Attachment 14

Attachment 14 provides resumes for key personnel who authored and reviewed the DEIR. All staff who contributed to the DEIR were experienced and highly qualified technical specialists. All sections in the DEIR, including the appendices, were reviewed in accordance with AECOM's Quality Management System (QMS), which is certified in accordance with the International Organization of Standards (ISO) 9001:2015 requirements. The AECOM QMS requires that all deliverables be reviewed by discipline reviewer(s), who are skilled in the discipline under review, with expertise in the subject matter.

AECOM

Richard Deis, RPA

Senior Archaeologist
Role: Project (Task Order) Manager | Cultural Resources

Education
MA, Anthropology, California State University, Sacramento, 1999
BA, Business, California State University, Fresno, 1970
Geomorphology, taught by Fred Nials, University of Nevada, Reno, 2001
Lithic Analysis, taught by Daniel Amick, University of Nevada, Reno, 1996

Registrations and Certifications
Register of Professional Archaeologists
Principal Investigator, Bureau of Land Management (BLM), Nevada, Cultural Resources Permit
Principal Investigator, Bureau of Land Management (BLM), California, Cultural Resources Permit

Years of Experience
With AECOM: 19
With Other Firms: 10

Affiliations
Society for California Archaeology
Society for American Archaeology
Nevada Archaeological Association

Richard Deis has 29 years of experience in archaeology. He has served as project manager and field supervisor on numerous archaeological surveys in Northern California and Nevada, authored or co-authored more than 250 cultural resource inventory reports, and completed numerous National Register evaluations. Mr. Deis has current experience as a project manager and field director conducting and supervising archaeological investigations throughout California and Nevada and in using the Framework for Archaeological Research and Management (FARM) for National Forests of Sierra Nevada. He has worked extensively in the Sierra Nevada, including the Lake Tahoe Basin; the Central Valley of California; throughout the Great Basin; and the Mojave Desert. These projects have been on private lands and also those managed by the US Forest Service (USFS), Bureau of Land Management (BLM), California Department of Fish and Wildlife (CDFW), and other state and federal agencies. He meets the Secretary of the Interior's standards for work in archaeology.

Project Experience

Sacramento Municipal Utility District (SMUD), Upper American River Project, Hydroelectric Relicensing Implementation Projects, El Dorado County, CA. In consultation with SMUD and the Eldorado National Forest prepared an update to the Historic Property Management Plan. The updated plan incorporated the results of National Register of Historic Places evaluations conducted for prehistoric and historic-era resources and also included an assessment of the adequacy of the plan.

El Dorado Irrigation District, Streamgage Installation Project (No Name, Bull, and Ogilby Creeks), El Dorado County, CA. Mr. Deis provided cultural resource oversight, and senior review for this project, which consisted of a cultural records research, NAHC consultation, field survey, and preparation of a cultural report memo. El Dorado Irrigation District (EID) proposed improvements to its hydroelectric infrastructure near Pollock Pines in El Dorado County, California. The irrigation infrastructure is licensed by the Federal Energy Regulatory Commission (FERC) under its FERC 184 Project. EID proposes to replace and install new flumes, construct gaging stations, and install electrical conduit at three locations that comprise the proposed project. The proposed improvements are required for water flow management as part of the FERC 184 Project license. The proposed project seeks federal permitting, and is thus subject to Section 106 of the National Historic Preservation Act (NHPA).

Pacific Gas and Electric Company, Lakeville-Sonoma 115 kV Transmission Line Proponent's Environmental Assessment (PEA), Napa and Sonoma Counties, California. Senior archaeologist for **c**ultural resources study for environmental analysis and electric transmission line routing study. AECOM prepared the proponent's environmental assessment of the electric transmission system upgrade for submittal to the California Public Utilities Commission.

Sacramento Municipal Utility District, Upper American River Project, Hydroelectric Relicensing Implementation Projects, El Dorado County, CA. Mr. Deis was project manager and senior archaeologist for numerous projects in preparation for and in implementing FERC hydroelectric relicensing stipulations for UARP. He coauthored and implemented an historic property management plan (HPMP) that guided the evaluation of 53 prehistoric and historic-era resource.

Sacramento Municipal Utility District, Solano 4 Project CEQA and Permitting Support, Solano County, CA. Prepared the cultural resources section for the EIR, which incorporated the results of technical studies for the Solano 4 Wind Project.

Sacramento Municipal Utility District (SMUD), Upper American River Project, Hydroelectric Relicensing Implementation Projects, El Dorado County, CA. Project manager and senior archaeologist for numerous projects in preparation for and in implementing FERC hydroelectric relicensing stipulations for UARP. He authored the Archaeological Resources Inventory Report for the Iowa Hill Pumped Storage Facility and Addendum, and the Ice House and Loon Lake Weir Replacement Projects. He provided project management and senior review of the Buck Island Lake and Rubicon Reservoir cultural resources technical report. He assisted SMUD in ongoing consultation with Eldorado National Forest regarding the adequacy of previous inventories, and implementation of the HPMP.

Sacramento Municipal Utility District (SMUD), Upper American River Project, Environmental Inventory for Hydroelectric Relicensing, El Dorado County, CA. Field director who conducted data gap field studies of cultural resources for the environmental inventory, authored the Archaeological Resources Inventory Technical Report for UARP FERC Relicensing No. 2101, co-authored the SMUD UARP Historic Properties Management Plan, and provided input to the cultural resources sections of the Exhibit E for the Federal Energy Regulatory Commission (FERC) hydroelectric relicensing of the project, which includes 11 dams and 8 powerhouses in an elevation range of 1,500 to 6,500 feet.

Los Angeles Department of Water and Power, Pine Tree Wind Development Project, Kern County, CA. Project archaeologist and field director who managed and assisted cultural resource survey teams that, in addition to confirming known petroglyphs and other archaeological sites, discovered several previously unrecorded sites, The 22,000-acre project site is situated on private and BLM lands in the hills northeast of Tehachapi, and would accommodate the first renewable energy project designed and conducted by the Los Angeles Department of Water and Power (LADWP), in collaboration with Zilkha Renewable Energy (Zilkha) of Houston, Texas, and Prometheus Energy Services (Prometheus) of Los Angeles. The project involves the construction of 80 turbines, power substations, maintenance buildings, and access roads. AECOM was responsible for the preparation of a mitigated negative declaration (CEQA) and an environmental assessment (NEPA), and for acquiring regulatory permits from the DFG, USFWS, BLM, FAA, and the State Water Resources Control Board.

El Dorado Irrigation District, El Dorado Hydroelectric Project 184 License Implementation Mill Creek Diversion Structure Removal, El Dorado County, CA. Senior archaeologist who managed cultural resources study and provided senior review of technical study. AECOM prepared technical studies describing the biological and cultural resources at the Diversion Structure Removal Project site. These studies will facilitate review by the U.S. Forest Service (USFS), U.S. Army Corps of Engineers (USACE), California State Water Resources Control Board (SWRCB), California Department of Fish and Wildlife (CDFW) and other agencies with regulatory review and authorization responsibilities for the project. EID proposes to remove remaining components of a decommissioned diversion structure from Mill Creek upslope of El Dorado Canal. The diversion structure was once a part of the District's Federal Regulatory Commission (FERC) Project No. 184, but is no longer in use.

El Dorado Irrigation District, Flume 47c Replacement, El Dorado County, CA. Senior archaeologist overseeing the preparation of a cultural memorandum documenting previous research, results of field investigations for replpacement of this section of the El Dorado Canal, which was is part of the FERC Project 184

California Department of Water Resources, Oroville Facilities Hydroelectric Relicensing Project, Cultural Resources Studies, Butte County, CA. Project archaeologist who provided input for the cultural resources management plan and to the Cultural Resources Work Group formed under an Alternative Licensing Procedure used by DWR for the application submitted to the Federal Energy Regulatory Commission for a new hydroelectric license. The project is located along the Feather River, in the vicinity of Oroville. The work group includes representatives of five federally recognized Native American Tribes, Plumas National Forest, and Redding Field Office of BLM, cultural resource specialists, DWR and consultant staff, and interested members of the public.

AECOM

Kim Fettke

Ecologist/Environmental Planner/Project Manager
Role: Wildlife/Avian Resources

Education

BS, Environmental Biology and Management (Emphasis in Conservation Biology), University of California, Davis, 1995

Years of Experience

With AECOM: 16
With Other Firms: 3

Accreditation

NPDES General Construction Permit, AEP

Low Impact Development: Case Studies and Current Trends, American Basin Council of Watersheds

Low Impact Development and Hydromodification: American Basin Council of Watersheds

The Science and Practice of River Restoration, UC Davis Extension

Watershed Assessment and Adaptive Management, West Lake RCD

Streambank Bioengineering Techniques, Yolo RCD

Wetland Delineation Training, Wetland Training Institute

Storm Water and Erosion Control Workshop, Central Valley RWQCB and Placer County Public Works

Ecology and Use of Wetlands for Water Treatment, UC Berkeley Civil Engineering Department

Natural History and Management of Bats, TWS

Farmland Conversion Impacts and Mitigation, AEP

Habitat Conservation Planning from Tahoe to the Bay, Northern CA Conservation Planning Partners

Construction and Retrofit BMPs for Water Quality, Lahontan RWQCB, Tahoe RCD, and Placer County Public Works

Asphalt Application, Constituents, and Environmental Concerns, Alameda County Public Works Agency

Steam Bioassessments, Aquatic Outreach Institute

Kim Fettke is an ecologist who specializes in natural resource planning and restoration within a regional framework, as well as on a site-specific basis, for both public and private sector clients. She has 14 years of experience managing projects, and performing natural resource planning, management, restoration, and conservation. She prepares resource management plans, land management plans, mitigation and restoration plans, regulatory applications, CEQA documents, and NEPA documents. She has worked on numerous complex multidisciplinary projects requiring a high degree of organization, coordination, and sensitivity.
Ms. Fettke has experience in designing, implementing, and monitoring restoration and mitigation projects; conducting habitat assessments, ecological impact assessments, wildlife surveys, and water quality monitoring; developing impact minimization measures; conducting construction compliance monitoring and ecological training, and leading public presentations and meetings. She has prepared technical reports, permit applications, mitigation and monitoring plans, operations and maintenance plans, habitat evaluations, feasibility reports, land conservation documents, and CEQA/NEPA documents.

Experience

Sacramento Municipal Utility District (SMUD), Solano Wind Project Phase 3 – Post-Construction Avian and Bat Mortality Monitoring Program, Solano County, CA. Biologist for a 3-year bird and bat fatality monitoring effort for the Solano Wind Project Phase 3. Tasks involve bimonthly avian and bat mortality monitoring, on-call raptor rescue, ensuring compliance with the U.S. Fish and Wildlife Service Special Purpose Utility Permit for Migratory Bird Mortality Monitoring, and contributing to annual reports describing survey results.

Sacramento Municipal Utility District (SMUD), Slab Creek, Upper American River Project, El Dorado County, CA. Biologist. Conducting bat surveys and exclusions and developing mitigation for a transmission line along Lower Slab Creek to provide additional distribution capabilities.

California Department of Transportation, Camellia City Viaduct Bird and Bat Surveys and Exclusion, Sacramento, CA. Conducted bird and bat survey and exclusion services.

California Department of Transportation, Feather River Bridge Westbound Seismic Retrofit Project, Yuba County, CA. Conducted bat survey and exclusion services.

California Department of Transportation, Northbound Butte Creek Bridge Bird and Bat Nest/Roost Prevention, Butte County, CA. Conducted bird and bat survey and exclusion services.

Grant Writing, Alameda County Office of Education

Introduction to the Rosgen Stream Classification System, Alameda County Public Works Agency

Colonial Waterbird Monitoring, SF Bay Bird Observatory

Affiliations

California Society for Ecological Restoration

Association of Environmental Professionals

The Wildlife Society

Town of Loomis Planning Commissioner and Open Space Committee member

El Dorado Irrigation District, Flume 41 and Flume 3 Replacement Projects Bat and Bird Surveys, El Dorado County, CA. Project manager and wildlife biologist who conducted preconstruction roosting bat and nesting bird surveys for a flume replacement project.

El Dorado Irrigation District, Spillway 47C Biological Surveys, El Dorado County, CA. Project manager and wildlife biologist who conducted preconstruction roosting bat and nesting bird surveys for a flume replacement project.

California Department of General Services, Real Estate Services Division/California Tahoe Conservancy, Blackwood Creek Stream Habitat Restoration Project IS/MND and Permitting, Lake Tahoe Basin, Placer County, CA. Wildlife Ecologist. Blackwood Creek restoration improved stream habitat, water quality, and channel stability. Ms. Fettke conducted habitat assessment and bat surveys for restoration of the stream corridor that required tree removal. Developed impact avoidance and minimization measures.

