)**

Researcher on a long term project testing for an interaction between herbivory and competition in three species of mangroves along an environmental gradient in coastal Panama. The results of this primary ecological research project continue to significantly inform improved conservation and management efforts in mangrove forests. (University of California at Berkeley 1993-1995)

### **Ecosystem level changes in seasonally dry Hawaiian woodland**

Researcher studying ecosystem level changes in seasonally dry Hawaiian woodland in response to invasive grass species and fire. The study measured and quantified shifts in nutrient cycling. Lead researcher on a study that measured the response of native spp. to the removal of exotic grasses. (University of California at Berkeley 1994)

### **Wildlife Communities Observed at Pans with Artificial or Natural Water Sources (Botswana)**

Independent ecological research conducted comparing the use of pans with artificial versus natural water sources by wildlife communities in Kutse Game Reserve, Botswana. Pans with artificial water sources experienced resident predators, different assemblages of animal species due to higher salt content of the water source, and exhibited soil compaction and vegetation damage. Published results of study were used to improve wildlife management in the Reserve. (University of California at Berkeley 1992-1994)

## SELECTED REPORTS/PUBLICATIONS

Hitchcock, D., Rainey, J. and F. Cunningham. 2011. A 21<sup>st</sup> Century Assessment of the Yuba River Watershed. A report by the South Yuba River Citizen's League.

Hitchcock, D. 2009. Calling Back the Yuba River Salmon. *Coast & Ocean* 25 No. 2: 24-25.

Hitchcock, D., T. Dudley, and B. Longland (in press). Influence of biological control introductions on wildlife habitat in saltcedar stands. *Great Basin Naturalist*.

Hitchcock, D. and S. Elliott. 1999. Forest restoration research in northern Thailand, III: Observations of birds feeding in mature *Hovenia dulcis* Thunb. (Rhamnaceae). *Natural History Bulletin of the Siam Society* 47 No. 2:149-152.

D'Antonio, C.M., R.F. Hughes, M. Mack, D. Hitchcock and P.M. Vitousek. 1998. Response of native species to the removal of invasive exotic grasses in seasonally dry Hawaiian woodland. *Journal of Vegetation Science* 9:699-712.

Hitchcock, D. 1996. Wildlife observed in Kutse Game Reserve, Botswana, at pans with either artificial or natural water sources. *African Journal of Ecology* 34:70-74.

## RECENT PRESENTATIONS:

"Mountain Meadows and Urban Rain Gardens: Wise Use of Water from Source to Sea." SFPUC Watershed Teaching Tools Workshop, San Francisco, CA October 21<sup>st</sup>, 2014.

"Watersheds to Culturesheds: How Science and Art Merge to Create the Mythic Storytelling of Watershed Health." Bay Area Art & Science Interdisciplinary Collaborative Sessions 4: Watershed, San Francisco, CA, January 18<sup>th</sup>, 2014.

"Designing Resilient Landscapes: What history teaches us about San Francisco and the Bay-Delta Estuary." Presented by Robin Grossinger, Ruth Askevold, and Derek Hitchcock. Shaping San Francisco Public Talk Series, San Francisco, CA, March 27<sup>th</sup>, 2013.

"The Future of Watershed Collaboration." Presented by Derek Hitchcock, Jason Rainey, and Mark Dubois. Wild & Scenic Film Festival Workshop, January 15<sup>th</sup>, 2012.

"The Story of the Yuba and the Future of Watershed Collaboration." Contra Costa County Watershed Symposium, Antioch, CA, Nov 17<sup>th</sup> 2011.

"Watersheds & Culturesheds: Developing Reciprocal Bio-Regional Culture from the Bay Area to the Mountains of California" CounterPULSE, San Francisco, CA, March, 2011

"Becoming Stewards of the Land we Live On," Salmon Restoration Federation Annual Conference, Lodi, CA, March 2008.

# JOHN EVERETT VOLLMAR, Senior Biologist/ Wetland Ecologist

## EDUCATION

B.S. Evolution/Natural History, University of California, Berkeley, 1990

## EMPLOYMENT HISTORY

Vollmar Natural Lands Consulting	Principal/Senior Biologist	1996 - present
CytoCulture BioTechnology, Inc.	Wetland Research Associate	1996 - 1998
Garcia and Associates	Botanist/Wetland Ecologist	1995 - 1997
BioSystems Analysis, Inc.	Botanist	1992 - 1995
WESCO Ecological Services	Botanist	1991
Eldorado National Forest	Botanist	1990
Alaskan Observers, Inc.	Fisheries Biologist	1987, 1991, 1992
U.C.Berkeley Field Study	Wildlife Research Assistant	1986 - 1987

## PROFESSIONAL SUMMARY

Mr. Vollmar is founder and president of Vollmar Natural Lands Consulting. He received his B.S. in natural history and evolution from the University of California, Berkeley. He is a senior botanist, wetland ecologist, and aquatic wildlife biologist with over 15 years of professional experience.

Mr. Vollmar has more than 25 years of professional experience in natural resource and conservation land assessment, management and restoration. He founded Vollmar Natural Lands in 1996 and currently directs a staff of about 10 scientists. Mr. Vollmar has directed more than 250 projects for a broad range of private, non-profit, city, county, state and federal entities. These projects have included large-scale botanical and wildlife surveys, development and implementation of management plans for conservation and mitigation preserves, mitigation bank development, and regional planning project for the strategic conservation of rare habitats and species.

Mr. Vollmar is an expert on the grassland, scrub, woodland and seasonal wetlands habitats of California's Central Coast Ranges, Great Valley and Sierra Nevada foothills. He is a leading expert and researcher on vernal pools, California tiger salamander, annual grasslands, and grassland-associated rare plants. He has pioneered techniques for evaluating, managing, and constructing breeding ponds for California tiger salamander, California red-legged frog, and listed vernal pool shrimp. He is also an experienced botanist, having conducted surveys throughout California.

Mr. Vollmar has worked with numerous ranchers and other landowners to establish conservation easements, obtain easement funding, and develop and implement plans for the long-term monitoring and management of natural resources on easement lands. He has prepared several easement documentation reports for the Wildlife Conservation Board, The Nature Conservancy, and other entities. Mr. Vollmar regularly speaks at public forums, convenes public workshops and meetings of stakeholders, and has participated in the expert scientific review process often associated with regional conservation planning and land conservation projects. He is also experienced working with the media and elected officials.

