

DOCKETED

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Appendix 3.2B

Resumes of Applicant's Biologists

Mikaela Bissell

ENVIRONMENTAL COMPLIANCE SPECIALIST

Mikaela Bissell (*mi-KAY-la BIS-uhl; she/her*) is an environmental compliance specialist with 4 years' experience as an environmental professional. Ms. Bissell has served as an environmental compliance administrator, consulting utility forester, and field lead forester. Her diverse experience includes hazardous waste management, fueling station regulatory compliance, oil and gas projects, utility forestry, wildfire mitigation, arboriculture, ArcGIS Collector, nesting bird surveys, and riparian surveys.

Project Experience

San Benito College Campus Project, Gavilan Joint Community College District, San Benito County, California. Approved as a California Department of Fish and Wildlife (CDFW) Designated Monitor in CDFW Region 4. Performed five rounds of preliminary pre-construction clearance surveys alongside designated biologist, totaling 30 hours of surveys on behalf of the client for the following targeted species: California tiger salamander (*Ambystoma californiense*), American badger (*Taxidea taxus*), burrowing owl (*Athene cunicularia*), San Joaquin kit fox (*Vulpes macrotis mutica*), and nesting birds. Additionally, monitored active construction of initial ground-disturbing activities of installation of exclusionary salamander fencing alongside approved designated biologist. Independently monitored activities of non-ground-disturbing construction. Total monitoring hours are at 16. No species were detected or handled during the surveys or monitoring. Additionally, serving as a deputy project manager for the project. Assisting with technical writing of reports due to CDFW and U.S. Fish and Wildlife Service (USFWS). Reports include summary of survey results, California tiger salamander mortality and relocation plan, and pre-construction commencement package. ITP No. 2081-2015-014-04; USFWS HCP TE27171C-0. (2023–Present)

Potrero Hills Landfill Expansion Project, Waste Connections Inc., Solano County, California. Conducted a 5-hour field survey for a 10-year monitoring program for San Joaquin spearscale (*Extriplex joaquiniana*). Performed more than 100 hours of monitoring services for the covered species of California tiger salamander. Monitoring efforts include surveying the permanent California tiger salamander exclusionary fencing to check for covered species, leading Workers Environmental Awareness Training for new construction crews, and monitoring construction activities in accordance with the project's permit conditions. Coordinated with biological monitors daily regarding project scope, agency permit stipulations, and biological inquiries. Prepared quarterly regulatory compliance reporting. ITP No. 2081-2011-073-03. (2022–2024)

Confidential Solar Project, Confidential Client, Sacramento County, California. Approved as a CDFW Biological Monitor. Performed nesting pre-construction surveys and biological monitoring for trenching activities. Pre-construction nesting surveys lasted approximately 4 days at 8 hours each. Conducted approximately 32 hours



Education

University of Nevada,
Reno
BS, Environmental
Science, 2017

Certifications

40-Hour Basic Wetland
Delineation Certification -
Wetland Training Institute
(WTI) [In progress; April
2024]

International Code
Council California UST
Designated Operator
Certification,
ID: 10165111

American Red Cross Adult
CPR/AED, ID: OONSSHG

Professional Affiliations

International Society of
Arboriculture

of nesting surveys; multiple active nests with eggs or chicks were flagged for avoidances. Biological monitoring for trenching involved sweeping area for California tiger salamander and western spadefoot (*Spea hammondi*). No covered species were identified during monitoring. (2023)

Highway 128 Caltrans Emergency Landslide Repairs, Valentine Contractors, Sonoma County, California. Operating under Corps Emergency Permit for 3Y160, performed biological monitoring for nesting birds and general wildlife for Valentine Contractors during construction activities. Assisted project manager in compliance management for contract by scheduling and coordinating monitors to be on site for spot checks. Additionally, performed biological monitoring for 6 days on site, for a total of 24 hours of monitoring. No nests or wildlife species of concern were identified. (2023)

Copeland Creek Trail to Crane Creek Regional Park, City of Rohnert Park, Public Works CIP Division, Sonoma County, California. Assisted Dudek botanist with focused rare plant surveys during blooming season for the following species: Franciscan onion (*Allium peninsulare* var. *franciscanum*), bent-flowered fiddleneck (*Amsinckia lunaris*), pappose tarplant (*Centromadia parryi* ssp.), fragrant fritillary (*Fritillaria liliacea*), congested-headed hayfield tarplant (*Hemizonia congesta*), Jepson's leptosiphon (*Leptosiphon jepsonii*), and two-fork clover (*Trifolium amoenum*). No species were identified during targeted survey. (2023)

Learning Center at Fairfield Osborne Preserve, California State University, Sonoma, California. As an approved CDFW Biological Monitor, performed two rounds of biological monitoring for the following covered species under EPIMS-SON-21304-R3: foothill-yellow legged frog (*Rana boylei*), roosting bats, and nesting birds. Two adult Sierran treefrog (*Pseudacris sierra*) were relocated during monitoring to approved relocation site. (2023)

Confidential Battery Energy Storage Projects, Multiple Confidential Clients, Multiple Counties, California. Responsible for assisting in the field for aquatic resources delineation and biological resources assessment for proposed battery energy storage projects. Following the field effort, responsible for assisting in the completion of an aquatic resources delineation report and biological resources assessment memorandum to be submitted to the client. Conducted field efforts for project sites in Sacramento, Butte, Colusa, San Bernadino, Alameda, and Sonoma Counties. Completing aquatic resources delineation report and biological resources assessment memorandum for project sites in Sacramento and Butte Counties. (2022–Present)

Confidential Solar Projects, Multiple Confidential Clients, Multiple Counties, California. Responsible for the completion of critical issues analyses reports for proposed solar projects documenting environmental constraints (aesthetics, agriculture, biological resources, cultural resources, hydrology/water quality, land use, and zoning) at the project sites and providing recommendations to the clients interested in developing the sites. Project sites analyzed thus far in California include Tulare, Riverside, Fresno, and Los Angeles Counties. (2023–Present)

Confidential Solar and Battery Energy Storage System Project, Confidential Client, Linn County, Oregon. Responsible for the completion of critical issues analyses reports for proposed solar and battery energy storage projects documenting environmental constraints (aesthetics, agriculture, biological resources, cultural resources, hydrology/water quality, land use, zoning) at the project site and providing recommendations to the clients interested in developing the site. (2023–Present)

Confidential Development Project, Confidential Client, King County, Washington. Responsible for completing tree inventory survey for a confidential development project in King County, Washington. Tree inventory data included identification of species, assessment of tree defects/pathogens, submeter GPS data collection, use of rangefinder to record height of species, and collection of each tree's diameter at breast height. Surveyed for approximately 15 hours total. Approximately 200 trees inventoried for the assessment. (2023)

Confidential Development Project, Confidential Client, Washington County, Oregon. Responsible for completing tree inventory survey for a confidential development project in Washington County, Oregon. Tree inventory data included identification of species, assessment of tree defects/pathogens, submeter GPS data collection, use of rangefinder to record height of species, and collection of each tree's diameter at breast height. Surveyed for approximately 8 hours total. Approximately 100 trees inventoried for the assessment. (2023)

Confidential Battery Energy Storage System Projects, Confidential Client, Tulare County, California. Responsible for the completion of critical issues analyses reports for proposed battery energy storage projects documenting environmental constraints (aesthetics, agriculture, biological resources, cultural resources, hydrology/water quality, land use, and zoning) at the project sites and providing recommendations to the clients interested in developing the sites. (2023–Present)

Confidential Solar Project, Confidential Client, Sacramento County, California. Performed three 8-hour night-eye shine surveys for western spadefoot. Surveys took place 30 minutes after dusk during rain events and targeted areas of suitable aquatic and upland habitat for western spadefoot. Various bullfrogs and treefrogs were observed during survey. Night-eye shine surveys involved scanning aquatic features and surrounding uplands to examine for amphibian night-eye shine. No western spadefoot were detected during surveys. Visually observed branchiopods during surveys at a vernal pool feature. (2024)

Confidential Solar Project, Confidential Client, Sacramento County, California. Performed 24 hours of a protocol-level burrowing owl survey in accordance with the 2012 CDFW protocol titled Staff Report on Burrowing Owl Mitigation and the 1993 California Burrowing Owl Consortium Survey Protocol and Mitigation Guidelines. Burrowing owl surveys were performed during the nonbreeding season in areas of suitable habitat. Observed three adult burrowing owls under a piece of plywood and within culverts. Observed evidence of white wash, claw marks, and prey remains on top of the plywood. (2024)

Confidential Solar Project, Confidential Client, Sacramento County, California. Performed one 8-hour protocol-level survey for Swainson's hawk (*Buteo swainsoni*) in accordance with methodology used in the Swainson's Hawk Technical Advisory Committee's 2000 Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley, as well as the California Energy Commission and CDFW's 2010 Swainson's Hawk Survey Protocols, Impact Avoidance, and Minimization Measures (for the Renewable Energy Project in Antelope Valley of Los Angeles and Kern County, California). During the survey, two adult Swainson's hawk were identified in paired behavior. Individuals were watched for 15–20 minutes until they flew away. Recorded species and took coordinates for reporting purposes. (2023)

Confidential Solar Projects, Confidential Client, Multiple Counties, Nevada. Performed two rounds of noxious weed surveys in Lyon County, Nevada, and one round of noxious weed surveys in Lassen County, California. Target species identified during surveys includes the following: Russian prickly thistle (*Salsola tragus*), scotch thistle (*Onopordum acanthium*), perennial pepper weed (*Lepidium latifolium*), tall tumble mustard (*Sisymbrium altissimum*), cheatgrass (*Bromus tectorum*), saltlover (*Halogeton glomeratus*), and flaxweed (*Descurainia sophia*). (2022–2023)

Confidential Solar Project, Confidential Client, Lyon County, Nevada. Performed one round of rare plant surveys totaling 8 hours. Identified Booth's evening primrose (*Eremothera boothii*) and sagebrush cholla (*Grusonia pulchella*). Additionally, performed an aquatic resources field delineation following the Arid-West supplement for 7 days totaling 56 hours. Identified multiple playa pools during surveys along with ephemeral channels. (2022–2023)

Camino Conduit Project, El Dorado Irrigation District, El Dorado County, California. Performed two rounds of pre-construction clearance surveys for riparian resources and nesting birds, totaling 14 hours. No nesting birds identified during surveys. Various ephemeral channels blocked off for avoidance. Assisted by El Dorado Irrigation District representative Michael Baron. (2023)

West Lake Tahoe Regional Water Treatment Plant Project, Placer County, California. Performed one round of pre-construction clearance survey for nesting birds. No nesting birds identified during survey. (2023)

Neal Road Recycling and Waste Facility, Butte County Public Works, Butte County, California. Served as a compliance monitor and biologist for the project during different task orders. Under the first task order, served as a compliance monitor responsible for monitoring the project's restoration efforts for the procurement and planting of 12 cottonwood (*Populus fremontii*) trees. Following monitoring efforts, drafted a technical memorandum for submittal to the client based on restoration efforts observed and best management practices adopted for the transplanting of trees. Under the second task order, served as a biologist responsible for conducting a preliminary biological resources assessment of a potential expansion project. Summarized the results in a biological resources constraints memorandum. (2022–2023)

Advanced Metering Infrastructure Project, Alameda County Water District, Multiple Counties, California. Assisted with preparing the Workers Environmental Awareness Training presentation and pamphlets. Species covered include California tiger salamander, California red-legged frog (*Rana draytonii*), Alameda whipsnake (*Masticophis lateralis euryxanthus*), and San Francisco garter snake (*Thamnophis sirtalis tetrataenia*). Presentation focused on reviewing the description, appearance, distribution, habitat, and life history of each species. Additionally, reviewed common species that present similar features to covered species in the presentation. Reviewed minimization efforts and penalties for violation of the federal and California Endangered Species Acts. (2022)

Bonturi Ranch Conservation Easement, AKT Santa Nella Solar Investors II LLC., Merced County, California. Conducted 2 days of field surveying for protocol level burrow/den surveys according to the USFWS 1999 survey guidelines for the San Joaquin kit fox. Surveys, totaling approximately 16 hours, were performed by walking 20-meter transects on ongoing grazing ranch property. No active or natal dens identified during survey. (2023)

San Joaquin Habitat Conservation Plan, California Department of Water Resources, Multiple Counties, California. Assisted with the field effort of redeployment of game cameras to capture images of wildlife for the wildlife movement assessment survey and San Joaquin kit fox camera study. Spent more than 100 hours assisting with data management uploads of images and identification of wildlife species caught on camera on CamWon. (2022)

Relevant Previous Experience

Flyers Energy LLC, Auburn, California. Served as an environmental compliance administrator for a fueling station corporation. Assisted the company by working to return the facility back to compliance after regulatory inspections (underground storage tank, aboveground storage tank, fire, air quality, and stormwater) from state or county agencies. Researched regulations in 23 states to resolve violations outlined during inspections. Assisted during renewals of operating permits, fire permits, air quality permits, underground storage tank/aboveground storage tank permits, and authority to construct permits. Input hazardous materials business plan data into the California Environmental Reporting System. Designated as an environmental professional to respond to petroleum-related spills and deem the spills reportable based on regulatory requirements per state and per incident. Reviewed spill prevention, control, and countermeasure documentation for aboveground storage tanks. Became familiar with testing requirements for petroleum storage tanks, dispatching testing contractors, and reviewing testing reports to ensure accuracy per regulatory requirements. Managed repairs and small construction projects by determining

the best course of action, soliciting bids, hiring contractors, and overseeing the completion of each job. Responded to designated operator inspections performed by an outside contractor, as required by the California Water Board's Title 23 regulatory requirements. Resolved and mitigated compliance issues outlined during monthly inspections. (2021–2022)

Enhanced Vegetation Management Program, Subcontracted through Pacific Gas and Electric Company, El Dorado County, California. Served as a subcontracted consulting utility forester and consulting utility forester field lead under the Pacific Gas and Electric Company's Enhanced Vegetation Management Program to reduce wildfire threats in California by surveying vegetation near utility structures. Input data collected from field surveys into ArcGIS Collector and ArcGIS Survey123. Identified flora and fauna in El Dorado and Placer Counties. Conducted visual bird surveys that triggered the field biologist if work was identified to be removed or pruned. Identified riparian zones within 25 feet of project worked under Clean Water Act requirements. As consulting utility forester field lead, performed quality control and quality assurance audits on field surveys completed by the team. Presented educational tailboards to the team about the diagnosis of local plant disorders or risks of failure. Led the team job safety tailboard to ensure all fieldwork was performed in accordance with best management safety practices. (2019–2020)

Specialized Training

- Wetland Training Institute (WTI) Basic Wetland Delineation 40-Hour Certification: In progress on course work for online learning for wetland delineations in Northern California. In addition, will complete a 2-day (16-hour) field practicum. (Ongoing; 2024)
- Dudek Internal Northern California Wetland Delineation Training Series: Completed four courses on aquatic resources delineations in Northern California. One of the courses involved a field practicum. Focused on Arid West U.S. Army Corps of Engineers regional supplements. Hours involved in training = 10 hours. (2023)
- California Native Grass Association Identifying and Appreciating the Native and Naturalized Grasses of California course, class and field practicum held at the University of California Davis Bodega Marine Laboratory. (2023)
- Designated Operator Exam Prep Course, Tait Environmental: Completed training course in preparation for taking the International Code Council Designated Operator Exam. (2022)
- International Society of Arboriculture Course, Tree Test Prep: Completed educational training on the International Society of Arboriculture's Arborist Exam chapters. Actively working to obtain Arborist certification. (2019)

Surveying and Monitoring Hours for Relevant Species

Species	Surveying Hours*	Monitoring Hours*	Notes
American badger	50	16	Pre-construction surveys and construction monitoring. Species was covered under USFWS Habitat Conservation Plan and CEQA FEIR for San Benito College Campus Project. No digs or dens observed. Numerous past American badger activity observed during Bonturi Ranch den surveys.
Bat species	8	10	Assessed for roosting bats during a biological clearance survey in Sonoma County, California.

Surveying and Monitoring Hours for Relevant Species

Species	Surveying Hours*	Monitoring Hours*	Notes
			Additionally monitored for roosting bats in Sonoma County, California, under the Sonoma Fairfield Osborne Project. No species identified.
Burrowing owl	74	100	Pre-construction surveys and construction monitoring. Species was covered under USFWS Habitat Conservation Plan and CEQA FEIR for the San Benito College Campus Project. No active burrows identified. Suitable burrows identified to house species. Additionally, monitors species under the Potrero Hills Landfill. One adult identified during site walk of mitigation lands. Performed protocol-level burrowing owl surveys in suitable habitat in Sacramento County, California. Observed three adult burrowing owls under a piece of plywood and in culverts.
California tiger salamander	50	150+	Pre-construction surveys and construction monitoring. Performed burrow survey targeted for California tiger salamander in critical habitat. More than 200+ burrows flagged off for avoidance during survey. No species identified.
Foothill yellow-legged frog	0	10	Biological monitoring of foothill yellow-legged frog. No species identified during monitoring.
Nesting birds and raptors	30	200+	Pre-construction surveys, woodpecker surveys, shorebird surveys, and nest monitoring during construction. Active nests identified and flagged for avoidance. Various eggs and western kingbird chicks identified during surveys.
San Joaquin kit fox	16	0	Performed San Joaquin kit fox burrow mapping survey in Merced County, California. No positive San Joaquin kit fox burrows mapped, however, species caught on wildlife camera determined presence in area. Identified potential scat of San Joaquin kit fox.
Swainson's hawk	8	0	Protocol-level survey for Swainson's hawk in Sacramento County, California. Two adult Swainson's hawks identified during survey observed in paired behavior. Mapped and recorded data during reporting.
Western spadefoot	24	0	Performed three rounds of night-eye shine surveys for western spadefoot in Sacramento County, California. Surveys targeted suitable aquatic habitat such as vernal pools, seasonal wetlands, and swales. No western spadefoot detected during surveys. Encountered a vernal pool with branchiopods during surveying effort.

* Hours are approximate.

Laura Burris

SENIOR BIOLOGIST, BOTANIST

Laura Burris is a biologist with 16 years' experience in terrestrial biology. Ms. Burris specializes in botanical surveys and the ecological study of vegetation communities for application in habitat restoration, mitigation, and conservation. She is knowledgeable about the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) and their processes and is skilled in managing and drafting environmental documents such as biological resource assessments, wetland delineation reports, arborist reports, habitat restoration plans, technical sections of environmental impact reports (EIRs) and environmental impact statements (EISs), and regulatory permit applications.

In addition to botanical expertise, Ms. Burris has extensive training and experience in reconnaissance-and protocol level surveys and construction monitoring for sensitive wildlife species, including Swainson's hawk (*Buteo swainsonii*), burrowing owl (*Athene cunicularia*), sensitive bat species, sensitive butterfly species, California tiger salamander (*Ambystoma californiense*), Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), California red-legged frog (*Rana draytonii*), foothill yellow-legged frog (*Rana boylii*), western pond turtle (*Actinemys marmorata*), native California bumble bees, and California vernal pool branchiopods. Ms. Burris attends annual courses and training seminars on plant identification, special-status species biology, natural resources, CEQA/NEPA, and regulatory permitting.

Project Experience

Development

Elkus Ranch Master Plan Project, San Mateo County, California. Conducted a botanical inventory, biological field assessment, sensitive resource and riparian habitat assessment, and wetland delineation within the University of California Elkus Ranch property located near Half Moon Bay. Target special status plant species observed and documented included Choris' popcornflower (*Plagiobothrys chorisianus*). The purpose of the Elkus Ranch Master Plan study is to assess opportunities and constraints for growing ranch education programs, for extending the use of the conference center, and for improving research and office facilities on site.

Protocol-Level Special-Status Plant Surveys for the Sierra Hot Springs Master Plan Project, Sierra County, California. Conducted protocol-level rare plant surveys in support of a development Master Plan at the Sierra Hot Springs. The surveys consisted to two passes during the bloom season for high-elevation special-status plant species. Completed technical memoranda of results.



Education

Humboldt State University
BS, Biology, 2007

Certifications

USFWS 10(a)(1)(A)
Recovery Permit for
California tiger
salamander, California
red-legged frog, and listed
large branchiopods
(ESPER0057548-0;
expires 07/27/2028)

CDFW Memorandum of
Understanding for
California tiger
salamander – pending

CDFW Scientific Collecting
Permit (SC-230580003;
pending)

CDFW, Voucher Plant
Collector's Permit

CRAM Practitioner,
Riverine and Depressional
Modules

40-Hour Wetland
Delineation Training,
Wetlands Training
Institute 2014

Professional Affiliations

California Native Plant
Society

Northern California
Botanists

The Wildlife Society

Granite Bay Development Housing Projects, Placer County, California. Served as primary biologist and wetland delineator. Conducted surveys and wetland delineation fieldwork for various private development projects in Placer County. Compiled results on soils, hydrology, and plants for wetland delineation reports and preliminary jurisdictional determinations. Communicated with the U.S. Army Corps of Engineers (USACE) regarding results and potential project permitting requirements.

Development Projects in the City of Monterey, Monterey, California. Conducted general biological constraints surveys for various projects in the Monterey area. Surveys included identification and flagging of Monterey dusky-footed woodrat (*Neotoma fuscipes luciana*) middens and recommendations for avoidance or removal.

Lytton Residential Development Technical Biological Studies, Windsor, California. Assisted with protocol-level surveys for the Sonoma population of California tiger salamander and California red-legged frog in compliance with a biological opinion issued by the U.S. Fish and Wildlife Service (USFWS) for land proposed to be placed into federal trust for the Lytton Rancheria of California. In addition, for several consecutive years, conducted focused rare plant surveys on the property in accordance with the Santa Rosa Plain Conservation Strategy.

Point Molate Casino EIR/EIS Native Grassland Surveys and Technical Report, Point Richmond, California. As botanist, assisted in the design and implementation of quantitative and qualitative native grassland and scrub habitat evaluations on the former Point Molate Naval Refueling Depot in support of a natural resources management plan. Coordinated with the local chapter of the California Native Plant Society (CNPS) and other botanists knowledgeable of the local flora to complete the study. A technical memorandum was drafted detailing results of the surveys and identifying areas suitable for preservation and/or restoration. The report also provided recommendations for restoration techniques and invasive species management practices for the coastal terrace prairie and coastal scrub habitats on site.

Compost Facility and Bureau of Land Management (BLM) Right-of-Way Biological Evaluation and Permitting Compliance, Nursery Products LLC, Barstow, California. Served as project biologist and permitting specialist. Compiled subconsultant technical reports to create a biological evaluation and assessment for the Nursery Products Hawes Composting Facility. The project involved access through BLM land, creating a federal nexus and requiring federal Endangered Species Act Section 7 consultation with USFWS regarding the potential presence of desert tortoise (*Gopherus agassizii*). Also drafted a raven management plan detailing measures to negate predation of desert tortoise by common ravens (*Corvus corax*), which might be attracted to the area due to the development.

EIR and Technical Botanical and Arborist Reports, White Wolf Ski Resort, Placer County, California. Served as primary botanist and arborist. Conducted focused botanical surveys and arborist surveys to identify biological constraints, impacts, and mitigation measures for proposed development in the Lake Tahoe area. Per the Placer County Tree Protection Ordinance, all trees were assessed and documented in an arborist assessment. Technical botanical and arborist reports were used to draft the biology section of the EIR for the project.

Jasude Estate Timber Harvest Plan and Timberland Conversion EIR, Napa County, California. Served as project botanist. Conducted botanical and general biological resources surveys of the areas proposed for timberland conversion to a new vineyard. Drafted a supplemental biological technical memorandum and the technical section of the Draft EIR, including recommendations for avoidance and minimization measures to ensure no impacts to sensitive habitats and species.

