



## Energy Program Experience

*Integrated biological, permitting, and project management services—from planning stages through mitigation monitoring.*

Sequoia Ecological Consulting, Inc. has been supporting major energy projects since the company's inception in 2011, and our firm leaders have worked with PG&E and other major utilities since 2002.

Our biologists are cross-trained in terrestrial, aquatic, and botanical surveys, as well as storm water compliance, and we have worked extensively on programs to support hydroelectric power, gas transmission and distribution lines, and electric transmission and distribution. Sequoia has worked under numerous HCPs including PG&E's San Joaquin Valley and Bay Area HCPs, the draft Solano Multispecies HCP, and the East Contra Costa County HCP. We excel in accommodating the rapidly changing construction schedules, last-minute project requests, and specialized invoicing needs of our energy clients. In addition, we understand the importance of balancing environmental compliance with varying project constraints, such as timelines, budgets, and outage schedules.

Sequoia can provide local biologists throughout California, from Humboldt to San Diego, and we enjoy partnering with other firms to achieve project goals. Most importantly, we make customer service our top priority, never losing sight of our immediate client's needs or our ultimate goal—project success.

### CERTIFICATIONS

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<b>CPUC</b>	WBE # 11110228
<b>WBENC</b>	WBE # 2005127466
<b>US SBA</b>	WOSB and EDWOSB # W010182
<b>CA DGS</b>	SBE (Micro) # 1790596
<b>CUCP/Caltrans</b>	DBE # 40492

### GSA CONTRACT

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<b>Contract No.</b>	47QRAA18D0024
<b>Schedule</b>	00CORP
<b>SIN No.</b>	899 1
<b>NAICS</b>	541620, Environmental Consulting

Contact us at [gsa@sequoiaeco.com](mailto:gsa@sequoiaeco.com) to request a quote.

### NAICS CODES

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541620	Environmental Consulting
541690	Other Scientific and Technical Consulting

### SAFETY CERTIFICATIONS

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<b>PG&amp;E</b>	Gold Shovel Standard Gas Safety Training
<b>ISNetworld</b>	Approved
<b>Annual Hydro Training</b>	



## Electric Transmission and Distribution

Sequoia provides compliance services for PG&E's Electric Transmission and Distribution projects for clients such as Stantec, Cardno, ICF International, SWCA, North State Resources, TRC Solutions, and URS. Services include permitting support, preconstruction and protocol-level surveys, helicopter surveys for nesting raptors including golden eagle and bald eagle, constraints analyses, environmental crew training, biological monitoring, daily reporting, restoration planning, implementation and monitoring, and constructability walk-downs.

### Fulton-Fitch Mountain 115 kV Reconductoring Project, 2015 and 2018

Biological Assessment draft for project permitting; Lead Environmental Inspector and Biological Monitor during construction; preconstruction surveys; nesting bird surveys; habitat assessments for California tiger salamander, Foothill yellow-legged frog and California red-legged frog; wetland mapping; environmental training; SWPPP inspections.

### Electrical Transmission Access Road Maintenance (ET-ARM), 2016-present

Preconstruction surveys; rare plant surveys; habitat assessments; mapping project-related impacts requiring mitigation under PG&E's Bay Area HCP; environmental training; biological monitoring for O&M access road maintenance and vegetation removal.

## SEQUOIA SERVICES

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### Biological Services

- Special Status Species Surveys and Reporting (see separate sidebar)
- Construction Compliance & Biological Monitoring
- Biological Resource Surveys

### Storm Water Services

- Site Inspections and Monitoring
- SWPPP Training Program Design and On-site Crew Training
- On-site Storm Water Collection and Analysis
- Offsite Laboratory Analysis
- Compliance Management

### Environmental Planning and Regulatory Compliance

- FERC Relicensing Documents
- Wetland Delineations and Mapping
- Biological Resource Assessments
- Constraints Analysis
- U.S. Fish and Wildlife Service Section 7 Consultation Support
- Regional Water Quality Control Board Section 401 Water Quality Certification Permitting
- California Department of Fish and Wildlife Section 1602 Lake and Streambed Alteration Agreements
- U.S. Army Corps of Engineers Clean Water Act Section 404 Permits

### Mitigation & Conservation Planning & Implementation

- Mitigation Site Assessments
- Resource Agency Permitting
- Long-term Management Plan Development and Monitoring