California Department of Fish and Wildlife, Yolo Bypass Wildlife Area Land Management Plan and CEQA Compliance, Yolo County, CA. Ecologist who assisted in preparing the Land Management Plan (LMP) and CEQA document for the Yolo Bypass Wildlife Area. Ms. Fettke prepared the resource baseline section and management goals for the bat population that inhabits the wildlife area. The LMP provides comprehensive guidance for management of natural resources, public access, interpretation, and restoration projects. The AECOM team conducted reviews, inventories, and mapping/documentation of vegetation communities, wildlife resources, fisheries resources, sensitive species/habitats, physical and water resources (including flood control facilities), agricultural resources, cultural resources, restoration activities, education and interpretation activities, property boundaries, leases, agreements and contracts, and planning influences. The AECOM team worked with CDFW to develop policies, management goals, and tasks to achieve the goals.

California Department of Fish and Wildlife, Lower Sherman Island Wildlife Area Land Management Plan and CEQA Compliance, Sacramento County, CA. Assistant project manager/ecologist for the Land Management Plan (LMP) and initial study/negative declaration for the Lower Sherman Island Wildlife Area, which comprises over 3,000 acres of tidal marsh, subtidal open water and shallow aquatic vegetation, riparian forest and scrub/shrub, and upland habitats immediately upstream from the confluence of the Sacramento and San Joaquin Rivers. Ms. Fettke conducted interviews of project constituents, assisted in developing management goals and tasks, conducted CEQA analysis for the plan, prepared the Draft CEQA document, conducted a public hearing, and prepared the response to comments and final CEQA documents. The LMP established management goals and tasks to ensure the long-term protection of wildlife and their habitats and provide for compatible public uses, such as boating, hunting, and fishing.

City of Folsom Department of Public Works, Alder Creek Watershed Assessment and Management Plan, Sacramento County, CA. Assistant project manager/ecologist who assisted in assessing current and plausible future conditions in the watershed and along Alder Creek, and prepared a long-term management guidance plan for this area undergoing rapid development. AECOM worked closely with the community and key stakeholders to ensure long-term success of project goals and to produce a plan that addressed diverse interests and objectives in a balanced fashion. The plan recommends policies, programs, and projects that contribute to improved water quality for the American River and offers protection for various plants and wildlife, including endangered and threatened species. AECOM also prepared a categorical exemption under CEQA, a quality assurance project plan, and a monitoring plan focusing on ecologically relevant monitoring rather than conventional permit compliance monitoring.

AECOM

Jenifer King

Environmental Analyst
Role: CEQA/NEPA Analysis │ Hazards & Hazardous Materials │ Visual Resources/Recreation

Education
BS, Wildlife Biology, California State University, Long Beach, 1995

Years of Experience
With AECOM: 17
With Other Firms: 7

Jenifer King is an environmental analyst and project coordinator with 24 years of experience for medium to large projects. She has worked with clients and supervised staff on projects, researched and written sections for California Environment Quality Act (CEQA) and National Environmental Policy Act (NEPA) documents, analyzed project impacts, developed mitigation measures, conducted alternatives analysis, and evaluated natural resource management for water resources and flood management projects, habitat restoration projects, public building and development projects, and transmission infrastructure and energy projects. Ms. King specializes in complex analyses in the areas of land use (permitting, zoning, annexation, Lake Tahoe area land coverage requirements, and compatibility analyses), agricultural resources (Storie soil index rating, Farmland Mapping and Monitoring Program classification, and Williamson Act cancellation), hazards and hazardous materials, hydrology and water quality, environmental justice, socioeconomics, and provision of water and wastewater services (service area boundary changes, supply and demand calculations, treatment and conveyance capacity, assessment of infrastructure plans, and Senate Bill 610 water supply assessments). She also has experience in permitting and regulatory compliance, including Sections 404 and 401 of the Clean Water Act and California Department of Fish and Wildlife streambed alteration agreements.

Experience

Yuba County Water Agency (YCWA), Narrows 2 Powerplant Expansion IS/MND and Permitting, Yuba County, CA. Environmental analyst who wrote sections of the IS/MND for construction of a synchronous flow bypass system for the Narrows 2 Hydroelectric Power Plant, located in Yuba County on the Yuba River just downstream of Englebright Dam. The lower Yuba River supports substantial naturally spawning populations of anadromous fish, including Central Valley fall-run Chinook salmon, spring-run Chinook salmon, and steelhead. YCWA received CALFED Bay-Delta Program funding to construct the bypass, which was intended to eliminate or substantially reduce flow fluctuations and associated biological impacts on these at-risk fish species. The bypass system was completed in 2007 and received the National Hydropower Association's 2008 Outstanding Stewards of American Waters Award.

California Department of Water Resources, 2012 Central Valley Flood Protection Plan (CVFPP) Program EIR, Central Valley, CA. Environmental analyst who prepared the land use, agricultural, and utilities analysis and EIR sections of the Program EIR. AECOM provided a significant role in assisting DWR and the engineering prime consultant in developing the 2012 CVFPP PEIR under an intense timeframe to meet a legislative deadline for adoption of the 2012 CVFPP. AECOM was responsible for key sections of the Draft PEIR (terrestrial biological resources, land use, cultural/historic, recreation, visual, socioeconomics, paleontology, and cumulative impacts), responding to all public comments on the CVFPP as well as technical sections authored by AECOM in the Final PEIR, working closely with DWR legal staff to ensure appropriate CEQA compliance, and authoring the CEQA Findings, Mitigation Monitoring and Reporting Program (MMRP), and Notice of Determination. Although AECOM did not author any portions of the draft CVFPP, DWR asked AECOM to respond to public comments on the draft CVFPP, which AECOM did under intense schedule pressure.

Sacramento Municipal Utility District (SMUD), Solano 4 Wind CEQA and Permits, Solano County, CA. Environmental planner who evaluated land use, agricultural resources, public services, and utilities service systems. AECOM is preparing a project level EIR, habitat assessments, cultural resources studies, and permit applications for the Solano 4 Wind Project. SMUD is looking to repower its Solano Wind Project Phase 1 and Roberts properties, and install new wind turbine generators (WTGs) on its Collinsville property. Collectively, these sites are referred to as the Solano 4 Project. The Solano 4 project would consist of removing 85 WTGs and then construct 22 new WTGs that would generate up to 90 MW

on approximately 2,237 acres dominated by non-native grasslands used for seasonal livestock grazing. In order to develop the project, additional roads, foundations, and a power collection system to transport power to the SMUD power grid would need to be developed.

Sacramento Municipal Utility District (SMUD), Environmental Regulatory Support 2012-2016 - Headquarters Renovation Permitting, Sacramento, CA. Environmental planner who evaluated land use, public services, utilities and service systems, and hazards and hazardous materials. AECOM prepared the required CEQA documents for the renovation of the interior and exterior portions of the SMUD headquarters. Our scope of services included the preparation of an Initial Study/Mitigated Negative Declaration and supporting technical studies. Issues addressed in the technical studies included tree preservation/arborist services, historic resources and cultural landscape evaluation and treatment/coordination with the City of Sacramento, an Environmental Site Assessment/PCB Study, and traffic counts to support the traffic analysis.

Sacramento Municipal Utility District (SMUD), Environmental Regulatory Support 2012-2016 - Station A Substation Expansion, Sacramento, CA. Environmental planner who evaluated land use, public services, utilities and service systems and hazards and hazardous materials. AECOM prepared a CEQA Initial Study/Mitigated Negative Declaration (IS/MND) for relocation of a SMUD substation within the Sacramento railyards. The environmental study focused on consistency with the Railyards Specific Plan, Design Guidelines, and Railyards EIR. The Initial Study also evaluated the project in light of Sacramento 2035 General Plan Update and EIR, City of Sacramento ordinances, and regional climate change and transportation planning efforts.

Sacramento Municipal Utility District (SMUD), On-Call Environmental Services 2016-2019 - El Dorado Cloud Seeding IS/MND, El Dorado, CA. Environmental planner who evaluated land use, agricultural resources, and hazards and hazardous materials. AECOM prepared an initial study/mitigated negative declaration to evaluate SMUDs current and future cloud seeding procedures via release of cloud materials from aircraft and mobile ground-based seeding equipment within an increased target area of 572 square miles in El Dorado County, California. The original EIR specifically addressed the usage of the six ground-based generators with a target area of approximately 190 square miles.

Pacific Gas & Electric Company, Visual Impact Analysis, Various Locations. Environmental planner who prepared visual Impact Analyses for vegetation management in compliance with PG&E's Wildfire Safety and Inspection Program. Projects consisted of an analysis of the changes in visual resources from tree removal and trimming along California Department of Transportation as a State Scenic Highways.

Bonneville Power Administration, Keeler to Tillamook Transmission Line Rebuild Project Preliminary EA, Keeler and Tillamook, OR. Environmental planner who evaluated land use, socioeconomics effects, including population, housing, and employment; environmental justice populations; and public services. The preliminary EA analyzes a rebuild 57.8 miles of BPA's existing 59.7-mile-long, 115-kV Keeler to Tillamook transmission lines. Activities include construction of new permanent and temporary access roads, and improvement to some existing access roads, removal of some danger trees, replacement of conductor, and the replacement of all wood pole structures.

Bonneville Power Administration, Kalispell to Kerr Transmission Line Rebuild Project EA. Environmental planner who evaluated the effects of the project on land use, socioeconomics, including population, housing, and employment; environmental justice populations; and public services. BPA proposes to rebuild the Kalispell-Kerr 115-kV transmission line between the cities of Kalispell and Polson in Flathead and Lake Counties, Montana. The 41-mile long rebuild would include replacement of wood pole structures, cross arms, cross braces, guy wires, anchors, insulator assemblies, switches, and overhead conductor. Some access roads would be improved and some new access roads would be acquired or constructed.

Sacramento Area Flood Control Agency, Natomas Levee Evaluation Project, Sacramento and Sutter Counties, CA. Environmental analyst for a study team assembled by SAFCA to identify improvements necessary to provide "200-year" flood protection to the Natomas Basin. AECOM's efforts during problem identification included building a GIS database of sensitive resources in the study area, incorporating measures into the study design to ensure the protection of sensitive environmental resources, preparing documentation to support the filing of a notice of exemption from CEQA, and performing surveys and monitoring.

AECOM

Louise S.T. Kling

Senior Environmental Planner
Role: Visual Resources/Recreation

Education
MS, Fisheries, Utah State University
BS, Biology, Lewis & Clark College, 1993
BS, Biology, Lewis & Clark College, 1994

Years of Experience
With AECOM: 13
With Other Firms: 13

Affiliations
River Management Society
National Association of Environmental Professionals

Louise Kling is a senior environmental planner with more than 26 years of experience in environmental research and planning. Her career began with nearly a decade at the U.S. Forest Service in Washington State. She applied this experience to projects requiring federal and state-specific environmental documentation. Her technical practice focuses on land use, visual resource impact assessment, and recreation resources. Ms. Kling's experience in visual resources assessment includes projects with the Bureau of Land Management, U.S. Forest Service, Federal Highway Administration, and U.S. Army Corps of Engineers' VIA methodologies, along with management of photosimulation production. She has applied her expertise to diverse projects including renewable energy, oil and gas, transmission, hydropower, pipeline, port, transportation, mining, and fire management. Her work emphasizes innovative and solution-orientated approaches for projects sited in or adjacent to special management areas, such as Wild and Scenic Rivers, Wilderness Areas, and National Scenic and Historic Trails. She maintains an active professional role in the field of visual resources and is widely respected for her role in advancing knowledge about this topic. Ms. Kling has served on several national panels and has participated as an expert reviewer for the Bureau of Land Management's best management practices for visual resources for renewable energy facilities.

Experience

Bright Source Energy, Bright Source Energy Environmental Impact Report, San Bernardino, CA. Senior visual resource specialist who provided leadership and expert review to compete the application for certification, filed with the California Energy Commission. The project included development of two 250-megawatt solar power plants (500 megawatts nominal combined) in Riverside County.

Hydrogen Energy California, Integrated Gasification Combined Cycles Environmental Impact Statement, Kern County, CA. Visual resource lead for a proposed energy production facility study, which included a coal/petcoke processing facility and associated linear structures (natural gas line, transmission line, rail line, and CO_2 line). Tasks included management of the production of California Energy Commission-compliant photosimulations and preparation of the Environmental Impact Statement in compliance with the California Environmental Quality Act.

Alaska Energy Authority, Susitna-Watana Hydroelectric Study, Various Counties, AK. Aesthetics technical lead for a large-scale 700-MW hydroelectric project located in the Railbelt Region of Alaska. The project included construction of a 735-foot dam, access roads, and approximately 120 miles of electrical transmission lines. Her additional responsibilities included preparation of the Federal Energy Regulatory Commission resource reports for aesthetics, a license application, and development of a recreation resource management plan.

Alaska Natural Gas Development Authority, Natural Gas Pipeline System Environmental Impact Statement, Various Counties, AK. Visual resources lead who conducted a resource assessment for the Environmental Impact Statement for a proposed 460-mile natural gas pipeline in south-central and the interior of Alaska (Beluga to Fairbanks). Approximately 250 miles of the proposed alignment had not received prior visual resource inventory work by the Bureau of Land Management (BLM), U.S. Forest Service, or the National Park Service, and thus required classification of existing resources. Visual assessment was completed using aerial photography from a 360-degree streaming video, following methods adopted from BLM and the Federal Highway Administration.