Abrue Vineyard Timber Harvest Plan and Timberland Conversion EIR, Angwin, California. Conducted botanical and general biological resources surveys of the areas proposed for timberland conversion to new vineyard. Compiled technical reports from subconsultants and drafted the biological section of the Draft EIR. Special-status species found on the site included northern spotted owl (*Strix occidentalis caurina*) and anadromous fish within the streams.

Sydney Apartments Vineyard Water Rights Biological Assessment, Napa County, California. Conducted a comprehensive botanical inventory of the project site, with special attention to areas of serpentinite soil substrates in support of a water rights application for extension of time. Provided technical assistance for the biological resources analysis and initial study, and drafted recommendations for preservation and avoidance of native grasslands and other sensitive habitats.

Energy

Pipeline Pathways, Pacific Gas and Electric Company, San Francisco Bay Area, California. Served as primary botanist and conducted focused botanical surveys along gas pipelines where vegetation management was scheduled. Documented occurrences of rare plant species, drafted technical memoranda, and provided technical guidance for avoidance and minimization of potential impacts to rare species as a result of vegetation management.

Confidential Client, Sacramento County, California. Served as biologist, aquatic resource specialist, and botanist. Conducted focused rare plant surveys, aquatic resources delineation surveys, and general wildlife surveys. Documented a new population of Myers' pincushionplant (*Navarretia myersii* ssp. *myersii*).

Confidential Client, Sacramento County, California. Served as biologist, aquatic resource specialist, and botanist. Conducted focused rare plant surveys, aquatic resources delineation surveys, listed large branchiopod wet and dry season surveys, and general wildlife surveys.

Greenbrae Boardwalk Pipeline Replacement Project, Pacific Gas and Electric Company, Greenbrae, California. Served as primary biologist and permitting specialist. Coordinated and obtained wetland permits for emergency work on a gas pipeline in a tidally influenced marsh. Drafted permit applications for restoration work on a neighboring preserve, including Clean Water Act (CWA) Sections 404 and 401, and Bay Conservation and Development Commission permits. Coordinated with project interested parties, clients, and agencies to ensure that the project could be safely completed in a timely manner while obeying the letter and intent of the law.

Confidential Solar Energy Project, Washoe County, Nevada. Conducted a delineation of waters of the United States and a general habitat assessment on an approximately 1,068-acre portion of the solar project. Assisted with Great Basin habitat and plant identification, and mapping of potentially jurisdictional wetlands. Drafted technical reports and coordinated with BLM staff.

Gas Pipeline Installation, South Sacramento, California. Served as biologist and biological monitor. Conducted monitoring for Swainson's hawk during a 3-month gas pipeline installation project that included open trenching and horizontal directional boring under a major freeway. Several Swainson's hawk nests were present within 0.25 miles of the project site. Daily monitoring logs were recorded and reported to the California Department of Fish and Wildlife (CDFW).

28th Street Landfill Solar Farm, City of Sacramento, California. Conducted botanical and general biological resources surveys of the areas proposed for conversion to a solar farm. Drafted a biological resources assessment and assisted with an evaluation of habitat suitability for Swainson's hawk in accordance with CDFW guidelines. Other special-status species found on the site included Northern California black walnut (*Juglans hindsii*) and Valley elderberry longhorn beetle.

Military

Former Fort Ord Base Realignment and Closure, Annual Rare Plant Survey and Habitat Assessment, Monterey, California. Conducted quantitative rare plant surveys for sand gilia (*Gilia tenuiflora* ssp. *arenaria*), Monterey spineflower (*Chorizanthe pungens* var. *pungens*), and seaside bird's-beak (*Cordylanthus rigidus* ssp. *littoralis*) in support of an ecological study of existing vegetative resources on the former military base. Also conducted transect surveys of chaparral habitat in sensitive areas containing live munitions.

Municipal

Placer County Government Center Master Plan EIR, California. Served as botanist and wetland delineator. Performed wetland delineation and drafted technical wetland delineation reports. Provided technical expertise on botanical resources, vegetation communities, and permitting. Assisted with drafting the EIR for the Master Plan.

Wheatland Ranch Project, Yuba County, California. Served as primary botanist and wetland delineator for a City annexation project northeast of the City of Wheatland. Provided botanical survey expertise, vegetation community mapping, and delineated vernal pool habitat on approximately 1,000 acres of undeveloped land.

Community Center Improvements, City of Citrus Heights, California. Served as primary arborist. In compliance with the Citrus Heights Tree Protection Ordinance, conducted an arborist survey for improvements to the Community Center grounds. Drafted a technical arborist report detailing findings and measures for avoiding permanent impacts to arboricultural resources. Responded to comments from the City's Design Review Board, and aided in the implementation of mitigation measures.

Resource Management

Vegetation and Land Cover Type Mapping, University of California, Santa Cruz, Santa Cruz County, California. Led and conducted comprehensive vegetation surveys of the University of California, Santa Cruz main campus as part of the Habitat Conservation Plan preparation. Surveys were conducted using guidance and protocol issued by CDFW and CNPS.

Focused Botanical Surveys for Fire Safe Vegetation Management along Highway 35, Santa Cruz and San Mateo Counties, California. Conducted protocol-level surveys for special-status plant species in areas proposed for vegetation management. Activities included visiting reference sites for special-status plant species and conducting surveys during the appropriate bloom season. Observed, documented, and flagged for avoidance special-status plant species including Kings Mountain manzanita (*Arctostaphylos regismontana*), Anderson's manzanita (*Arctostaphylos andersonii*), and San Mateo woolly sunflower (*Eriophyllum latilobum*).

Delta Field Division Habitat Conservation Plan, Department of Water Resources, Various Counties, California. Served as senior biologist/field coordinator. As field coordinator, organized and implemented surveys for a wide variety of plant and wildlife species throughout the study area. Created schedules and coordinated with field teams and the client to ensure surveys were completed within the appropriate time frame. As senior biologist, conducted surveys for special-status plant species, vegetation mapping, burrowing owl, Swainson's hawk,

tricolored blackbird (*Agelaius tricolor*), listed large branchiopods, and California red-legged frog. Assisted with compiling the data and drafting the baseline biological report.

Potrero Hills Landfill Expansion Project, Waste Connections Inc., Solano County, California. Assists with mitigation monitoring for a 10-year monitoring program for rare plants, federally listed large branchiopod species, and California tiger salamander. Monitors populations of special-status San Joaquin spearscale (*Extriplex joaquiniana*), Contra Costa goldfields (*Lasthenia conjugens*), and pappose tarplant (*Centromadia parryi* ssp. *parryi*); conducts annual large branchiopod wet season surveys; and annual surveys for eggs and larvae for California tiger salamander. She compiles data and drafts annual monitoring reports for submittal to the client and responsible agencies.

San Felipe Creek Restoration Project, Santa Clara Valley Habitat Agency, California. Conducted biological surveys and reporting, wetland delineation, and pre-construction survey support for habitat restoration efforts on the San Felipe Creek Restoration Project. Additionally, provides technical assistance and habitat restoration monitoring during the plant establishment period. The project consists of restoration of approximately 1 mile of incised stream channel and enhance wetland areas through the use of channel and floodplain modifications. Leading the 10-year mitigation monitoring efforts post construction, including qualitative and quantitative methods for assessing mitigation success. Conducts monitoring fieldwork, data compilation and management, and report generation. Communicates closely with client and agency staff to ensure timely submittal of progress and annual reports.

Altamont Landfill Resource Recovery Facility, Livermore, California. As part of a 10-year mitigation monitoring plan and USACE, Regional Water Quality Control Board (RWQCB), and CDFW permit specifications, assists with pre-construction biological surveys to determine the presence of special-status species including California tiger salamander, California red-legged frog, American badger (*Taxidea taxus*), San Joaquin kit fox (*Vulpes macrotis mutica*), and burrowing owl. Assists with annual botanical, wildlife, and wetland monitoring surveys and biological reconnaissance surveys, as well as periodic construction monitoring. Compiles data and drafts annual monitoring reports for submittal to the client and responsible agencies.

Focused Botanical Surveys for Coldstream Canyon Wetland Restoration Project, Donner Pass Area, Placer County, California. Conducted protocol-level surveys for special-status plant species in support of a restoration project. Special-status plant species were documented using hand-held GPS devices. Surveys consisted of two passes to capture the diversity of flora in high elevation wetland and fen habitats.

Tilden Nature Area Pond Restoration and Public Access, NCE/East Bay Regional Park District, Berkeley, California. Conducted biological surveys and provided technical botanical assistance for native revegetation and trail system at an interpretive pond area.

Cloverdale High School Restoration Plan, Cloverdale, Sonoma County, California. Conducted biological and aquatic resources surveys, senior review, and provided technical assistance with development of two alternative conceptual plans for relocation and enhancement of a degraded creek corridor and tributary to accommodate development of athletic fields on vacant land in the City of Cloverdale.

North Delta Ecosystem Habitat Restoration Project, Thornton, California. Served as primary wetland delineator and permit advisor for the McCormack Williamson Tract restoration wetland delineation. Conducted surveys to identify wetlands and waters that were potentially jurisdictional under CWA Section 404. Compiled data and drafted a wetland delineation report to be verified by USACE and used in the permitting process.

Habitat Mitigation and Monitoring Plan, Brooktrails Community Services District, California. Served as primary botanist and permitting specialist. In compliance with the 5-year monitoring plan for tree and wetland mitigation, conducted surveys to assess the progress of mitigation plantings in the community. Compiled and analyzed data to produce annual reports in compliance with the CWA Section 404 permit and Section 1600 Streambed Alteration Agreement. Consulted with local interested parties, the Community Services District, CDFW, and USACE to ensure all success criteria would be met within the specified period.

Water Rights Biological Resources Assessment, Hanuman Fellowship, Watsonville, California. Served as primary botanist. Conducted a botanical inventory and general biological resources survey, and assisted with a stream assessment for a reservoir expansion project. Drafted the biological resources analysis and recommended avoidance and minimization measures for sensitive species on site, including Anderson's manzanita (*Arctostaphylos andersonii*).

Huichica Hills Ranch Off-Stream Storage Pond Conversion and Stream Restoration, Vino Farms, Sonoma County, California. Served as deputy project manager and project biologist. Managed all regulatory permitting and regulatory agency consultations. Conducted general biological surveys, assisted in the delineation of waters of the United States, and drafted a biological technical memorandum in support of a categorical exemption and permit applications. Also drafted habitat mitigation and monitoring plan for restoration and subsequent monitoring of wetlands impacted as a result of the project.

Water Right Biological Technical Memorandum, Stream Management Plan, and Arborist Report, Marin Country Club, Novato, California. Served as primary botanist and arborist. Conducted surveys to identify biological constraints, impacts, and mitigation measures for trees removed as a result of constructing several on-stream reservoirs. Drafted a stream management plan in accordance with local ordinance and permitting needs. The plan detailed avoidance and minimization measures, restoration techniques, monitoring and reporting methods, and success criteria.

Off-Stream Storage Pond Conversion Project Stream Restoration Plan and Mitigation Monitoring, Nemerever Vineyards, Oakville, California. Served as primary botanist. Created and implemented a stream revegetation plan in compliance with permits issued by USACE and RWQCB for an off-stream storage pond conversion and stream restoration project. Collected percent vegetation cover data; compiled annual reports; and consulted with the property owner, interested parties, and regulatory agency staff.

Transportation

Housing and Urban Development Grant Roadway Improvement Biological Assessment, County of Mariposa, California. Served as primary botanist tasked with preparation of technical supporting documents for NEPA review. Conducted preliminary research and general biological resources surveys for all roadway segments scheduled for improvement as part of an emergency evacuation plan. Drafted the biological technical memorandum in support of an environmental assessment required under NEPA, including recommendations for avoidance and mitigation of impacts to sensitive species and habitats in the project vicinity.

California High Speed Rail, Fresno, California. Served as project botanist and biologist. Coordinated and conducted surveys for listed large branchiopods, rare plants, sensitive habitat, and other environmentally sensitive areas. Drafted reports of findings and project updates for the client. Attended meetings with agency representatives and other interested parties.

La Rue Bridge Replacement Project, Davis, California. Coordinated with resource agencies for aquatic resources permitting. Conducted pre-construction surveys for western pond turtle and Swainson's hawk, as well as general nesting bird and roosting bat surveys. Coordinated construction monitoring.

East Bay Area Rapid Transit Project Mitigation Implementation, Antioch, California. Conducted surveys for burrowing owl within the project footprint of the new East Bay Area Rapid Transit depot. Assisted in drafting technical biological reports. Aided in implementing the impact avoidance measures, which included installation of one-way exclusion doors on burrows and construction monitoring.

Focused Wetland Plant Survey for Mitigation Bank Feasibility Study, California Department of Transportation, Humboldt County, California. Conducted quantitative vegetation surveys of wetland and grassland habitats adjacent to Humboldt Bay for a California Department of Transportation mitigation bank feasibility study. Plotted belt transects, calculated overall and relative percent cover for plant species, and assessed overall habitat at the site.

Tribal

Fee-to-Trust Project—California Tiger Salamander Study, Plymouth, Lone Band of Miwok Indians, California.

Assisted with protocol-level surveys for the Central Valley population of California tiger salamander in compliance with a biological opinion issued by USFWS for land proposed to be placed into federal trust for the Lone Band of Miwok Indians. Surveys also included an evaluation of the status of vernal pools and other potentially suitable aquatic habitat on the site.

Vernal Pool Study, United Auburn Indian Community Housing, Sheridan, California. Assisted for 2 years with protocol-level vernal pool branchiopod surveys conducted in accordance with regulatory permits to establish baseline data for future land management practices. Vernal pool fairy shrimp (*Branchinecta lynchi*) were present in several of the pools. Also conducted an inventory of plants within the vernal pool complex, and conducted a rangeland evaluation of the overall property, including calculations of residual dry matter.

Fee-to-Trust Project—Biological Assessment and Environmental Assessment, Coyote Valley Band of Pomo Indians, Mendocino County, California. Served as project biologist. Conducted preliminary research and general biological resources surveys for the U.S. Bureau of Indian Affairs to support an application from the Coyote Valley Band of Pomo Indians for 6 acres of land to be placed into federal trust. Drafted the biological evaluation with recommendations for avoidance and minimization measures for sensitive species and waters of the United States in the vicinity of the project site. Also provided technical assistance to the Bureau of Indian Affairs throughout the federal Endangered Species Act Section 7 consultation process with USFWS.

Cache Creek Casino Resort Wetland Mitigation and Monitoring Plan Implementation, Yocha Dehe Wintun Nation, Brooks, California. Served as primary botanist and permitting compliance specialist. In compliance with a 10-year wetland mitigation monitoring and reporting plan, conducted annual surveys to assess the progress of mitigation plantings and hydrology. Compiled and analyzed data to produce annual reports in compliance with CWA Section 404 individual permit stipulations. Consulted with local interested parties, the tribe, and USACE to ensure all success criteria would be met within the specified time frame.

Fee-to-Trust Project—Botanical Survey, Sycuan Band of Kumeyaay Nation, San Diego, California. Performed comprehensive floristic surveys on all parcels proposed for transfer to federal trust. Surveys focused on identifying and documenting populations of several locally rare plant species and larval host plants for Quino checkerspot butterfly (*Euphydryas editha quino*).

Water/Wastewater

Arboretum Waterway Improvement Project, University of California, Davis. Served as biologist. Conducted biological surveys of the project area to assess potential constraints to waterway restoration. Developed a salvage and relocation plan for western pond turtle and assisted with regulatory permitting, pre-construction surveys, and provided biological support for the project.

Newell Creek Dam, Santa Cruz County, California. Served as botanist and wetland specialist. Conducted an aquatic resources delineation and botanical survey in support of CEQA documentation. Botanical surveys were conducted in accordance with USFWS, CDFW, and CNPS protocol. Drafted technical reports and provided technical assistance with environmental documentation and permitting.

State Water Project—Erosion Repair Routine Maintenance, Contra Costa County, California. As primary biologist, conducted surveys and wetland delineation fieldwork for various proposed erosion repair sites at State Water Project facilities. Compiled results on soils, hydrology, and plants in a wetland delineation report and preliminary jurisdictional determination. Communicated with agencies regarding permitting requirements. Completed documents for CEQA compliance.

Lake Dalwigk Habitat Enhancement Initial Study and Permitting, Vallejo Sanitation and Flood Control District, Vallejo, California. Served as deputy project manager and project biologist. Prepared and performed senior review of multiple sections of the project's CEQA documents. Conducted biological and botanical surveys for technical supporting documents. Ensured that the initial study/mitigated negative declaration was completed within time constraints and budget. Conducted focused plant surveys, habitat assessment field studies, and background research for potential biological constraints. Completed applications and consulted with regulatory agencies to obtain the following permits: Section 1600 Streambed Alteration Agreement from CDFW, CWA Section 404 Individual Permit from USACE, CWA Section 401 Water Quality Certification from the San Francisco RWQCB, and Coastal Development Permit from the Bay Conservation and Development Commission. As part of the permitting process, drafted a wetland mitigation and monitoring plan to be implemented over the next 10 years.

Denniston/San Vicente Creeks Water EIR, Coastside County Water District, Half Moon Bay, California. Served as deputy project manager and project biologist. Prepared and performed senior review of multiple sections of the project's CEQA document, biological survey reports, and supporting technical documents. Assisted the project manager in preparing the EIR for improvements to existing stream diversions to enable the Coastside County Water District to use current water rights on the San Vicente and Denniston Creeks. Assisted in identifying biological constraints in the project vicinity and in formulating alternatives to the project. Responsible for managing the EIR team, including in-house specialists and subconsultants; managing the project budget; assessing biological resources for the CEQA evaluation; and ensuring that the CEQA evaluation was progressing on time and on budget.

Placer County Sewer Maintenance District 3 Pipeline Improvement, Granite Bay, California. As part of a team of biologists, conducted floristic surveys of proposed pipeline routes and assisted with the delineation of waters of the United States. Drafted a botanical technical memorandum and provided technical assistance for botanical resources throughout the EIR and permitting process.

Family Water Alliance Fish Screen Installation, Sacramento and American Rivers, California. As botanist/biologist, assisted fisheries biologists in evaluating riverine and riparian habitat for potential to support special-status plant and animal species as part of a water pump intake fish-screening project. Drafted biological resources assessments for each site, including avoidance and minimization measures for potential impacts.

Wastewater Treatment Plant Improvement Project, Swainson's Hawk Monitoring, Vacaville Wastewater Treatment Plant, Vacaville, California. Served as biologist and biological monitor. In compliance with measures outlined in the EIR and in consultation with CDFW, monitored two active Swainson's hawk nests within 500 feet of ground-disturbing activities at a wastewater treatment plant. For several months during the nesting season, recorded activities and reported daily on the status of the active nests to ensure that no impacts to Swainson's hawk resulted from project activities.

Trails/Recreation

Focused Botanical Surveys for Martis Valley Habitat Enhancement Project, Martis Valley, Placer County, California. Conducted pre-activity surveys for special-status plant species including *Pluma ivesia* (*Ivesia sericoleuca*). Hundreds of plants were documented using hand-held GPS devices. Populations of rare plants were flagged for avoidance and included in the Worker Environmental Awareness Training conducted by Dudek for the project.

Focused Botanical Surveys for the Pines to Mines Trail Project, Tahoe National Forest, Placer County, California. Conducted protocol-level surveys for special-status plant species along the proposed alignment of a back-country trail. Activities included visiting reference sites for special-status plant species and conducting surveys during the appropriate bloom season.

Specialized Trainings

- "Bumble Bees of California" workshop presented by Jaime Pawelek of Wild Bee Garden Design/Essig Museum Research Associate. Participated in a 1-day specialized bumble bee training that focused on the four California candidate species, Crotch bumble bee (*Bombus crotchii*), Franklin bumble bee (*Bombus franklini*), western bumble bee (*Bombus occidentalis*), and Suckley cuckoo bumble bee (*Bombus suckleyi*). Lecture topics included classification and bee morphology, identification of species, life history and ecology, and sampling protocols. A large portion of the workshop included identification of specimens using a microscope and the guidebook "Bumble Bees of the Western United States" (Koch et al. 2012). November 2019.
- 40-Hour Wetland Delineation Training, Wetlands Training Institute. 2014.
- 40-Hour California Rapid Assessment Method (CRAM) Training Course, Depressions and Riverine Module. 2015.
- Rare Pond Species Workshop, Laguna de Santa Rosa, Rohnert Park, California. Workshop covering species biology and survey technique for California red-legged frog, California tiger salamander, and western pond turtle. 2016.
- Listed Large Branchiopod identification course presented by Mary Schug Belk. December 5, 2015. Passed identification lab practical of 26 species of fairy shrimp and 2 species of tadpole shrimp with 100% accuracy. Retested in 2022 with 100% accuracy.
- Advanced Hydric and Problem Area Soils, various locations in Northern California, Wetlands Training Institute. 2023.
- Field Ecology education course, Sacramento City College. Course covering survey and trapping techniques for mammals such as ring-tailed cat (*Bassariscus astutus*) and bats. Included habitat assessment and mist-netting for bat species. 2015.
- Annual courses and seminars on plant identification, special-status species biology, natural resources, CEQA/NEPA, and regulatory permitting. 2007–Present.

Erin Fisher-Colton

BIOLOGIST

Erin Fisher-Colton (*AIR-in FISH-ur COL-ten; she/her*) is a biologist with 5 years' experience providing biological surveying, monitoring, and mapping for nesting birds, special-status species, and rare plants and 5 years' related experience with California birds, mammals, reptiles, and amphibians. Ms. Fisher-Colton has experience with California red-legged frog (*Rana draytonii*), northwestern and southwestern pond turtle (*Actinemys marmorata* and *A. pallida*), Swainson's hawk (*Buteo swainsoni*), burrowing owl (*Athene cunicularia*), tricolored blackbird (*Agelaius tricolor*), San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), and others.

Ms. Fisher-Colton is proficient with technical report writing, habitat mapping, and data entry and analysis and has worked on numerous vegetation management and water infrastructure projects. She is familiar with state and federal environmental laws, the California Environmental Quality Act, and the Santa Clara Valley Habitat Plan.