## PROJECT EXPERIENCE

### *CONSERVATION PLANNING, HABITAT RESTORATION, AND NATURAL LANDS MANAGEMENT*

**California Tiger Salamander and Western Spadefoot Breeding Study (Eastern San Joaquin and Sacramento Valley, CA).** Project Manager. Managed field surveys, data collection and analysis for a multi-year study of habitat factors influencing California tiger salamander and western spadefoot breeding in 120 vernal pools at six sites in California's Great Valley. 2011-2013

**CVPIA Vernal Pool Creation Study (Central Valley, CA).** Project director for a study funded by the Bureau of Reclamation under the Central Valley Improvement Act grant opportunity (with technical oversight by the U.S. Fish and Wildlife Service) that examines historic trends and success of vernal pool restoration and creation at ten project sites (~500 pools) in the Sacramento Valley. 2009-2013

**Fernandez Ranch Property Management Plan Project (Contra Costa County, CA).** Project director for extensive biological field surveys and development of a comprehensive 5-year Property Management Plan for a 700-acre open space preserve owned and managed by Muir Heritage Land Trust. The property supports a mix of grassland, scrub, oak woodland, mixed forest, riparian, and seasonal wetland habitats and provides critical regional habitat for the federally-listed Alameda whipsnake, California red-legged frog, and two rare plant species. The Property Management Plan addressed use of grazing for habitat management, specific management and enhancement of sensitive habitats and species, riparian and creek protection and restoration, invasive wildlife and weed control, multi-use public recreational access via a proposed trail network, management of public access to reduce environmental impacts and livestock interaction, and overall facilities maintenance. Vollmar Consulting, 2006.

**Sears Point Property Restoration and Management Plan Project (Sonoma County, CA).** Director of extensive biological surveys and development of a Watershed Restoration and Management Plan for a 2,300-acre site extending from prominent Sears Point to the margin of San Pablo Bay in southeastern Sonoma County, California. The property, which is owned and managed by the Sonoma Land Trust, supports annual and perennial grasslands, wildflower fields, degraded riparian habitats and seasonal marshes within stream corridors, and a variety of seasonal wetland habitats. It provides important regional habitat for the federally-listed California red-legged frog. The Plan addresses use of prescribed grazing for overall habitat management, conservation and enhancement of native grasslands and wildflower fields, restoration of riparian habitats and severely eroded stream corridors, construction of breeding ponds and restoration of a viable red-legged frog population, and the control of invasive species including bullfrogs and noxious weeds. (Vollmar Consulting, 2005-2007).

**Cloverdale Ranch Pond Management Plan Project (San Mateo County, CA).** Project director and lead field biologist for a project to develop a long-term management plan for 30+ ponds on the 7,000-acre Cloverdale Ranch owned by the Peninsula Open Space Trust. The ponds support critical regional populations of the federally-listed San Francisco garter snake and California red-legged frog. The purpose of the plan is to manage the ponds and their associated uplands for the conservation and restoration of these species. Vollmar Consulting, 2005-2006.

**Eastern Merced County Vernal Pool Grasslands Study (Merced County, CA).** Project director for an ecological study of a 300,000-acre NCCP/HCP planning area in eastern Merced County. Project sponsored by Merced County with funding from California Department of Fish and Game. Hired and managed all staff and subconsultants. Developed a GIS database of landscape features (topography, geology, habitat mapping, land use, and land ownership, etc.) and rare species occurrence records to be used for regional analyses. Developed and implemented landscape-based study designs for rare plants, invertebrates, amphibians, reptiles, birds, and mammals over 40,000+ acres. Editor and contributing author for final report published in book-like format with text, GIS-based maps, and rare species photographs. Final report is being used by Merced County and expert scientists as baseline information for developing the regional conservation plan. Vollmar Consulting, 2001-2002.

**Big Break Marsh Project (Oakley, Contra Costa County, CA).** Project director and lead botanist/vegetation ecologist for an ecologist study of a property owned by East Bay Parks on the edge of the Sacramento/San Joaquin Delta. Property incorporates brackish marsh, seasonal alkali marsh, and upland alkali grassland habitats. Field studies included rare plant surveys, habitat identification and mapping, wetland delineation, and invasive weed mapping. Prepared comprehensive report to be used for long-range planning at the site balancing the development of a proposed Delta Science Center with natural resource management and conservation. Vollmar Consulting, 2000-2001.

**Contra Costa Goldfields Conservation Projects (Solano County, CA).** Project manager and lead botanist for several related development and conservation projects involving the federally listed endangered plant Contra Costa goldfields (*Lasthenia conjugens*). Conducted a regional ecological study of the species, developed conservation guidelines, negotiated conservation measures with various landowners, completed Section 7 consultations, and established preserve and mitigation sites. Vollmar Consulting, 1996-present.

**Snow's Lake Restoration Project (Lake County, CA).** Project manager for a project to restore seasonal hydrology, develop perennial wetlands and enhance the wildlife habitat value within a 26-acre, biologically unique seasonal lake disturbed by dredging and clearing of the local watershed. Conducted background studies, botanical and wildlife surveys, and prepared an ecological profile of the lake. Consulted with U.S. Army Corps of Engineers and USFWS on regulatory issues pertaining to wetland conversion, Vollmar Consulting. 1998.

**Eastern Merced County Natural Resources Literature Review (Merced County, CA).** Project director for developing a comprehensive database and library of existing literature pertaining to the natural resources of eastern Merced County. Project sponsored by Merced County with funding from California Department of Fish and Game. Final database included more than 400 citations. Information to be used by planners, biologists, and scientific experts for developing regional conservation guidelines and a joint HCP/NCCP. Vollmar Consulting, 2000-2001.

**Arroyo Grande Creek HCP Project (San Luis Obispo County, CA).** Project manager for rare plant and vegetation studies conducted in support of an HCP for lower Arroyo Grande Creek. Conducted rare plant surveys, mapped habitat types, developed plant community descriptions, and assessed potential impacts to botanical resources of various project designs. Vollmar Consulting, 1999-2002.

**CytoCulture BioSolvent Research Project (Point Richmond, CA).** Principal scientist for a study of the effects of crude oil and an experimental soy bean-derived oil solvent on salt and

freshwater marsh plants (*Salicornia virginica*, *Scirpus acutus*, and *Spartina foliosa*). Developed study design, procured and tested marsh plants in a controlled environment, compiled and analyzed study results. Vollmar Consulting, 1996.