BBC Communication, Proposed Communication Towers, Point Roberts, WA. Visual resources technical lead who implemented a visual resource impact analysis of proposed AM radio antennas in the tourist destination of Point Roberts. Analysis included potential impacts that may result under day and night conditions. She served as advisor for preparation of a State Environmental Policy Act document.

Bonneville Power Administration, Whistling Ridge Energy Transmission Environmental Impact Statement, Skamania County, WA. Visual resources/recreation technical resource team member who supported a wind farm development in the Columbia River Gorge. The visual resource impact assessment used Federal Highway Administration methods to identify potential impacts on the resource. The results of the assessment were used to support the Energy Facility Site Evaluation Council's application for site certification.

British Petroleum Alternative Energy, Wind Energy Facility Site Characterization Study, WA. Technical resource lead who implemented a site characterization study to identify potential cultural or natural resource constraints. She coordinated the assessment of potential impacts from the proposed project on non-government microwave telecom systems.

Bureau of Land Management, China Mountain Wind Environmental Impact Statement, Twin Falls, ID. Visual resources lead for completion of an Environmental Impact Statement for a proposed 170-turbine wind farm located in Idaho and Nevada. The proposed project would provide up to 425 megawatts of electricity. The permitting effort required coordination with two states and district Bureau of Land Management offices. Included in this effort was the management of visual simulation production to render the appearance of wind turbines and transmission lines, which informed the determination of land use consistency and the need for a proposed land use plan amendment.

Bureau of Land Management, Mohave County Wind Environmental Impact Statement, Mohave County, AZ. Visual resources lead served as a subject matter expert at public meetings and authored the visual resource impact analysis section of an Environmental Impact Statement (EIS) for a proposed 258-turbine wind farm northwest of Kingman, Arizona. The proposed project would provide up to 500 megawatts of electricity. The EIS provided the framework for the Record of Decision.

Bureau of Ocean Energy Management, Effects of Oil and Gas Activities in the Beaufort and Chukchi Seas, Various Locations, AK. Visual resources lead who completed an impact analysis and authored the visual resources sections of an Environmental Impact Statement for a proposal to permit seismic testing, oil exploration, and extraction in the Chukchi and Beaufort Sea. This project required characterization of winter and summer conditions in offshore areas of the Arctic, and identification of potential impacts on visual resources. The analysis emphasized consideration of sensitive viewers, such as native communities, in the U.S. Fish and Wildlife Service-administered Arctic National Wildlife Refuge and Arctic Maritime National Wildlife Refuge.

California High Speed Rail Authority, High Speed Rail, Various Counties, CA. Senior visual resource specialist for the impact analysis portion of an Environmental Impact Statement for a proposed 800-mile rail line, including construction and operation of 24 rail stations.

Federal Emergency Management Agency, East Bay Hills Fire Management Plan Environmental Impact Statement, Oakland, CA. Visual resources lead for preparation of an Environmental Impact Statement, which required a detailed understanding of aesthetics and viewer sensitivity within the high-profile, urban-natural area interface of the East Bay Hills. This project required coordination with the Federal Emergency Management Agency, the cities of Oakland and Berkeley, and the East Bay Regional Park District.

First Solar, Desert Quartzite Solar Environmental Report, Riverside, CA. Visual resource technical lead for preparation of an environmental report for a proposed 300-MW solar project within the Bureau of Land Management's Riverside East Solar Energy Zone.

Idaho Power Company, Boardman to Hemingway Transmission Permitting, Multiple Locations, ID. Scenic resource lead, lead analyst, and author of Exhibit R (scenic resources) for the application of a site certificate for the Boardman to Hemingway transmission line. This effort involved analyzing potential impacts on scenic resources, protected areas, and recreation sites that could result from construction and operation of the approximately 300 miles of 500-kV electrical transmission corridor.

AECOM

Michael Kenneth Koch

CEQA/NEPA Project Manager
Role: CEQA/NEPA Analysis/Planning

Education
MS, Environmental Policy and Planning, California State University, Fullerton
BA, Environmental Health and Planning, University of California, Irvine

Years of Experience
With AECOM: 3
With Other Firms: 25

Affiliations
American Planning Association
Association of Environmental Professionals

Ken Koch is a planning and environmental professional with 28 years of consulting experience helping clients comply with the California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA), planning and zoning law, as well as state and federal regulations. His project portfolio includes a variety of development types, such as residential and mixed use specific plans, industrial and warehouse developments, emergency communication towers, water supply planning documents, schools, highway and bridge improvements, sewer line replacement, and renewable energy development. He frequently works with legal counsel, technical experts, responsible and trustee agencies as well as stakeholders and decision makers to complete the environmental review process.

Experience

Sacramento Municipal Utility District (SMUD), Solano 4 Wind Project EIR and Permitting Services, Solano County, CA. EIR Task Manager. AECOM is preparing a project level EIR, habitat assessments, cultural resources studies, and permit applications for the Solano 4 Wind Project. SMUD is looking to repower its Solano Wind Project Phase 1 and Roberts properties, and install new wind turbine generators (WTGs) on its Collinsville property. Collectively, these sites are referred to as the Solano 4 Project. The Solano 4 project would consist of removing 85 WTGs and then construct 22 new WTGs that would generate up to 90 MW on approximately 2,237 acres dominated by non-native grasslands used for seasonal livestock grazing. In order to develop the project, additional roads, foundations, and a power collection system to transport power to the SMUD power grid would need to be developed.

Sacramento Municipal Utility District (SMUD), **Oselot-Baroque Neighborhood Electric Distribution Project IS/MND, Sacramento County CA.** Project manager for a subsequent initial study on a new substation and power line extension. The IS will update the impact conclusions and mitigation presented in the prior environmental document prepared in 2015 to reflect minor changes in the project design since the original document was adopted.

Landmark Village, Environmental Impact Report, Los Angeles County, CA. Mr. Koch managed preparation of the EIR for Landmark Village, which represented the first subdivision map filed under the Newhall Ranch Specific Plan. The proposed project consisted of 1,444 residential units, along with 1 million square feet of commercial and mixed-use space, a 9-acre elementary school, a 16-acre community park, private trails, and road improvements. To develop the site as proposed, the elevation of the building pads had to be elevated 1 foot above the County Capital Flood Plain. This required the import of 8 million cubic yards of earth from two borrow sites located elsewhere within the Newhall Ranch Specific Plan. In addition, the project required improvements within the River Corridor SMA/SEA 23, including Long Canyon Road Bridge, trails, water quality basins, bank stabilization, utility crossings, storm drain outlets, and potential riparian mitigation sites. Consistent with Section 15168(b) and (c) of the State CEQA Guidelines, the environmental analysis for the Landmark Village Project tiered from the Program EIR for the Newhall Ranch Specific Plan and focused on site-specific and unique issues relating to this proposed development project and excluded issues already decided by the previous analysis. Issues addressed in this EIR include potential impacts on sensitive biological resources, including the unarmored three-spine stickleback, least Bell's vireo, southwestern pond turtle, and arroyo southwestern toad. Other

impacts of concern included air emissions from construction activity and noise associated with placement of residential uses along State Route 126. Mr. Koch was responsible for technical oversight, budget compliance and tracking, schedule compliance, coordination and supervision of technical subconsultants, management of in-house staff, and communication with clients, legal counsel, and lead agencies.

Stanislaus County Department of Environmental Resources, Stanislaus County Groundwater Well Permitting Program CEQA Support, Stanislaus, CA. CEQA Technical Support. Mr. Koch is part of the team responsible for establishing the process and procedures to implement a groundwater permit program, created by Stanislaus County under a newly adopted Groundwater Management Ordinance. The Ordinance was a response to the Sustainable Groundwater Management Act (SGMA), enacted into State law. These requirements will make issuing of well permits discretionary and subject to review under the California Environmental Quality Act (CEQA). Working as a subcontractor, Mr. Koch assisted Stanislaus County with development of a streamlined and defensible well permitting program that is fully compliant with the requirements of their new Groundwater Ordinance and CEQA, and is forward looking to the requirements of SGMA.

Hidden Falls Regional Park (HFRP) Expansion Supplement EIR, Placer County, CA. Project Manager. The 1,200-acre Hidden Falls Regional Park (HFRP) opened in 2013. HFRP contains approximately 30 miles of trails and two waterfall overlooks, and its popularity and usage has grown rapidly since opening. The County is currently proposing to expand the HFRP trail network onto additional lands owned by the Placer Land Trust (PLT), where the County holds trail easement rights, and also onto land owned by the County. Mr. Koch is managing preparation of a Subsequent EIR (SEIR) pursuant to the State CEQA Guidelines Section 15162 to describe and evaluate the potential environmental impacts of developing the proposed new trails and access areas (proposed project). Issues of particular concern include parking and access, biological resources, and noise.

City of Orange Planning Department, Uptown Orange Residential Project, Mitigated Negative Declaration, Orange, CA. Mr. Koch managed preparation of an Initial Study for a Mitigated Negative Declaration, evaluating the environmental effects of constructing and operating a mixed-use residential complex. The project proposed a high density residential use consistent with the land use designation and density permitted by the Land Use Element of the adopted General Plan. Consistent with Section 15168(b) and (c) of the State CEQA Guidelines, the environmental analysis for the project tiered from the Program EIR for the General Plan (certified in 2010). It focused on site-specific and unique issues relating to the proposed development and excluded issues already decided by the previous analysis. The Initial Study analysis focused on whether the project would introduce a new impact not previously considered by the PEIR or increase the severity of an existing impact previously identified. Issues of concern included traffic and circulation, noise, public services, and utility systems.

Specific Plans and Residential Communities

City of Chino Hills Planning Department, Fairfield Ranch Mixed-Use Infill, Mitigated Negative Declaration, City of Chino Hills, CA. Mr. Koch managed preparation of an Initial Study/Mitigated Negative Declaration for a mixed-use development, proposed on 32 acres of disturbed land in the City of Chino Hills. He also was responsible for technical oversight, budget compliance and tracking, schedule compliance, coordination and supervision of technical sub-consultants, management of in-house staff, and communication with lead agency. The site was designated for Business Park uses and was surrounded by a regional wastewater treatment plant, mobile home park, and temple. The applicant requested approval of a General Plan Amendment to change the land use from a Business Park to a Very High Density Residential designation, and a zone change to RM-3 (Very High Density Residential) on the northern 14 acres to construct a 346-unit apartment complex. The remaining 17 acres was to be developed as a business park, containing a maximum of 326,641 square feet of floor space.

Los Angeles County, Newhall Ranch Specific Plan, Program Environmental Impact Report, Los Angeles, CA. Mr. Koch was involved in the research, analysis, and preparation of multiple sections of the Program EIR for the Newhall Ranch Specific Plan. Newhall Ranch is a new town that was proposed on approximately 12,000 acres of land in northwestern portion of unincorporated Los Angeles County within the Santa Clarita Valley Planning Area. The Specific Plan contains the land use plan, development regulations, design guidelines, and implementation program consistent with the goals, objectives, and policies of the Los Angeles County General Plan and Santa Clarita Valley Areawide Plan. The Specific Plan permits up to 21,308 dwelling units; 629 acres of mixed use development; 67 acres of commercial uses; 249 acres of business park land uses; 37 acres of visitor serving uses; 1,014 acres of open space; 5,157 acres of land in special management areas; 55 acres in 10 neighborhood parks; public trail system; an 18-hole golf course; two fire stations; a public library; an electrical substation; reservation of five elementary school sites, one junior high school site, and one high school site; a 6.8-million gallon per day water reclamation plant and associated facilities.

Los Angeles County, Newhall Ranch Specific Plan, Additional CEQA Analysis, Floodplain Modifications and Impacts on Special-Status Wildlife Species, Los Angeles, CA. Mr. Koch was project manager for the Newhall Ranch Specific Plan Final Additional Analysis. This project was in response to a writ of mandate issued by the Kern County Superior Court, in which the court ordered the County to partially set aside its approval of the Newhall Ranch Specific Plan, and to conduct additional analysis of six specific issues regarding environmental impacts and consistency with the Los Angeles County General Plan. The Court found the majority of the County's environmental determinations for the Specific Plan had been lawfully made and declined to set aside the approval of the entire Specific Plan and Program EIR. The six issues identified by the court for further review and studied in the additional analysis included:

- Impacts on that portion of the Salt Creek wildlife corridor situated in Ventura County.
- Traffic impacts to arterial roadways exiting State Route 126 in Ventura County.
- Biological impacts on the Santa Clara River corridor associated with river channelization and bank hardening.
- Adequacy of water resources to be available for buildout of the Specific Plan.
- Biological implications for siting the water reclamation plant further from the Santa Clara River.
- Consistency with County General Plan policies regarding protection of natural resources in Significant Ecological Area (SEA) 23 and with the General Plan Development Monitoring System policies as related to water supply.