Project Experience Development

DeAnza College Master Plan, DeAnza College, Cupertino, California. Conducted a reconnaissance-level survey to evaluate the potential for special-status species such as white-tailed kite (*Elanus leucurus*), pallid and Townsend's big-eared bats (*Antrozous pallidus*, *Corynorhinus townsendii*), bat roosting colonies, and other biological resources to be impacted by project activities. Prepared a letter report describing existing site conditions, special-status species potential to occur, and summary of biological constraints. (2023)

Confidential Project, Contra Costa County, California. Conducted a reconnaissance-level survey to evaluate the potential for special-status species such as California red-legged frog, California tiger salamander (*Ambystoma californiense*), and other biological resources to be impacted by project activities. Observed 36 juvenile California red-legged frog. (2023)

Augustin Bernal Mountain Bike Trail Project, City of Pleasanton, Pleasanton, California. Conducted a pre-construction nesting bird survey for development of a mountain bike trail. Observed active nests of multiple passerine species. (2023)

East Bay Applied Sciences Center Project; California State University, East Bay; Hayward; California. Conducted a nesting bird and roosting bat habitat assessment to evaluate the potential for future nesting bird and roosting bat occupancy on the proposed project site. (2022)



Education

San Jose State University
MS, Environmental
Studies, 2020
California State
Polytechnic University,
Pomona
BS, Environmental
Biology, 2012

Permits

CDFW Plant Voucher
Collecting Permit,
No. 2081(a)-23-133-V

Professional Affiliations

The Wildlife Society –
Western Section &
SF Bay Area Chapter
Golden Gate Raptor
Observatory

Vaca Valley Hotel Construction, J and P Hospitality, Vacaville, California. Conducted biological monitoring and daily sweeps for northwestern pond turtle and burrowing owl during culvert installation. (2022)

2410 and 2384 Stony Point Road Temporary Fence Installation, Affordable Housing Development Corporation/Santa Rosa Ridge Point LLC, Santa Rosa, California. Conducted biological monitoring and daily sweeps for California tiger salamander during ground disturbance activities. (2022)

Eastern Hillside Stabilization, California State University Maritime Academy, Vallejo, California. Conducted surveys for burrowing owl, roosting bats, and nesting birds. Observed one active red-tailed hawk (*Buteo jamaicensis*) nest. (2022)

Energy

Gonzaga Wind Project, Scout Clean Energy LLC, Merced County, California. Conducted protocol-level botanical surveys for rare plants, with positive detection of spiny-sealed button-celery (*Eryngium spinosepalum*), Hall's bush-mallow (*Malacothamnus hallii*), and rare Navarretia species. Conducted point surveys for bald and golden eagles (*Haliaeetus leucocephalus*, *Aquila chrysaetos*). (2023–Present)

Confidential Project, Alameda County, California. Conducted reconnaissance-level surveys to evaluate the potential for special-status species including California tiger salamander, burrowing owl, and other biological resources to be impacted by project activities. Conducted protocol-level botanical surveys with positive detection of big tarplant (*Blepharizonia plumosa*). Conducted a California red-legged frog habitat assessment. Prepared a biological technical report summarizing existing conditions, survey efforts, and preliminary impact analysis. (2023)

Confidential Project, Fresno County, California. Conducted protocol-level Swainson's hawk surveys. Observed multiple pairs of Swainson's hawks foraging, copulating, nest-building, and incubating. Prepared letter report to client summarizing nesting survey efforts and results. (2023)

Mitigation and Conservation

Bonturi Ranch Conservation Easement, AKT Santa Nella Solar Investors II LLC, Merced County, California. Assisted with pedestrian transect surveys to map burrows and assess site suitability for San Joaquin kit fox (*Vulpes macrotis mutica*) and assisted with camera-trapping efforts on the site. (2023)

California Tiger Salamander Mitigation Pond Monitoring, Potrero Hills Landfill, Solano County, California. Conducted California tiger salamander larval surveys in three mitigation ponds to assess breeding success. (2022)

Vegetation Management

East Dunne Avenue Escape Route Project (Phases 1 & 2), Santa Clara County FireSafe Council, Morgan Hill, California. Project manager for a vegetation management project providing biological resource services on 5.6 miles of rural roadway. Conducted a biological pre-activity survey for San Francisco dusky-footed woodrat, rare plants, and other biological concerns. Prepared a letter report summarizing field survey efforts and results. (2023)

Robleda-Burke Evacuation Route Project, Santa Clara County FireSafe Council, Los Altos Hills, California. Project manager for a vegetation management project providing biological resource services on roughly 3.0 miles of suburban roadway. Conducted a biological pre-activity survey for San Francisco dusky-footed woodrat and other biological concerns. Oversaw the completion of a letter report summarizing field survey efforts and results. (2023)

Magdalena-Summerhill Evacuation Route Project, Santa Clara County FireSafe Council, Los Altos Hills, California. Project manager for a vegetation management project providing biological resource services on 1.7 miles of suburban roadway. Conducted a biological pre-activity survey for San Francisco dusky-footed woodrat and other biological concerns. Prepared a letter report summarizing field survey efforts and results. (2023)

St. Helena Defensible Space Project, City of St. Helena, California. Conducted a reconnaissance-level survey to evaluate the potential for occurrence of special-status species including northwestern pond turtle, Swainson's hawk, bald eagle, foothill yellow-legged frog (*Rana boylei*), pallid and Townsend's big-eared bats, and bat roosting colonies. (2023)

Bear Creek Redwoods Open Space Preserve Vegetation Management Project, Midpeninsula Regional Open Space District, Los Gatos, California. Conducted surveys for nesting birds, San Francisco dusky-footed woodrats, and other species in dense redwood forest, oak woodland, and scrub habitats on highly variable terrain. (2022–2023)

Interstate 280 Hazardous Fuel Reduction Project, Los Altos Hills County Fire District, Los Altos Hills, California. Prepared a biological resources analysis report for a 150-acre, 5.5-mile-long proposed fuel management project on Interstate 280 (northbound, southbound, and center divide rights-of-way). Conducted land cover mapping and field evaluations in which the biotic resources of the site were determined. Evaluated the potential for Santa Cruz black salamander (*Aneides niger*), California red-legged frog, southwestern pond turtle, white-tailed kite, Townsend's big-eared bat, and San Francisco dusky-footed woodrat to be impacted by planned project activities. (2022)

Highway 84 Roadside Fuel Management Project, Fire Safe San Mateo County, San Mateo County, California. Co-authored a biological resources analysis report for a 90-acre, 8.2-mile-long proposed fuel management project on Highway 84. Conducted land cover mapping and field evaluations in which the biotic resources of the site were determined. Evaluated the potential for Santa Cruz black salamander, California giant salamander (*Dicamptodon ensatus*), California red-legged frog, long-eared owl (*Asio otus*), burrowing owl, marbled murrelet (*Brachyramphus marmoratus*), olive-sided flycatcher (*Contopus cooperi*), peregrine falcon (*Falco peregrinus*), bald eagle, pallid bat, Townsend's big-eared bat, San Francisco dusky-footed woodrat, and American badger (*Taxidea taxus*) to be impacted by planned project activities. (2022)

Highway 35 Roadside Fuel Management Project, Fire Safe San Mateo County, San Mateo County, California. Co-authored a biological resources analysis report for a 182-acre, 25-mile-long proposed fuel management project on Highway 35. Conducted land cover mapping and field evaluations in which the biotic resources of the site were determined. Evaluated the potential for Santa Cruz black salamander, California giant salamander, California red-legged frog, red-bellied newt (*Taricha rivularis*), long-eared owl, burrowing owl, marbled murrelet, olive-sided flycatcher, white-tailed kite, peregrine falcon, bald eagle, pallid bat, Townsend's big-eared bat, San Francisco dusky-footed woodrat, and American badger to be impacted by planned project activities. (2022)

Water Resources

Arana Gulch Sewer Line Project, Consor North America Inc., Santa Cruz, California. Conducted preconstruction surveys for nesting birds, roosting bats, and other biological concerns. Relocated 23 San Francisco dusky-footed woodrat middens out of the construction footprint. Conducted biological monitoring of vegetation removal activities. (2023–Present)

John Nicholas Trail Road Project, San Jose Water, Santa Clara County, California. Conducted preconstruction surveys and daily sweeps for special-status amphibians, nesting birds, and other biological resources prior to repair work on access roads. Conducted biological monitoring of access road repair and maintenance. (2023)

Sisk Dam Safety of Dams Modification Project, California Department of Water Resources, Gustine, California. Conducted protocol-level sunrise/sunset surveys for burrowing owl, conducted protocol-level nesting surveys for Swainson's hawk, and evaluated and monitored a nesting colony of more than 500 tricolored blackbirds. Assisted with protocol-level surveys for rare plants including spiny-sealed button-celery. (2022–Present)

Delta Habitat Conservation Plan, Department of Water Resources, San Francisco Bay Delta Region, California. Conducted focused surveys for burrowing owl, northwestern pond turtle, and dry season branchiopods. Identified wildlife species in wildlife movement study camera trap photos. Assisted with writing of the draft habitat conservation plan. (2022–2023)

San Joaquin Habitat Conservation Plan, Department of Water Resources, San Joaquin Valley Region, California. Conducted focused surveys for rare plants and identified wildlife species in wildlife movement study camera trap photos, including San Joaquin kit fox. (2022)

Relevant Previous Experience

Disaster Recovery

Camp Fire Hazard Tree Removal Project, California Department of Resources Recycling and Recovery, Paradise, California. Conducted nesting bird surveys and biological site assessments prior to hazard tree removal on properties affected by the Camp Fire. Conducted surveys and habitat assessments for California red-legged frog and foothill yellow-legged frog. Established work buffers around active bird nests and sensitive aquatic habitats and provided biological construction monitoring for nesting birds, California red-legged frog, and sensitive aquatic habitat. Provided Worker Environmental Awareness Training to construction personnel. (2021)

Energy

Gas Transmission Line R-985 In-Line Inspection and Upgrade Project, Pacific Gas & Electric, Millbrae, California. Provided biological construction monitoring for California red-legged frog, San Francisco garter snake (*Thamnophis sirtalis tetrataenia*), and nesting birds under the direct supervision of a permitted biologist during earthmoving work and excavation. Provided biological training to construction personnel and vehicle escort between active work areas. (2021)

Electric Power Line Inspections, Pacific Gas & Electric, Moraga and Orinda, California. Conducted nesting bird surveys along electrical lines in preparation for inspections, Orinda to Moraga section. (2021)

Alto Substation Defensible Space Project, Pacific Gas & Electric, Mill Valley, California. Provided biological construction monitoring for California Ridgway's rail (*Rallus obsoletus obsoletus*), salt marsh harvest mouse (*Reithrodontomys raviventris*), and nesting birds during earthmoving and trenching activities. Provided biological training to construction personnel. (2021)

Field Research

Golden Gate Raptor Observatory Hawk Banding Program, Marin Headlands, California. Participating in ongoing migration monitoring of diurnal raptors during autumn migration season. Working with a team at a banding station to trap, band, and collect morphometric data on migrating hawks and falcons in the Golden Gate National Recreation Area. Handled, banded, measured, aged, and sexed red-tailed hawk, red-shouldered hawk (*Buteo lineatus*), Cooper's hawk (*Accipiter cooperii*), sharp-shinned hawk (*Accipiter striatus*), northern harrier (*Circus hudsonius*), and merlin (*Falco columbarius*). (2016–Present)

Mourning Dove Banding Program, California Department of Fish and Wildlife, San Mateo County, California.

Participating locally in ongoing population monitoring for the National Mourning Dove Strategic Harvest Management Plan. Working independently to trap, band, sex, and age mourning doves (*Zenaida macroura*) during the summer banding season. (2021–Present)

San Jose State University, Department of Environmental Studies, Master of Science Graduate Thesis Research, Santa Clara County, California. Investigated the effects of urbanization on the diet and reproduction of nesting red-shouldered hawks in Santa Clara County. Independently conducted raptor nest surveys, identified prey species (mammal, bird, reptile, and amphibian), and collected data in the field. Mapped and analyzed habitat characteristics using ArcGIS, conducted statistical analyses, and synthesized existing literature and study results in a master's thesis. Thesis defended in April 2020 and published in August 2020. (2018–2020)

California State Polytechnic University, Pomona, Department of Biology, Honors Undergraduate Research, Pomona, California. Conducted visual and aural detection surveys for coastal California gnatcatcher (*Polioptila californica californica*) and vegetation sampling to determine habitat preferences on the Voorhis Ecological Reserve in Pomona. Conducted GIS mapping of habitat and gnatcatcher activity and statistical analysis of habitat preference. Presented results at the Kellogg Honors College Capstone Symposium in June 2012. (2011–2012)

Water Resources

Calaveras Fault Inlet-Outlet Levee Road Culvert Repair Project, Valley Water, San Benito County, California.

Conducted protocol-level surveys for Swainson's hawk, including six sunrise and three sunset surveys in the 2020 nesting season and one sunrise survey in 2021. Conducted presence-absence and nesting surveys for burrowing owl, white-tailed kite, bald eagle, tricolored blackbird, and loggerhead shrike (*Lanius ludovicianus*). (2020–2021)

Cheltenham Way Culvert Replacement Project, Valley Water, San Jose, California. Prepared a biological site assessment for the Cheltenham Way Culvert Replacement Project in accordance with Valley Water Avoidance and Mitigation Measures, Santa Clara Valley Habitat Plan applications, the California Environmental Quality Act, and other permits. Conducted reconnaissance-level biological surveys at the project site and geospatial analyses of wildlife records using the California Natural Diversity Database. (2020)

Chesbro Dam Spillway and Plunge Pool Inspection, Valley Water, Morgan Hill, California. Conducted monitoring for southwestern pond turtle and relocation of non-salmonid fish species during water draining and inspection activities under the supervision of a senior biologist. Assisted with daily water sampling activities utilizing a Horiba U-50. (2020)

South County Stream Gauges Project, Valley Water, Morgan Hill and Gilroy, California. Conducted surveys for least Bell's vireo (*Vireo bellii pusillus*) and tricolored blackbird for two proposed stream flow gauges in south Santa Clara County. Performed habitat assessments and geographic information system (GIS) analyses of habitat impacts. Co-authored biological site assessment memorandum for Item 5 of the Valley Habitat Plan Application Package. (2020)

Vasona Pump Station Fence and Gate Replacement Project, Valley Water, Los Gatos, California. Conducted pre-construction surveys for nesting birds and San Francisco dusky-footed woodrat at the Vasona Pump Station. Provided monitoring for nesting raptors during construction activities. (2020)

San Francisquito Creek Flood Protection Project, Valley Water, Palo Alto, California. Assisted with protocol-level passive detection surveys for California Ridgway's rail as part of the mitigation and monitoring plan for the San Francisquito Flood Protection Project. (2020)

In-House Water Utility Enterprise Projects, Valley Water, Santa Clara County, California. Projects included, but were not limited to, routine maintenance on pipelines, pump stations, water treatment plants, canals, and groundwater recharge facilities; vegetation management; invasive plant control and removal; and dam maintenance and inspection. Conducted pre-activity surveys and biomonitoring for nesting birds, burrowing owl, tricolored blackbird, least Bell's vireo, California red-legged frog, California tiger salamander, southwestern pond turtle, San Francisco dusky-footed woodrat, and rare plants including Santa Clara Valley dudleya (*Dudleya abramsii* ssp. *setchellii*), smooth lessingia (*Lessingia micradenia* var. *glabrata*), and Hall's bush-mallow. Produced internal field reports and biological clearances for distribution to facility managers and project leads. Conducted database searches in the California Natural Diversity Database and managed database of survey activities. (2019–2021)

In-House Stream Maintenance Program Projects, Valley Water, Santa Clara County, California. Projects included, but were not limited to, routine maintenance of channelized rivers and creeks, vegetation management, invasive plant control and removal, and hazard tree removal. Conducted pre-activity surveys and biomonitoring for nesting birds, tricolored blackbird, least Bell's vireo, California red-legged frog, California tiger salamander, southwestern pond turtle, and San Francisco dusky-footed woodrat. Conducted nighttime eyeshine surveys for California red-legged frog and assisted with electrofishing activities for relocation of non-salmonid native fish species. Conducted monitoring for salt marsh harvest mouse under direct supervision of experienced biologists. (2019–2021)

Specialized Training

- **Pond Turtle Nesting Workshop, The Wildlife Project, June 2023.** Attended an online lecture (3 hours) and field workshop (4.5 hours) covering upland habitat use and breeding behavior of northwestern and southwestern pond turtles. Field portion included techniques for conducting nest surveys, documenting nest predation, and assessing nesting habitat. Handled 4 southwestern and 1 northwestern pond turtles and identified 2 intact and 1 predated pond turtle nests.
- **Adult First Aid/CPR/AED, Dudek, September 2022.**
- **Level I California Red-Legged Frog Natural History and Identification Workshop, The Wildlife Project, July 2021.** Attended an online lecture (3.5 hours) and overnight field workshop (6.0 field hours) covering the identification, ecology, and survey techniques for California red-legged frog, including dip netting, hand capture, and eyeshine surveys. Additional identification information on other rare species likely to co-occur including foothill yellow-legged frog and northwestern/southwestern pond turtle. Captured and handled California red-legged frog, foothill yellow-legged frog, northwestern pond turtle, and coast range newts (*Taricha torosa*).
- **Graduate Certificate in Environmental Planning, San Jose State University, June 2020.** Certificate program of 12 semester units, including courses on environmental planning, land use planning and law, and environmental impact analysis, intended to provide a working knowledge of environmental planning regulations and procedures.

Publications

Fisher, C.Y. 2020. "Effects of Urbanization and Habitat on the Diet and Reproduction of Red-shouldered Hawks in Central California." Master's thesis; San Jose State University, San Jose.

Surveying and Monitoring Hours for Relevant Species*

Species	Surveying Hours	Monitoring Hours	Notes
Bat species	60	0	Conducted diurnal roost surveys and roost habitat assessments.
Burrowing owl	115	0	Provided pre-activity visual encounter and nesting surveys and protocol-level sunrise/sunset surveys. Positive identification of active burrows and owls.
California red-legged frog	170	100	Provided pre-construction visual encounter surveys, nocturnal eyeshine surveys, construction monitoring, and general habitat assessment. Experience with hand-capture and dip-netting for adults. Attended CRLF Level I workshop in which positive detection of adult CRLF was made.
California tiger salamander	85	20	Provided pre-activity visual encounter surveys; conducted seine and dip netting surveys for larvae. Positive detection of larval CTS was made.
Eagles (bald/golden)	20	0	Conducted point count eagle activity surveys and visual detection surveys. Positive detection of adult and juvenile bald and golden eagles.
Fish	5	5	Assisted with non-salmonid fish relocation and monitoring, including electrofishing.
Foothill yellow-legged frog	50+	0	Provided pre-construction visual encounter surveys and general habitat assessment. Attended CRLF Level I workshop in which positive detection of adult FYLF was made.
Nesting birds and raptors	850+	350+	Provided pre-construction surveys and monitoring for nesting bird and raptor species. Positively identified numerous bird nests of various species.
Pond turtle (northwestern/southwestern)	60	20	Conducted visual encounter surveys and monitoring. Attended Pond Turtle Nesting Workshop in which positive detection of adults and nests were made of both species. Attended CRLF Level I workshop in which positive detection of adults was made of both species.
Rare Plants	180	0	Conducted protocol-level transect surveys and pre-construction activity surveys. Positive identification of several species of focal plants.
San Francisco dusky-footed woodrat	430	50	Provided pre-construction surveys and biomonitoring for woodrat middens. Positive identification of several active middens. Relocated 23 middens.
San Joaquin kit fox	70 (field), 120 (images)	0	Provided pre-activity visual encounter surveys and transect surveys for habitat assessment with positive detection via scat. Processed and tagged SJKF camera trap images including 6 positive detections of images of adult SJKF.
Swainson's Hawk	35	0	Protocol-level nesting surveys. Observed several pairs during courtship, nest-building, incubation, nestling, and fledgling stages.
Tricolored Blackbird	10	24	Conducted visual detection surveys and biomonitoring of colony of approx. 500 nests through fledging and a second brood.
Vernal Pool Branchiopods	50	0	Dry season surveys.

Notes

* Hours are approximate.

Kelsey Higney

BIOLOGIST

Kelsey Higney (*KEL-see HIG-nee; she/her*) is a biologist with 5 years' experience in field biology, conducting surveys for birds, herpetofauna, invertebrates, mammals, and plants, as well as habitat assessments and compliance monitoring. She has worked extensively on protocol-level and preconstruction surveys for a range of sensitive species including burrowing owl (*Athene cunicularia*), California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytonii*), California spotted owl (*Strix occidentalis occidentalis*), Swainson's hawk (*Buteo swainsoni*), rare plants, and Migratory Bird Treaty Act nesting birds. Ms. Higney has extensive experience and leads crews in nesting bird surveys in Northern and Central California. She has a broad skill set in wildlife and botanical sampling techniques, invasive plant management, technical report writing, and data management.

Project Experience

Development

Main Street Ferry Terminal Marine Mammal Surveys and Monitoring, San Francisco Bay Area Water Emergency Transport Authority, Alameda, California. Performed preconstruction surveys for the presence of harbor seals (*Phoca vitulina*) and California sea lions (*Zalophus californianus*) within the Alameda ferry terminal impact zones. Provided construction monitoring for marine mammals during in-water construction. (2023)

El Salto Drive Project, City of Capitola, California. Performed a biological resources reconnaissance survey for sensitive biological resources including plants, wildlife, and potentially jurisdictional aquatic resources. Provided the client with the scope of work. Composed a biological resources technical memorandum. (2023)

Don Dahvee Trailhead Improvement Project, City of Monterey, California. Performed a biological resources reconnaissance survey for sensitive biological resources including plants, wildlife, and potentially jurisdictional aquatic resources. Target plant species in the area included Yadon's rein-orchid (*Piperia yadonii*), Monterey pine (*Pinus radiata*), and Hickman's onion (*Allium hickmanii*). Monterey pine was identified on the project site. Provided the client with the scope of work. Composed a biological resources technical memorandum. (2023)

Veterans Memorial Park Parking Lot Improvement Project, City of Monterey, California. Performed a biological resources reconnaissance survey for sensitive biological resources including plants, wildlife, and potentially jurisdictional aquatic resources. Target plant species in the area included Monterey pine, which was identified on the project site. Yadon's rein-orchid is known to occur in the project region. Provided the client with the scope of work. Composed a biological resources technical memorandum. (2023)



Education

Antioch University New England
MS, Environmental Studies (Conservation Biology)
San Francisco State University
BS, Biology (Zoology)

Pelican's Jaw Blunt-Nosed Leopard Lizard Surveys, Confidential Client, Kettleman City, California. Performed blunt-nosed leopard lizard (*Gambelia sila*) protocol transect survey of a potential solar energy site as a Level 1 surveyor, under the guidance of a Level 2 survey lead. (2023)

Coyote Creek Swainson's Hawk and Burrowing Owl Surveys, Confidential Client, Sloughhouse, California. Led nesting season surveys for burrowing owl and Swainson's hawk. Performed habitat mapping of potential nectar resources and nesting habitat for Crotch's bumble bee (*Bombus crotchii*). (2022–2023)

San Benito Campus Project Burrow Survey, Gavilan College, Hollister, California. Surveyed for burrows with potential to support sensitive wildlife including California tiger salamander, American badger (*Taxidea taxus*), burrowing owl, and San Joaquin kit fox (*Vulpes macrotis mutica*), and reviewed the draft of a biological resources technical memorandum. (2023)

Habitat Conservation Plan Vegetation Mapping, University of California, Santa Cruz, California. Assisted senior botanist with vegetation mapping on the University of California, Santa Cruz, campus. (2022)

Brio Studios Mixed-Use Building Site Nesting Bird Survey, Confidential Client, Fairfield, California. Performed a Migratory Bird Treaty Act nesting bird survey of the work site for active bird nests. (2022)

Mission Trail Preserve Reconnaissance Survey, Confidential Client, Carmel-by-the-Sea, California. Surveyed for sensitive wildlife and plant species to inform project constraints and drafted a technical memorandum. (2022)

Energy

Confidential Solar Project, Alameda County, California. Performed biological resources surveys including burrow mapping, floral resources mapping for Crotch's bumble bee, California red-legged frog habitat assessment, and a rare plant survey for an energy storage site. Identified big tarplant (*Blepharizonia plumosa*) within the survey area. (2023)

Gonzaga Ridge Wind Farm Repowering Project Rare Plant and Aquatic Delineation Surveys, Confidential Client, Los Banos, California. Performed rare plant surveys under supervision of a qualified botanist in the vicinity of San Luis Reservoir, California (field logistics lead). Target plant species were big-scale balsam root (*Balsamorhiza macrolepis*), Hall's bush-mallow (*Malacothamnus hallii*), lime-ridge navarretia (*Navarretia gowenii*), shining navarretia (*Navarretia nigelliformis* ssp. *radians*), and spiny-sealed button celery (*Eryngium spinosepalum*). Assisted with the jurisdictional delineation of aquatic resources, identifying multiple vernal pools, ephemeral drainages, seasonal wetlands, and seasonal wetland swales. Composed a rare plant survey memorandum, aquatic resources delineation report, and biological sections of the project's California Environmental Quality Act (CEQA) addendum. (2023)

Gonzaga Raptor Point-Count Surveys, Confidential Client, Los Banos, California. Performed point counts for all raptor species present on a wind energy site, with a focus on the age class and flight path of golden eagles (*Aquila chrysaetos*) and bald eagles (*Haliaeetus leucocephalus*). (2022–2023)

Sonrisa Solar Swainson's Hawk Surveys, Confidential Client, Mendota, California. Performed breeding-season surveys for Swainson's hawk to locate and monitor nests. Identified Swainson's hawk pairs and individuals and determined stages of active nests. (2022–2023)

Ponderosa Battery Energy Storage Biological Reconnaissance Survey, Confidential Client, Sacramento, California. Surveyed for potential habitat to support sensitive wildlife, plants, and aquatic resources to inform project constraints and drafted a biological resources assessment. (2022)

Confidential Solar Project, Confidential Client, Santa Rosa, California. Performed wildlife reconnaissance and assisted with rare plant reconnaissance and jurisdictional delineation. Composed a biological resource assessment technical report. (2022)

Berrenda Mesa Solar Project, Confidential Client, Lost Hills, California. Monitored the installation of utility poles for blunt-nosed leopard lizard and the safety of common wildlife. (2022)

Confidential Solar Project, Confidential Client, Newman, California. Participated in preconstruction surveys for San Joaquin kit fox (15 transect miles), burrowing owl (15 transect miles), and valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*; 1 hour), for a total of approximately 20 survey hours. (2021)

Confidential Solar Project, Confidential Client, Mojave, California. Participated in site clearance surveys for Mojave desert tortoise (60 transect miles) and preconstruction surveys for San Joaquin kit fox, burrowing owl, and American badger (30 transect miles). Performed four burrow/den excavations and compliance monitoring, including the relocation of non-listed small mammals and snakes, for a total of approximately 150 hours. (2021)

Fire/Fuels Mitigation

Robleda-Burke Evacuation Route Project, Santa Clara County FireSafe Council (SCCFSC), Los Altos, California. Performed preconstruction surveys for sensitive biological resources including San Francisco dusky-footed woodrat (*Neotoma fuscipes* ssp. *annectens*) middens, sensitive California Department of Fish and Wildlife sensitive vegetation communities, and aquatic resources to flag for avoidance prior to vegetation/fuels management. (2023)

Page Mill Road Evacuation Route Project, SCCFSC, Los Altos, California. Performed preconstruction surveys for sensitive biological resources including nesting birds prior to vegetation/fuels management. (2023)

Bear Creek Redwoods Preconstruction Surveys, Midpeninsula Open Space Trust, Los Gatos, California. Surveyed and flagged sensitive natural resources including San Francisco dusky-footed woodrat middens and aquatic resources for avoidance during vegetation treatments for fuels mitigation. (2022–2023).