**Idaho Power Company Hydropower Impact Study (Southern Idaho).** Conducted a literature review of hydropower effects on riparian habitats resulting from downstream flow alterations, reservoir development and transmission line construction. Project included an in-depth study of riparian habitat system dynamics in montane, alluvial and gorge river systems. Prepared report to be used for FERC re-licensing. Garcia and Associates, 1995.

**Tonto Basin Riparian Restoration Project (Tonto Creek Basin, AZ).** Field manager and contributing report author for a long-term riparian habitat monitoring project in the Tonto Creek Basin. Conducted stand surveys and floristic inventories of National Wetland Inventory polygons. Provided an analysis of results to the Fish and Wildlife Service. Managed botanical field crews establishing transects and collecting extensive tree, shrub and herb data. Co-authored 1996 annual report. BioSystems Analysis/Garcia and Associates, 1993-94, 1996, 1998.

**Upper Camp Creek Riparian Habitat Restoration Project (Eldorado National Forest, Placerville, CA).** Developed comprehensive habitat restoration plans for 25+ stream side sites damaged by logging. Plan included soil preparation, species to be planted, method of propagation and planting, irrigation, and monitoring guidelines. Established protocol for restoring an additional 200+ less critically damaged sites. BioSystems Analysis, 1993.

**PGT/PG&E Natural Gas Pipeline Project (Northern Central Valley, CA).** Provided botanical expertise and field supervision for a vernal pool restoration project involving 300+ pools. Produced a work crew training manual with botanical drawings and descriptions of key vernal pool species. Established permanent post-construction monitoring transects to track redevelopment of seasonal wetlands. BioSystems Analysis, 1992-93.

**Rush Ranch Open Space Project (Grizzly Island, Solano County, CA).** Established exclusion fences and monitoring transects to assess impacts of cattle grazing on Central Valley annual and perennial grassland. Conducted a floristic inventory and compiled a floristic photo log of the 1000+ acre site. Western Ecological Services Corporation, 1991.

**Australian Rainforest Fragmentation Research Project (Milaa Milaa, Queensland, Australia).** Principal assistant in a study of the effects of rainforest fragmentation on the mammalian ecosystem in the Australian tropics. Led field crews live-trapping small mammals and night-spotlighting for tree-dwelling marsupials. Managed field data collection. Museum of Vertebrate Zoology, University of California, Berkeley, 1986-87.

#### ***BOTANICAL SURVEYS, WILDLIFE SURVEYS, AND WETLAND DELINEATIONS***

**Gentry Property Assessment (Fairfield, CA).** Project manager and lead biologist for conducting biological studies on a 500-acre property being considered for mixed use as commercial development and mitigation site. The property, located on the edge of Suisun Marsh, supports vernal pools, alkali seasonal wetlands, perennial marsh, and annual grassland habitats as well as five special-status species. Conducted surveys for vernal pool large branchiopods, California tiger salamander, rare plants, and birds. Delineated wetlands. Prepared survey reports. Vollmar Consulting, 1998-2004.

**City of Fairfield Property Assessment (Fairfield, CA).** Project manager and lead botanist for conducting baseline biological studies on a 240-acre City-owned property being considered as a potential wetlands/rare species mitigation bank. Property supports vernal pools, alkali seasonal marsh, perennial freshwater marsh, and annual grassland habitats and at least two federally listed endangered or threatened species. Conducted surveys for vernal pool large branchiopods, California tiger salamander, vernal pool and marsh rare plants, and terrestrial invertebrates. Delineated wetlands. Prepared survey reports. Vollmar Consulting, 2000-2001.

**Gustafson Parcel Assessment (Fairfield, CA).** Project manager and lead biologist for conducting baseline biological studies on a 10-acre parcel under consideration for development. Conducted surveys for vernal pool large branchiopods, California tiger salamander, and rare plants. Delineated wetlands. Prepared survey reports. Vollmar Consulting, 2001-2002.

**Hercules Property Assessment (Hercules, CA).** Project manager and lead botanist for conducting rare plant surveys and potential habitat assessments, and mapping sensitive coastal prairie and bunch grass stands on a 500-acre proposed development site. Survey work is being conducted for the City of Hercules as part of its environmental review of this controversial project. Digitized and reviewed geologic and soils information, conducted spring and summer rare plant surveys, prepared survey report including a summary of the regulatory protection for different categories of 'sensitive' plant species. Vollmar Consulting, 2003-2004.

**Tejon Ranch Botanical Surveys (NW Los Angeles County/Southern Kern County, CA).** Project manager and lead botanist for botanical surveys on two projects sites encompassing more than 14,000 acres in the western Tehachapi Range. Habitats include annual grasslands, wildflower fields, oak woodlands, and chaparral. Developed GIS-based digital site maps showing geology, soils, topography, and habitat types. Conducted intensive peak and late spring surveys. Identified hundreds of rare plant occurrences. Prepared comprehensive reports summarizing rare plant occurrences, correlating occurrences with landscape features, and providing detailed descriptions of potential habitats for the rare species found on the sites. Vollmar Consulting, 2003-2004.

**Hollister Parcel Assessment (Hollister, CA).** Conducted a rare plant survey and sensitive habitat assessment on a 62-acre undeveloped parcel near Hollister, CA. Identified the rare plant *Isocoma menziesii* var. *diabolica* on the site. Vollmar Consulting, 1997-1998.

**Oakland Hills Parcel Assessment (Oakland, CA).** Conducted a rare plant survey and habitat assessment on a 13-acre hillside parcel in the Oakland hills. Vollmar Consulting, 1997.

**San Mateo County Bay Trails Bike Path Project (Redwood City, CA).** Surveyed coastal saltmarsh for rare plants, conducted a floristic inventory and habitat assessment of the 2000+ acre project area. Prepared summary report for use in an EIR. Provided botanical expertise for the Biological Assessment and habitat mitigation plan. Vollmar Consulting, 1995-96.

**PG&E Ignacio-Sausalito Reconductoring Project (Marin County, CA).** Lead field botanist for rare plant surveys along a 9-mile electrical transmission line corridor. Sensitive habitats included coastal saltmarsh, native bunchgrass, and serpentine communities. Garcia and Associates, 1997.

**PG&E Oakhurst Transmission Line Project (Oakhurst, CA).** Project supervisor and lead field botanist for conducting sensitive biological resource surveys along a 10-mile electrical transmission line corridor in a remote setting between Oakhurst and Coarsegold, central Sierra foothills. Garcia and Associates, 1997.

**EBMUD Pardee Reservoir Watershed Rare Plant Surveys (Jackson, CA).** Lead botanist for rare plant surveys and habitat assessments around Pardee Reservoir prior to raising the reservoir level. Garcia and Associates, 1997.