As project manager, Mr. Koch worked closely with County staff, legal counsel, technical consultants and in-house environmental staff.

Westcreek, Vesting Tentative Tract Map 52455 Environmental Impact Report, Los Angeles County, CA. Mr. Koch directed preparation of the EIR. The 966-acre site is located west of San Francisquito Creek and north of Valencia High School. A portion of the property is located within Significant Ecological Area (SEA) 19, which contains the federally endangered unarmored three-spine stickleback. The project contained private, gated communities with a maximum of 2,545 residential units and 185,000 square feet of supporting commercial use. Key issues for this project included potential impacts on sensitive natural resources within the SEA, particularly the impact of bridge construction on water flow and velocity within the creek. This was critical to the survival of the federally listed unarmored three-spine stickleback. A team of biologists was used to define a natural resource line within the SEA (point where most sensitive resources are located) and to develop a setback to buffer the resources from the proposed development. Mr. Koch also worked with the project engineer on developing hydrology data, illustrating the future velocity of creek flows during a design-year storm. Other issues of importance included availability of potable water to serve the project, and impacts on the circulation system. Mr. Koch was responsible for technical oversight, budget compliance and tracking, schedule compliance, coordination and supervision of technical subconsultants, management of in-house staff, and communication with clients, legal counsel, and lead agencies.

Gateway Specific Plan Environmental Impact Report, Bakersfield, CA. As principal-in-charge of the EIR, he directed preparation of the full scope and supporting biology, air quality, and acoustical technical studies for a 4,000-acre new town in Metropolitan Bakersfield. The site is located adjacent to Interstate 5 and south of Taft Highway and the Kern River. The Gateway Specific Plan will guide long-term development of the 4,000-acre Gateway community, made up of a broad range of residential, mixed-use, commercial, recreational, and public facility uses. At buildout, the Gateway Specific would allow up to 16,471 dwelling units along with 506 acres of mixed-use commercial retail, office, industrial, business park, and institutional land uses. Primary and secondary educational facilities including up to six elementary schools, two middle schools, and one high school also were permitted within the residential land use designations.

The project required a General Plan Amendment, Zone Change, cancellation of Williamson Act Contracts, and annexation into the City's incorporated boundary. In light of historic growth patterns, and the number of active applications on file for development on the periphery of the planning area, a variety of complex land use and planning issues in the City of Bakersfield were addressed. Specific issues covered included an examination of development patterns, consideration of the need to accommodate housing for persons of all income levels, how best to efficiently provide municipal services, and the potential for conversion of agricultural lands and protection of open space. The Gateway Specific Plan area is located within the bounds of the Metropolitan Bakersfield Habitat Conservation Plan (MBHCP), and contains suitable habitat for a number of species covered by the MBHCP.

Bakersfield Taft LLC, Montecito Environmental Impact Report, Bakersfield, CA. As principal-in-charge, Mr. Koch directed preparation of a full scope EIR and support for a 305-acre subdivision. The project would subdivide the land into 1,300 residential lots, a 6-acre neighborhood park, along with supporting infrastructure. The proposal included an amendment to the Land Use Element of the General Plan from LR (Low Density Residential) with a concurrent pre-zoning to R-l (one-family dwelling) on approximately 235 acres, and a General Plan Amendment R-lA (Resource-Intensive) to Low-Medium Density Residential with a concurrent pre-zoning to R-2 (Limited Multiple Family Residential) on approximately 70 acres. The project required annexation into the City of Bakersfield. Specific issues covered by the EIR included an examination of development patterns, consideration of the need to accommodate housing for persons of all income levels, how best to efficiently provide municipal services, and the potential for conversion of agricultural lands and protection of open space. The project area is located within the bounds of the Metropolitan Bakersfield Habitat Conservation Plan.

AECOM

Michael Kuehn, PhD

Senior Biologist and Project Manager
Role: Project (Task Order) Manager | Wildlife/Avian Resources

Education
PhD, Ecology, University of California, Santa Barbara, 2009
BS, Fisheries and Wildlife Management, Lake Superior State University, 1999

Certifications
USGS Bird Banding Subpermitee under Dr. Peter Bloom, #20431

Years of Experience
With AECOM: 2
With Other Firms: 22

Training
Southern Sierra Research Station Willow Flycatcher Training Workshop (2011 and 2015)
General Estimator Avian Mortality Monitoring Workshop (2018)

Affiliations
American Ornithologists' Union
The Wildlife Society

Dr. Kuehn is a senior biologist and project manager in the Oakland, California office, He has a quantitative background and more than 20 years of experience leading wildlife studies in North America, including eight years of experience evaluating impacts of energy projects on wildlife and has contributed to mitigation and permitting efforts for a variety of projects.

Dr. Kuehn has advised wind and solar energy developers in California on approaches to avoid and minimize impacts to Golden Eagles, California Condors and other sensitive bird species. He has conducted studies to evaluate the effectiveness of cutting-edge technologies designed to avoid or minimize wildlife collisions with wind turbines.

Dr. Kuehn assisted with preparation of SMUD's Eagle Conservation Plan by developing the risk assessment (2014–2015). He is currently involved in the development of an Eagle Conservation Plan and Condor Habitat Conservation Plan for a confidential wind energy facility near Tehachapi, California. Dr. Kuehn is familiar with modeling approaches used to estimate and predict avian mortality at wind energy facilities, including the USGS General Estimator and Evidence of Absence models, as well as the USFWS Bayesian eagle collision risk model, and has experience designing and implementing field studies utilizing a variety of sampling regimes.

Experience

Sacramento Municipal Utility District (SMUD), Solano Wind Project Phase 3 –Eagle Conservation Plan, Solano County, CA. Provided technical and writing support for preparation of an Eagle Conservation Plan (ECP) to support SMUD's application to the U.S. Fish and Wildlife Service (USFWS) for an eagle take permit. Worked in close coordination with SMUD and USFWS to develop a risk assessment based on existing site use and mortality data and compensatory mitigation solutions to offset the impacts of anticipated take.

Sacramento Municipal Utility District (SMUD), Solano 4 Wind Project EIR and Permitting Services, Solano County, CA. AECOM is preparing a project level EIR, habitat assessments, cultural resources studies, and permit applications for the Solano 4 Wind Project. SMUD is looking to repower its Solano Wind Project Phase 1 and Roberts properties, and install new wind turbine generators (WTGs) on its Collinsville property. Collectively, these sites are referred to as the Solano 4 Project. The Solano 4 project would consist of removing 85 WTGs and then construct 22 new WTGs that would generate up to 90 MW on approximately 2,237 acres dominated by non-native grasslands used for seasonal livestock grazing. In order to develop the project, additional roads, foundations, and a power collection system to transport power to the SMUD power grid would need to be developed.

Humboldt County Planning and Building Department, Humboldt Wind Project Environmental Impact Report, Humboldt County, CA. Provided technical and writing support for preparation of an Environmental Impact Report (EIR) to analyze a proposed 135 MW wind energy project in Humboldt County. Developed impact assessment and proposed mitigation approaches for birds, including eagles, marbled murrelet, and other special status birds in coordination with Humboldt County, USFWS and CDFW.

Confidential Client, Confidential Wind Energy Project, Golden Eagle Conservation Research Study, Kern County, CA. Coordinated field effort and leading the data analysis and reporting effort for a three-year field study to support Golden Eagle conservation in the vicinity of an operational wind energy facility as part of settlement agreement for legacy golden eagle take between the Client and the US Fish and Wildlife Service. Designed and participated in field studies including eagle nest surveys, trapping, and GSM transmitter deployment. Responsible for managing and analyzing all field data, including high-resolution flight data from eagles equipped with transmitters, and preparing a technical report describing eagle flight behavior in relation to potential for collision risk with wind turbines, and results from studies addressing other population parameters of interest. Additional responsibilities include preparation of periodic progress reports to USFWS and participation in biannual meetings to present preliminary findings to USFWS and discuss progress.

Confidential Client, Confidential Wind Energy Project, Eagle Conservation Plan, Kern County, CA. Provided technical support for preparation of an Eagle Conservation Plan (ECP) to support application for a programmatic eagle take permit for a confidential wind energy project. Applied the U.S. Fish and Wildlife Service (USFWS) Bayesian fatality model to determine the expected number of eagle fatalities at the project during the permit period and contributed to preparation of ECP sections pertaining to compensatory mitigation, and development of advanced conservation practices.

Confidential Client, Confidential Wind Energy Project, California Condor Habitat Conservation Plan, Kern County, CA. Provided technical support for preparation of a Habitat Conservation Plan (HCP) for the California condor. Provided expertise in condor ecology, support in quantitative aspects of the risk assessment, and assisted in the writing and reviewing portions of the document related to avoidance, minimization and mitigation measures.

California Department of Fish and Wildlife – 2018 Statewide Swainson's Hawk Survey. Worked with CDFW staff to develop and implement a sampling approach for a statewide survey of the California state-endangered Swainson's Hawk (*Buteo swainsonii*) during the 2018 breeding season. Prior to the beginning of field surveys, collated Swainson's Hawk breeding records from various sources over the past 20 years to generate a probability density map used to generate low-, moderate- and high-density strata across the range of the species. Developed study design in coordination with CDFW staff to ensure adequate ability to determine detection probabilities through double-blind survey approach. Allocated spatially balanced sampling design to select and assign a subset of survey blocks to volunteer surveyors. Helped design data collection protocol and survey data sheets, in addition to a database for survey data entry and storage. Involvement with this project did not carry through to the data analysis and reporting stage due to a change in employer.

Confidential Client, Confidential Wind Energy Project, Large Bird Monitoring and Risk Abatement, Kern County, California. Provided expert consultation and large bird monitoring services for the purpose of risk abatement at an operational wind facility located in suitable habitat for Golden Eagles and California Condors. Managed a team of qualified monitors and all aspects of data collection and reporting. Coordinated with and advised client on approaches to mitigate collision risk.

High Speed Rail Authority, Impact Analysis for California Condor, Golden Eagle and Swainson's Hawk, Kern and Los Angeles Counties, California. Provided project management support for a pre-permitting assessment of sensitive raptors species along the High Speed Rail (HSR) right-of-way (ROW), Bakersfield to Palmdale section. Helped design and implement protocol surveys for Golden Eagle and Swainson's Hawk, and conducted a GIS-based risk assessment for California Condors. Analyzed field data and prepared final reports. Participated in the development of avoidance, minimization, and mitigation approaches.

Confidential Client, Confidential Wind Energy Project, Third-Party Evaluation of Avian Detection/Deterrent System, Kern County, CA. Provided technical support for an evaluation study of the DeTect Merlin Avian Radar System XX25200e/XS25200e at an operating wind facility. The purpose of the study was to determine the ability of the radar to successfully record golden eagles and other avian species in mountainous terrain in support of the project's ECP and/or eagle take permitting with the USFWS. The study design included collection of ground-based-observer data on eagles and raptors, and comparison of that data against radar-recorded data on a computer-based viewer. Assisted AECOM as a subcontractor in the analysis of data and report preparation.

AECOM

Mohammad Issa Mahmodi

Traffic and Noise/Air Quality Analyst
Role: Air Quality/GHG/Noise

Education

MS, Civil Engineering, Transportation and Infrastructure Systems, Purdue University, 2008

BS, Civil Engineering, Structural Engineering, Kabul University, 2000

Years of Experience

With AECOM: 8
With Other Firms: 10

Training

Traffix (8.0), AECOM, 2013, SoundPLAN 7.2, Navcon Engineering, CA

Integrated Noise Model (INM 7.0a), AECOM

Air Quality Analysis and Regulations and ArcGIS, California

International Road Federation Executive Leadership Fellowship, Washington D.C.

Transportation Research Board (TRB), Washington D.C.

MicroStation, Air Quality/ Traffic Noise Models (TNM, RD-77-108), IN

Road Construction and Maintenance, IKRAM

Computer Networking/ IT Management, Central European University, Hungary, and Technical University of Berlin, Curriculum Development/Teaching Programs, Purdue University

Affiliations

American Society of Civil Engineers

International Road Federation

Purdue University, Institute of Transportation Engineers

Issa Mahmodi is a traffic and noise/air quality analyst with more than 18 years of civil and environmental engineering experience, employing technical, analytical, and documentation skills to produce accurate traffic, noise, and air quality studies and impact analyses in compliance with CEQA/NEPA requirements and thresholds, as well as to meet local, State, and federal regulations. Mr. Mahmodi has prepared studies on industrial, energy, transportation, transit, infrastructure, flood control, mixed-use developments, recreation, and other construction projects, as well as public policy documents such as general plans. He has conducted field traffic studies, air noise monitoring, construction air quality monitoring, underwater noise monitoring, traffic modelling, noise/hydroacoustic modeling, vibration modeling, air quality modeling; traffic analyses, noise and vibration analyses, and air quality analyses. He also has developed analytical databases for air quality and noise data management.