Highways 35 and 84 Roadside Fuel Management Project, FIRE SAFE San Mateo County, California. Performed field reconnaissance for sensitive wildlife and plant resources along highway corridors. Performed vegetation mapping to California Department of Fish and Wildlife (CDFW) alliances. Composed a biological constraints analysis technical report. (2022)

Infrastructure

Arana Gulch Sewer Line Replacement Project, County of Santa Cruz, California. Relocated woodrat middens to new locations away from the project site to mitigate impacts of vegetation clearing. Provided construction monitoring during vegetation clearing and debris removal. Delivered the project-specific Worker's Environmental Awareness Training (WEAT). (2023)

Iris Canyon Sediment Removal Project, City of Monterey, California. Performed preconstruction surveys for sensitive biological resources including nesting birds and California red-legged frog and monitored vegetation clearing and sediment removal activities within Iris Canyon, Monterey, California. (2023)

Presidio of Monterey Preconstruction Surveys, City of Monterey, California. Performed preconstruction nesting bird surveys prior to tree work within the Presidio of Monterey. Composed a biological resources technical memorandum. (2023)

East Cliff Sanitary Sewer Transmission Marine Mammal Surveys, Confidential Client, Santa Cruz, California. Performed site impact surveys for bridge alteration on marine mammals in the Santa Cruz Small Craft Harbor, collecting data on off-haul sites and the number of individuals. (2022)

Eureka Manchester Fiber Optic, Confidential Client, Eureka and Ukiah, California. Assisted with jurisdictional delineation and vegetation mapping along the project alignment. (2022)

Mitigation Monitoring

Bonturi Ranch Kit Fox Surveys, Los Banos, California. Performed San Joaquin kit fox burrow survey transects and camera trap study support on a potential mitigation site within San Joaquin kit fox habitat. (2023)

Potrero Hills Landfill Mitigation Site California Tiger Salamander Survey, Confidential Client, North San Francisco Bay, California. Performed dip-net surveys for larval California tiger salamanders. Handled more than 400 larval individuals. (2022)

Permitting

San Joaquin Field Division Culvert Replacement Project, California Department of Water Resources (DWR), Bakersfield, California. Assisted with compiling permit applications for receipt by the U.S. Army Corps of Engineers (USACE), CDFW, and the Regional Water Quality Control Board (RWQCB) for a culvert replacement project. (2023)

Alpine Rancho Palo Verde Project, Confidential Client, Chula Vista, California. Assisted with compiling permit applications for receipt by USACE, CDFW, and the RWQCB for a residential development. (2023)

Nirvana Project, Confidential Client, Chula Vista, California. Assisted with compiling permit applications for receipt by USACE, CDFW, and the San Diego RWQCB for a commercial development in Chula Vista. (2021)

Transportation

Highway 128 Emergency Repairs Monitoring, California Department of Transportation, Sonoma County, California. Provided biological monitoring within foothill yellow-legged frog (*Rana boylei*) and red-bellied newt (*Taricha rivularis*) habitat during emergency highway repairs. (2023)

Water Resources/Stormwater

Storm Drain Maintenance Program, City of Monterey, California. Performed biological pre-construction surveys for sensitive plants and wildlife including California red-legged frog in areas of impact associated with the City of Monterey's storm drain maintenance program. Delivered the project-specific WEAT and the city's annual WEAT training, covering all sensitive biological resources potentially occurring in the project region. (2023)

New Groundwater Well Project, Scotts Valley Water District, Scotts Valley, California. Surveyed for sensitive wildlife and plant species to inform project constraints at a water infrastructure site and drafted a technical memorandum. (2022)

Clifton Court Forebay Rodent Burrow Remediation Project Compliance, DWR, Tracy, California. Monitored rodent burrow remediation activities aimed at preventing damage to state water infrastructure along the slope of the forebay. Performed a preconstruction nesting bird survey identifying an active red-winged blackbird (*Agelaius phoeniceus*) nest. (2022–2023)

Sisk Dam Compliance and Biological Surveys, DWR, Los Banos, California. Performed fence checks for and preconstruction burrow excavations of burrows with potential for California red-legged frog and California tiger salamander. Monitored construction activities in potential habitat for American badger, kit fox, California red-legged frog and California tiger salamander, and sensitive raptors. Conducted Swainson's hawk, bald eagle, and golden eagle surveys (lead). Performed rare plant surveys under supervision of a lead botanist. The primary target plant in the area was spiny-sealed button-celery (2022–2023)

Saratoga Creek Hazard Tree and Restoration Project Stormwater Pollution Prevention Plan (SWPPP) Inspections, Confidential Client, Saratoga, California. Performed pre-storm, during-storm, and post-storm SWPPP inspections of the active restoration site including water pH and turbidity sampling. Recommended best management practices where necessary. (2022–2023)

Moss Landing SWPPP Inspections, Confidential Client, Moss Landing, California. Performed pre-storm, during-storm, and post-storm SWPPP inspections of the active battery energy storage system project site including water pH and turbidity sampling. Recommended best management practices where necessary. (2022–2023)

Intertie-1 Biological Reconnaissance Survey, Scotts Valley Water District, Scotts Valley/Santa Cruz, California. Surveyed for potential habitat to support sensitive wildlife, plants, and aquatic resources to inform project constraints and drafted a biological resources assessment in accordance with the City of Santa Cruz Water Rights Environmental Impact Report. Target rare plants in the project area included Anderson's manzanita (*Arctostaphylos andersonii*), Santa Cruz tarplant (*Holocarpha macradenia*), and Scott's Valley spineflower (*Chorizanthe robusta* var. *hartwegii*). Updated biological records searches and vegetation mapping to California Wildlife Habitat Relationships (CHWR) classifications for the client's new project alignment. (2023)

Buttonbush Solar Jurisdictional Delineation, Confidential Client, Bakersfield, California. Assisted experienced wetland delineators with a jurisdictional delineation of aquatic resources. Performed vegetation mapping of the survey area. (2023)

Mid-County Aquifer Storage and Recovery Project, City of Santa Cruz, California. Performed biological reconnaissance surveys at urban aquifer storage sites prior to infrastructure improvements. Composed a technical memorandum. (2022)

Graham Hill Water Treatment Plant Improvement Project Vegetation Mapping, City of Santa Cruz, California. Updated records searches for sensitive plants and wildlife for the addition of a new project area. Performed vegetation mapping to CDFW alliances. (2022)

Delta/San Joaquin Habitat Conservation Plans, DWR, Central Valley, California. Performed wildlife surveys for burrowing owl, desert kit fox (*Vulpes macrotis*), American badger, fairy shrimp (*Anostraca*), California red-legged frog, California tiger salamander, and western pond turtle (*Actinemys marmorata*) along the California aqueduct

and easements. Set up bioacoustics monitoring equipment for the detection of bat species. Assisted botanists with rare plant surveys and vegetation mapping in the San Joaquin Valley. Composed species profile accounts for the final Delta Habitat Conservation Plan report. (2021–2022)

Water Tank #9 Burrowing Owl Survey, Confidential Client, Rohnert Park, California. Performed two burrowing owl surveys of the work area and its surrounding habitat. Composed a technical memorandum. (2022)

Relevant Previous Experience

Disaster Recovery

Pipeline P00457 Incident, Industrial Economics, Huntington Beach, California. Performed human-use spot count data collection on beaches after an oil spill, for a total of approximately 350 survey hours. (2021)

CZU Fire Debris Cleanup, CalRecycle, Santa Cruz and Santa Clara Counties, California. Conducted Migratory Bird Treaty Act nesting bird surveys, for a total of approximately 1050 survey hours. Conducted sensitive species site assessments for California red-legged frog, Foothill yellow-legged frog (*Rana boylei*), California tiger salamander, California giant salamander (*Dicamptodon ensatus*), Santa Cruz black salamander (*Aneides flavopunctatus niger*), San Francisco garter snake (*Thamnophis sirtalis tetrataenia*), Coho salmon (*Thamnophis sirtalis tetrataenia*), steelhead trout (*Oncorhynchus mykiss irideus*), and western pond turtle. Performed watercourse classifications and flagging to establish work buffer. Performed compliance monitoring for these target species of concern and water resources during hazard tree and fire debris removal, for a total of approximately 150 hours. (2021)

Federal

U.S. Forest Service Wildlife Site Occupancy Surveys, U.S. Forest Service, Groveland Ranger District, California. Served as lead technician. Surveyed and collected data on California spotted owl, great gray owl, and northern goshawk during callback surveys and nest searches following U.S. Forest Service (USFS) standardized protocols, for a total of approximately 500 survey hours. Performed Pacific fisher camera surveys following USFS Pacific Southwest Research Station survey protocol. Responsible for survey mapping using ArcMap and data entry using the USFS NRIS natural resources management database. (2021)

USFS Wildlife Site Occupancy Surveys, Great Basin Institute for USFS, Calaveras County, California. Surveyed and collected data on California spotted owl and Northern goshawk during callback surveys and nest searches following USFS standardized protocols, for a total of approximately 500 survey hours. Performed Pacific fisher camera surveys following USFS Pacific Southwest Research Station survey protocol. Responsible for survey mapping using ArcMap and data entry using the USFS NRIS natural resources management database. (2020)

Research

Grassland Breeding Bird Nesting Habitat and Predation Study, Centro de Ecología Aplicada del Litoral, Corrientes, Argentina. Assisted PhD candidate, Melanie Brown, in nest searching and nest monitoring for sensitive Ibera grassland avian species to determine predation rates and nest habitat quality at a variety of levels of cattle grazing. Target species were strange-tailed Tyrant (*Alectrurus risora*), black-and-white monjita (*Heteroxolmis dominicana*), Ibera seedeater (*Sporophila iberensis*), rufous-rumped seedeater (*Sporophila hypochroma*), and tawny-bellied Seedeater (*Sporophila hypoxantha*). Performed vegetation transects for grass, sedge, and forb frequency at nest sites. Banded strange-tailed tyrant chicks from nest. Misted netted target species for banding using playback. (2019)

Sierra Nevada Bioacoustics Monitoring for California Spotted Owl, University of Wisconsin, Madison, Plumas and Lassen National Forests, California. Responsible for deployment and retrieval of Cornell University's Swift automated recording devices for California spotted owl and barred owl (*Strix varia*) detections within the study grid, for a total of approximately 1000 field hours. Performed bioacoustics data analysis using Raven software, for a total of approximately 50 hours. (2019)

Cape Cod National Seashore Salt Marsh Restoration, Antioch University New England, Keene, New Hampshire. Served as research assistant in a benthic macroinvertebrate lab processing water samples for macroinvertebrate species' richness and abundance in a restoration study under Dr. Rachel Thiet. Separated organisms to finest level possible by eye, primarily by phylum, order, or sometimes family (including *Amphipoda*, *Arthropoda*, *Gastropoda*, *Nematoda*, *Annelida*), and sent to the U.S. National Park Service for speciation. (2019)

IPBio Bioacoustics Internship, Reserva Betary, Iporanga, Brazil. Assisted a non-governmental organization with analyzing one year of acoustic data for endemic frogs using Wildlife Acoustic's Kaleidoscope software. Assisted in chytridiomycosis lab monitoring progression of *Batrachochytrium dendrobatidis* in tadpoles. (2018)

Restoration

Restoration Project, American Conservation Experience for U.S. Fish and Wildlife Service, Kern and Pixley National Wildlife Refuges, California. Removed invasive salt cedar (*Tamarisk*) from upland habitat. Performed point count surveys for wintering Sandhill cranes (*Antigone canadensis*). (2021)

Specialized Training

- **Identifying and Appreciating the Native and Naturalized Grasses of California, California Native Grasslands Association.** Attended 1-day workshop at the University of California, Davis, Bodega Bay Marine Lab focused on keying and identifying California's grasses using the Jepson eFlora dichotomous key. Toured the coastal prairie and learned the identification of local coastal bluff species. Instructors: Andrea Williams, Emily Allen, Michele Hammond. May 2023.
- **California Red-legged Frog Level II Workshop, The Wildlife Project.** Attended five field trainings addressing all California red-legged frog life stages with positive identification of the species throughout Central California including El Dorado, Marin, Sonoma, Santa Clara and San Benito Counties. 2023.
- **Rare Pond Species Workshop, Laguna de Santa Rosa Foundation.** Attended a lecture, taught by Jeff Alvarez and Dave Cook, on the identification, habitat, life history, and conservation of California red-legged frog, California tiger salamander, and western pond turtle. Learned techniques for safe handling of the species. Performed eye-shine surveys for California red-legged frogs, including successful identification, catching, and handling of adult California red-legged frogs. 2022.
- **California Tiger Salamander Workshop, Laguna de Santa Rosa Foundation.** Attended a lecture, taught by Jeff Alvarez and Dave Cook, on the identification, habitat, life history, and conservation of California tiger salamander. Visited California tiger salamander tunnels in Sonoma County. Learned methods and assisted in the construction of drift fencing. Performed larval dip-net surveys and measured individual California tiger salamander larva at the Alton Lane mitigation site and study area. 2022.

Tara Johnson-Kelly

BIOLOGIST

Tara Johnson-Kelly (TAR-uh, JON-suhn-KEL-ee; she/her) is a wildlife biologist with 5 years' experience conducting special-status species surveys, habitat assessments, California Environmental Quality Act (CEQA) document preparation, and compliance monitoring for projects throughout California. Ms. Johnson-Kelly is experienced in protocol-level surveys for sensitive species, including California tiger salamander (CTS; *Ambystoma californiense*), Santa Cruz long-toed salamander (*Ambystoma macrodactylum croceum*), California red-legged frog (CRLF; *Rana draytonii*), foothill yellow-legged frog (*Rana boylei*), blunt-nosed leopard lizard (*Gambelia sila*), Swainson's hawk (*Buteo swainsoni*), burrowing owl (*Athene cunicularia*), California spotted owl (*Strix occidentalis occidentalis*), Tipton kangaroo rat (*Dipodomys nitratoideus nitratoideus*), San Joaquin antelope squirrel (*Ammospermophilus nelsoni*), and rare plants.

Ms. Johnson-Kelly has performed pre-construction surveys for California giant salamander (*Dicamptodon ensatus*), western spadefoot (*Spea hammondi*), coast horned lizard (*Phrynosoma blainvillii*), San Joaquin coachwhip (*Masticophis flagellum*), western pond turtle (*Actinemys marmorata*), San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), salt marsh harvest mouse (*Reithrodontomys raviventris*), San Joaquin kit fox (*Vulpes macrotis mutica*), American badger (*Taxidea taxus*), nesting birds and raptors, and other sensitive species. Additionally, she has prepared several habitat assessments for least Bell's vireo (*Vireo bellii pusillus*) and tricolored blackbird (*Agelaius tricolor*). Ms. Johnson-Kelly has provided environmental awareness training to project personnel and monitored project activities near sensitive resources. Ms. Johnson-Kelly possesses a federal 10(a)1(A) recovery permit for CTS and is skilled in a variety of biological survey and sampling techniques.

Project Experience

Oroville Pump Storage Project Alignment Feasibility Analysis, Department of Water Resources, Butte County, California. Analyzed the potential for rare plants to occur in the project area for preparation of a comprehensive environmental permitting feasibility analysis for six pipeline alignments under consideration for the Oroville Pump Storage Project. (2024)

San Benito County Campus Project, Gavilan Joint Community College District, San Benito County, California. Served as designated biologist for CTS under Incidental Take Permit (ITP) No. 2081-2015-014-04 during the development of the San Benito County Campus in Hollister, California. Performed CTS burrow surveys, flagged burrows, excavated burrows, supervised installation and maintenance of exclusion fencing, checked cover boards for CTS, and educated project personnel on sensitive resources potentially found in the project area. (2023–2024)

Education

University of California,
Santa Cruz

BA, Environmental
Studies, 2017

Cabrillo College

AA, Liberal Arts and
Sciences, Interdisciplinary
Studies, 2015

Certifications

USFWS, Section 10(a)1(A)
Native Endangered and
Threatened Species
Recovery Permit,
No. PER0040489-0

- California tiger
salamander

CDFW, Scientific
Collecting Permit,
No. SC-222890002-
22298-001 (pending)

- California tiger
salamander
- Foothill yellow-legged
frog

Professional Affiliations

The Wildlife Society

Lake Kittredge Mitigation As-Built Report, San Jose Water Company, Los Gatos, California. Drafted an as-built report detailing the development of wetland mitigation sites at Lake Kittredge as compensatory mitigation for implementation of the Los Gatos Creek Watershed Maintenance Program. (2024)

South Tahoe Public Utility District Vegetation Management Plan, South Tahoe Public Utility District, Lake Tahoe, California. Drafted sections of a biological resources assessment that analyzed sensitive resources that may be impacted by fire suppression vegetation treatments around water and sewer utilities managed by South Tahoe Public Utilities District, North Tahoe Public Utilities District, and Tahoe City Public Utilities District. (2023)

Arana Sewer Trunk Line Replacement Project, Santa Cruz County Sanitation District, Santa Cruz County, California. Served as qualified biologist for CRLF for the replacement of an approximately 2,400-linear-foot 10-inch asbestos cement gravity sanitary sewer trunk line. Developed and presented a Worker Environmental Awareness Program and relocated 13 San Francisco dusky-footed woodrat nests to suitable habitat outside the project site using California Department of Fish and Wildlife (CDFW)-approved methods. (2023)

Iris Canyon Sediment Removal Project, City of Monterey, Monterey County, California. Performed a biological resources pre-construction survey for sensitive resources including CRLF, Monterey dusky-footed woodrat (*Neotoma fuscipes luciana*), and southwestern pond turtle for the Iris Canyon Sediment Removal Project. Sensitive resources were mapped and flagged with appropriate buffers for avoidance during project implementation. (2023)

Chamberlin Library Roof Repair Project, City of Monterey, Monterey County, California. Performed a nesting bird survey prior to a roof replacement on Chamberlin Library to ensure compliance with the federal Migratory Bird Treaty Act and Section 3503 of the California Fish and Game Code. Observed an active red-shouldered hawk (*Buteo lineatus*) nest within the project area. (2023)

Mt. Madonna/Summit Road Evacuation Route Project, Santa Clara County FireSafe Council, Santa Clara County, California. Performed biological resources pre-construction surveys within 30 feet from the road edge along 5.5 miles of Summit Road between Maymens Flat Road and 875 Summit Road to ensure that impacts to biological resources from fuel-reduction activities were avoided or minimized. The surveys focused on nesting birds, special-status species, aquatic resources, and sensitive habitats. Significantly large numbers of Anderson's manzanita (*Arctostaphylos andersonii*) were observed in the project area and were flagged with avoidance buffers prior to commencement of treatment activities. (2023)

Highway 35 Roadside Fuel Management Project, Fire Safe San Mateo County, San Mateo County, California. Performed biological resources pre-construction surveys of 25 miles of Highway 35 between Highway 92 and Alpine Road to ensure that impacts to biological resources from fuel-reduction activities within the 30-foot-wide California Department of Transportation right-of-way were avoided or minimized. The surveys focused on nesting birds, special-status species, aquatic resources, and sensitive habitats. Located, mapped, and established no-disturbance buffers around San Francisco dusky-footed woodrat nests, bird nests, aquatic features, and rare plants. Worked collaboratively with project contacts to coordinate survey staffing and scheduling. (2023)

Delta Dams Rodent Burrow Remediation Project at Patterson Dam, Department of Water Resources, Alameda County, California. Drafted a monitoring and maintenance plan for the Delta Dams Rodent Burrow Remediation Project focused on mitigating temporary impacts to aquatic resources caused by construction access during project activities at Patterson Dam. (2023)

Wilfred Road Improvement Project, City of Rohnert Park, Sonoma County, California. Inspected 12 CTS movement tunnels under Wilfred Road for compliance with the Wilfred Avenue Maintenance Management Plan and monitored repairs to the tunnels. (2023)

B.F. Sisk Dam Safety of Dams Modification Project, Department of Water Resources, Merced County, California. Served as designated biologist for CTS and performed wildlife exclusion fence checks and construction monitoring. Lead the 2023 rare plant surveys of the entire project area and mapped several populations of spiny-sealed button-celery (*Eryngium spinosepalum*). (2023)

Monterey Road Wildlife Connectivity Recommendations Project, Peninsula Open Space Trust, Santa Clara County, California. Performed a field reconnaissance survey of flood conditions in Coyote Valley along Monterey Road between Bailey Avenue and Metcalf Road at several proposed locations for the construction of wildlife crossings. The goal of the project was to enhance ecological connectivity in Coyote Valley by reestablishing safe movement corridors across Monterey Road. (2023)

Bear Creek Redwoods Open Space Preserve Vegetation Treatment Project, Midpeninsula Regional Open Space District, Santa Cruz County, California. Performed biological resources pre-construction surveys of Bear Creek Redwoods Open Space Preserve to ensure that impacts to biological resources from fuel-reduction activities were avoided or minimized. The surveys focused on nesting birds, special-status species, aquatic resources, and sensitive habitats. Located, mapped, and established no-disturbance buffers around San Francisco dusky-footed woodrat nests, aquatic features, and sensitive habitats. (2023)