**East Bay Municipal Utility District Folsom South Canal Connection Project (Sacramento/Lodi, CA).** Mapped vernal pools, freshwater marsh and riparian habitats and conducted a rare plant surveys of vernal pools along several alternative pipeline alignments from the Folsom South Canal to the Mokelumne Aqueducts. Prepared report and made oral presentations during planning meetings assessing relative levels of impact associated with the various alternatives. Garcia and Associates, 1996-1997.

**PG&E Rare Plant Surveys (California).** Project manager/lead botanist for several rare plant surveys on small PG&E parcels throughout California. Garcia and Associates, 1996.

**EBMUD/Contra Costa County Recycled Water Project (Contra Costa County, CA).** Conducted botanical surveys and habitat assessments, supervised preparation of the biological and archaeological sections of draft EIR for the project. Garcia and Associates, 1997.

**EBMUD Folsom South Canal Connection Project (South Sacramento/Lodi, CA).** Mapped vernal pool, freshwater marsh and riparian habitats and conducted rare plant surveys of vernal pools along several pipeline alignments from the Folsom South Canal to the Mokelumne Aqueducts. Prepared report and made oral presentations during planning meetings assessing impacts associated with the various alternatives. Garcia and Associates, 1996.

**Mokelumne Aqueduct Seismic Upgrade Project (San Joaquin Delta, CA).** Conducted a linear corridor survey of existing habitats along the Mokelumne Aqueduct Delta crossing. Conducted rare plant surveys and identified potential rare plant habitat. Assisted in the delineation of wetlands. Wetland types included perennial marsh, seasonal marsh, artificial wetlands and "prior converted" wetlands. Prepared botanical survey report for use in CEQA assessment. Assisted in preparation of the delineation report. Advised the client (EBMUD) of 404 permit requirements for the project. Garcia and Associates, 1995-96.

**East Bay Municipal Utility District Folsom South Canal Connection/American River Joint Project (Sacramento/San Joaquin Counties, CA).** Project manager/lead field scientist for conducting sensitive habitat and rare plant surveys, and delineating wetlands along three project alignments for an EBMUD canal extension project. Wetland types included vernal pools, seasonal marsh and perennial marsh habitats. Survey corridors extended from Elk Grove to Stockton along the eastern Delta and Central Valley terrace. Evaluated survey results for CEQA assessment of impacts for five proposed project alternatives. Provided expertise and technical reports to EBMUD regarding wetland habitat mitigation and monitoring requirements, protocols, techniques and costs. Garcia and Associates, 1996-1998.

**East Bay Municipal Utility District Mokelumne Aquifer Recharge and Storage Project (Lodi, CA).** Conducted habitat surveys for sensitive habitats and rare plant habitat along 22 alternative alignments. Evaluated results for CEQA assessment of impacts for each alternative. Garcia and Associates, 1995.

**Tuscarora Gas Pipeline Project (Northeastern California/Western Nevada).** Conducted habitat characterizations and rare plant surveys along a 300-mile corridor extending from Malin, Oregon to Tracy, Nevada. Surveys included over thirty special-status plant species including four not previously found in California. BioSystems Analysis, 1994

**Travis Air Force Base Botanical Assessment (Fairfield, CA).** Coordinated, conducted surveys for sensitive plants and habitats. Conducted floristic inventories of 200+ vernal pools. Mapped distributions of several rare plant species. Provided Travis AFB with a comprehensive report of our findings. BioSystems Analysis, 1993.

**PGT/PG&E Natural Gas Pipeline Project (Northern Central Valley, CA).** Botanist for a 50-mile section of the pipeline project. Conducted rare plant surveys and mapping, and riparian habitat surveys. Directed a two-year VELB monitoring program involving five biologists and 30+ sites. BioSystems Analysis, 1992-93.

**United States Forest Service Rare Plant Surveys (Eldorado National Forest, Placerville, CA).** Coordinated and conducted rare plant surveys on 10,000+ acres. Drafted rare plant management recommendations. Conducted logging impact studies on rare plants. United States Forest Service, 1990.

**San Joaquin County Wetland Delineations (San Joaquin County, CA).** Delineated wetland resources on several parcels ranging in size from 40 to 640 acres. Prepared delineation reports. Assisted the clients through the verification process. Provided clients with technical advice regarding wetland permit requirements. Advising one client on establishing an FWS-approved mitigation bank. Vollmar Consulting, 1995-1997.

**Kaufman-Saunders Wetlands Study and Rare Plant Survey (Mendocino, CA).** Project manager, lead field biologist for wetland delineation and rare plant surveys on an 8-acre coastal terrace parcel. Delineation followed protocol of the California Coastal Act which identifies wetlands based on only one parameter. Identified special-status plant California bellflower on the site. Garcia and Associates, 1997.

**Silveira Ranches Wetland Project (San Rafael, CA).** Conducted a site assessment and advised client regarding the inadvertent fill of seasonal wetlands. Contacted agency and other personnel involved in the situation. Provided a summary report to advising client of options. Garcia and Associates, 1996.

**Lake City Geothermal Project (Surprise Valley, Modoc County, CA).** Provided botanical expertise on a 6,600 acre wetland delineation. Established transects, assisted in soil pit analysis. BioSystems Analysis, 1992.

#### ***MITIGATION AND MONITORING***

**Caltrans 'Madera Pools' In-house Mitigation Bank Project (Madera County, CA).** Project director for establishment of a multi-species vernal pool/seasonal wetland mitigation bank for Caltrans on a 200-acre property near Fresno, California. Caltrans will use the bank as an in-

house source of mitigation for impacts from transportation projects in the San Joaquin Valley. The site supports numerous vernal pools and several threatened and endangered species including California tiger salamander, vernal pool fairy shrimp, and San Joaquin Valley Orcutt grass. Many of the existing pools and swales were degraded by the previous land owner who tried to eliminate them with a box scraper. We are using historic aerial photos to restore and create more than 130 pools and swales intended to provide habitat for the full-suite of special-status species known from the site. Vollmar Consulting, 2004-2007.