Mr. Mahmodi has authored transportation/traffic and noise/vibration sections for Initial Studies/Mitigated Negative Declaration (IS/MND), Finding of No Significant Impact (FONSI), Categorical Exclusion (CE), Environmental Assessment (EA), Environment Impact Reports (EIR), Sustainable Communities Environmental Assessments (SCEA), General Plans Background Reports and EIRs, Environmental Impact Statements (EIS), and technical addenda and memoranda. He has prepared Noise Study Reports (NSRs), and Noise Abatement Decision Reports (NADRs). He has also authored underwater noise studies including underwater noise monitoring plans; pre-construction underwater noise prediction and analysis; during construction underwater noise monitoring, analysis and mitigation measures; and post-construction underwater noise analysis, results and reports for pile driving, pile removing, and underwater rock work, for Caltrans and Department of Water Resources (DWR), oil refineries, and wind energy companies, and other agencies, in accordance with National Oceanic and Atmospheric Administration (NOAA) and National Marine Fisheries Service (NMFS) policies and guidelines.

Experience

Pacific Gas & Electric Company, Missouri Flat 115 kV Reconductoring, New Pull Sites–Nighttime Noise Reduction Plan, El Dorado County, CA. Prepared a nighttime construction noise monitoring plan and drafted related mitigation measures for the project.

Pacific Gas & Electric Company, Missouri Flat 115 kV Reconductoring, New Pull Sites–Noise and Vibration Impacts, El Dorado County, CA. Conducted roadway noise modeling, construction noise modeling, and vibration modeling, and then wrote the noise section for the ISMND.

South Tahoe Public Utility District, Truckee Marsh Sewer Facilities Protection Project IS/MND, IEC and Permitting, El Dorado County, CA. Provided services for construction noise and vibration modeling, and prepared the noise section for a CEQA IS/MND and TRPA IEC for a flood protection project for existing STPUD sewer facilities located along the northeast margin of the Upper Truckee

Marsh. The project included measures to encourage the re-establishment of Trout Creek flows in pre-existing channels south of the District's facilities, toward the center of the marsh. The project also included an ancillary benefit resulting from the re-establishment of Trout Creek flows along its historical alignment and improvement of Stream Environment Zone (SEZ) habitat.

Sacramento Municipal Utility District (SMUD), Station E Initial Study Addendum, Sacramento, CA. Noise and traffic analyst for a CEQA Initial Study addendum for the Station E substation project. He conducted a roadway segment and construction traffic analysis; noise monitoring; roadway noise modeling, construction noise modeling, and vibration modeling; transportation/traffic impact analyses, noise/vibration impact analyses, and then prepared the draft traffic/transportation and noise/vibration sections of the technical Addendum EIR. The addendum addressed remediation of subsurface soil contamination, including a substantial increase in truck trips and extension of the project schedule, and reconfiguration of the subtransmission lines that will convey power from Station E into Sacramento. The addendum addressed potential biological and cultural resources impacts of expanding the project site and the potential air quality, noise, and traffic impacts of transporting contaminated soil to area landfills.

Sacramento Municipal Utility District (SMUD), Kramer Initial Study Addendum, Sacramento, CA. Noise and traffic analyst for a CEQA Initial Study addendum for the Kramer Building Demolition. Conducted roadway segment and construction traffic analyses; noise monitoring; roadway noise modeling, construction noise modeling, and vibration modeling; transportation/traffic impact analyses, noise/vibration impact analyses, and then prepared the draft traffic/transportation and noise/vibration sections of the technical Addendum.

Sacramento Municipal Utility District (SMUD), Siemens Substation IS/MND, Sacramento County, CA. Conducted noise monitoring, roadway noise modeling, construction noise modeling, and vibration modeling, then prepared the noise sections for an IS/MND to evaluate construction and operation of the new substation.

Sacramento Municipal Utility District (SMUD), Environmental Regulatory Support Services 2012-2016: Station A Substation Expansion, Sacramento, CA. Conducted a roadway segment traffic analysis and a construction traffic analysis, and prepared the traffic and transportation section for an IS/MND. He also conducted noise monitoring, did roadway noise, railway noise, and construction noise and vibration modeling, and prepared the noise section. The project was to relocate a SMUD substation within the Sacramento railyards. The environmental study focused on consistency with the Railyards Specific Plan, Design Guidelines, and Railyards EIR. The Initial Study also evaluated the project in light of Sacramento's 2035 General Plan Update and EIR, City of Sacramento ordinances, and regional climate change and transportation planning efforts. Constructed in 1894, the site is listed on both the California Register of Historical Resources (California State Landmark No. 633-2 site) and the City of Sacramento's register of historical resources. AECOM prepared a cultural resources technical study to support the IS/MND and also addressed Tribal Cultural Resources as required by AB 52.

Sacramento Municipal Utility District (SMUD), Environmental Regulatory Support Services 2012–2016: New Slab Creek Powerhouse A, El Dorado, CA. Conducted noise monitoring, did roadway traffic noise modeling (using TNM, performed construction noise and vibration modeling, and prepared the noise section documentation (i.e., CEQA categorical exclusion and NEPA Environmental Assessment).

Sacramento Metropolitan Utility District, Compressed Air Energy Storage IS/MND, Sacramento County, CA. Provided point source noise modeling in SoundPLAN7.2 to support the CEQA process for this Compressed Air Energy Storage IS-MND.

Southern California Edison, Valley South Subtransmission Line Project, Proponent's Environmental Assessment, Cities of Menifee, Murrieta, and Winchester, CA. Provided services for roadway noise, construction noise, and vibration modeling, and wrote the noise section for the PEA.

Sean McAllister

Wildlife Biologist

Education

College of the Redwoods, Eureka, California 1987-1993

Humboldt State University Wildlife Dept. Arcata, California 1995-1998

Affiliations

Pacific Seabird Group

Marbled Murrelet Technical Committee

The Wildlife Society

Audubon Society

Western Field Ornithologists

American Birding Association

International Wader Study Group

Certifications

Private Consulting Biologist #0051 (Northern Spotted Owl)

Authorized Bird Bander, U.S. Geological Survey Bird Banding Lab Permit #22971

Snowy Plover Recovery Permit Authorized Individual. U.S. Fish and Wildlife Service Permit #TE-823807-3

Certified Aquaculturist (salmonids) Aquaculture/Fisheries Program College of the Redwoods 1993

Basic Training in Wildland Fire Fighting, Shasta College, 1990.

All Terrain Vehicle (ATV) Rider Training Certification. Eureka, California 1993, Coos Bay, Oregon 1998

Specialized Training

Section - 7 Consultation / Biological Assessment Workshop conducted by USFWS at The Wildlife Society – Western Section Annual Meeting February, 2002

HAZMAT – Hazardous Materials Training, Summer 1990

Presentations

Field Trip Leader / Lecturer Siskiyou Field Institute - June 2000

Field Trip Leader / Lecturer Godwit Days 1998 –2009

Field Trip Leader / Lecturer Aleutian Goose Festival 2001-2006

Awards

The Wildlife Society California North coast Chapter Professional of the Year - 2004

Sean McAllister is an independent consulting biologist located in Eureka, California. He has 24 years of experience as a surveyor and researcher on sensitive bird species of the Pacific Northwest, and is a recognized expert on snowy plovers, marbled murrelets, and northern spotted owls. Mr. McAllister is also a Snowy Plover Recovery Permit Authorized Individual (U.S. Fish and Wildlife Service Permit #TE-823807-3), and since 1995 has been a key trainer and evaluator during for annual marbled murrelet training courses. Most people who conduct inland surveys for marbled murrelets in the Pacific Northwest have gone through his course. His consulting experience includes conducting surveys and monitoring for diverse projects such as the Bear River Wind Power Project EIR/EIS, Arcata/Eureka Airport Wildlife Hazard Assessment, and the Marbled Murrelet Restoration Project in Humboldt County.

EXEMPLARY PROJECT EXPERIENCE

Bear River Wind Power Project EIR/EIS, Bear River Ridge near Ferndale, Humboldt Count, CA
Client: Shell Wind Energy

Wildlife Biologist. Performed a variety of avian monitoring projects associated with a proposed wind energy project in Humboldt County. Compiled and analyzed survey results, and completed impact assessment reports in support of the environmental review for a conditional use permit for a 25-turbine wind farm.

Study of the Breeding Biology and Human Caused Disturbance to Nesting Marbled Murrelets, Northern California
Client: Department of Wildlife, Humboldt State University, CA

Wildlife Biologist. Provided ground support for tree climbers and assisted with data collection.

Marbled Murrelet Restoration/Mitigation Project, Humboldt County, CA
Client: CDFW – Office of Oil Spill Prevention and Response

Project Manager/Wildlife Biologist. This was a non-protocol murrelet survey research project. The goal of the project was to gather information at sites known to be occupied by murrelets in an effort to determine how many birds were using each site. Included in the survey work was an assessment of potential murrelet nest platforms. Sean helped organize and train the field crew and met with agencies to help with the design of the project. He also conducted surveys.

Arcata/Eureka Airport Wildlife Hazard Assessment McKinleyville, Humboldt County, CA
Client: County of Humboldt Public Works Department

Project Manager/ Wildlife Biologist. Performed bird point counts within and around the Arcata/Eureka Airport to inform county staff of potential hazards. Analyzed data and produced final report.

North Coast Snowy Plover Recovery Project Humboldt County, CA
Client: MRB Research, Inc.

Project Co-leader/Wildlife Biologist. Sean has been studying and monitoring Snowy Plovers since 1996. His experience includes nest searching and monitoring, capturing and banding adults and chicks, 'floating' eggs to determine development stage, erecting predator exclosures, data management, public outreach, and meeting with agencies.

Marbled Murrelet Surveyor Training, Humboldt County, CA

Since 1995 Sean has been a key trainer and evaluator during MRB's annual training course. Most people who conduct inland surveys for Marbled Murrelets in the Pacific Northwest have gone through this course. Sean's experience with this species from a wide variety of survey projects is a valuable contribution to this course. Trainees are educated in the biology, life history, identification and survey methods following the protocol developed by the Pacific Seabird Group.

AECOM

Suzanne McFerran

Environmental Planner and Technical Analyst
Role: Air Quality/GHG/Noise

Education
MA, Environmental Science and Management, University of California, Santa Barbara, 2012
BS, Integrative Biology, University of California, Berkeley, 2006

Years of Experience
With AECOM: 7
With Other Firms: 5

Affiliations
American Planning Association
Association of Environmental Professionals

Suzanne McFerran has 12 years of experience in the field of environmental science and management, including work on CEQA/NEPA, air quality and greenhouse gas analyses, public outreach and communications, and program and project management. Her diverse academic and professional background has allowed her to provide a multidisciplinary approach in providing services to and developing solutions for federal, state, and local agencies and private sector clients. As an environmental scientist and planner at AECOM, Ms. McFerran works on a variety of project types, including private and public sector development, municipal general plans, flood control and environmental restoration, energy transmission, and transportation. Specifically in support of air quality and greenhouse gas analyses, Ms. McFerran has experience in quantifying potential criteria air pollutant and greenhouse gas emissions using emissions modeling software and spreadsheet calculations. She evaluates project-related emissions in relation to existing conditions and the evolving regulatory framework around air quality and greenhouse gases to identify potential impacts and develop mitigation measures to minimize emissions.

Experience

Sacramento Municipal Utility District (SMUD), Hazel Avenue Electrical Facilities Relocation and Expansion Project, CEQA IS/MND, Sacramento, CA. Noise Analyst. Ms. McFerran conducted data collection for the noise study to support preparation of a CEQA IS/MND for the relocation of SMUD's existing Hazel Avenue Substation and associated subtransmission line. She also provided review of the CEQA IS/MND Noise Chapter.

San Francisco Public Utilities Commission, Mountain Tunnel Improvements - Initial Study/Mitigated Negative Declaration – Tuolumne and Mariposa Counties, CA. Conducted criteria air pollutant and greenhouse gas emissions quantification to support the air quality and greenhouse gas impact analysis of the IS/MND for construction improvements of the Mountain Tunnel. The Mountain Tunnel stretches for 19 miles underground through the Stanislaus National Forest, from Early Intake to Priest Reservoir. The project includes work inside the tunnel, as well as improvements to maintenance and access points throughout the tunnel alignment.

Confidential Utility Client, North American Electric Reliability Corporation Transmission Environmental Alert Program, CA. Environmental Planner. Ms. McFerran supported administrative functions for all Northern California projects under the NERC Alert Program for a utility client. She conducted land use desktop and database reviews for federal, State, and local regulatory compliance under strict engineering and construction deadlines.

Confidential Utility Client, Rock Creek Cresta Hydroelectric Project No. 184 Post-License Ecological Review Committee, Butte County, CA. Meeting Coordinator. The Ecological Resources Committee, established under terms of the Rock Creek–Cresta Settlement Agreement (Federal Energy Regulatory Commission Number 1962), resolved stream flow issues related to ecological purposes and river-based recreational use in the North Fork Feather River. Ms. McFerran coordinated and prepared meeting notes for the monthly meetings of the committee.