Sanborn and Upper Stevens Creek County Parks Forest Health Plan Project, Santa Clara County Parks and Recreation Department, Santa Clara County, California. Revised sections of a technical memorandum that summarized the results of a biological resources assessment for a Forest Health Plan Project, which recommended vegetation treatment activities on approximately 1,422 acres within Sanborn and Upper Stevens Creek County Parks to reduce wildfire risk and achieve other forest health benefits. (2023)

Delta Field Division Habitat Conservation Plan/Natural Communities Conservation Plan, Department of Water Resources, Sacramento, California. Drafted a covered species profile focused on CRLF based on a review of existing literature and the results of Dudek's comprehensive surveys of the study area. (2023)

UC Santa Cruz Habitat Conservation Plan, University of California Santa Cruz, Santa Cruz, California. Drafted the special management species section of the habitat conservation plan. Species discussed included California giant salamander, San Francisco dusky-footed woodrat, rare cave-dwelling invertebrates, and special-status bats. (2023)

Page Mill Road Evacuation Route Project, Santa Clara County FireSafe Council, Santa Clara County, California. Performed a biological resources pre-construction survey within 30 feet of the road edge along 3.5 miles of Page Mill Road between Arastradero Road and 10920 Page Mill Road to ensure that impacts to biological resources from fuel-reduction activities were avoided or minimized. The surveys focused on nesting birds, special-status species, aquatic resources, and sensitive habitats. Located, mapped, and established no-disturbance buffers around San Francisco dusky-footed woodrat nests, bird nests, and aquatic resources. (2023)

East Dunne Avenue Escape Route Project, Santa Clara County FireSafe Council, Morgan Hill, California. Performed a biological resources pre-construction survey for sensitive resources along East Dunne Avenue prior to fuel load-reduction activities in the county right-of-way. Target resources included special-status wildlife, rare plants, and aquatic resources. (2023)

San Felipe Creek Wetland Mitigation Site, Santa Clara Valley Habitat Agency, Santa Clara County, California. Drafted a memorandum summarizing the history of wetland mitigation plantings performed at the San Felipe Creek Mitigation Site. (2023)

Gonzaga Ridge Wind Farm Repowering Project, Scout Clean Energy LLC, Merced and Santa Clara Counties, California. Conducted rare plant surveys within the project's limits of disturbance. Target species included big-scale balsamroot (*Balsamorhiza macrolepis*), spiny-sepaed button-celery, Hall's bush-mallow (*Malacothamnus hallii*), Lime Ridge navarretia (*Navarretia gowenii*), and shining navarretia (*Navarretia nigelliformis* ssp. *radians*). (2023)

Relevant Previous Experience

Development

Magee Preserve Project, Davidon Homes, Danville, California. Supervised the excavation of 66 potential CTS burrows and monitored construction activities for CRLF and CTS under a biological opinion (No. 08ESMF00-2020-F-2063) for the development of 69 homes on the former Magee Ranch in Danville, California. (2022)

San Juan Oaks Specific Plan, Third Millennium Partners, Hollister, California. Served as a designated biologist under an ITP (No. 2081-2016-036-04) for CTS. Conducted pre-activity surveys for CTS, CRLF, western spadefoot, coast horned lizard, San Joaquin coachwhip, western pond turtle, San Joaquin kit fox, American badger, Swainson's hawk, burrowing owl, and nesting birds for a large senior housing development in Hollister, California. Monitored the excavation of 25 potential CTS burrows and relocated two live CTSs in accordance with the project's CTS mortality reduction and relocation plan. Supervised the installation of CTS exclusion fencing, monitored construction activities, and inspected CTS exclusion fencing daily. Developed an environmental awareness training program and trained project personnel. Prepared quarterly and annual construction compliance reports and notification letters to CDFW of relocated CTS. (2021–2022)

Lund Ranch II Project, Toll Brothers, Pleasanton, California. Conducted a series of protocol-level burrowing owl surveys, nesting bird surveys, and CTS habitat surveys for the development of a luxury residential community on the former Lund Ranch property in Pleasanton, California. Additionally prepared a letter report with the survey results and monitored soil abatement activities, CTS exclusion-fence installation, and construction. (2020–2022)

Berkeley-Tuolumne Camp Reconstruction Project, City of Berkeley, California. Assisted a permitted biologist with three sets of day and night surveys and one set of pre-construction day and night surveys for foothill yellow-legged frog along a section of the South Fork Tuolumne River. Additionally, performed surveys for CRLF, western pond turtle, and nesting birds for the reconstruction of Berkeley-Tuolumne Camp (Streambed Alteration Agreement No. 1600-2019-013-R4), which was largely destroyed by the 2013 Rim Fire. (2020)

East Garrison Housing Community Project, Century Communities, Marina, California. Conducted ITP (No. 2081-2013-003-04) compliance monitoring for CTS, nesting birds, and roosting bats for the development of a mixed-use residential community in Marina, California. Also performed environmental awareness trainings for project personnel. (2019–2022)

Campus and Community North Project, University of California, Merced, California. Conducted ITP (No. 2081-2009-010-04) compliance monitoring for CTS, Swainson's hawk, burrowing owl, nesting birds, San Joaquin kit fox, and American badger for the expansion of the University of California, Merced, campus. (2019–2020)

Palo Colorado Road Repair Project, Monterey County Public Works and Facilities, Big Sur, California. Conducted daily pre-activity surveys for CRLF and Monterey dusky-footed woodrat for a Federal Emergency Management Agency-funded project that repaired Palo Colorado Road where the Rocky Creek culvert washed out during the winter storms of 2017. (2018)

Energy

Chestnut Solar Project, SOLV Energy, Kings County, California. Conducted a series of pre-construction surveys for burrowing owl, Swainson's hawk, nesting birds, American badger, and San Joaquin kit fox for several phases of a 1,040-acre photovoltaic solar energy project outside of Lemoore, California. Additionally, trained project personnel on the sensitive environmental resources on site. (2022)

Solar Blue Project, SOLV Energy, Kings County, California. Conducted a series of pre-construction surveys for burrowing owl, Swainson's hawk, nesting birds, American badger, and San Joaquin kit fox for several phases of an 1,895-acre photovoltaic solar energy project outside of Lemoore, California. Additionally, trained project personnel on the sensitive environmental resources on site. (2022)

Planning

Sadeghi Property Least Bell's Vireo and Tricolored Blackbird Habitat Assessment, MH Engineering, Santa Clara County, California. Conducted a habitat assessment for least Bell's vireo and tricolored blackbird on the Sadeghi property to satisfy requirements of the Santa Clara Valley Habitat Plan. (2022)

2000 Willow Springs Road Project Santa Clara Valley Habitat Plan Land-Cover Mapping and Habitat Assessment, Hanna-Brunetti, Morgan Hill, California. Conducted land-cover habitat verification mapping for the Santa Clara Valley Habitat Plan and prepared a habitat assessment for least Bell's vireo and tricolored blackbird for an 8.15-acre property in rural Morgan Hill, California. (2022)

Virginia Smith Trust Intersections Project Constraints Analysis, Peck Planning and Development LLC, Merced, California. Conducted a reconnaissance-level field survey and prepared a biological constraints analysis, which examined potential biological resource issues that could constrain improvements at 17 intersections in Merced, California. (2022)

Granite View Project Biological Evaluation, Raney Planning and Management Inc, Placer County, California. Prepared a biological evaluation letter that analyzed potential impacts to biotic resources that could result from development of the 7.82-acre Granite View site into luxury resort condominiums near Palisades Tahoe ski resort in Placer County, California. (2022)

Cutler-Orosi Community Plan Update Biological Evaluation, Tulare County Resource Management Agency, California. Conducted a reconnaissance-level field survey and prepared a biological evaluation report that analyzed potential impacts to biological resources that could result from future development within the 3,100-acre Cutler-Orosi Community Plan Planning Area, encompassing the towns of Cutler and Orosi in Tulare County, California. (2021)

Resource Management

Coyote Creek Vegetative Restoration and Disadvantaged Youth Career Project, Ecological Concerns Inc, San Jose, California. Monitored invasive-plant removal activities for CRLF, western pond turtle, San Francisco dusky-footed woodrat, western red bat (*Lasiurus blossevillii*), and nesting birds along Coyote Creek in San Jose, California. (2022)

Canham Meadow Restoration, Ecological Concerns Inc, Scotts Valley, California. Relocated three San Francisco dusky-footed woodrat nests for the restoration of 0.29 acres of wetlands in Canham Meadow in Scotts Valley, California. (2022)

Santa Cruz Long-Toed Salamander Research, University of Miami, Santa Cruz and Monterey Counties, California. As part of a University of Miami Searcy Lab research project, seined ponds for Santa Cruz long-toed salamander larvae, measured larvae, constructed drift fences and pitfall traps around occupied ponds, checked pitfall traps for metamorphosed salamanders, and tracked salamanders as they dispersed from the ponds using fluorescent powder and black lights. Incidentally captured CTS larvae and CRLF larvae. (2021–2022)

North Shore Millerton Conservation Area, NFV-1 Investments LLC, Madera County, California. Assisted a permitted biologist with non-protocol CTS aquatic larval surveys in accordance with the Long-Term Management Plan for the North Shore at Millerton Conservation Area, an open-space preserve associated with the North Shore at Millerton Lake master-planned housing development. (2020–2022)

Maricopa Sun Solar Complex Habitat Conservation Plan, Dominion Energy, Kern County, California. Conducted general examination surveys, monthly and annual vegetation sampling, bird point counts and transect surveys, protocol-level blunt-nosed leopard lizard surveys, San Joaquin antelope squirrel transect surveys, small mammal trapping for Tipton kangaroo rat, burrowing owl perch and San Joaquin kit fox artificial den inspections, and spotlight surveys, track plate stations, and baited camera trap surveys for San Joaquin kit fox at the Maricopa West solar site and conservation sites covered by the Maricopa Sun Solar Complex Habitat Conservation Plan (ITP No. TE54164B-0) and a CDFW ITP (No. 2081-2014-060-04). (2019–2022)

Roduner Ranch Succulent Owl's Clover and Non-Protocol CTS Surveys, Water & Land Solutions LLC, Merced County, California. Assisted a permitted biologist with non-protocol CTS aquatic larval surveys on the approximately 2,939-acre Roduner Ranch to verify the presence and extent of the CTS population on the property. Also surveyed for succulent owl's clover (*Castilleja campestris* var. *succulenta*). (2021)

San Joaquin Antelope Squirrel Trapping, Center for Natural Lands Management, San Benito County, California. Assisted permitted biologists with a San Joaquin antelope squirrel trapping study on Panoche Valley Preserve. Opened and checked Sherman traps for squirrels. Handled one San Joaquin antelope squirrel and observed data collection techniques on 13 others. Incidentally observed one juvenile blunt-nosed leopard lizard and four San Joaquin kit foxes. (2020)

Salt Marsh Harvest Mouse Trapping, CDFW, Solano County, California. Served as data scribe during a trapping study for salt marsh harvest mouse at Grizzly Island Wildlife Area. Handled three mice and observed trapping and measuring techniques of five others under the supervision of permitted biologists. (2020)

Breeding Seabird Research, Oikonos Ecosystem Knowledge, Santa Cruz County, California. Monitored the population and productivity of rhinoceros auklets (*Cerorhinca monocerata*), Cassin's auklets (*Ptychoramphus aleuticus*), pigeon guillemots (*Cephus columba*), black oystercatchers (*Haematopus bachmani*), and western gulls (*Larus occidentalis*) on Año Nuevo Island in California. Checked contents of artificial burrows, performed nighttime mist-net surveys for seabirds, and measured and banded chicks. (2018)

Tribal

Pier Fire Special-Status Species Study Year 3 Survey, Tule River Indian Tribe, Tulare County, California. Conducted a survey for western pond turtle along Rocky Creek and performed protocol-level nocturnal callback surveys for California spotted owl as part of a 3-year study evaluating the post-fire occurrence of foothill yellow-legged frog, western pond turtle, California spotted owl, fisher (*Pekania pennanti*), Kaweah brodiaea (*Brodiaea insignis*), and Springville clarkia (*Clarkia springvillensis*) within 8,730 acres of wildlands on the Tule River Indian Reservation that burned in the 2017 Pier Fire. (2020)

Water

Kern Fan Buena Vista Lake Shrew Year 18 Habitat Monitoring, City of Bakersfield, California. Conducted vegetative cover surveys of the Kern Fan Water Recharge Area and prepared an annual monitoring report analyzing how well each water recharge basin met the Buena Vista Lake shrew (*Sorex ornatus relictus*) habitat maintenance criteria outlined in Live Oak Associates' 2004 Buena Vista Lake Shrew Habitat Management Plan for the Kern Fan Water Recharge Area. (2022)

Eastside Retention Basin Drainage Swale Vegetation Clearing Project, City of Santa Clara Public Works Department, California. Conducted pre-activity surveys for salt marsh harvest mouse, burrowing owl, and nesting birds, and prepared a letter report with the results. Monitored vegetation removal for salt marsh harvest mouse. (2020–2022)

Mowry Bridge Replacement Project, U.S. Bureau of Reclamation, Fresno County, California. Conducted Swainson's hawk surveys; inspected swallow and bat exclusion netting and giant garter snake (*Thamnophis gigas*) exclusion fencing; monitored construction activities for giant garter snake, western pond turtle, Swainson's hawk, and nesting birds; and trained workers on sensitive environmental resources. (2019–2021)

Channel Clearing Project, Lower Tule River Irrigation District, Tulare County, California. Conducted pre-activity surveys for special-status species and other sensitive biological resources at 17 project locations along the Tule River and Deer Creek channels. Prepared a letter report of the survey results prior to routine flood-control maintenance activities. (2020)

Ash Slough Sediment Removal Project, Madera County Public Works Department, California. Conducted pre-activity surveys for San Joaquin kit fox, burrowing owl, American badger, and other special-status species along an approximately 9-mile reach of Ash Slough prior to sediment-removal work by County of Madera and local landowners. (2020)

Los Banos Creek Detention Reservoir Regulation and Storage Pilot Project, U.S. Bureau of Reclamation, Merced County, California. Conducted pre-activity surveys for San Joaquin kit fox and burrowing owl for the proposed construction of an aboveground, temporary pipeline to transport water from the San Luis Canal to the San Luis Reservoir for storage. (2020)

Burrowing Owl Population Study Project, Imperial Irrigation District, Imperial County, California. Conducted double independent observer burrowing owl surveys within and adjacent to canals maintained by the District as required by the Imperial Irrigation District Habitat Conservation Plan. (2019)

Specialized Training

- **Master (Level II) California Red-Legged Frog Field Workshop, The Wildlife Project, October 2022–August 2023.** Attended a field-based workshop in which biologists meet in five locations within the range of the CRLF over a 12-month period. The workshop covered techniques for identification of the species at all life stages and safe survey and handling techniques. It also covered CRLF habitat, life cycle, and conservation. As part of this workshop, observed frog egg masses and performed dipnet surveys for larvae and daytime visual encounter and nocturnal eye-shine surveys for frogs, including successful identification, hand capture, and handling of juvenile and adult CRLFs. Other species encountered during this workshop included big brown bats (*Eptesicus fuscus*) and Townsend's big-eared bats (*Plecotus townsendii*).
- **Baja California Amphibian and Reptile Workshop, Fauna del Noroeste, April 2023.** Attended a multi-day field workshop in Baja California (30 hours) focused on observation and handling of several species with special statuses in California: arroyo toad (*Anaxyrus californicus*) (2 adults, 2 breeding calls, 4 egg masses), CRLF (125 adults, 3 larvae, 1 egg mass), western spadefoot (6 larvae), southwestern pond turtle (3 adults), coast horned lizard (2 adults, 1 juvenile), orange-throated whiptail (*Aspidoscelis hyperythra beldingi*) (2 adults), southern California legless lizard (*Anniella stebbinsi*) (13 adults), Baja California coachwhip (*Coluber fuliginosus*) (1 adult), coast patch-nosed snake (*Salvadora hexalepis*) (1 adult), and red diamond rattlesnake (*Crotalus ruber*) (1 adult). During this workshop, handled 13 adult CRLFs and pit-tagged three of them with Dr. Anny Peralta-Garcia.
- **Master (Level II) Foothill Yellow-legged Frog Field Workshop, The Wildlife Project, June 2022–April 2023.** Attended a field-based workshop in which biologists meet in four locations within the range of the foothill yellow-legged frog over a 12-month period. The workshop covered techniques for identification of the species at all life stages and safe survey and handling techniques. It also covered foothill yellow-legged frog habitat, life cycle, and conservation. As part of this workshop, observed frog egg masses and performed dipnet surveys for larvae and daytime visual encounter surveys and nocturnal eye-shine surveys for frogs, including successful identification, hand capture, and handling of juvenile and adult foothill yellow-legged frogs. Other species encountered during this workshop include red-bellied newts (*Taricha rivularis*), rough-skinned newts (*Taricha granulosa*), California newts (*Taricha torosa*), and western terrestrial garter snakes (*Thamnophis elegans*).
- **Riparian Bird Workshop, Central Coast Chapter of The Wildlife Society, June 2022.** Attended an online lecture covering the identification, ecology, and conservation of and survey techniques for least Bell's vireo and yellow-billed cuckoo (*Coccyzus americanus*).
- **CEQA: A Step-by-Step Approach, University of California, Davis, Continuing and Professional Education, January 2022.** Attended a virtual workshop covering CEQA's legislative history, CEQA requirements, and steps in the CEQA process.
- **Alameda Whipsnake Identification, Ecology, and Mitigation Protocols, WRA Inc, March 2020.** Attended a virtual lecture covering the identification of, ecology of, and mitigation protocols for the Alameda whipsnake (*Masticophis lateralis euryxanthus*).
- **Level I Foothill Yellow-Legged Frog Ecology and Conservation Workshop, Laguna de Santa Rosa Foundation, October 2019.** Attended a lecture and field training session (3 hours) covering the identification, ecology, and conservation of and survey techniques for foothill yellow-legged frog, including dip netting, hand capture, and daytime surveys. Captured and handled five foothill yellow-legged frogs and two California giant salamanders.

- **San Joaquin Kit Fox Ecology, Conservation, and Survey Techniques Workshop, Central Coast Chapter of The Wildlife Society, October 2019.** Attended a multi-day lecture and field training workshop covering the identification, ecology, and conservation of and survey techniques for the San Joaquin kit fox. Conducted 10.5 hours of spotlight surveys and observed 81 San Joaquin kit foxes.
- **CTS Terrestrial Ecology and Rare Pond Species Workshop, Laguna de Santa Rosa Foundation, March 2019.** Attended a lecture and field-based training (2 hours) covering the identification, ecology, and conservation of and survey techniques for CTS, CRLF, and western pond turtle. Captured and handled 28 CTSs and three CRLFs.

Paul Keating

BIOLOGIST

Paul Keating (PAHL KEE-ting; he/him) is a wildlife biologist with 10 years' experience conducting biological field studies throughout California. Mr. Keating is familiar with California's wildlife and associated vegetation communities on the ground through his experience with the California Department of Fish and Wildlife (CDFW) as a scientific aid in its Region 2 headquarters from 2013 to 2016. He has extensive training and experience conducting surveys and sampling for a wide array of special-status and common species, including California red-legged frog (*Rana draytonii*), foothill yellow-legged frog (*Rana boylei*), western pond turtle (*Emys marmorata*), California tiger salamander (*Ambystoma californiense*), giant gartersnake (*Thamnophis gigas*), Swainson's hawk (*Buteo swainsoni*), salt marsh harvest mouse (*Reithrodontomys raviventris*), and burrowing owl (*Athene cunicularia*). Additionally, he has assisted senior staff in training other biologists on proper techniques for habitat assessment, survey, and handling of these species. Mr. Keating has extensive experience with field GPS systems, including Trimble devices, Esri Collector, and others.

Project Experience

Wind Energy Project, Confidential Client, Santa Barbara County, California.

Received specific training and approval by CDFW to conduct focused surveys and mapping of Gaviota tarplant (*Deinandra increscens* ssp. *villosa*) and seaciff buckwheat (*Eriogonum parvifolium*), which is the host plant for the federally listed El Segundo blue butterfly (*Euphilotes battoides*). Searched for suitable pools present along multiple drainages and then conducted pre-construction to protocol-level surveys for California red-legged frog and larval sampling for western spadefoot toad. Positive identification of California red-legged frog and western pond turtle. (2019–2020)

Wind Energy Project, Confidential Client, Merced County, California. Sampled eight pools and ponds for the presence of California tiger salamander and California red-legged frog larvae multiple times over multiple years. Spotlighted and handled California red-legged frog at four pools/ponds on site in support of expanding an existing wind energy site. Also conducted point count eagle surveys at designated locations. (2017–2023)

Fuel System Replacement Project, Confidential Client, Fairfield, California. Service approved biologist for construction monitoring services on site for California tiger salamander and vernal pool species. (2017–2018)

La Rue Bridge Redevelopment Project, Yolo County, California. Provided construction monitoring services for a bridge redevelopment project. Monitoring included active nesting birds and the netting and relocation of western pond turtles. (2020)



Education

University of
San Francisco
BS, Biology

American River College
AS, Environmental
Conservation

Certifications

USFWS Recovery Permit,
No. PER0045233-0

- California red-legged
Frog
- California tiger
salamander
- Vernal pool
branchiopods

Delta Field Division Habitat Conservation Plan; California Department of Water Resources; Santa Clara, Alameda, Contra Costa, San Joaquin, Stanislaus, and Merced Counties; California. Conducted baseline biological surveys in support of the preparation of the Delta Habitat Conservation Plan, including camera studies for San Joaquin kit fox (*Vulpes macrotis mutica*) and movement corridors, a wetland delineation, protocol surveys for listed large branchiopods, and multispecies burrow mapping to identify suitable and/or active burrows for burrowing owl, San Joaquin kit fox, and American badger (*Taxidea taxus*). (2021–2022)

San Joaquin Field Division Habitat Conservation Plan, California Department of Water Resources, Kings and Kern Counties, California. Conducted blunt-nosed leopard lizard (*Gambelia sila*) and burrowing owl surveys in support of the preparation of the San Joaquin Habitat Conservation Plan. (2021)

Delta Dams Burrow Remediation Project, California Department of Water Resources, Alameda and Contra Costa Counties, California. Proposed project is a rodent burrow remediation project at the following three reservoirs within the Delta Field Division: Clifton Court Forebay, Dyer, and Patterson. Conducted a delineation of aquatic resources, construction monitoring, burrow mapping, and camera studies. (2020–2022)

State Water Project – Dams Modification, California Department of Water Resources, San Luis Reservoir, Merced County, California. Proposed project is the retrofitting of the B.F. Sisk Dam within 1,690 acres. Conducted rare plant surveys, protocol Swainson’s hawk surveys, and multispecies burrow mapping for burrowing owl, San Joaquin kit fox, and American badger. (2020, 2023)

Raw Water Intake Bypass Flow Study, San Jose Water Company, California. Conducted extensive habitat assessments and protocol-level visual encounter surveys for California red-legged frog, foothill yellow-legged frog, western pond turtle, and California giant salamander (*Dicamptodon ensatus*) within nine creeks in the Saratoga Creek and Los Gatos watersheds. (2019–2021)

Newell Creek Dam Inlet Outlet Replacement Project, City of Santa Cruz Water District, Santa Cruz County, California. Conducted a stream reach assessment and habitat suitability evaluation for California red-legged frog, foothill yellow-legged frog, western pond turtle, and California giant salamander to support the regulatory permitting and mitigation phases at Loch Lomond Reservoir. New California Natural Diversity Database record for foothill yellow-legged frog made with Craig Seltenrich. (2019)