**Montezuma Wetland Mitigation Preserve Project (Solano County, CA).** Project director for a long-term vernal pool creation and monitoring project within a 400-acre site. The preserve supports vernal pool tadpole shrimp, vernal pool fairy shrimp, and several rare plant species. The preserve also supports a robust population of the very rare and endangered Conservancy fairy shrimp which Vollmar Consulting discovered on site in 2001. The upland grasslands have unusually dense stands of native perennial bunchgrasses. Annual monitoring is conducted to assess and compare hydrology, water quality, aquatic invertebrate diversity and abundance, and floristics within created and preserved pools. Annual grassland monitoring is also conducted to assess appropriate grazing to benefit burrowing owls, upland rare plants, and native bunchgrasses. Vollmar Consulting, 2001-on-going.

**Meyer Cookware Goldfields Mitigation Project (Fairfield, CA).** Project manager, lead botanist for a project to establish a new population of the endangered Contra Costa goldfields for use as a mitigation site. Conducting literature reviews, collected ecological data from ten goldfields populations in the Fairfield region. Compiled data into a habitat model was used to create 1.5 acres of seasonal wetland habitat as potential goldfields habitat. Conducting ongoing monitoring of created wetlands. Project involved preparation of a Corps NWP 26 and draft biological assessment. Vollmar Consulting, 1997-2008.

**Foss Creek Riparian Assessment and Mitigation Project (Healdsburg, CA).** Evaluated the extent and quality of riparian habitat along a portion of Foss Creek bordering a 5-acre parcel proposed for development. Continuing project work includes assessing the impacts of the proposed development on riparian habitat functions and values, developing an approach to mitigation, and meeting with staff from the Healdsburg City Planning office to discuss impacts and proposed mitigation. Vollmar Consulting, 1997 (Subconsultant to Zitney and Associates).

**Southern California Edison Mitigation Bank Assessment (Vacaville, CA).** Evaluated feasibility of developing an 800-acre site as a vernal pool mitigation bank. Surveyed for existing pools, provided client with detailed information on the mitigation bank "value" of existing pools, regulatory requirements for establishing a bank, and the baseline mitigation banking economics. Garcia and Associates, 1997.

**Saddle Creek Development Wetland Monitoring Project (Copperopolis, CA).** Project manager and lead botanist for an 8-year wetland monitoring project. Project involves establishing monitoring transects, collecting vegetation data on herb, shrub and tree species, analyzing data for success, reporting to the Army Corps and CDFG, and providing client with technical recommendations. Vollmar Consulting, 1996-2004.

**Redwood City Saltmarsh Mitigation Project (Redwood City, CA).** Provided botanical expertise, assisted with transect monitoring of marsh plant plantings and regeneration on two saltmarsh mitigation sites near the Redwood City Police Facility. Provided advice on weed control on the sites. Garcia and Associates, 1994-96.

## SELECTED REPORTS/PUBLICATIONS

- Ahlborn, G., J. Vollmar, and D. Sterner. 1994. Travis Air Force Base Environmental Survey Report. Prepared by BioSystems Analysis, Inc. for Travis Air Force Base.
- Ford, L., J. Vollmar, G. Ahlborn, M. McGowen. 1996. Tonto Creek Riparian Unit Monitoring Program: 1996 Annual Report. Prepared by Garcia and Associates for the U.S. Bureau of Reclamation.
- Helm, B. and J. Vollmar. 2002. Vernal Pool Large Branchiopods *in* Vollmar (ed.). Rare Plant and Wildlife Ecology of Eastern Merced County's Vernal Pool Grasslands. Prepared by Vollmar Consulting for the Merced County Planning Department, Merced, CA.
- Robins, J. and J. Vollmar. 2002. Livestock Grazing and Vernal Pools *in* Vollmar (ed.). Rare Plant and Wildlife Ecology of Eastern Merced County's Vernal Pool Grasslands. Prepared by Vollmar Consulting for the Merced County Planning Department, Merced, CA.
- Vollmar, J. (ed.). 2002. Rare Plant and Wildlife Ecology of Eastern Merced County's Vernal Pool Grasslands. Prepared by Vollmar Consulting for the Merced County Planning Department, Merced, CA.
- Vollmar, J. 2002. Landscape Setting *in* Vollmar (ed.). Rare Plant and Wildlife Ecology of Eastern Merced County's Vernal Pool Grasslands. Prepared by Vollmar Consulting for the Merced County Planning Department, Merced, CA.
- Vollmar, J. 2000. Big Break Project (Oakley, Contra Costa County, CA): Vegetation, Botanical, and Wetland Studies. Natural resources planning and restoration report prepared for the Natural Heritage Institute, Berkeley, CA.
- Vollmar, J. 1999. Report on the Soils, Habitats, and Rare Species of Eastern Merced County, California. Prepared for the Merced County Planning Department, Merced, CA.
- Vollmar, J. 1998. East Bay Municipal Utility District Supplemental Water Supply Project: Botanical and Wetland Studies for the Folsom South Canal Project (Sacramento/San Joaquin Counties, CA), 1996-1998. Prepared by Garcia and Associates for EBMUD, Oakland, CA.
- Vollmar, J., and G. Andrew. 1995. Mokelumne Aquifer Recharge and Storage Project Report. Prepared by Garcia and Associates for Montgomery Watson Americas, Inc., Sacramento, CA.
- Vollmar, J., 1993. Upper Camp Creek Riparian Restoration Plan. Prepared by BioSystems Analysis, Inc. for the Eldorado National Forest.