Fair Oaks Recreation and Parks District, Plaza Park, Village Park, and Community Clubhouse Master Plan IS/MND, Sacramento, CA. Air Quality, Greenhouse Gas and Energy Analyst. Ms. McFerran

performed the air quality, greenhouse gas, and energy technical analyses and modeling, and authored the respective CEQA sections for the project's IS/MND to upgrade, improve, and unify two existing adjacent parks. The project included additional parking and pedestrian pathways, new landscaping, safety lighting, and renovations at the existing clubhouse and amphitheater, in a historic area of downtown Fair Oaks.

Developer Ryan Heater dba 2500 J Street Owners LLC, Yamanee Sustainable Communities Environmental Assessment (SCEA), Sacramento, CA. Air Quality and Greenhouse Gas Analyst. Ms. McFerran performed the air quality and greenhouse gas technical analyses and modeling, and authored the Air Quality and Greenhouse Gas section of the project's SCEA. The project included demolition of existing structures and construction of multi-story, mixed-use development in the downtown region of Sacramento that was designated as a Transit Priority Area (TPA) and Center and Corridor Community by the Sacramento Area Council of Governments' Metropolitan Transportation Plan/Sustainable Communities Strategy for 2035. The analysis included modeling of emissions from existing structures and the project, as well as consideration of benefits realized through smart land in this area of overlap of a TPA and Center and Corridor Community.

Sacramento Local Agency Formation Commission and City of Elk Grove, Elk Grove Sphere of Influence Amendment and Multi-Sport Complex Environmental Impact Report, Elk Grove, CA. Air Quality, Greenhouse Gas and Energy Analyst. Ms. McFerran performed the air quality, greenhouse gas, and energy technical analyses and modeling, and authored the respective CEQA sections for the project's EIR. Her work involved project-level analysis of a 100-acre proposed multi-sport park complex and programmatic analysis of potential future development of more than 400 acres. The analysis considered emissions from proposed construction and operations on undeveloped land, as well as future buildout of surrounding land associated with the Sphere of Influence amendment.

Loomis Costco, Environmental Impact Report, Loomis, CA. Air Quality, Greenhouse Gas, and Energy Analyst. Ms. McFerran performed the air quality, greenhouse gas, and energy technical analyses and modeling, and authored the respective CEQA sections for the project's EIR. The analysis considers emissions from proposed construction and operations, including transportation-related emissions and evaporative emissions from the fueling station, of a proposed Costco warehouse and fueling station.

Natomas Unified School District, Paso Verde School Environmental Impact Report, Sacramento County, CA. Air Quality, Greenhouse Gas, and Energy Analyst. Ms. McFerran performed the air quality, greenhouse gas, and energy technical analyses and modeling, and authored the respective CEQA sections for the EIR. The analysis considered the emissions and energy demands from proposed construction and operations, including transportation, of a new kindergarten through eighth grade school on an 18-acre site within the Natomas area of unincorporated Sacramento County.

Sacramento County Office of Education, Gerber Community School Initial Study/Mitigated Negative Declaration, Sacramento, CA. Air Quality and Greenhouse Gas. Ms. McFerran performed the air quality and greenhouse gas technical analyses and modeling, and authored the respective CEQA sections for the project's Initial Study and Mitigated Negative Declaration. The analysis considered the emissions from proposed construction and operations, including transportation emissions, of a new community school in unincorporated Sacramento County.

AECOM

Chandra Miller

Architectural Historian
Role: Cultural Resources

Education

MA, History (Public History with Cultural Resource Management concentration), Graduation with Honors – Cum Laude, Sacramento State University

BA, History, Minor in Theatre Arts, Graduation with Honors – Cum Laude, Humboldt State University

Certificate in Historic Preservation and Restoration Technologies, College of the Redwoods

Years of Experience

With AECOM: 3
With Other Firms:8

Training

Section 106: A Review for Experienced Practitioners, National Preservation Institute

Mastering the CEQA Process for Historic Properties in the Bay Area

Chandra Miller meets the Secretary of the Interior Professional Qualification Standards for work in history and architectural history. She has more than 10 years of experience contributing to and authoring technical reports through historic research, writing historic contexts, and conducting cultural resource investigations including survey and evaluation of various historic resources throughout California from linear resources to 1970s modern commercial buildings for National Register of Historic Places (NRHP) and California Register of Historical Resources (CRHR) eligibility. Her experience includes Section 106 and California Environmental Quality Act (CEQA) compliance process and environmental documents for historical resources. Ms. Miller works with interdisciplinary teams from private firms, state, and federal agencies to produce reports that meet local, state, and/or federal guidelines for project compliance and State Historic Preservation Officer (SHPO) concurrence.

Experience

Sacramento Municipal Utility District, Jackson Properties Cultural Report, Sacramento County, CA. Architectural historian who prepared a built environment cultural resources letter report for a single rural-residential property in Sacramento County for the eventual construction of a bulk substation by SMUD. AECOM conducted a reconnaissance-level cultural resource survey, a North Central Information Center (NCIC) records search, and prepared a memorandum with results of the survey, background research, and California Register of Historical Resources (CRHR) evaluation of the historic-age built environment resources if they meet the criteria as historical resources for the purposes of the California Environmental Quality Act (CEQA).

Sacramento Municipal Utility District, Solano 4 Wind Project, Historical Resources Inventory and Inventory Report, Montezuma Hills, Solano County, CA. Architectural historian who completed the technical report for historic-age built environment resources within an indirect area of potential effect. Report included assessment of indirect effects of the project on one historical resource/historic property identified in the study area. Prepared cultural resources chapter with staff archaeologists for the EIR for CEQA.

NV Energy and Bureau of Land Management, Antelope Valley Avian Protection Project, Lander County, NV. Architectural Historian who conducted fieldwork, research, historic context writing, and evaluation of built environment resources in the APE for a transmission line replacement/retrofit project 15 miles south of Battle Mountain as part of compliance with Section 106 of the Nation Historic Preservation Act (NHPA). Deliverable included a joint cultural resources inventory report prepared with AECOM archaeologist for review by BLM.

Berkshire Hathaway Energy Holdings Company, NVE - 624 Rebuild, Douglas and Carson City Counties, NV. Architectural Historian that participated in cultural resource fieldwork with archaeology staff, and conducted research, historic context writing, and evaluation of built environment resources in the APE for a transmission line replacement project in the Lake Tahoe basin.

Southern California Edison, North of Magunden Transmission Line Rating Remediation Project, Kern and Tulare counties, CA. Architectural Historian who conducted research, developed historic contexts, and evaluated historic-age water conveyance systems in Kern and Tulare counties.

Sacramento Municipal Utility District (SMUD), Initial Study and Mitigated Negative Declaration Addendum for the SMUD Headquarters Rehabilitation, Sacramento, CA. Architectural historian who conducted fieldwork, research, and evaluations of a 1950s industrial warehouse on a DPR 523 form, tech memo, and addendum IS/MND.

Sacramento Municipal Utility District (SMUD), Siemens Substation CEQA Compliance, Sacramento, CA. Architectural historian who prepared summary of cultural resources in the project site for an Initial Study document.

Sacramento Municipal Utility District (SMUD), Solano Wind Farm: Inventory and Evaluation under CEQA of Buildings, Structures and Objects within the SMUD Solano Windfarm Project Area, Solano County, CA. Conducted fieldwork and prepared historic context and evaluation for a historic property owned by SMUD.

Pacific Gas & Electric Company, Salt Springs to Tiger Creek Transmission Line: Historical Resources Inventory and Evaluation Report, Amador and Calaveras Counties, CA. As a research assistant, conducted fieldwork and prepared historical resources inventory and evaluation for the Salt Springs-Tiger Creek Transmission Line along the North Fork of the Mokelumne River in Amador and Calaveras counties.

CS Solar, Sullivan Solar Project, Stanislaus County, CA. Architectural historian who assisted with area of potential effects development, fieldwork for built environment resources, conducted research and prepared evaluations for resources associated with oil and gas transmission, electrical transmission, and agriculture use of the region. The cultural resources component of the project was conducted as part of on-going compliance with the California Environmental Quality Act (CEQA) and for review of the project by the U.S. Army Corps of Engineers for Section 106 of the National Historic Preservation Act (NHPA).

San Francisco Public Utility Commission and City and County of San Francisco Planning Department, Mountain Tunnel Improvements Project: Historic Resources Evaluation Addendum, Tuolumne County, CA. Architectural historian who assisted with fieldwork, research, and preparation of an HRE addendum to evaluate the Priest Reservoir & Priest Dam in the Hetch Hetchy water system and assess impacts of the project on the historical resource. Assisted with Finding of Effects (FOE) report for Section 106 of the National Historic Preservation Act (NHPA) on behalf of the lead federal agency for the project.

San Francisco Public Utilities Commission and AECOM (URS), Moccasin Administration Building Mezzanine Enclosure Project, Tuolumne County, CA. Architectural Historian who compiled a HABS report of the Moccasin Administration Building, which is a contributor to the Moccasin Historic District and individually eligible for listing in the NRHP as part of the Hetch Hetchy water and power system.

San Francisco Planning Department, Moccasin Administration Building Mezzanine Enclosure Project: Historic Resources Evaluation, Moccasin, Tuolumne County, CA. Architectural historian who prepared a Historic American Building Survey (HABS) for a contributing element of the Moccasin Historic District owned by the San Francisco Public Utilities Commission (SFPUC), Hetch Hetchy Water and Power (HHWP) Division. Prepared for URS (now AECOM).

Sacramento Regional Transit and City of Rancho Cordova, Horn Light Rail Station Notice of Exemption, Rancho Cordova, CA. Architectural historian who conducted fieldwork, reviewed previous reports, conducted Native American Heritage Commission outreach, and prepared a cultural resources summary memo for historical resources to support a CEQA Categorical Exemption (CE) in accordance for a project to construct a new station in Rancho Cordova along the shared Sacramento Valley/Southern Pacific (now Union Pacific) railroad and light rail right-of-way.

Sacramento Regional Transit and Federal Transit Authority, SacRT Green Line Extension, Sacramento, CA. Architectural historian who is preparing a joint cultural resources technical report for compliance for Section 106 of the National Historic Preservation Act (NHPA) for review by the FTA. Work included development of area of potential effects, interested parties communication, fieldwork, historic context research and development, and evaluation of built-environment resources in the project area.

AECOM

Susan D. Sanders, PhD

Senior Wildlife Biologist
Role: Project (Task Order) Manager | Wildlife/Avian Resources

Education
PhD, Zoology, University of California, Davis, 1983
MA, Zoology, University of California, Davis, 1979
BA, Zoology, University of California, Berkeley, 1976

Years of Experience
With AECOM: 8
With Other Firms: 28

Affiliations
The Wildlife Society, Western Section
American Ornithologists' Union
California Native Plant Society

Dr. Sanders has more than three decades of experience in analyzing project impacts on California wildlife and ecosystems to support environmental planning and permitting. She has extensive experience in the preparation of biological resource analyses pursuant to CEQA, NEPA, and other federal and state environmental regulations, including surveys for threatened and endangered species, wildlife and botanical inventories, mitigation planning and monitoring, and litigation support. Dr. Sanders has worked with the public and private sector to provide hundreds of biological resource impact analyses and mitigation plans for transportation projects, utility-scale renewable energy projects, commercial and residential developments, land exchanges, watershed management plans and water development projects. She has particular expertise in wind energy-wildlife interactions and the biological impacts of large-scale wind and solar energy development. With training in both avian ecology, wildlife biology and planning, she manages complex multidisciplinary projects and over the past 8 years has served as a task order manager for on-call contracts with the California Department of Water Resources, California Department of Transportation Districts 1, 2 and 3, and the Sacramento Municipal Utility District.

Experience

Sacramento Municipal Utility District (SMUD), Solano 4 Wind Project Environmental Impact Report and Permitting, Solano County, CA. Senior biologist who oversaw preparation of technical studies and the biological resources section for the Solano 4 Wind Project EIR. This project will replace existing wind turbines with up to 22 new modern turbines in the Collinsville-Montezuma Hills Wind Resource Area and will generate 92 megawatts of renewable energy to deliver to the electric grid. Technical biological studies for this project included habitat assessments and eDNA sampling for California tiger salamanders, and assessments for giant garter snake, California red-legged frogs, burrowing owls, eagle nest surveys and wetland delineations. Dr. Sanders also oversaw preparation of permit applications for USCE Clean Water Act Sections 404 and 401 permits and a CDFW Streambed Alteration Agreement.

Sacramento Municipal Utility District (SMUD), Solano Wind Project Phase 3 – Post-Construction Avian and Bat Mortality Monitoring Program, Solano County, CA. Project manager for a 3-year bird and bat fatality monitoring effort for the Solano Wind Project Phase 3. Tasks involved developing an Avian and Bat Mortality Monitoring Protocol to conduct carcass surveys and statistical analysis; a managing a survey crew conducting bimonthly carcass searches at the project site; preparation of annual monitoring reports analyzing the results of the three years of bird and bat fatality monitoring; quarterly and annual reporting for the USFWS Special Purpose Utility Permit, and presentation of results at the Solano County Technical Advisory Committee on Wind Energy Project Avian Issues.