Caltrain Modernization Project, Balfour Beatty Infrastructure, City of Sacramento, California. As part of the Caltrain electrification project, provided construction monitoring for burrowing owl, California clapper rail (*Rallus longirostris obsoletus*), California red-legged frog, salt marsh harvest mouse, and San Francisco gartersnake (*Thamnophis sirtalis tetrataenia*). (2017)

Estero Public Trail Easement, Sonoma County Parks and Recreation, Sonoma County, California. In support of the preparation of a habitat assessment, performed surveys for both western pond turtle and California red-legged frog to ensure that trail corridors and associated staging areas are consistent with the conservation easement. Positive identification of both species was made in multiple drainages on site. (2017)

South Sacramento Light Rail Construction Biological Monitoring, Sacramento Regional Transit, PGH Wong Engineering Inc., City of Sacramento, California. Provided construction monitoring services for burrowing owl and giant gartersnake along with conducting Worker Environmental Awareness Program training. (2016)

Jenny Lind Wastewater Treatment Plant Improvements Project, Calaveras County Water District, Calaveras County, California. Performed pre-construction surveys for California red-legged frog and foothill yellow-legged frog. (2017)

Gonzales Industrial Water Recycling Facility Project, City of Gonzales, Monterey County, California. Prepared a biological technical report and wetland delineation for the City of Gonzales' proposed upgrade to its wastewater treatment infrastructure. (2020)

Combie Reservoir Sediment Removal Project, Nevada Irrigation District, Nevada County, Placer County, California. Performed pre-construction surveys for California red-legged frog, foothill yellow-legged frog, and western pond turtle and provided Worker Environmental Awareness Program training. (2019)

Martis Valley, Truckee River Watershed Council, Nevada County, Placer County, California. Marked out environmentally sensitive areas, performed nesting bird surveys, and conducted Worker Environmental Awareness Program training for a multi-use trail alignment. E-fished to relocate fish during dewatering activities, which required identifying fish to the species level within the range of Lahontan cutthroat trout (*Oncorhynchus clarkii henshawi*). (2018–2022)

Solar Energy Project, Confidential Client, Sacramento County, California. In support of a proposed 700-acre solar site, conducted a wetland delineation and protocol-level surveys for Swainson's hawk, burrowing owl, and listed large branchiopods. Evaluated elderberry shrubs (*Sambucus* sp.) present within a riparian corridor for valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) suitability. (2020–2023)

Solar Energy Project, Confidential Client, Sacramento County, California. Conducted a wetland delineation and protocol-level surveys for Swainson's hawk and burrowing owl for a proposed 550-acre solar site. (2020–2023)

River Bluff Lower Terrace Project, City of Ceres, California. Provided construction monitoring services during a park restoration project that included monitoring elderberry shrubs, the host plant for valley elderberry longhorn beetle, present on site. (2018)

California State University, Chico Physical Sciences Building Renovation, Butte County, California. Performed emergent bat surveys and marked out an appropriate buffer for elderberry shrubs immediately adjacent to project activities in a riparian corridor. (2021–2023)

Solar Energy Project, Confidential Client, Sacramento County, California. Conducted burrow surveys and mapping for American badger, burrowing owl, and California tiger salamander. Additionally, provided construction monitoring during construction activities on the 550-acre solar project. Relocated several California tiger salamander and spadefoot toads during construction monitoring in compliance with the approved California tiger salamander and spadefoot mortality reduction and relocation plans. (2019–2020)

Potrero Hills Landfill Expansion Project – California Tiger Salamander Trapping and Relocation, Waste Connections, Solano County, California. As part of an ongoing 10-year monitoring program for rare plants, monitored federally listed large brachiopods and California tiger salamander. Served as an approved biologist for this multiyear trapping and relocation study within the proposed expansion area for the Potrero Hills Landfill. Handled more than 50 adult and juvenile California tiger salamander during the tenure of this project. Additionally, as part of the ongoing project, continued to monitor for California tiger salamander eggs, larvae, and listed large brachiopods. (2016–2023)

Altamont Landfill Comprehensive Management Plan Implementation, Waste Management, City of Livermore, California. Performed egg, larval, and adult surveys for California tiger salamander and California red-legged frog. Conducted pre-construction surveys and construction monitoring for the above listed species along with burrowing owl, American badger, and San Joaquin kit fox. Observed and identified several California red-legged frogs during night surveys conducted in both March and April, 2018 and 2020, respectively. Captured and handled an adult

California red-legged frog during the 2020 surveys. Additionally, conducted construction monitoring during work on a mitigation pond for California red-legged frog and California tiger salamander with active relocation of three California tiger salamanders and two California red-legged frogs during 2019. (2017–2020)

SR4 Wagon Trail Mitigation Project, Dokken Engineering and California Department of Transportation, Calaveras County, California. Conducted site assessments and assisted in the development of an existing conditions report for restoration/creation of a pond for California red-legged frogs on a 40-acre site as part of mitigation for the re-routing of State Route 4. Helped develop two alternate conceptual designs that focused on the following: (1) enhancing an existing pond through improvement of habitat characteristics including removal of American bullfrog (*Rana catesbeiana*), and (2) creating a new 0.5-acre pond on site that would be suitable for breeding for California red-legged frog. Option 2 was preferred by the landowners, so currently developing plans, specifications, and estimates for new pond establishment and riparian and oak woodland restoration. (2019)

Mclver Dairy Restoration Project, Truckee River Water Council, Nevada County, Placer County, California. Evaluated a stream reach and sampled for benthic macroinvertebrates. (2018)

Solar Energy Project, Confidential Client, Washoe County, Nevada. Completed a wetland delineation and botanical surveys for a 2,650-acre site in support of a photovoltaic project. Prepared an avian survey report following a year of bird surveys to provide baseline information for the preparation of a bird and bat conservation plan. (2019–2020)

Singh Property Conservation Bank, City of Le Grange, California. Assisted with protocol-level surveys for listed large branchiopods, including the mapping of 240 vernal pools and swales present. Additionally, assessed pools on site for presence of California tiger salamander and then sampled appropriate pools for the presence of California tiger salamander larvae. (2017–2018)

Beyer Ranch, Confidential Client, City of Oakdale, California. Assisted with a California tiger salamander preliminary habitat assessment for a proposed conversion of grazing land to orchards on approximately 100 acres near the town of Oakdale. The site is located within the known historic range of this species. (2019)

Dami Property, Confidential Client, City of Oakdale, California. Assisted with a California tiger salamander preliminary habitat assessment for a proposed orchard on approximately 160 acres within the historic range of California tiger salamander. (2017–2020)

Elkus Ranch Master Plan Project, University of California Agriculture and Natural Resources Division, San Mateo County, California. Assisted in the preparation of a habitat assessment report for California red-legged frog along with conducting a sensitive resource and riparian habitat assessment, and wetland delineation for several creeks and one impoundment within the 126-acre project site. (2018)

Cloverdale High School Field Improvement, Cloverdale Unified School District, Sonoma County, California. Conducted a general biological survey, habitat assessment, and preliminary jurisdictional delineation of waters of the United States and waters of the state. (2019)

Solar Energy Project, Confidential Client, Stanislaus County, California. In conjunction with completing a jurisdictional delineation, conducted protocol-level surveys for rare plant species, Swainson's hawk, and burrowing owl. (2016–2020)

Daylight Legacy Solar, Daylight Solar, Kings County, California. Completed a habitat assessment and burrow survey for American badger, burrowing owl, and San Joaquin kit fox on a 2,000-acre site and along associated gen-tie lines. (2017)

Tres Amigos Solar Energy Project, Tres Amigos Solar LLC, Merced County, California. Completed a habitat assessment and burrow survey for American badger, burrowing owl, and San Joaquin kit fox on a 1,500-acre site. (2017)

Solar Energy Project, Confidential Client, Stanislaus County, California. Completed a habitat assessment and burrow survey for American badger, burrowing owl, and San Joaquin kit fox. Protocol-level surveys for Swainson's hawk and burrowing owl were carried out in coordination with several biologists. Also performed botanical surveys, which included mapping of all elderberry shrubs in support of a valley elderberry longhorn beetle habitat assessment. (2017–2018)

Solar Energy Project; Confidential Client; Kern, Tulare, and Fresno Counties; California. Performed protocol-level surveys for blunt-nosed leopard lizard at multiple sites throughout several counties. During the 2016 season, became qualified as a Level 2 blunt-nosed leopard lizard surveyor while working on the project. During surveys, recorded all other wildlife species observed, including burrowing owl, loggerhead shrike (*Lanius ludovicianus*), LeConte's thrasher (*Toxostoma lecontei*), American badger, Nelson's antelope squirrel (*Ammospermophilus nelsoni*), and San Joaquin kit fox. (2016–2017)

Calaveras County Water District Ebbetts Pass Water System Reach 1 Pipeline, Calaveras County, California. Conducted pre-construction surveys for tree-roosting bats and nesting birds. Marked out previously delineated wetlands and plants. (2018–2019)

Flumes 38–40 Canal Conversion near Pollock Pines, El Dorado Irrigation District, El Dorado County, California. Conducted surveys for northern goshawk (*Accipiter gentilis*) and California spotted owl (*Strix occidentalis occidentalis*) in Eldorado National Forest in accordance with U.S. Fish and Wildlife Service-approved survey methodology. Aurally and/or visually detected two adult spotted owls. (2019, 2021)

Saugstad Urban Rivers Grant Project, Placer County, California. Served as biologist on a City of Roseville Environmental Utilities Department bank stabilization and restoration/enhancement project on Dry Creek within Saugstad Park. Conducted a stream reach assessment in support of Section 7 consultation with the National Marine Fisheries Service and permit applications. (2021–2022)

Auburn Regional Park Project, Placer County, California. Conducted a pre-construction survey for nesting birds and western pond turtle. (2020)

Solar Energy Project, Confidential Client, Kern County, California. Performed protocol-level surveys for blunt-nosed leopard lizard for a proposed 14-acre solar facility. (2017)

Palo Alto Airport Improvements, City of Palo Alto, California. Provided pre-construction and construction monitoring services for burrowing owl, salt marsh harvest mouse, San Francisco gartersnake, and delineated wetlands. Conducted Worker Environmental Awareness Program training. (2017)

Newhall Ranch, Newhall Ranch LLC, Los Angeles County, California. Performed general botanical surveys and focused botanical surveys in support of ongoing monitoring and pollinator studies for San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*). (2018)

Solar Energy Project, Confidential Client, Kern County, California. Performed botanical surveys on a 2,000-acre site for the construction of a photovoltaic project. (2018)

Bodega Solar, Suniva Systems LLC, California. Completed botanical and general biological resources surveys of the proposed site for conversion to a solar farm. Drafted a biological resources constraints assessment and evaluation of habitat suitability for Swainson's hawk, American badger, burrowing owl, and California tiger salamander. (2017)

Berggruen Institute Project, City of Los Angeles, California. Identified species captured on camera traps for a habitat connectivity and wildlife corridor study.(2018)

Spectrum Charter Communications Alturas California Department of Transportation Project, Spectrum Charter Communications, Modoc County, California. Performed a wetland delineation and surveyed and assessed habitat for several focal species along a 42-mile-long fiber optic line within the California Department of Transportation right-of-way along Highway 395 from Alturas, California, north to the Oregon state border. (2018)

Relevant Previous Experience

CDFW Statewide Swainson's Hawk Survey, Sacramento, San Joaquin and Yolo Counties, California. Received internal training from Jim Estep to participate in the statewide survey of nesting Swainson's hawk pairs. Protocol surveys over multiple-square-mile blocks were conducted to document nesting pairs of Swainson's hawk. (2015, 2017)

Ecoregion Biodiversity Monitoring, CDFW, Sierra Nevada Mountain Range, California. Visited randomized locations throughout the Sierra Nevada requiring use of four-wheel drive vehicles, GPS units, maps, and hiking in inclement weather in all types of terrain. The Ecoregion Biodiversity Monitoring project is a broad survey of both vegetation and wildlife. Established plots with exact centers to be revisited in 10 years using GPS and triangulation methods. At plot center point, conducted surveys for birds and placed automated recorders. Collected and identified plants to species level using field guides and keys. Performed botanical surveys for specific species. Collected information such as habitat type, tree counts, tree condition, diameter at breast height, canopy cover, canopy height, slope and aspect, soil type, and fuel models. Camera traps with bait were used to capture as many species as possible. Received training and performed small mammal trapping. Data from the project were used to update species distribution in the California Natural Diversity Database, and for timber harvest plans regarding species such as marten and fishers. Performed quality control on both botanical field samples and camera trap identifications. (2013–2016)

Lands Management Program, CDFW, Various Counties, California. Performed a wide array of services depending on specific location and habitat need. Some more in-depth projects have included working with the California Native Plant Society on the Pine Hill Preserve to survey for protected plants. Utilized prior training and experience with giant gartersnake identification to use hand tools during vegetation removal at the Cosumnes River Preserve. Also performed habitat restoration in conjunction with the Nature Conservancy at the Cosumnes River Preserve and various other CDFW properties throughout Region 2. (2015–2016)

Northern Sierra Nevada Foothills Habitat Connectivity, CDFW, Shasta and Madera Counties, California. Conducted road surveys for 30 focal species to fit predicted geographic information system models. Used extensive track and scat identification training while performing surveys along roads. Identified habitat types and placed camera traps along with walking transects. Acted as sole quality control checker for all track and scat photos taken during the survey to compile data for analysis. (2014–2015)

Monitoring the Pacific Deer Herd, CDFW, Icehouse Reservoir, California. Established and walked transects to collect DNA as part of a pilot program to estimate deer populations. The survey was for mark-and-recapture analysis, which required detailed logging into GPS units and flagging to follow the same deer trails year to year. Also participated in trapping, hobbling, monitoring, sampling, and collaring of live deer. (2013–2014)

Pika Surveys, CDFW, Sierra Nevada Mountain Range, California. Conducted focused surveys for American pika (*Ochotona princeps*) at high-elevation talus slopes. (2014–2015)

Giant Gartersnake Habitat Evaluation and Survey, CDFW, Gray Lodge Wildlife Area, California. Trapped giant gartersnakes in canals, seasonal ponds, and permanent ponds following established protocols. Set trap lines and checked set traps daily. Upon capture, measured, DNA sampled, branded, and tagged with passive integrated transponder before release. Along with trapping, recorded vegetation and habitat type. (2013)

Assistant Planner, Pacific Municipal Consultants, Elk Grove, California. Worked as an assistant planner for the City of Elk Grove. Provided public assistance at the front counter, completed plan checks, and prepared California Environmental Quality Act (CEQA) documents for housing and infrastructure projects. (2007–2009)

Specialized Training

- Basic Wetland Delineation – 40 Hours of Basic Training, The Wetland Training Institute
- Plants of the Wetland Boundary, The Wetland Training Institute
- CEQA for Biologists, University of California Davis Extension
- CEQA: A Step-by-Step Approach, University of California Davis Extension
- Rare Pond Species Workshop, Laguna de Santa Rosa Foundation
- California Tiger Salamander Terrestrial Ecology Workshop, Laguna de Santa Rosa Foundation
- College of Bioassessment, Surface Water Ambient Monitoring Program (SWAMP), California Department of Fish and Wildlife
- California Endangered Species Act Permit Academy, California Department of Fish and Wildlife
- Botany Basics: Morphology & Plant Families of California, The Jepson Herbarium
- California Anostraca and Notostraca Identification Class, Mary Schug Belk
- Identifying and Appreciating the Native and Naturalized Grasses of California, Pepperwood Preserve

Elliot Maldonado

BIOLOGIST

Elliot Maldonado (*she/her*) has 11 years' experience as a professional biologist. She has worked on numerous utility, renewable energy, development, and public transportation projects throughout California. Ms. Maldonado conducts habitat assessments and natural resource inventories. She prepares documents in accordance with the California Environmental Quality Act (CEQA)/National Environmental Policy Act (NEPA) process, including biological technical reports; state, federal, and local permits; habitat conservation plan (HCP) applications; and proposals. She provides project management and conducts surveys and monitoring for projects within various ecosystems throughout California. Ms. Maldonado conducts surveys for special-status wildlife, bat mist netting, small mammal and amphibian trapping, and point count and acoustic surveys. She has professional training and volunteer experience with special-status species including, but not limited to, foothill yellow-legged frog (*Rana boylei*), Sierra Nevada yellow-legged frog (*Rana sierrae*), California red-legged frog (*Rana draytonii*), California tiger salamander (*Ambystoma californiense*), northwestern pond turtle (*Actinemys marmorata*), giant garter snake (*Thamnophis gigas*), blunt-nosed leopard lizard (*Gambelia sila*) (Level 2 Biologist), willow flycatcher (*Empidonax traillii*), burrowing owl (*Athene cunicularia*), golden eagle (*Aquila chrysaetos*), Swainson's hawk (*Buteo swainsoni*), and valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*). Ms. Maldonado has served as a project manager and lead biologist under and with the Natomas Basin Conservancy, South Sacramento HCP, Kern County Valley Floor HCP, Placer County Conservancy, and Santa Clara Valley HCP, and is a certified biologist under the Yolo and East Contra Costa Counties HCP/natural community conservation plans (NCCPs). She is also an experienced wildlife rehabilitator and handler, and teaches local wildlife identification courses in El Dorado County.

Relevant Project Experience

Development

Sonoma State University Pond Modernization, CSU, Sonoma County, California. Drafted biological resources assessment for California State University (CSU). Focus species include California red-legged frog, California tiger salamander, northwestern pond turtle, and monarch (*Danaus plexippus*). Future additional surveys and permitting tasks. (2024–Ongoing)



Education

University of California, Berkeley
BS, Natural Resources and Conservation,
Concentration: Wildlife Biology, 2016

Permits/Certifications

- CDFW Plant Voucher Collecting Permit, No. 2081(a)-22-074-V
- Certified/Qualified Biologist: Yolo County HCP/NCCP and East Contra Costa County HCP/NCCP

Professional Affiliations

Sierra Wildlife Rescue
(Board Member, Bat Team Lead, Wildlife Rehabilitator, Public Education Assistant)

The Wildlife Society
Sacramento-Shasta, California North Coast, San Francisco Bay Area, and San Joaquin Valley Chapter Committee Member

Stockton Campus Master Plan, CSU Stanislaus, San Joaquin County, California. Conducted baseline biological surveys (i.e., aquatic, plant, wildlife resources). Drafted biological resources assessment and environmental impact report (EIR) in accordance with CEQA. (2024–Ongoing)

Indian Wells Crossing, Private Developer, Riverside County, California. Drafted Lake and Streambed Alteration Agreement mitigation status response memorandum to provide California Department of Fish and Wildlife (CDFW) staff with status of the project, ownership, and implementation of the Lake and Streambed Alteration Agreement (1600-2015-0033-R6) mitigation. (2024–Ongoing)

Gateway Village Project, Private Developer, Placer County, California. Completed the Placer County Conservation Program/County Aquatic Resources Program application. (2024)

San Joaquin Multi-Species Habitat Conservation Plan On-Call Biological Services Contract, San Joaquin County, California. As the project manager and lead biologist, worked on over 50 SJMSCP covered projects. Implemented the Multi-Species Habitat Conservation Plan (Section 10/NCCP) via sensitive species and habitat surveys and reporting. Conducted San Joaquin kit fox (*Vulpes macrotis mutica*) detection surveys via camera traps, dusting of potential dens, and wildlife sign analysis. Performed habitat assessments including water resource and vegetation community mapping. Direct experience with burrowing owl, Swainson’s hawk, giant garter snake, western pond turtle, and nesting birds. Prepared the San Joaquin Multi-Species Habitat Conservation Plan pre-construction and Incidental Take and Minimization Measures ITMMs forms. (2018–2023)

Triangle Point Development, MP Elk Grove LLC, Sacramento County, California. As the project manager and biologist, made an administrative appeal of a verified wetland delineation, obtained approval for off-site Swainson’s hawk mitigation, coordinated with local regulatory agencies regarding the stormwater detention basin for potential habitation by special-status species, and obtained the Section 404 Nationwide Permit and Section 401 Water Quality Certification (WQC) for Triangle Point. Work was conducted in compliance with the South Sacramento HCP. (2021)

Cessna APN-170, Buzz Oates Construction, Solano County, California. Conducted a wetland delineation and biological survey on ±25 acres of proposed development. Prepared letter report documenting results. Assessed project impacts and recommended mitigation measures. (2021)

4286 and 4296 Business Drive, MW Construction, El Dorado County, California. As project manager and lead biologist/botanist, composed contract materials, conducted seasonally timed botanical survey for Pine Hill plants and other special-status species, and produced report. (2021)

Superior RV and Boat Storage, Superior Storage Group, Sacramento County, California. As project manager and lead biologist, conducted post-construction surveys, provided Notices of Completion in compliance with the Section 401 WQC, Section 404 Nationwide Permit, and Section 1602 Lake and Streambed Alteration Agreement (LSAA) permits, and client coordination. (2021)

4370 Business Drive, El Dorado County, California. As project manager, composed contract materials, coordinated survey, composed botanical survey report for Pine Hill plants and other special-status species, and produced report. (2021)

APN 109-420-017 on Dividend Drive, El Dorado County, California. As project manager, composed contract materials, coordinated survey, composed botanical survey report for Pine Hill plants and other special-status species, and produced report. (2021)

Hyatt House and Place, The HR Group Architects, City of Sacramento, California. As project manager, composed contract materials, coordinated survey, and composed Natomas Basin HCP survey memorandum. (2021)

Barandas Park Phase 2, City of Sacramento, California. As project manager and lead biologist, under the South Sacramento HCP guidance, composed contract materials, conducted pre-construction survey for South Sacramento HCP listed species, and composed survey report. (2021)

North Natomas Regional Park Aquatics Complex, City of Sacramento, California. Conducted pre-construction surveys for Natomas Basin HCP covered species and prepared survey report. (2020)

Cook Riolo Pathway, Placer County, California. As a project manager and lead biologist, conducted water quality monitoring per the project's Section 401 WQC, coordinated with client and agency, and composed compliance reports. (2019–2020)

Eubanks and Chancellor Warehouse, City of Vacaville, California. As project manager and lead biologist, conducted water quality monitoring per the project's Section 401 WQC, coordinated with client and agency, and composed compliance reports. (2018–2019)

Pock Lane, Buzz Oates Construction, City of Stockton, California. As project manager and lead biologist, coordinated with client, conducted monthly burrowing surveys, and prepared reports prior to construction. (2019–2020)

8405 Washington Boulevard Development, City of Roseville, California. As project manager and lead biologist, provided contract materials, coordinated with client, conducted burrowing owl survey, and composed compliance report. (2020)

Simplot Lathrop Facility Improvement, City of Lathrop, California. As project manager and lead biologist, produced contract materials, coordinated with client, and conducted a burrowing owl survey. (2019–2020)

Zinfandel Residential Development, Amador County, California. As project manager and lead biologist, conducted pre-construction surveys for western burrowing owl and nesting birds. Submitted Notification of LSAA via the Environmental Permit Information Management System portal. Coordinated with CDFW for draft and final LSAA. (2020–2021)

Starbucks Retail Center at 7056 Sunrise Boulevard, City of Citrus Heights, California. As project manager and lead biologist, provided contract materials; coordinated with client, contractor, and the City; conducted pre-construction survey; and provided compliance reports. (2019–2020)

Sunworks, Inc. Reese Road Pepsi Solar, Sacramento California. In compliance with South Sacramento HCP, conducted pre-construction surveys for burrowing owl and provided compliance report. (2020)

Mace Ranch Innovation Center/ARC, City of Davis/Yolo County, California. As a Yolo HCP qualified biologist, conducted biological surveys for HCP listed species, including protocol-level burrowing owl surveys, and produced associated reports. Positive identification of multiple burrowing individuals and Swainson's hawk. (2019–2020)

Watt and Blackfoot Commercial Development, Antelope, California. Conducted pre-construction surveys for nesting raptors/birds. Prepared pre-construction survey report. (2019)

Zephyr Court Development, Buzz Oates Real Estate, San Joaquin County, California. Conducted burrowing owl monitoring/surveys, installed and removed exclusion devices, and prepared weekly monitoring reports in accordance with the project's burrowing owl exclusion plan. (2019)

Lambert Lane Tentative Map, El Dorado County, California. Conducted baseline biological communities, wetlands, and tree inventory surveys. Prepared the biological resource evaluation. (2019)

Mace Boulevard and Alhambra Drive Commercial Development, Yolo County, California. As project manager and a Yolo HCP qualified biologist, implemented project avoidance and minimization measures, conducted burrowing owl monitoring/surveys, installed and removed exclusion devices, prepared monitoring reports in accordance with the project's burrowing owl exclusion plan, and coordinated with the City of Davis. Conducted Worker Environmental Awareness Program (WEAP) training and biological monitoring. Positive identification of multiple burrowing individuals and Swainson's hawk. (2019–2020)

Green Valley Convenience Center, El Dorado County, California. As project manager and lead biologist, conducted annual wetland rehabilitation monitoring in accordance with the project's Streambed Alteration Agreement (SAA) requirements. Monitoring included tree condition assessment, vegetation community evaluation, and annual reporting of survey results. (2019–2020)

1690 Bell Avenue, Sacramento County, California. Assisted with dry season branchiopod surveys under Incidental Take Permit (ITP) No. 799564-4. Conducted pre-construction burrowing owl and nesting bird surveys. (2018-2020).