**LIST OF RARE PLANT SPECIES OBSERVED BY MR. VOLLMAR DURING BOTANICAL SURVEYS**

<b>SPECIES</b>	<b>HABITAT</b>	<b>REGION OBSERVED</b>
<i>Arctostaphylos myrtifolia</i>	chaparral/Ione soils	Amador Co.
<i>Aster lentus</i>	coastal saltmarsh	Suisun Bay, Contra Costa Co.
<i>Astragalus geyeri</i> var. <i>geyeri</i>	sagebrush scrub/sandy soils	Susanville area, Lassen Co.
<i>Astragalus tener</i> var. <i>tener</i>	alkaline vernal pools, grasslands	Fairfield area, Solano Co.
<i>Atriplex joaquiniana</i>	alkali sink	Fairfield area, Solano Co.
<i>Calochortus clavatus</i> var. <i>avius</i>	chaparral/volcanic soils	Eldorado Nat'l Forest
<i>Calochortus tiburonensis</i>	serpentine outcrop	Tiburon, Marin Co.
<i>Calycadenia hooveri</i>	Hornitos sandstone outcrops	Merced Co.
<i>Calyptridium pulchellum</i>	chaparral/granitic soils	Oakhurst area, Madera Co.
<i>Calystegia collina</i> var. <i>oxyphylla</i>	serpentine soils	Lake Co.
<i>Camissonia boothii</i> var. <i>alyssoides</i>	sagebrush scrub/sandy soils	Susanville area, Lassen Co.
<i>Camissonia boothii</i> var. <i>boothii</i>	sagebrush scrub/sandy soils	Susanville area, Lassen Co.
<i>Campanula californica</i>	coastal seasonal freshwater marsh	Albion, Mendocino Co.
<i>Castilleja campestris</i> ssp. <i>suuculenta</i>	vernal pools	Merced Co.
<i>Chamaesyce ocellata</i> ssp. <i>rattanii</i>	valley grassland/sandy or rocky soils	N. Sacramento Valley
<i>Chorizanthe spinosa</i>	thin volcanic andesite soil barrens	Los Angeles Co.
<i>Clarkia rostrata</i>	rocky outcrops	Merced and Mariposa Cos.
<i>Cordylanthus maritimus</i> ssp. <i>palustris</i>	coastal saltmarsh	Marin County
<i>Cordylanthus mollis</i> ssp. <i>mollis</i>	coastal saltmarsh	Suisun Bay, Contra Costa Co.
<i>Delphinium hansenii</i> ssp. <i>ewanianum</i>	foothills grassland	Amador and Merced Cos.
<i>Delphinium hansenii</i> ssp. <i>ewanianum</i>	volcanic pebble plains	Alturas area, Modoc Co.
<i>Delphinium hansenii</i> ssp. <i>ewanianum</i>	vernal pools	Sacramento Valley
<i>Dimeresia howellii</i>	chenopod scrub	San Benito Co.
<i>Downingia pusilla</i>	chaparral/Ione soils	Amador Co.
<i>Eriastrum hooveri</i>	chaparral	Kern County
<i>Eriogonum apricum</i> var. <i>apricum</i>	limestone clay soils in grasslands	Kern/Los Angeles Cos.
<i>Eriophyllum lanatum</i> var. <i>halli</i>	vernal pools	Merced Co.
<i>Erodium macrophyllum</i>	adobe clay soils	Alameda and Merced Cos.
<i>Eryngium spinosepalum</i>	coniferous forest	Shasta Co.
<i>Fritillaria agrestis</i>	vernal pools	Solano Co.
<i>Fritillaria eastwoodii</i>	coastal saltmarsh	San Francisco Bay
<i>Gratiola heterosepala</i>	openings in oak woodlands	Contra Costa Co.
<i>Grindelia hirsutula</i> var. <i>maritima</i>	adobe soils	Solano and Merced Cos.
<i>Helianthella castanea</i>	serpentine outcrops	Lake Co.
<i>Hesperoxys caulescens</i>	serpentine outcrops	Lake Co.
<i>Hesperolinon adenophyllum</i>	freshwater marsh	Stockton area, San Joaquin Co.
<i>Hesperolinon drymarioides</i>	Ione clay soils	Ione, Amador Co.
<i>Hibiscus lasiocarpus</i>	woodland/shrubland	Hollister area, San Benito Co.
<i>Horkelia parryi</i>	moist rocky outcrops	Pardee Reservoir, Amador Co.
<i>Isocoma menziesii</i> var. <i>diabolica</i>	vernal pools	Lake County, CA
<i>Jepsonia heterandra</i>	vernal pools	Fairfield area, Solano Co.
<i>Lasthenia burkei</i>	perennial brackish marsh	Napa and Solano Cos.
<i>Lasthenia conjugens</i>	vernal pools	Sacramento and San Joaquin Cos.
<i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	serpentine soils	Marin Co.
<i>Legenere limosa</i>	moist rocky cliffs	Eldorado Nat'l Forest
<i>Lessinga hololeuca</i>	brackish marsh	Sacramento/San Joaquin Delta
<i>Lewisia serrata</i>	vernal pools/mesic grassland	Shasta/Tehama Co.
<i>Lilaeopsis masonii</i>	Great Basin scrub/adobe soils	Nevada State
<i>Limnanthes floccosa</i> ssp. <i>floccosa</i>	valley grassland	Tehama Co.
<i>Lomatium ravenii</i>	chaparral/granite soils	Oakhurst area, Madera Co.
<i>Lotus rubriflorus</i>	volcanic pebble plains	Modoc Co.
<i>Lupinus citrinus</i> var. <i>citrinus</i>	thin, gravelly soils in grasslands	Los Angeles/Kern Cos.

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<i>Lupinus uncialis</i>	seeps	Lake County
<i>Microseris sylvatica</i>	sand dunes	San Luis Obispo Co.
<i>Mimulus nudatus</i>	clay soils in annual grasslands	Hercules area, Contra Costa Co.
<i>Monardella crispus</i>	vernal pools	Sacramento, Merced Cos.
<i>Monardella villosa</i> ssp. <i>globosa</i>	clay flats	Merced Co.
<i>Navarretia meyersii</i>	coniferous forest openings	Eldorado Nat'l Forest
<i>Navarretia nigelliformis</i> ssp. <i>radians</i>	limestone soils in	Kern County
<i>Navarretia prolifera</i> var. <i>lutea</i>	grasslands/wdlands	Shasta Co.
<i>Navarretia setiloba</i>	limestone outcrops	Merced Co.
<i>Neviusia cliftonii</i>	vernal pools	Kern County
<i>Neostapfia colusana</i>	low alluvial fans	Merced Co.
<i>Opuntia basilaris</i> var. <i>treselei</i>	vernal pools	Tehama Co.
<i>Orcuttia inaequalis</i>	vernal pools	Red Bluff area, Tehama Co.
<i>Orcuttia tenuis</i>	volcanic mudflow plains	Pardee Reservoir, Amador Co.
<i>Paronychia ahartii</i>	serpentine soils	Kern County
<i>Perideridia bacigalupii</i>	grvelly loam soils in chaparral	Stanislaus and Merced Cos.
<i>Perideridia pringlei</i>	volcanic tuff soils in annual	Nevada State
<i>Pseudobahia bahiifolia</i>	grasslands	Madelaine Plains, Lassen Co.
<i>Psoralidium lanceolatum</i>	inland sand dunes	Eldorado Nat'l Forest
<i>Scutellaria holmgreniorum</i>	volcanic soils	Nevada State
<i>Silene invis</i> a	coniferous forest openings/mesic	Los Angeles County
<i>Sphaeralcea grossularifolia</i>	sagebrush scrub/sandy soils	
<i>Syntrichopappus lemmonii</i>	Lemmon's <i>syntrichopappus</i>	