Sacramento Municipal Utility District (SMUD), Solano Wind Project Phase 3 – Eagle Conservation Plan, Solano County, CA. Project manager for preparation of an Eagle Conservation Plan (ECP) to support SMUD's application to the U.S. Fish and Wildlife Service (USFWS) for an eagle take permit. ECP development involves assessing eagle use and exposure risk, modeling for risk analysis, and close coordination with the USFWS.

Sacramento Municipal Utility District (SMUD), On-call Environmental Services, Sacramento, El Dorado, Solano, Yolo, and Placer Counties, CA. Task Order Manager and senior biologist in charge of

client coordination and staffing on-call biological resources task orders. Provide senior review of biological resource assessments. Under a 4-year on-call contract, AECOM is providing environmental services to support the construction, repairs, and/or monitoring of various SMUD projects such as transmission lines, substations, wind generation, and gas pipeline projects. Services include the full range of CEQA and NEPA compliance documents and supporting technical biological studies, as well as permitting, construction monitoring, and long-term monitoring of compliance with permit conditions.

Los Angeles Department of Water and Power, Pine Tree Wind Project, Kern County, CA
Senior biologist assisting with preparation of Habitat Conservation Plan (ESA Section 10(a)) for take of California Condor at operational wind farm in Tehachapi Wind Resource Area. Tasks involve development of HCP chapters in close coordination with LADWP, USFWS, and California condor experts to assess potential collision risk for condors and impacts on the Southern California population, development of avoidance, minimization and mitigation measures, and providing senior technical review.

California Energy Commission, Development of Wind-Wildlife Guidelines, Statewide, CA. Primary author of *California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development in California* published by CEC and CDFW (CEC and DFG 2007) and lead biologist and project manager for this statewide effort to develop science-based protocols for preconstruction and postconstruction monitoring methods to assess the effects of wind energy development on birds and bats. Dr. Sanders worked closely with staff from CEC and CDFW; recruited and coordinated with an eight-member Science Advisory Committee; organized and conducted public workshops; and successfully collaborated with wind energy developers, nongovernmental organizations, and other stakeholders.

California Energy Commission, Renewable Energy Research for CEC's Public Interest Energy Research (PIER), CA. Researched and authored *A Roadmap for PIER Research on Methods to Assess and Mitigate Impacts of Wind Energy Development on Birds and Bats in California*, a document analyzing the current state of knowledge on the impacts of wind energy on birds and bats. This report describes research to improve the biological assessment, mitigation, and monitoring of wind energy projects in California. Dr. Sanders worked with PIER staff to assist with disbursement of $2.25 million in grant money to address Terrestrial Resources Energy Research]

California Energy Commission (CEC), Power Plant Siting Projects, California Statewide. Lead biologist for 10 California Energy Commission (CEC) power plant siting projects while under contract with Aspen Environmental Group, including five complex and controversial solar thermal power projects requiring analysis and permitting on a fast-track schedule. As primary author of the biological resources section of the staff assessments, Dr. Sanders directed the work of associate biologists and other technical specialists; regularly conducted issue resolution workshops and interagency conference calls; provided testimony at the CEC's Evidentiary Hearings; and coordinated extensively with CEC siting and legal staff, as well as state and federal agencies, such as CDFW, USFWS, and BLM. Dr. Sanders served as lead biologist on the following renewable energy projects:

- Palen Solar Power Project, Riverside County, CA.
- Blythe Solar Power Project, Riverside County, CA.
- Genesis Solar Energy Project, Riverside County, CA.
- Beacon Solar Energy Project, Kern County, CA.
- Ivanpah Solar Electric Generating System, San Bernardino County, CA.

AECOM

Petra Unger

Principal, Natural Resources
Role: Program Manager │ Project (Task Order) Manager

Education
MS, Biology (minors in Soil Science and Zoology), Georg-August University, Goettingen, Germany, 1994

Years of Experience
With AECOM: 19
With Other Firms: 8

Training
Association of Environmental Professionals Advanced CEQA Training annually 2005-2016
University of California, Davis Extension course: Wetland Impacts and Mitigation
University of California, Davis Extension course: CEQA
University of California, Davis Extension course: Environmental Impact Report/ Environmental Impact Statement Preparation and Review
Wetland Training Institute course: Basic Wetland Delineations

Affiliations
California Native Grasslands Association
California Native Plant Society
Davis Botanical Society
The Nature Conservancy
Society for Ecological Restoration California Chapter
California's Invasive Plant Council (Cal-IPC)

Awards + Honors
AEP Outstanding Public Involvement/ Education Program, March 2009—Stewardship of the Lower Putah Creek Watershed

Petra Unger is a senior environmental project manager with a strong background in biological resources and CEQA and NEPA compliance. Ms. Unger is experienced in all aspects of program and project management and the oversight of multidisciplinary project teams. She has served as the project director for AECOM's SMUD On-Call Environmental Services Contracts since 2014 and is currently also serving as project director for AECOM's Solano Wind Project Land Management On-call contract and Renewables Engineering contract with SMUD. Her on-call contract management experience also includes large on-call contracts with California State Parks, California Department of Corrections and Rehabilitation, Department of Water Resources, and Caltrans, and with local municipalities, such as the cities of Sacramento and Palo Alto, and the counties of El Dorado, Placer, and San Joaquin. She is experienced in managing CEQA and NEPA compliance and environmental permitting for energy facilities, office complexes, infrastructure, open space/recreation, and other projects. She is experienced in stakeholder outreach and in working with technical advisory groups. She has extensive experience in conducting botanical surveys; rare, threatened, and endangered species studies; habitat assessments; wetland delineations; permitting; and mitigation monitoring. She is thoroughly familiar with federal, state, and local laws and regulations pertaining to the preservation of natural resources and endangered species. She provides guidance and senior review for resource assessment and management projects.

Experience

Sacramento Municipal Utility District (SMUD), On-call Environmental Services, Sacramento, El Dorado, Solano, Yolo, and Placer Counties, CA. Project director for subsequent on-call contracts. AECOM is providing environmental services to support the construction, repairs, and/or monitoring of various SMUD projects such as transmission lines, substations, wind generation, and gas pipeline projects. Services include the full range of CEQA and NEPA compliance documents and supporting technical studies for biological and cultural resources, air quality, traffic, hazardous materials, and water quality, as well as permitting, construction monitoring, and long-term monitoring of compliance with permit conditions. [2012-2016, 2016-present]

Ms. Unger also is the project director for AECOM's Land Management Services on-call contract for the Solano Wind project, and for AECOM's Renewables Engineering contract.

Sacramento Municipal Utility District, Solano 4 Wind Project EIR and Permitting Services, Solano County, CA. Project Director. AECOM is preparing a project level EIR, habitat assessments, cultural resources studies, and permit applications for the Solano 4 Wind Project. SMUD is looking to repower its Solano Wind Project Phase 1 and Roberts properties, and install new wind turbine generators (WTGs) on its Collinsville property. Collectively, these sites are referred to as the Solano 4 Project. The Solano 4 project would consist of removing 85 WTGs and constructing 22 new WTGs that would generate up to 90 MW on approximately 2,237 acres dominated by non-native grasslands used for seasonal livestock

grazing. In order to develop the project, additional roads, foundations, and a power collection system to transport power to the SMUD power grid would need to be developed. AECOM prepared a series of technical studies and is providing permitting support for the project. [2018-2019]

NV Energy, On-Call Environmental Services, CA and NV. Project director for on-call contract to provide environmental services for a variety of overhead and underground transmission and distribution lines, transformers, and other energy facility projects. Representative task orders under two consecutive master services agreements have included:

- **Line 624 Transmission Line Rebuild Project** (9.25 miles) NEPA document, supporting technical field studies and reports (tree inventory, Golden Eagles, Northern Goshawk, and raptor surveys, Flammulated and Spotted Owl surveys, Sierra Yellow Frog survey, bat survey, cultural resource inventory, general habitat, rare plant and noxious weed surveys, and a water resources inventory, SWPPP), and permit applications.
- **Antelope Valley Avian Protection Project** (16.4-mile distribution circuit) AECOM prepared the NEPA document, conducted field surveys, and prepared technical reports and permitting applications for a project to provide additional reliability and achieve compliance with the National Electric Safety Code requirements, the Migratory Bird Treaty Act, and the Bald and Golden Eagle Protection Act.
- **Lake Village Rebuild Project.** AECOM prepared a Tahoe Regional Planning Agency Linear Public Facilities Permit for the replacement of underground lines and to relocate transformers above ground. The project is located along U.S.50, a scenic highway. A soil and hydrologic report application was also prepared, and the project received an exemption.
- **One Nevada Transmission Line Project.** AECOM assisted NV Energy with the restoration/ revegetation monitoring activities for the 231-mile One Nevada Transmission Line Project, 4.5-mile 345KV Transmission line project, and the Robinson Summit Substation.

- **Humboldt County Planning Department, Bear River Ridge Wind Farm EIR/EIS, Humboldt County, CA.** Project manager for the Draft EIR/EIS for a proposed wind turbine project in the coastal range of Humboldt County. ShellWind Energy proposed a 25 wind turbines wind farm generating 50 megawatts of electricity on private ranch land along a ridge above the Bear River. Key issues addressed in the Draft EIR/EIS included potential take of federally listed species including marbled murrelet and northern spotted owl, along with the potential loss of other native birds and bats. Other impact issues include potential interference with weather radar, coastal scenic impacts, construction disturbance, and transport of large turbine components through rural communities.
- **Enel Green Power Wind Energy Project Site Characterization Studies for Multiple Projects Throughout Northern and Southern CA.** Project manager for three northern California sites in Lassen and Modoc counties. AECOM evaluated nine potential wind energy project sites to determine the relative difficulty and permitting/mitigation costs associated with the environmental review process for each site. Project locations ranged from mountains in the Mojave Desert to the Eastern Sierras and northeastern California. Site Characterization Studies were prepared for each site. These studies included a desktop evaluation of potential resources and resource permitting issues, followed by site visits and detailed reports. Environmental constraints studied included land use, visual resources, biological resources, cultural resources, and noise and vibration. The studies also included permit work plans, outlining all permits required for construction of wind farms federal and private lands. Reviewed relevant sections of the applicable BLM RMPs and relevant elements of the local County General Plans were key elements of the projects. For some of the sites, we also conducted biological and cultural resources studies for the placement of solar units and Met towers in support of BLM NEPA review. A permitting matrix was prepared for each site, as was a standardized scoring system for each resource area, allowing for direct comparison between all sites. [2011-2012]
- **Pristine Sun Solar Energy Projects, Tehama County, Shasta County, and San Luis Obispo County, CA.** Project manager and senior biologist who provided senior review of the environmental constraints analysis of 10 small solar sites in Tehama County, two sites in Shasta County, and one site in San Luis Obispo County. AECOM evaluated the potential biological and cultural resource sensitivities associated with construction and operation of the proposed solar energy facilities. Each facility would be approximately 1-5 megawatts (MW). In order to reduce costs associated with the field work, AECOM arranged for all the northern California fieldwork to be completed in one trip over a two-day span. In addition, the archaeological records searches for each site were conducted simultaneously in order to reduce AECOM and records center staff time. Technical reports were designed to support any future CEQA documents.

Sacramento Municipal Utility District (SMUD), Upper American River Project Hydroelectric Relicensing Studies and Implementation Projects, On-call Environmental Services, El Dorado, County, CA. Project director for consecutive on-call contracts as a subconsultant. AECOM is providing environmental services to support the FERC hydroelectric relicensing and implementation projects to support the relicensing stipulations. Services include CEQA compliance documents and supporting technical studies for biological and cultural resources, implementation of the Historic Properties Management Plan, and recreation studies and design. The project includes 11 dams, 8 powerhouses, and associated transmission lines in an elevation range of 1,500 to 6,500 feet. [2009-present]

Sacramento Municipal Utility District, Ocelot-Baroque Subsequent IS/MND and EA, Sacramento County, CA. Project direction for a subsequent Initial Study/Mitigated Negative Declaration (IS/MND) and Environmental Assessment (EA) for the Ocelot-Baroque project. An IS/MND for this project was originally prepared in 2006 and a subsequent IS/MND was drafted in 2015 but never certified. AECOM is updating the 2015 Subsequent IS/MND to the current CEQA checklist, adding topics updated or added to the checklist since 2015, and updating the CEQA analysis. AECOM conducted updated database searches and a site visit to assess potential changes to biological and cultural resources analysis. The transmission line will cross the Folsom South Canal, on property owned by the Bureau of Reclamation (USBR) and therefore will require compliance with the National Environmental Policy Act (NEPA). AECOM is preparing an EA in coordination with USBR for NEPA compliance. [2019 - present]

Sacramento Municipal Utility District, Management Plan for the Rancho Seco Solar II Conservation Area, Sacramento County, CA. Project director for preparation of a Management Plan for SMUD's Rancho Seco Solar II Conservation Area. As part of the mitigation strategy for the Rancho Seco Solar II Project, SMUD designated an approximately 214-acre area adjacent to the Rancho Seco Solar II Project and SMUD's existing Nature Preserve Mitigation Bank as a Conservation Area. The conservation area provides upland habitat for California tiger salamander, potential aquatic habitat for California tiger salamander, and provides linkages/connectivity to adjacent conservation areas. AECOM prepared a plan that addressed interim and long-term management of the property, including providing guidance on vegetation management, fencing, reporting and administration, surveys and monitoring, and funding. Working with Area West Environmental AECOM produced a PAR analysis to assess the necessary endowment to manage the conservation area in perpetuity. [2019 - present]

Sacramento Municipal Utility District Franklin Substation Pre-Construction Surveys and Monitoring Support, Sacramento County, CA. Project director. AECOM teamed with Area West Environmental to conduct preconstruction surveys and biological and cultural resources monitoring for the transmission lines and pole replacements associated with the proposed Franklin Bulk Substation south of the City of Elk Grove. This work fulfilled pre-construction and construction monitoring requirements as outlined in the mitigation monitoring and reporting program from the Initial Study/Mitigated Negative Declaration and the USFWS Biological Opinion for the Project. [2018-present].