Amador Dispatch Acorns News Development, Jackson Rancheria, Amador County, California. Prepared final monitoring report in accordance with project permits for a development project including a sewer line upgrade. (2018–2019)

Familystyle Development, Amador County, California. Assisted with the preparation of a biological assessment and the aquatic resource delineation report. (2018)

Shadowfax Self Storage, El Dorado County, California. Assisted in drafting the biological resource evaluation. (2018)

Energy and Telecommunication

Confidential Agrivoltaic Project, Confidential Client, Sacramento County, California. Performed protocol-level and biological assessment surveys for western spadefoot (*Spea hammondi*), burrowing owl, Swainson's hawk, Crotch's bumble bee (*Bombus crotchii*), and botanical resources. Surveys included operation of utility terrain vehicle. (2024–Ongoing)

Elmore North Geothermal, California Energy Commission, Imperial County, California. Assisted with the biological resources analyses for the draft EIR. Major focuses included geofluid, brine ponds, and atmospheric flash systems. (2023)

Fountain Wind, California Energy Commission, Shasta County, California. Performed quality assurance/quality control of draft CEQA documents. Drafted wind turbine impact and mitigation resource summary. Conducted protocol-level fixed-point count avian surveys for listed raptors, including golden eagle and northern goshawk (*Accipiter gentilis*), in accordance with the U.S. Fish and Wildlife Service (USFWS) Eagle Conservation Plan Guidance for land-based wind energy projects. Completed Anabat systems training for setup and use of hardware

and software for detecting bat species via vocalizations. State Clearinghouse No. 2019012029. (2016–2017; 2022–2023)

On-Call Biological Support Services, Western Area Power Administration, Sierra Nevada Region, California.

Provided on-call biological support services via pre-construction surveys that included identification and flagging of sensitive biological resources such as riparian areas, ponds, seasonal wetlands, channels, and other aquatic features; elderberry shrubs to protect valley elderberry longhorn beetle; giant garter snake aquatic and upland habitat; and nesting Migratory Bird Treaty Act birds and birds of prey, including burrowing owl and burrowing owl habitat. Surveys supported Western Area Power Administration’s environmental compliance prior to mastication, herbicide treatments, and other vegetation management activities; access road grading; and road improvements. NEPA Project No. 100153025. (2022–2023)

Bowers Backup Generating Facility, California Energy Commission, Santa Clara County, California. Drafted the biological resources analyses for the EIR. Major focuses included nitrogen deposition. Mitigation pulled from outside of Santa Clara Valley HCP boundary; appropriate mitigation applied where necessary. State Clearinghouse No. 2023020228. (2023)

Parker-Blythe #2 Full Line Maintenance, Western Area Power Administration, Desert Southwest Region, San Bernadino and Riverside Counties, California. Assisted the lead biologist in drafting the biological resources evaluation and preliminary jurisdictional waters/wetlands delineation report. Department of Energy Project No. DOE/EA-2168. (2022)

Sky River Energy Facility Repowering, Kern County, California. Assisted in preparation of the botanical inventory report. (2018)

Hell Hole Reservoir Federal Energy Regulatory Commission Relicensing, Placer County Water Agency, Placer County, California. In accordance with the Federal Energy Regulatory Commission (FERC) relicensing requirements for public utility facilities, conducted protocol-level surveys for Sierra Nevada yellow-legged frog. Recorded all amphibian species encountered. (2018)

Florence Lake FERC Relicensing, Southern California Edison, Fresno County, California. In accordance with FERC relicensing requirements for public utility facilities, conducted protocol-level surveys for willow flycatcher, great gray owl (*Strix nebulosa*), Yosemite toad (*Anaxyrus canorus*), and Sierra Nevada yellow-legged frog. Utilized bird call broadcast units to conduct the bird surveys and identified incidental species both visually and aurally. Special-status species observations included Yosemite toad (larvae and froglets). (2018)

Kaweah FERC Relicensing, Southern California Edison, Tulare County, California. In accordance with FERC relicensing requirements for public utility facilities, conducted wildlife camera installation and associated species identification and data collection to evaluate the use of wildlife bridges and escape ramps; special-status plants and invasive/noxious weeds surveys including identifying, mapping, and data collection; wildlife reconnaissance surveys identifying wildlife visually, through species-specific vocalizations; and diagnostic field signs such as scat, pellets, and tracks as well as mapped associated vegetation communities. (2018)

Community Pipeline Safety Initiative, Pacific Gas & Electric (PG&E), Northern California. Conducted pre-construction surveys and monitoring for nesting birds (observed), raptors (observed), and giant garter snake. Conducted habitat assessments for giant garter snake. (2016–2018)

Pit 1 Northwestern Pond Turtle Monitoring Project, PG&E, Shasta County, California. Conducted reconnaissance/ planning-level surveys for northwestern pond turtle along segments of the Pit and Fall Rivers. Surveys were conducted in accordance with the northwestern pond turtle protection plan as stipulated by the project's FERC license. Observed more than 10 adult individuals.

King Flat Wind Energy, Terra-Gen, Yolo County, California. Conducted bird use count, eagle point, and raptor migration surveys through visual and species-specific vocalization identification. Collected data, prepared weekly reports in accordance with agency protocols, and maintained the project database. Observed numerous bird species, including burrowing owl, Swainson's hawk, and golden eagle. (2017–2018)

Oroville 230 kV Transmission Line, Lake Oroville, Butte County, California. Conducted nesting bird and birds of prey surveys, oversaw vegetation clearing, documented stormwater pollution prevention plan compliance, and monitored construction activities for a power line project associated with the Lake Oroville Spillway Emergency Repair Project. (2017)

PG&E Line 406/407, PG&E, Sacramento and Placer Counties, California. Acted as assistant project manager and lead biologist. In compliance with the Placer County HCP, supervised a group of biological monitors on a 12-mile-long pipeline installation. Conducted pre- and post-construction surveys for nesting birds and sensitive species, delineated sensitive habitats and other resources, captured and relocated at-risk wildlife within the project area, performed permit compliance monitoring, and provided WEAP training. Sensitive species that occur or had the potential to occur within the project area included giant garter snake, Swainson's hawk, white-tailed kite (*Elanus leucurus*), burrowing owl, valley elderberry longhorn beetle, western pond turtle, California tiger salamander, and vernal pool fairy shrimp (*Branchinecta lynchi*). Monitored giant garter snake activity, active Swainson's hawk nests, and work occurring around valley elderberry shrubs and vernal pools. LSA No. 1600-2015-0167-R2; SAA 1600-2008-0333. (2017)

SKIC 20 Solar, Algonquin Power, Kern County, California. Following Kern County Valley Floor HCP guidance, monitored active Swainson's hawk and burrowing owl nests to determine construction activity impacts on the bird species, set up a CDFW-approved exclusion area buffer around the nests, and provided observation reports. (2014)

Kettleman North Dome Exploration, Kings and Fresno Counties, California. Conducted protocol-level blunt-nosed leopard lizard surveys; pre-construction surveys for San Joaquin kit fox, giant kangaroo rat (*Dipodomys ingens*), San Joaquin antelope squirrel (*Ammospermophilus nelsoni*), burrowing owl, LeConte's thrasher (*Toxostoma lecontei*), and loggerhead shrike (*Lanius ludovicianus*); and special-status plant and invasive/noxious weed surveys, reptile inventories, and habitat assessments on Bureau of Land Management land. (2013–2014)

Occidental Exploration, Kings and Kern Counties, California. As part of the Kern County Valley Floor HCP, monitored construction activities associated with the building of oil well pads in sensitive habitats. Duties included protocol-level surveys, pre-construction surveys, and monitoring for blunt-nosed leopard lizards, nesting birds, and birds of prey; capture and relocation of wildlife; CDFW ITP compliance enforcement; and environmental awareness training. The ITP covered species such as giant kangaroo rat, San Joaquin antelope squirrel, San Joaquin kit fox, and burrowing owl. (2012–2014)

Line 2000 Anomaly Repairs, Angeles National Forest, Los Angeles County, California. Performed pre-construction surveys for coast horned lizard (*Phrynosoma coronatum*), coastal rosy boa (*Lichanura orcutti*), slender mariposa-lily (*Calochortus clavatus* var. *gracilis*), nesting birds, and birds of prey on a pipeline. Duties included providing environmental awareness training to all on-site staff, monitoring all ground disturbance, monitoring for California condor (*Gymnogyps californianus*) and other sensitive species, delineating disturbance areas, monitoring active bird nests, and conducting post-construction botanical surveys to determine restoration success in compliance with the U.S. Forest Service (USFS) special use permit. (2013)

Municipal

Granite Esparto Mining and Reclamation, Granite Construction, Yolo County, California. Conducted bird use point-count (audial and visual) surveys at on-site mitigation area near Capay open space. Observed more than 34 bird species. State Clearinghouse No. 2009022033. (2023)

Sacramento Municipal Utility District (SMUD) Environmental Services On-Call Contract (Operations and Maintenance), Sacramento County, California. As project manager/lead biologist, worked on more than 150 SMUD projects/task orders. Prepared and conducted WEAP trainings, pre-construction surveys, construction monitoring, and restoration plans for California tiger salamander, giant garter snake, valley elderberry longhorn beetle, burrowing owl, vernal pool avoidance, Swainson's hawk, white-tailed kite, other nesting birds, and other special-status species and habitat. Worked on multiple pole and line replacement/relocation/removal projects as well as restoration projects throughout the greater Sacramento area, including the Natomas Basin Conservancy and Cosumnes River Preserve. Work conducted under South Sacramento HCP and Natomas Basin HCP. State Clearinghouse No. 2018092030. (2019–2023)

Bee Canyon Sag Pipe Rehabilitation, Los Angeles Department of Water and Power, Los Angeles, California. Assisted in drafting a biological assessment, biological resources technical report, and biological evaluation for a proposed maintenance project along the Los Angeles Aqueduct. State Clearinghouse No. 2021050347. (2021)

Rancho Seco Solar II, SMUD, Herald, California. As a CDFW designated biologist and the project manager, conducted pre-construction surveys and biological monitoring for California tiger salamander, western pond turtle, and other special-status species. Prepared daily and monthly monitoring reports. Conducted WEAP training and training for designated biological monitors. Moved wildlife species to safe off-site locations. Assisted a California tiger salamander permitted handling biologist in the relocation of California tiger salamander found on site. Special-status species observed included California tiger salamander, Swainson's hawk, and nesting birds. State Clearinghouse No. 2017092042; SAA No. 1600-2018-0241-R2; ITP No. 2081-2018-057-02. (2019–2020)

Rio Cosumnes Correctional Center Substation, Sacramento County, California. Conducted pre-construction surveys for special-status species, including Swainson's hawk, nesting birds, western pond turtle, and giant garter snake, and several special-status plant species. Conducted monitoring of active nests and provided compliance reports. Special-status species observations included Swainson's hawks and other nesting birds. State Clearinghouse No. 2018082017. (2019–2020)

Solano Wind Road Erosion Repair, SMUD, Solano County, California. Conducted WEAP training and construction monitoring. Monitored for burrowing owl, Swainson's hawk, American peregrine falcon (*Falco peregrinus anatum*), nesting birds, and in-channel work for water resource protection. Special-status species observations included burrowing owl and Swainson's hawk. State Clearinghouse No. 2017058393. (2018)

Resource Management

Delta Dams, Department of Water Resources, Northern/Central California. Qualified biologist to handle California tiger salamander and California red-legged frog for monitoring of infrastructure maintenance. (2024–Ongoing)

Oroville Pumpback Storage, Department of Water Resources, Oroville, California. Conducted baseline biological surveys (i.e., aquatic resources, plants, wildlife). Prepared special-status species potential to occur evaluation table. (2024–Ongoing)

Forest Resiliency Project, Confidential Client, California. Drafting EIR in contribution to CEQA analyses. (2024–Ongoing)

Arboretum Waterway Improvements, University of California Davis, Yolo County, California. Performed fish relocation of hundreds of common fish species, including Sacramento blackfish (*Orthodon microlepidotus*), as well as western pond turtle per the Lake and Streambed Alteration Agreement EPIMS Notification No. YOL-32039-R2. (2024)

Los Padres National Forest Ecological Restoration, DJ&A, Los Padres National Forest, California. Task manager/coordinator for the wildlife survey effort. Performed desktop habitat assessment and coordinated protocol-level surveys for California spotted owl (*Strix occidentalis occidentalis*), blunt-nosed leopard lizard, California-red legged frog, southwestern pond turtle (*Actinemys pallida*), San Emigdio blue butterfly (*Plebejus emigdionis*), two-striped garter snake (*Thamnophis hammondi*), and vernal pool fairy shrimp. USFS is proposing the Ecological Restoration Project within the Los Padres National Forest. The project would involve analyzing potential fuel treatments along roads, off-highway vehicle trails, property lines, areas identified by the Los Padres Strategic Fuelbreak Assessment, and in other general forested areas in need of forest health thinning. The project occurs in Monterey, Mt. Pinos, Santa Lucia, and Santa Barbara Ranger Districts. The Los Padres National Forest Ecological Restoration Project requires analysis under NEPA including an environmental assessment, long-term operation and maintenance plans, and permit applications with the Regional Water Quality Control Board, CDFW, USFWS, U.S. Army Corps of Engineers, and others.(2022–2023)

Thousand Palms Flood Control, Coachella Valley Water District, Riverside County, California. Drafted decision documents for the Final EIR/environmental impact statement. State Clearinghouse No. 2016111053. (2022)

Blue Mountain Minerals Revegetation Services, Tuolumne County, California. Conducted biannual weed and revegetation monitoring for a 4.5-acre restoration test plot program and planting plan. Performed seed viability testing and data entry. (2019–2020)

South Fork Preserve Improvements, Yolo County, California. Conducted reconnaissance-level valley elderberry long-horned beetle/elderberry shrub surveys. (2019)

Sherman Island Levee PL 84-99 Repair Areas, Sacramento County, California. Conducted pre-construction surveys and prepared associated reports for giant garter snake, western pond turtle, Swainson's hawk, burrowing owl, and nesting birds (observed). Observed one hybrid tricolored blackbird (*Agelaius tricolor*)/red-winged blackbird (*Agelaius phoeniceus*) individual outside of the project area. State Clearinghouse No. 2012092029. (2018)

Greenhorn Creek Aggregate Mining Expansion Project, Hansen Brothers, Placer County, California. Conducted a habitat assessment, delineation of environmentally sensitive areas, and visual encounter surveys for foothill yellow-legged frog. Performed biological monitoring and aquatic species rescue including the successful relocation of more than 1,000 foothill yellow-legged frog individuals (froglets and larvae), and other aquatic fish and amphibian species in accordance with CDFW SAA No. 1600-2017-0074-R2 and ITP No. 2081-2017-050-02 A1. (2017)

Transportation

U.S. Highway 50 Camino Safety, California Department of Transportation (Caltrans), El Dorado County, California. Performed a baseline biological field assessment and drafted a biological technical memorandum to update the initial study/mitigated negative declaration. (2020–2021)

Gold Country Home Owners Association Indian Creek Horse/Foot Bridge Repair, R.E.Y. Engineers, Inc., Confidential Client, El Dorado County, California. As project manager and lead biologist, conducted biological resource surveys for foothill yellow-legged frog, western pond turtle, and other special-status species. Composed contract materials, coordinated with client and CDFW, and resubmitted a completed Notification of LSAA. (2020-2021)

Gold Country Home Owners Association 2020 Culvert Maintenance, R.E.Y. Engineers, Inc., Confidential Client, El Dorado County, California. As project manager and lead biologist, provided coordination between client and CDFW, conducted baseline biological and pre-construction surveys for foothill yellow-legged frog and other special-status species, and prepared compliance reports and SAA verification request forms. (2020–2021)

Penryn Road at Secret Ravine Repair, Placer County Department of Public Works and Facilities, Placer County, California. Served as biologist for a storm-damaged culvert replacement project. Coordinated with the U.S. Army Corps of Engineers regarding Section 7 consultation for salmon and steelhead. Conducted post-construction and annual monitoring surveys for western pond turtle and salmonids. (2018–2019)

CR40 LWB Replacement Over Cache Creek, MGE Engineering, Inc., Yolo County, California. As project manager and lead biologist, performed a biological field assessment, wetland delineation, and pre-construction surveys for birds, bats, foothill yellow-legged frog, western pond turtle, and valley elderberry longhorn beetle. Prepared the preliminary environmental study, the natural environmental study, and the aquatic resource delineation report. Incorporated mitigation from Yolo County HCP. (2018–2021)

Crosby Herold Road Bridge Replacement at Doty Creek Ravine, Placer County Department of Public Works and Facilities, Placer County, California. Managed Environmental Commitments Record (ECR) and contract materials for the Crosby Herold Road bridge replacement. Implemented compliance with CEQA/NEPA measures via work notifications. Conducted pre-construction surveys for California red-legged frog, western pond turtle, nesting birds, and other special-status species. Conducted WEAP training and monitoring of in-water work. Mitigation met Placer County HCP standards. LSA No. 1600-2020-0128-R2; USFWS Biological Opinion No. 08ESMF00-2015-F-0296-1. (2020–2021)

Diamond Springs Parkway Phase 1A, Caltrans, El Dorado County, California. As project manager and USFWS qualified biologist, conducted pre-construction surveys for California red-legged frog, bats, and nesting birds. Conducted WEAP training and biological monitoring within wetlands. Coordinated with County and contractor for permit compliance. LSA No. 1600-2016-0217-R2; USFWS Letter of Concurrence No. 08ESMF00-2016-I-1769. (2019–2021)

Tuolumne County On-Call Environmental Services Contract, Tuolumne County, California. As project manager and lead biologist, conducted pre-construction bat (observed), nesting avian (observed), revegetation, and biannual weed surveys for Tuolumne County and composed associated compliance reports. (2020)

Butte Fire Road Recovery Culvert Replacement, Calaveras County, California. As project manager and lead biologist, coordinated with client and CDFW for the SAA; conducted pre- and post-construction surveys for California red-legged frog, nesting birds, and other special-status species; and composed compliance reports. LSA No. 1600-2020-0076-R2. (2020)

Interim Indian Gulch Bridge, Mariposa County, California. As project manager and lead biologist, composed contract and WEAP training materials; coordinated with client; conducted pre-construction surveys for California red-legged frog (observed five individuals), nesting birds, and other special-status species; and provided compliance reports. (2020)

Jacksonville Road Crossing Tuolumne River Bridge Preventive Maintenance Program, Tuolumne County, California. As lead biologist, conducted emergence and pre-construction surveys for roosting bats and nesting birds, positively detected a roosting bat colony. Composed survey reports. LSA No. 1600-2016-0156-R4. (2019–2020)

Highspeed Rail (Merced to Fresno), Madera County, California. Conducted data analysis and assisted in the preparations of amendments for Section 404 of the Clean Water Act (CWA), Section 401 WQC, Section 1602 SAA, Section 2081 ITP, and Section 7 biological opinion. (2019)

Storm Damage Repair Projects, El Dorado County Department of Transportation, El Dorado County, California. Served as assistant project manager and biologist for multiple emergency road and bridge repairs throughout El Dorado County. Conducted compliance surveys (pre- and post-construction) and/or protocol surveys for special-status species, including nesting birds, California spotted owl, California red-legged frog, Sierra Nevada yellow-legged frog, and foothill yellow-legged frog. Managed the biological field staff, coordinated with USFS, and attended County/contractor kickoff meetings. Prepared the biological technical reports, environmental trainings, resource permit applications, and ECR. Projects are listed below. (2018–2021)

- **Union Mine Culvert Repair, Caltrans, El Dorado County, California.** As project manager and lead biologist, provided a biological desktop analysis for initial biological assessment at the request of the County and in compliance with the Notification of LSA Application. (2020–2021)
- **Clear Creek Road Bridge Replacement (0.25 and 1.82), Caltrans, El Dorado County, California.** As project manager and lead biologist, coordinated with client and permitting agencies, created survey protocol for foothill-yellow legged frog, conducted pre- and post-construction surveys and bat emergence surveys, provided WEAP training, composed and implemented the fish and aquatic species relocation plan, and provided compliance reports. Successfully relocated brown trout (*Salmo trutta*) and other aquatic species. LSA Nos. 1600-2019-0101-R2 and 1600-2019-0101-R2. (2020–2021)
- **Greenstone Road at Slate Creek Bridge Replacement, Caltrans, El Dorado County, California.** As project manager and CDFW qualified biologist, created survey protocol and conducted pre-construction surveys for foothill yellow-legged frog, western pond turtle, nesting birds, and special-status plants. Conducted WEAP training and post-construction survey and prepared survey reports. LSA No. 1600-2018-0093-R2. (2019–2020)

- **Bucks Bar Road Sinkhole Repair, Caltrans, El Dorado County, California.** Assisted with project completion memoranda in accordance with California Fish and Game Code Section 1610 Emergency Notification, CWA Section 404 Regional General Permit #8, and CWA Section 401 Notice of Intent. Conducted abbreviated biological assessment for California red-legged frog and prepared ECR package. (2019-2020)
- **Newtown Road Slide Repair, Caltrans, El Dorado County, California.** Assisted with project completion memoranda in accordance with California Fish and Game Code Section 1602 SAA Notification, CWA Section 404 Regional General Permit No. 8, and CWA Section 401 Notice of Intent. Prepared ECR package. (2018)
- **White Meadow Road Repair, Caltrans, El Dorado County, California.** Conducted USFS protocol surveys for California spotted owl. (2018–2019)
- **Pony Express Road Slip Repair, Caltrans, El Dorado County, California.** Assisted with project completion memoranda in accordance with California Fish and Game Code Section 1602 SAA Notification, CWA Section 404 Regional General Permit No. 8, and CWA Section 401 Notice of Intent. Prepared ECR package. (2018)