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## VICKI KRETSINGER GRABERT

Principal Hydrologist

LSCE President

More than 29 years experience in groundwater quality monitoring and resource management, including design of monitoring networks and programs, soil and groundwater remediation, application of environmental regulations, long-term water quality monitoring and protection programs, and groundwater resource assessments. She has an M.S. in water science (with an emphasis on groundwater hydrology and water quality) from the University of California, Davis. She specializes in the understanding of contaminant transport and fate in hydrologic systems and the potential implication of the presence of natural or man-made contaminants. She also specializes in geochemical relationships and their correlation with groundwater flow, including mass transfer processes and migration and accumulation mechanisms occurring along groundwater flow paths and the occurrence of natural constituents such as arsenic and chromium. She has designed, managed, and administered installation and operation of monitoring programs for groundwater resource characterizations and contaminated sites. She has managed county and basin-wide groundwater monitoring programs (and accompanying data management systems, data QA/QC procedures and analysis of groundwater conditions) developed for numerous areas, including all of Napa County, all of Yolo County, northern Solano County, Soquel-Aptos, Pajaro Valley, Rancho San Carlos, Cache Creek, Placer County, Eastern Sacramento County, Mendota, and the Glenn-Colusa Irrigation District. She has managed groundwater management plans and/or water supply assessments for cities and/or water purveyors in Sonoma, Solano, Yuba, and Sutter Counties that comprehensively evaluate subsurface hydrogeologic conditions to fulfill requirements of Senate Bill 610 (and related bill SB 221). She has also managed preparation of groundwater source assessments prepared in support of urban water management plans. She managed technical groundwater work as part of the LWA/LSCE/Systech/Newfields consulting team that designed and implemented the Salt and Nitrate Sources Pilot Implementation Study, which has been a key initial step in the effort by the Central Valley Salinity Coalition toward the development of a Basin Plan amendment to address the issue of salt and nutrient management in California's Central Valley. She is the groundwater leader for a six-firm team effort in the preparation of the Phase 1 Initial Conceptual Model for the Central Valley Salt and Nitrate Management Plan.

She is the Founding President of the Groundwater Resources Association of California (GRA) and a member of the Board of Directors since 1992; member of the University of California Center for Water Resources Center Advisory Council (14 years); Board Member and Past Chair of the Association of Ground Water Scientists and Engineers (Division of the National Ground Water Association (NGWA); 1998-2007). She served as NGWA's Vice President (2004-2005) and National Ground Water Research and Educational Foundation (NGWREF) board member (2004-2005). She is a co-editor of a semi-annual themed column in NGWA's *Ground Water Journal*. She has been a member of the International Association of Hydrogeologists (IAH) since 1992, and she now serves as a Director on the IAH US National Chapter Executive Committee. In 2010, she planned and organized the launch of a new Contemporary Groundwater Issues Council on behalf of GRA. The Council consists of nearly three dozen local, state, national, and international distinguished executives and leaders who are providing their input on the most pressing information, education and programming needs to address California's groundwater challenges. She is a co-leader of the California Water Plan Update 2013 Groundwater Caucus.

## **BARBARA DALGISH, P.G.**

Project Hydrogeologist

LSCE

More than 10 years of professional experience including seven years in groundwater consulting with Luhdorff and Scalmanini Consulting Engineers and three years as a hydrologist for the U.S. Geological Survey. Experience includes development and construction of site specific and regional groundwater flow models; investigation and assessment of regional geologic and hydrologic conditions for groundwater resource management programs; collection and evaluation of soil, surface water, and groundwater quality; aquifer parameter estimation.

She has an M.S. degree in Hydrologic Sciences from the University of California, Davis and a B.A. degree in Geology from Hamilton College, Clinton, New York. She is registered in the State of California as a Professional Geologist (P.G.). Her experience in water supply involves conducting geologic and hydrogeologic investigations for ground water development; delineation of the spatial extent of aquifers; lithologic correlation of well logs, preparation of geologic cross-sections, and mapping of subsurface features; oversight over well/testhole drilling and abandonment operations; geologic logging of drill cuttings; creation of water level contour maps. Her experience with monitoring and analysis include the design, implementation, and administration of ground water and surface water monitoring programs in the context of waste discharge requirements and groundwater protection. In terms of groundwater modeling, she has experience with the development and utilization of numerical and analytic element models on various platforms for water supply, contamination, and groundwater protection projects. Her expertise extends to hydrogeologic aquifer parameter estimations, including performing and interpreting various aquifer tests, slug tests, diffusivity analyses (passive monitoring), falling head tests, seepage meter tests, and horizontal flowmeter tests. She also has experience working on Drinking Water Source Assessment Protection Programs, in which her duties include the preparation of drinking water source assessment program documents for several public water systems in California. This work includes the assessment of potential hazards within calculated wellhead protection zones and the reporting of these hazards in program documents for agency and client use in compliance with the Department of Public Health. She also has expertise in database and GIS management, including the creation and maintenance of several water quality and water level databases including well information, lithology information, precipitation, streamflow, and geophysical information. For GIS management, her expertise includes spatial interpretations, geostatistical analyses, and map production using GIS technology. She also has experience surveying, which has involved performing wellhead surveys for latitude, longitude, and elevation data acquisition. She also has extensive experience in the area of research, including research methodology, model conceptualization, has been a speaker and presenter at several conferences in the United States of America, and also has published professional papers.

She is a member of the following professional groups: National Ground Water Association – Association of Ground Water Scientists and Engineers; Groundwater Resources Association of California; and the Geological Society of America.

**REID J. BRYSON**  
Staff Hydrologist  
LSCE

More than 7 years of professional experience in surface water and groundwater investigations in Northern California. His relevant experience includes simulated rainfall-runoff modeling, solute transport modeling, statistical analyses of hydrologic data, land use analysis and mapping, spatial analysis of groundwater monitoring, and database development.