Sacramento Municipal Utility District (SMUD), Station E Initial Study Addendum, Sacramento, CA. Project director for a CEQA Initial Study Addendum (IS) for the Station E substation project. AECOM conducted a roadway segment and construction traffic analysis; noise monitoring; roadway noise modeling, construction noise modeling, and vibration modeling; transportation/traffic impact analyses, noise/vibration impact analyses, and then prepared the draft traffic/transportation and noise/vibration sections of the IS Addendum. The addendum addressed remediation of subsurface soil contamination, including a substantial increase in truck trips and extension of the project schedule, and reconfiguration of the sub-transmission lines that will convey power from Station E into Sacramento. The Addendum also addressed potential biological and cultural resources impacts of expanding the project site and the potential air quality, noise, and traffic impacts of transporting contaminated soil to area landfills. [2017]

Sacramento Municipal Utility District (SMUD), Kramer Initial Study Addendum, Sacramento, CA. Project director for noise and traffic analysis for a CEQA Initial Study Addendum for the Kramer Building Demolition. AECOM conducted roadway segment and construction traffic analyses; noise monitoring; roadway noise modeling, construction noise modeling, and vibration modeling; transportation/traffic impact analyses, noise/vibration impact analyses, and then prepared the draft traffic/transportation and noise/vibration sections of the technical Addendum. AECOM also prepared an architectural assessment memo to determine whether the Kramer Building would potentially qualify as a significant historic resource. [2017]

Sacramento Municipal Utility District, Siemens Substation IS/MND, Sacramento County, CA. Project director for an IS/MND and supporting technical studies to evaluate the proposed construction and operation of the Siemens Substation. The project would include a 20 MVA transformer, associated substation equipment, reconfiguring an existing cubicle, adding a new fiber optic telecommunications line, reconductoring a 69 KV line, and new, local aboveground sub-transmission and above- and below-ground distribution lines. [2016]

Sacramento Municipal Utility District, El Dorado Cloud Seeding Program, El Dorado County, CA. Project director for preparation of an Initial Study and Mitigated Negative Declaration (IS/MND) analyzing SMUD's proposed expansion of its existing cloud seeding program to 572 square miles. The Project includes using specialized aircraft to disperse silver iodide over the targeted areas. In addition, SMUD intends to implement ground-based seeding by using mobile flare trees. Cloud seeding was initiated to increase water inflow into SMUD's storage reservoirs for hydroelectric generation. SMUD estimates that the program has successfully generated a volume increase of approximately 3% to 10% of additional snowpack, which is available during snowmelt to fill SMUD's UARP reservoirs. [2016]

Sacramento Municipal Utility District, Station A Substation Rebuild and Relocation, CEQA Initial Study and Mitigated Negative Declaration (ISMND), Sacramento, CA. Project director for the preparation of an IS/MND for Expansion of SMUD's Station A substation within the Sacramento Railyards. The environmental study focused on consistency with the Railyards Specific Plan, Design Guidelines, and Railyards EIR. The Initial Study also evaluated the project in light of Sacramento 2035 General Plan Update and EIR, City of Sacramento ordinances, and regional climate change and transportation planning efforts. Constructed in 1894, the site is listed on both the California Register of Historical Resources (California State Landmark No. 633-2 site) and the City of Sacramento's register of historical resources. AECOM also prepared a cultural resources technical study to support the IS/MND and addressed Tribal Cultural Resources as required by AB 52. [2015]

Sacramento Municipal Utilities District, New Slab Creek Powerhouse and Boating Flow Release Valve IS/MND and Regulatory Services, Upper American River Project, El Dorado County, CA. Project director for a CEQA Initial Study and Mitigated Negative Declaration for SMUD's proposed New Slab Creek Powerhouse and Boating Flows Release Valve. The project included a boating flow release structure and a hydroelectric powerhouse to generate renewable energy as well as habitat improvements. The Initial Study focused on natural resource impacts at the construction site, including on the river and on wildlife populations, including on beneficial impacts for spawning of local trout populations. This project is assisting SMUD to meet FERC hydroelectric relicensing stipulations for the Upper American River Project. AECOM also prepared a Biological Assessment to facilitate Endangered Species Act Section 7 consultation/coordination with the resource agencies for the project and assisted SMUD with developing a revised bat survey protocol for the project with the resource agencies. AECOM conducted bat surveys for the Powerhouse project and assisted SMUD in developing mitigation to protect sensitive bats during project construction. [2015]

Sacramento Municipal Utility District, Solano Wind Project Phase 3 – Post-Construction Avian and Bat Mortality Monitoring Program, Solano County, CA. Project director for a 3-year bird and bat fatality monitoring effort for the Solano Wind Project Phase 3. Tasks involve overseeing bimonthly avian and bat mortality monitoring, on-call raptor rescue, ensuring compliance with the U.S. Fish and Wildlife Service (USFWS) Special Purpose Utility Permit for Migratory Bird Mortality Monitoring, preparing annual reports describing survey results, and presentation of findings to the Solano County Wind Technical Advisory Committee. [2012-2015].

Sacramento Municipal Utility District, Solano Wind Project Phase 3 – Eagle Conservation Plan, Solano County, CA. Project director for preparation of an Eagle Conservation Plan (ECP) to support SMUD's application to the USFWS for an eagle take permit. ECP development involves assessing eagle use and exposure risk, modeling for risk analysis, and close coordination with the USFWS [2013-2015].

Sacramento Municipal Utility District, Headquarters Renovation CEQA, Sacramento, CA. Project director for preparation of an Initial Study/Mitigated Negative Declaration for SMUD's Headquarters Renovation Project and supporting technical studies. The Headquarters building and site are on the National Register of Historic Places, and the renovation will follow the Secretary of the Interior's Standards for the Treatment of Historic Properties while landscape treatments will seek to restore the historical objectives of the original designer and lines-of-site of the Headquarters building. Issues addressed in the technical studies included tree preservation/arborist services, historic resources

treatment/ coordination with the City, and Environmental site Assessment, and traffic counts to support the traffic analysis. [2014-2015]

California State Lands Commission, WaveConnect EIR, Humboldt County, CA. Project manager for an EIR for the proposed WaveConnect hydrokinetic energy project off the coast of Humboldt County in northern California. The WaveConnect project is the first hydrokinetic energy project in California and requires a lease from the State Lands Commission for placement of wav e energy harnessing devices into coastal waters of the state. The EIR was prepared in close cooperation with the Federal Energy Regulatory Commission (FERC). Issues addressed included potential impacts on marine resources, socioeconomic impacts, impacts on cultural resources, and all other applicable CEQA topics. [2010]

Sierra Pacific Power Company, Falcon to Gonder 345-kV Transmission Line EIS and Reclamation Plans, White Pine County, NV. Senior botanist/wetland ecologist for an EIS and construction, operations, and maintenance documentation for the approximately 180-mile transmission line proposed by Sierra Pacific Power Company. Resources analyzed and included in mitigation and reclamation planning included common and sensitive Great Basin vegetation communities, special-status plant and wildlife species and habitats, wetlands, and noxious and invasive plants. Public scoping was conducted to determine issues of concern. The project involved collaboration with US Bureau of Land Management and Nevada Department of Wildlife staff on data collection survey protocol, Native American involvement, scoping, NEPA procedures, and potential mitigation. Ms. Unger conducted a wetland delineation, prepared a delineation report, and wrote the reclamation section of the construction operations and maintenance plan.

Central California Power Authority, Coldwater Creek Restoration Project, Lake, Mendocino, and Sonoma Counties, CA. Project manager/lead botanist for production and implementation of a mitigation monitoring plan for the Coldwater Creek Geothermal Power Plant closure project in Lake, Mendocino, and Sonoma Counties. The project involved restoration of oak woodland, chaparral, and grassland on former well pads, the power plant site, and along pipelines and ancillary facilities. Ms. Unger was responsible for overseeing the 4-year monitoring plan, production of annual reports to the regulatory agencies, and recommendation of remedial measures.

Sierra Pacific Power Company, Alturas Intertie Transmission Line Project, Lassen County, California, to Washoe County, Nevada. Wetland ecologist for the Alturas Transmission Line, a 165-mile, 345-kV electric transmission line from Alturas to Reno. Ms. Unger conducted wetland monitoring for reference sites and restored wetlands along the Alturas power line corridor. Her duties included extensive data collection, species identification, assessment of success of riparian plantings along several perennial streams, data analysis, and preparation of annual monitoring reports. The lead federal agency was the US Bureau of Land Management, with the US Forest Service (Modoc and Toiyabe National Forests) and Department of the Army (Sierra Army Depot) also involved. The California Public Utilities Commission was the lead state agency responsible for compliance with CEQA.

Tuscarora Gas Transmission Company, Tuscarora Gas Transmission Line, Oregon to Nevada. Project manager/wetland ecologist who provided wetland support for the 230-mile-long Tuscarora gas transmission line from Malin, Oregon, to Tracy, Nevada. Ms. Unger assisted Kelly Biological Consulting in conducting the wetland delineation along the Hungry Valley and 2002 laterals to the main transmission line. Ms. Unger's work included all phases of the project from initial resource evaluation to resource protection, construction support, reference site selection and evaluation, and 5 years of mitigation monitoring and reporting to regulatory agencies.

California Department of Water Resources, Division of Environmental Services, On-call Master Services Agreement, Northern California. Ms. Unger serves as Deputy Contract Manager for this $50 million multi-year on-call program. She serves as project director on all task orders issued under this contract and as project manager and senior technical advisor on select task orders. To date, AECOM has received 45 Task orders. Representative Projects Ms. Unger works on include:

- Fremont Weir Project Yellow Billed Cookoo surveys and Giant Garter Snake and Cultural Resources Monitoring
- State Water Project Longfin Smelt Individual Take Permit and CEQA Support
- Tule Red Public Access Study and Implementation Strategy
- Salt Marsh Harvest Mouse Genetics Study

- Human Dimensions (history and hunter surveys in Suisun Marsh)
- Bradmoor Island Restoration Project Permitting and CEQA Support

City of Chico, Humboldt Road Burn Dump Initial Study and EIR, Butte County, CA. Senior biologist for the Humboldt Road Burn Dump Closure. Portions of the 160-acre site were historically used as the city dump and were known to contain metals, primarily lead, at levels that are regulated by the state. Hazardous wastes occurred elsewhere on-site. The analysis identified the water quality effects of waste consolidation activities on Dead Horse Slough; determined the extent of disturbance and provided Endangered Species Act Section 7 consultation for threatened species; identified potential airborne lead dispersal anticipated with waste disturbance; and characterized changes in the visual environment with construction of a large waste-consolidation mound. AECOM prepared permit applications for USACE, DFG, the RWQCB, and USACE. Ms. Unger prepared a biological resources assessment, assessment of impacts on special-status plant species, habitat mapping, elderberry mapping, and a wetland delineation.

Amador County, Buena Vista Landfill Proposed Future Options EIR, Amador County, CA. Wetland specialist for an evaluation of the environmental impacts associated with two expansion options identified for the Buena Vista Landfill: either expanding the landfill footprint onto two adjacent parcels or expanding the footprint onto one separate parcel and incorporating ancillary landfill activities onto the second parcel. This controversial landfill expansion included extensive community outreach to incorporate adjacent residents' concerns into the EIR analysis. The EIR evaluated the anticipated land use impacts of locating a landfill within approximately 150 feet of an existing residential community: increased noise levels, air quality degradation, potential public health concerns including an increase in vectors, changes in localized drainage patterns, and potential changes in slope stability. Other critical issues included the loss of extensive stands of state and federally listed endangered plant species (e.g., Ione manzanita) and increased traffic congestion on local arterials.