East Zayante Road Bridge (36C-142) at Zayante Creek Maintenance, Caltrans, Santa Cruz County, California. Prepared a construction-related noise technical memorandum. (2018)

Bucks Bar Road Bridge (25C-0003) at North Fork Cosumnes River, Caltrans, El Dorado County, California. Conducted a historical aerial analysis for the EIR and natural environmental study. (2018)

Crabtree Road over Dry Creek Bridge Replacement, Stanislaus County, California. Prepared farmland memorandum and associated attachments. (2018)

Water/Wastewater

Murphys Sanitary District Wastewater Treatment Plant: Maintenance and Improvement, Town of Murphys, California. Conducted pre-construction surveys for western pond turtle, California red-legged frog, nesting birds, and other special-status species. Composed compliance reports. (2020–2021)

Sloan Dam and Reservoir, Confidential Client, El Dorado County, California. As project manager and lead biologist, produced contract materials, coordinated with client, conducted biological resources survey, and composed report in accordance with County applications. (2020)

Union Public Utilities District Water Storage Tank, Calaveras County, California. Prepared the aquatic resource delineation report and assisted in preparation of the biological assessment. (2018)

Snowshoe Waterline Replacement, Calaveras County Water District, Calaveras County, California. Assisted with preparation of the biological resource evaluation. (2018)

City of Ukiah Recycled Water, Mendocino County, California. Conducted pre-construction surveys for foothill yellow-legged frog, western pond turtle, nesting birds, and birds of prey, as well as presence/absence surveys and identification of fish, amphibian, and turtle species in accordance with the SAA. Provided biological monitoring and daily reports for the installation of a water pipeline near a creek. (2018)

Specialized Training and Education

- Crotch's Bumble Bee Training. Identification, life history, handling, etc. (16 hours total/8 field). Capture and ID of 5+ bumble bee species. Conducted under handling biologist Callie Amoaku.
- California Red-Legged Frog Master Workshop (inc. western pond turtle, California tiger salamander, and foothill yellow-legged frog), Petaluma, California. February 2024-Ongoing.
- Identification and Rehabilitation of Local Bats, Tri County Wildlife Care/NorCal Bats. December 2023.
- California Red-Legged Frog Level I Workshop, Petaluma, California. July 2023.
- Western Pond Turtle Nesting Workshop, Martinez, California. June 2023.
- Rare Pond Species Survey Techniques Workshop (western pond turtle, California tiger salamander, California red-legged frog, and foothill yellow-legged frog), Santa Rosa, California. March 2023.
- California Tiger Salamander (Sonoma Distinct Population Segment) Terrestrial Ecology Workshop, Santa Rosa, California. March 2023.
- Bat Rehabilitation: Common Injuries in Insectivorous Bats. September 2023.
- Introduction to Bat Rehabilitation. August 2023.
- Using Wildlife Audio Recorders, The Wildlife Society Riverside. Hands-on workshop. Set up Song Meter Micro, Mini, Mini Bat recorders and application for audial wildlife monitoring. February 2023.
- Bat Rehabilitation: Caring for Mothers and Pups, Introduction to Bat Rehabilitation. May 2023.
- Baby Songbird Rehabilitation Training, Sierra Wildlife. 2022–2023.
- Western Section Wildlife Society 70th Annual Conference, Riverside, California. February 2023.
- CEQA Basic Workshop (SMUD and AECOM), Association of Environmental Professionals. 2023.
- Wildlife Rehabilitation Intro Courses: Raptors; Adult Songbirds; Corvids; Foxes; Coyotes, Bobcats, and Skunks; Rabbits; and Opossums. Spring 2022 and 2012.
- Yosemite Toad Field Identification. USFS, 2018.
- University of California (UC), Davis Extension Courses: Streambank Assessment and Restoration Wetlands Regulation and Mitigation; Writing for Planners, Engineers, and Policymakers. 2016–2017.
- Bird Mist Netting, Ornithology UC Berkeley, Blue Oak Ranch Reserve, San Jose, California. Net setup, handling, biometrics, and identification. March 2015.
- Field Entomology, UC Berkeley, Ants – Pepperwood Preserve, Santa Rosa, California; Spiders – Angelo Coast Range Reserve, Mendocino Co., California. Identification, collection, and preservations methods. 2014–2016.
- Bat Mist Netting, Mammalogy UC Berkeley, Sagehen Creek Field Station and Chilcoot, California. Net setup, handling, biometrics, and identification. September and October 2014.
- Small Mammal Trapping, Mammalogy UC Berkeley, Sagehen Creek Field Station and Hastings Natural History Reservation. Trap setup and checks, handling, biometrics, identification, museum specimen preparation. September and October 2014.
- Level 2 Blunt-Nosed Leopard Lizard Biologist – Protocol Level Surveys. 2012–2014.

Volunteer Experience

- Tiger Salamander Migration Management, Travis Airforce Base. California Tiger Salamander Relocation Volunteer, Solano County, California. Relocation of California tiger salamander to safe corridors for migration to and from upland and aquatic habitat. Includes pitfall trap and fencing maintenance.

Incidental observations and relocation of other non-listed amphibians, reptiles, and small mammals. California tiger salamander life stages: Breeding and non-breeding adults, and metamorphs. Observed 200+ individuals and handled 40+ individuals.

- Wildlife Rehabilitation Training and Lead. Volunteer and board member for a non-profit organization that rehabilitates injured and orphaned wildlife. Handles, feeds, and medically treats a range of wildlife daily, in home and on site, including bats, birds and raptors, and mammals. Ensures compliance with facility permits/agreements from USFWS, U.S. Department of Agriculture, and CDFW. 2023–Present.
 - Sierra Wildlife Rescue, Diamond Springs, California. In-home Wildlife Rehabilitator for bats (Team Lead), raptors, corvids, opossums, skunks, fox, coyote, and bobcat; Education/Public Outreach Team, Wildlife Transportation Coordinator, and Board Member. 2022–Present.
 - California Living Museum, Bakersfield, Kern County, California. Wildlife Rehabilitator. 2012–2013.
- CDFW Bat Fest. Sacramento, California. Volunteered on the CDFW bat identification team for deceased bats submitted by Animal Services throughout the state. Handled 60+ bats, approximately 10+ species. 4+ hours. February 2024
- Yolo Causeway Bat Count, Yolo Causeway, Yolo County, California. Participated in bat count training, conducted bat inventory surveys via visual encounters using high power flashlights and binoculars, and estimated guano coverage along transects. Observed and documented approximately 3,300 adult and juvenile Mexican free-tailed bats (*Tadarida brasiliensis*) during counts in June and August. 2021.

Awards

- Biology Department Award, 2014.
- Chemistry Top-of-Class Award, 2011 and 2012.
- A+Stem Scholarship, 2013–2014.
- Norman Levan Scholarship, 2014.
- KC Mineral Society Scholarship, 2014.
- Rotary Club Scholarship, 2014.
- Forestry Department Scholarships, 2014.
- UC Berkeley Scholarships, 2014–2016.

Surveying and Monitoring Hours for Relevant Species*

Species	Surveying Hours	Monitoring Hours	Handling Hours	Notes
Bat species	40	200	150	Bat emergence surveys and monitoring of active roosts. Monitoring included WEAP. Sierra Wildlife Rescue Bat Rehabilitation Lead 2022–Present. Yolo Causeway Bat Count, Yolo Causeway, 2021. Bat Mist Netting, UC Berkeley NorCal Field Sites Mammalogy, 2014.
Burrowing owl	500	1,500	2	Habitat assessments, protocol surveys, exclusion, and construction monitoring.

Surveying and Monitoring Hours for Relevant Species*

Species	Surveying Hours	Monitoring Hours	Handling Hours	Notes
				Positive identification of active burrows and owls, including fledglings. Monitoring included WEAP. Triaged/handled one adult individual through Sierra Wildlife Rescue, summer 2022.
California red-legged frog	60	80	20	Adult eye-shine surveys, pre-construction surveys, protocol site assessments, and construction monitoring. Positive identification and/or handling of adults. Monitoring included WEAP.
California tiger salamander	500	1,000	30	Larval surveys, pre-construction surveys, and construction monitoring. Observed 900+ individuals. Handled 100+ larvae, 100+ metamorphs/juveniles, and 10+ adults under the supervision of permitted biologists. Monitoring includes WEAP.
Desert tortoise	0	0	100	Awaiting Desert Tortoise Keeper Permit from CDFW. Handled one hatchling/juvenile individual.
Foothill (and Sierra Nevada) yellow-legged frog	80	32	16	Visual encounter surveys, pre-construction surveys, and habitat assessments. Positive identification and handling/relocation of more than 1,000 froglets and larvae. Monitoring includes WEAP.
Giant garter snake	400	400	0	Pre-construction surveys, habitat assessments, and monitoring. Observed three individuals in Sacramento County (Natomas Basin and Baseline/W Riego Road).
Great gray owl	40	0	0	Protocol nighttime point call surveys
Nesting birds and raptors	3,000+	500+	750+	Pre-construction surveys and nest monitoring prior to and during construction. Raptor and bird rehabilitator, Sierra Wildlife Rescue, 150+ individuals. Bird Mist Netting, UC Berkeley NorCal Field Sites Ornithology, 2015.
Salmonids	40	40	8	Pre-construction surveys and habitat assessments. Relocation of brown trout in Clear Creek. Steelhead observed in Secret Ravine.
San Joaquin kit fox	1,300+	100+	0	Experience in den identification and mapping, track dusting, and camera trapping.

Surveying and Monitoring Hours for Relevant Species*

Species	Surveying Hours	Monitoring Hours	Handling Hours	Notes
				Surveys conducted in accordance with Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance USFWS, 2011, and San Joaquin Multi-Species Habitat Conservation and Open Space Plan, November 2000. Enclosure maintenance at California Living Museum. Observed 2 adults and 2 pups.
Spotted owl	16	0	40	Protocol nighttime point call surveys. Ongoing handling of Sierra Wildlife Rescue California spotted owl education ambassador (Whisper).
Swainson's hawk	750	750	0	Protocol surveys, pre-construction surveys, and nest monitoring prior to and during construction. Positive detection of multiple active nests and more than 150 hawks, including fledglings (light and dark morphs).
Valley elderberry longhorn beetle	500	500	0	Pre-construction surveys. Positive identification of shrubs with suitable exit holes.
Vernal pool branchiopods	100	200	*0	*Dry season surveys.
Western pond turtle	400	500	10	Pre-construction surveys, habitat assessments, aquatic and upland nest surveys, and construction monitoring. Positive detection of more than 40 individuals and 2 nests/eggs. Handled 12 adults and 5 hatchlings/juveniles.
Willow flycatcher	30	0	0	Protocol-level surveys.
Yosemite toad	30	0	2	Presence/absence surveys; USFS on-site training. Observed 1,000+ larvae and handled 15 froglet individuals.

Notes:

* Hours are approximate.

Name of Study

Potentia-Viridi Battery Energy Storage Project Alameda County, California

JUNE 2024

Prepared for:

LEVY ALAMEDA, LLC

Project Applicant

155 Wellington St W., [Suite 2930](#)
Toronto, Ontario M5V 3H1, Canada

CALIFORNIA ENERGY COMMISSION

Lead Agency

715 P Street,
Sacramento, California 95814

Prepared by:

DUDEK

1810 13th Street #110
Sacramento, California 95811
Contact: Matt Norcott

Emily Scricca

BIOLOGIST

Emily Scricca is a wildlife biologist with 8 years' field experience providing biological monitoring and conducting surveys for numerous species, including burrowing owl (*Athene cunicularia*), Swainson's hawk (*Buteo swainsonii*), least Bell's vireo (*Vireo bellii pusillus*), tricolored blackbird (*Agelaius tricolor*), western snowy plover (*Charadrius alexandrinus*), California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytonii*), western pond turtle (*Actinemys marmorata*), San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), and San Joaquin kit fox (*Vulpes macrotis*). Ms. Scricca possesses a federal 10(a)(1)(A) recovery permit for California tiger salamander. From her various positions in California, Ms. Scricca has strong knowledge of California flora and fauna and is well versed in environmental survey and sampling techniques. She has extensive experience conducting nesting bird surveys and a demonstrated ability to identify birds by sight and sound.

Ms. Scricca has a working knowledge of regulatory permitting processes including: National Environmental Policy Act, California Environmental Quality Act, federal Endangered Species Act, California Fish and Game Code, Lake and Streambed Alteration Agreements, Migratory Bird Treaty Act, and Clean Water Act. Additionally, she is a detail-oriented, effective communicator, and has prepared numerous technical reports in support of the environmental review and permitting processes for dozens of projects.

Project Experience

Development

Riparian Setback Analysis Project, San Jose, California. Conducted a riparian habitat and setback analysis for a small commercial development site adjacent to Ross Creek in San Jose, California. Prepared an extensive Riparian Setback Analysis Report and Alternatives Analysis specific to the City of San Jose's Riparian Corridor Policy Study and Condition 11 in chapter 6 of the Santa Clara Valley Habitat Plan. (January 2018–February 2019)

Virginia Smith Trust, Campus Community North Phase 6, and 2020 Projects, University of California, Merced, Merced County, California. The UC Merced Virginia Smith Trust, Campus and Community North Projects are the development of an 810-acre campus and associated 835-acre university community neighborhood, combined with preservation of over 26,000 acres of mitigation lands in the project vicinity. Conducted pre-construction surveys for California tiger salamander, San Joaquin kit fox, burrowing owl, and succulent owl's clover (*Castilleja campestris* ssp. *succulenta*) on the project site lands. Also conducted protocol-level surveys for Swainson's hawk, and monitored active Swainson's hawk nests onsite. Served as a designated biologist (CDFW) and an approved



Education

San Jose State University
MS, Environmental
Studies, 2017

University of Vermont
BS, Animal Sciences,
2010

Certifications

USFWS, Section
10(a)(1)(A) Native
Endangered and
Threatened Species
Recovery Permit, No.
TE45251C-0

- California tiger
salamander

CDFW, Memorandum of
Understanding, Scientific
Collecting Permit, No. SC-
013755

- California Tiger
Salamander

Professional Affiliations

National Wildlife
Federation

San Francisco Bay Bird
Observatory

The Wildlife Society

Western Bird Banding
Association

biologist (USFWS) for the construction of the campus and monitored construction activities to ensure compliance with the project's environmental documents and permits (USFWS Biological Opinion, CDFW Incidental Take Permit, EIR, 401 and 404, etc.). In addition to pre-construction surveys and biological monitoring, provided daily environmental awareness trainings to construction personnel, and supervised the installation of one-way CTS exclusion fencing. (June 2017–January 2019)

East Garrison Housing Development, Monterey, California. The project is the development of single-family residences, parks, and other community areas that will be constructed in several phases over a 10-year period on an approximately 240-acre site within East Garrison, formerly Fort Ord. Serves as a designated biologist for this project, which is regulated underneath a CDFW 2081 ITP. Conducted onsite preconstruction surveys, construction monitoring, and training targeting the protection of CTS, nesting birds, and roosting bats. Provided project personnel environmental awareness trainings for all project staff, conducted onsite compliance monitoring, species entrapment inspections, species relocations, passive bat exclusions, nest buffer establishment, and agency reporting on an annual, quarterly, and species-observation basis. (December 2016–January 2019)

McCarthy Ranch Sprig Center and McCarthy Creekside Phase II, Milpitas, California. Conducted protocol-level burrowing owl surveys for the McCarthy Ranch projects under the 2012 CDFW guidelines. Additionally, provided biological training to construction personnel and distributed results of the surveys to construction managers in written reports. (June 2018–October 2018)

VTA Highway 237 Express Lanes Phases I and II, San Jose, California. Conducted protocol-level burrowing owl surveys for the Highway 237 Express Lane project under the 2012 CDFW guidelines as well as the Santa Clara Valley Habitat Conservation Plan protocol. Additionally, provided biological training to construction personnel and monitored installation of Environmentally Sensitive Area fencing. (March–June 2018)

Communications Hill Housing Development Phase II, San Jose, California. Conducted protocol-level burrowing owl surveys for the Communications Hill Phase II development project under the 2012 CDFW guidelines as well as the Santa Clara Valley Habitat Conservation Plan protocol. Established exclusion barriers around active burrowing owl burrows, and monitored burrows during construction activities. Additionally, provided biological training to construction personnel. (August 2017–January 2018)

Sellers Avenue Subdivision Map Project, Brentwood, California. Conducted protocol-level burrowing owl and Swainson's hawk surveys for the Sellers Avenue Subdivision Map project under the 2012 CDFW guidelines as well as the East Contra Costa County Habitat Conservation Plan and Natural Community Conservation Plan. Additionally, established construction-free buffers around active bird nests, and distributed results of the surveys to construction managers in written reports. (August 2017)

Arcadia Evergreen Subdivision Project, San Jose, California. Prepared a private application package for the 64-acre housing subdivision site for Santa Clara Valley Habitat Plan coverage. Calculated land cover and burrowing owl fees, for the project applicant. Conducted protocol-level burrowing owl surveys for the Arcadia Evergreen Subdivision project under the 2012 CDFW guidelines as well as the Santa Clara Valley Habitat Conservation Plan protocol. (May–November 2017)

Education

Pleasant Hill Library Project, Contra Costa County, California. Conducted a biological constraints analysis for the 15-acre Pleasant Hill Library site. Potential constraints identified for future buildout of the site included potential impacts to nesting birds and raptors, identification of the East Fork of Grayson Creek as a potential water of the United States, and City of Pleasant Hill creek setback ordinances. (January–February 2018)

Energy

Maricopa Sun, LLC, Habitat Conservation Plan, Kern County, California. Conducted protocol-level blunt-nosed leopard lizard (*Gambelia sila*) and Nelson’s antelope squirrel (*Ammospermophilus nelson*) surveys at various HCP sites for the Maricopa Sun LLC solar project. Also provided biological monitoring under the direct supervision of an authorized USFWS designated biologist for blunt-nosed leopard lizard, western spadefoot toad (*Spea hammondi*), San Joaquin coachwhip (*Coluber flagellum ruddocki*), San Joaquin antelope squirrel, Tipton’s kangaroo rat (*Dipodomys nitratoide nitratoide*), burrowing owl, and other covered species for trash removal at the 10-C Maricopa West project site. (June 2017 and May 2018)

Federal

Closure of Former Defense Fuel Supply Point Fuel Facility Project, Moffett Federal Airfield, Mountain View, California. Served as USFWS-Approved Biological Monitor for this project. Provided biological monitoring for burrowing owl, California least tern (*Sternula antillarum browni*), Ridgeway’s rail (*Rallus obsoletus*), and salt marsh harvest mouse (*Reithrodontomys raviventris*) at the 7-acre site. This effort involved conducting protocol-level pre-construction surveys, installing one-way doors into burrows for passive relocation, installing artificial burrows for owl recruitment, implementing owl exclusion measures and monitoring of construction activities. Conducted environmental awareness trainings for field personnel, and coordinated construction activities with multiple agencies at Moffett Field. Daily observations of wildlife were collected as points, polygons, lines, and track logs on ArcGIS Collector and summarized in written reports. (February 2016–February 2017)

Municipal

Newby Island Landfill Bank Stabilization Project, San Jose, California. Assisted in the preparation of a biological evaluation report for the Newby Island Bank Stabilization project site. Conducted field evaluations in which the biotic resources of the site were determined, and evaluated the potential for green sturgeon (*Acipenser medirostris*), central California coast steelhead (*Oncorhynchus mykiss*), California Ridgeway’s rail (*Rallus obsoletus obsoletus*), and salt marsh harvest mouse (*Reithrodontomys raviventris*) to be impacted by planned project activities. The report also included an Essential Fish Habitat Assessment. (October 2018–December 2018)

Resource Management

Frantoio Grove California Tiger Salamander and California Red-Legged Frog Habitat Assessment, San Martin, California. Assisted in the preparation of a CTS and CRLF habitat assessment for the 95-acre Frantoio Grove property in San Martin, California. Evaluated the existing conditions and habitat assessment of the site, distribution of CTS and CRLF in the region, surrounding aquatic habitats, and likelihood of CTS and CRLF occurring on the site. The purpose of this assessment was to provide the USFWS with sufficient information so that the agency may conclude that CTS and CRLF are not present on the site. (October 2017–February 2018)

Sargent Ranch Quarry, Gilroy, California. Performed aquatic seine-net surveys for California tiger salamander and California red-legged frog in multiple stock ponds of the mitigation areas of the Sargent Ranch site. Data collected was compiled and summarized in a written report for project client. (May 2017)

Water/Wastewater

In-House Water Utility Maintenance Projects, Santa Clara Valley Water District, Santa Clara County, California.

Projects included, but were not limited to annual maintenance on reservoirs, vegetation management and abatement, treatment plant and various facility upgrades, pipeline maintenance, and tree removal. Provided biological monitoring for California tiger salamander, California red-legged frog, western pond turtle, burrowing owl, Least Bell's vireo, tricolored blackbird, San Francisco dusky-footed woodrat and San Joaquin kit fox at various project sites. These efforts involved conducting pre-construction biological surveys, grassland and wetland bird surveys, permit review, environmental impact assessment, and writing technical reports. Additionally, used GIS to ground-truth construction footprints and calculated land cover fees in compliance with the Santa Clara Valley Habitat Conservation Plan. (September 2015–February 2017)

Specialized Training

- **Fifty Plant Families in the Field: San Francisco Bay Area, Jepson Herbarium, March 2018.** Attended a four day workshop introducing the flora of the San Francisco Bay area and the techniques used to identify plants of California. Emphasis was on learning to recognize characteristics of the Bay Area's plant families. The workshop included practice keying plants in the field using the third edition of the book *Plants of the San Francisco Bay Region: Mendocino to Monterey*.
- **Rare Pond Species Survey Techniques Workshop, Laguna de Santa Rosa Foundation, March 2017.** Workshop covered species biology and survey technique for California red-legged frog, California tiger salamander, and western pond turtle. Field trips provided hands-on experience with all three species, including dip net sampling, spotlight surveys, and visual encounter and trapping.
- **Amphibians of the San Francisco Bay Area Workshop, Laguna de Santa Rosa Foundation, November 2016.** Workshop provided an overview of the life history, ecology and conservation, identification features, range and distribution, habitat requirements, and behavior of frogs, toads, and salamanders that occur in the San Francisco Bay Area. Workshop also included a field trip to Fairfield Osborn Preserve on Sonoma Mountain for hands-on experience.
- **CEQA Essentials Workshop, Association of Environmental Professionals, November 2016.** Workshop provided a basic understanding of the fundamentals of the California Environmental Quality Act and the State Guidelines, and included intermediate-level practice pointers and case studies.
- **First Aid Wilderness and CPR Certification Training, Santa Clara Valley Water District, July 2016.**
- **California Tiger Salamander Terrestrial Ecology Workshop, Laguna de Santa Rosa Foundation, March 2016.** Workshop covered terrestrial ecology, land use management, and regulations of the California tiger salamander (CTS). Reviewed the biology, upland habitat use, and migration patterns of CTS, the theory and design of roadway tunnels to facilitate safe passage of migrating salamanders; design of pitfall trap arrays; survey protocols; and implementing and monitoring land use management practices. Field trips provided pitfall trap and fence array construction training and hands-on experience.

Publications

Moffitt, Emily. 2017. Using Stable Isotope Analysis to Infer Breeding Latitude and Migratory Timing of Juvenile Pacific-slope Flycatchers (*Empidonax difficilis*). M.S. Thesis, San Jose State University.

Presentations

"Preparing Feather Samples for Stable Isotope Analysis: Basic Principles and Techniques", 2016. Presented at the Western Bird Banding Association Annual Meeting. Point Reyes Station, California.

Awards

Outstanding Thesis of the Year Award, San Jose State University, 2017–2018, for superior quality of research and presentation.