He has an M.S. degree in Hydrologic Sciences from the University of California, Davis, and a B.S. degree in Environmental Science and Geographic Information Systems from Samford University, Birmingham, Alabama. His experience includes assisting in the development of an updated hydrogeologic characterization of Napa Valley through the interpretation of borehole lithology and well yield data from drillers' logs. Deliverables for that project included eight geologic cross sections, an alluvium isopach map, and a map of pre-alluvium subcrop geology. He has reviewed current and historic groundwater monitoring networks in Napa County to assess spatial and temporal data coverage relative to monitoring program objectives. He has also created database queries to determine the availability of groundwater level data and well construction information, evaluated groundwater level data and well construction information in order to locate wells relative to aquifer units. He has processed monitoring data and mapped monthly groundwater levels at 18 San Joaquin Valley dairies for Phase 1 of the Central Valley Dairy Representative Monitoring Program. He has also experience updating spatial land use data for an evaluation of groundwater demands in Northern California, which involved consulting prior land use maps produced by the CA Department of Water Resources, normalized difference vegetation index data, and aerial photographs to identify parcel-scale land use changes. He has led the implementation of 64 simulated rainfall trials in beef cattle feedlot pens to test the transport potential of steroid hormones in runoff. For this project he has performed mass balance analyses for water, chloride, and steroid hormones, and used MATLAB to model 1-D solute transport with a modified advection-diffusion equation. He has performed statistical analyses on commercial beef feedlot wastewater data to assess the performance of a Vegetated Treatment System with respect to the attenuation of chloride, dissolved organic carbon, and steroid hormone concentrations in runoff. He has evaluated surface water quality in an estuarine setting through monitoring network design, data collection, and development of a relational database to assess spatial and temporal variations in temperature, salinity, total dissolved solids, and dissolved oxygen. He has performed a spatial analysis of field-scale land uses over 50 years across a 300 square mile watershed to assess the impact of land management practices on plant community succession, which involved georectified digital orthophoto quadrangles, ground-truthed LANDSAT data, and interpreted land use from both datasets. He has also performed geomorphology surveys including channel cross sections, longitudinal thalweg profiles, and streambed particle size classifications as part of an evaluation of logging road decommissioning on sediment transport to adjacent stream channels.

He is affiliated with the following professional groups: California Water and Environmental Modeling Forum; and the Groundwater Resources Association of California.

## **LISA A. LAVAGNINO**

Staff Hydrologist

LSCE

More than 9 years of professional experience in geology, groundwater, and geographic information systems (GIS). Her experience includes several aspects of hydrogeologic investigation and characterization including: organizing, maintaining, and reporting spatial and temporal data using databases and specialized groundwater software; performing well and aquifer testing and interpreting results; conducting field surveys; and assisting in the formulation and reporting of a groundwater budget through the accounting of metered water use and determination of unmetered water use.

She has a B.S. degree in Geology from the University of California, Davis, and is registered in the State of California as a Geologist-In-Training. Her experience in database and GIS management includes designing, building, and maintaining relational and GIS databases containing well information and associated observational data, including those data related to distribution systems, surface water, landuse, geology, and corresponding physical and political entities. She also manages the development of vector and raster datasets with attribute information and necessary topological relationships. Database applications that she is fluent in include storing, analysis and reporting of data to supervisory boards, water purveyors, private industries, agricultural entities, and jurisdictional proceedings of the investigation and monitoring of groundwater resources. Her experience includes the creation of customized tools to automate the preparation of graphs and reports and facilitate the analysis of trends in well efficiency, water levels and water quality; the coordination of data input from in-house monitoring equipment and aquifer testing, public agencies, private entities, and water quality laboratories; and the creation of maps for reports and posters to visually demonstrate results and findings of analysis. Her experience in monitoring and analysis involve participating in the design, implementation, and administration of groundwater and surface water monitoring programs including installation and maintenance of monitoring equipment and collection of the data. She conducts hydrogeologic investigations through creation of water level contour maps, the interpretation of well log descriptions, and construction of geologic cross-sections. She calculates aquifer properties from construction and aquifer testing results, and characterizes groundwater wells based on construction properties and aquifer conditions. She has experience with surveying and field reconnaissance including conducting field surveys of groundwater wells, streambed geometries and spring configurations, and water system distribution components for geographic position and elevation relative to standard datum. She also has experience with remote sensing applications in which she processes and visually interprets multi-band satellite imagery and color-infrared aerial photographs through the calculation of vegetation indices for the determination of quantity and spatial extent of agricultural landuse types as a component of the groundwater budget. She has experience with well construction and pump test analysis, providing onsite supervision of drilling, construction, and pump testing activities. Conduct geologic logging of drill cuttings in sedimentary and hard rock settings. Assist in multiple-well pump test for determination of well and aquifer properties.

She is affiliated with the professional group Groundwater Resources Association of California.

## **A. SCOTT LEWIS, P.G.**

Senior Geologist

LSCE

More than 16 years of professional experience in water resources and groundwater development projects including site evaluation and exploration, hydrogeologic assessments, monitoring well and production well design, well construction and testing oversight, water well rehabilitation, design and implementation of groundwater monitoring networks, and overall project management. Mr. Lewis specializes in the design, construction, testing, and evaluation of monitoring and municipal water well projects and over one-hundred exploration programs throughout California. Representative projects include municipal wells for San Jose Water Company, City of Merced, City of Winters, Sacramento County, City of Roseville, Sacramento Suburban Water District, Sacramento Area Flood Control Agency, California Water Service Company, and the Marina Coast Water District.

He has a B.S. degree in Geology from California State University, Sacramento. He is registered in the State of California as a Professional Geologist (P.G.). His experience in hydrogeologic investigations includes performing and supervising hydrogeologic investigations for water supply projects and recommending locations and depths for exploratory drilling to collect zone specific geologic, water quality, and water level data. He has supervised test hole drilling to characterize hydrogeologic conditions used to design and construct new monitoring wells and new municipal water supply wells. His experience in well design includes designing wells based on analysis of formation samples, electric log interpretation, water quality analysis, aquifer properties, anticipated well yield, and anticipated pumping regime. He has selected materials to construct hydraulically efficient and sand free wells, determined seal placements to maximize protection from possible sources of contamination and/or zones of poor water quality. He has been involved in the procurement of permits related to well construction, discharge permitting, SWPPP, and well use permitting. His experience in well construction oversight involves: performing and supervising inspections to ensure the project is managed and constructed according to project specifications and accepted industry practice; inspection of materials, drilling fluid properties, drilling and well construction; direction and oversight of well development and testing; and interpretation of pumping tests to determine well yield and aquifer properties. His experience in water well rehabilitation includes evaluating well and pumping plant performance and making recommendations for well rehabilitation and/or repair, and equipment replacement. He has performed oversight and retesting of wells after recommended programs were completed. His experience in monitoring programs involves the establishment and administration of water level and water quality groundwater monitoring programs, and the installation and supervision of dedicated groundwater monitoring equipment, retrieval of data, and data analysis.

He is affiliated with the professional group Groundwater Resources Association of California.