### Habitat Restoration Services

- Restoration Planning and Design
- Restoration Monitoring and Reporting
- Habitat Creation, Design and Build (Partnership)

### Geographic Information Systems (GIS)

- Data Capture and GIS Analysis
- Mapping and Cartographic Services
- Wildlife Movement and Corridor Assessment Mapping
- Remote Sensing
- Special Status Species Distribution and Habitat Suitability Analysis



**70Y Wood Pole Replacement Program, 2012-Present**

Desktop environmental reviews and Biological Constraints Reports; preconstruction surveys; rare plant surveys; environmental training; biological monitoring during 70Y pole replacements in suitable habitats for listed species; daily and monthly reporting.

**Midway-Renfro 115 kV Reconductoring: PG&E Southern San Joaquin (SJV) HCP for O&M Activities Biological Support, 2012**

Preconstruction surveys; focused burrowing owl surveys and monitoring during reconductoring; daily preconstruction surveys and monitoring reports according to PG&E's SJV HCP for O&M activities; environmental training; providing oversight during stormwater BMP installation.

**Contra Costa-Moraga 230 kV Protocol Swainson's Hawk & Burrowing Owl Surveys, 2013-2014**

Protocol surveys according to guidelines in East Contra Costa County HCP/NCCP for northern portion of line; constructability walk down with PG&E's land planner during construction bidding process.

**Pittsburg-Tesla 230 kV Reconductoring Project, 2013-2015**

Lead Environmental Inspector; biological monitoring during all reconductoring activities and cage top extensions, including the use of crane and helicopters; daily tailboards and monitoring; preconstruction surveys; daily, weekly, monthly and annual reporting via PG&E's "Kitfox" on-line reporting system; monitoring during weekly helicopter flights to reduce active raptor/corvid nesting on towers scheduled for reconductoring work; ensuring project compliance in accordance with 10 different environmental permits, completing all project work with zero agency non-compliances.

**Crazy Horse Switching Center Wildlife Surveys, 2012**

Rare plant surveys around perimeter of substation prior to construction; sensitive species avoidance flagging (e.g., Santa Cruz tarplant, Congdon's tarplant, Monterey spineflower, woolly-headed lessingia and Yadon's rein orchid); nesting bird surveys prior to vegetation removal and construction.



**SPECIAL STATUS SPECIES  
PERMITS, SURVEYS, AND REPORTING**

**USFWS 10(a)(1)(a) Recovery Permits and MOUs**

- California red-legged frog
- California tiger salamander
- San Francisco garter snake
- Sierra Nevada yellow-legged frog
- Foothill yellow-legged frog
- Burrowing owl
- Vernal pool branchiopods

**Protocol Bird Surveys and Bird Banding**

- Western burrowing owl
- Swainson's hawk
- California spotted owl
- Great grey owl
- Northern goshawk
- Bald and golden eagle
- Least Bell's vireo
- Willow flycatcher

**Protocol Herpetofauna Surveys**

- California red-legged frog
- California tiger salamander
- Foothill yellow-legged frog
- Sierra Nevada yellow-legged frog
- Yosemite toad
- Western pond turtle

**Other Surveys and Services**

- San Joaquin kit fox
- Bats
- Vernal pool branchiopods
- Rare plants
- Vegetation mapping
- GIS and drone services



## Energy Program Experience

### **E-screen Program, 2012-2016**

Desktop constraints reviews; field verification site visits; preconstruction surveys; biological training and biological monitoring during construction.

### **North American Electric Reliability Corporation (NERC), 2013-2015**

Prepare Release-to-Construction notices for NERC-related projects; training and biological compliance support during NERC-related construction; desktop reviews; field verification visits; constraints analyses, biological preconstruction surveys; construction monitoring; daily reporting; surveys within SJV HCP boundary for Tipton kangaroo rat and blunt-nosed leopard lizard; rare plant surveys; bald eagle nest monitoring during active construction via helicopter.

### **Contra Costa Substation Expansion Project, 2013-2014**

Project management support to PG&E's biologist; constructability walkdowns; coordination with other lines of business on PG&E's behalf during construction; species focused surveys and monitoring for burrowing owl and other raptors nesting inside substation during expansion work; species protection and construction oversight.

### **Christie Substation Alameda Whipsnake Habitat Assessment and Substation Expansion Project, 2012 and 2015**

Habitat assessment for Alameda whipsnake to support project permitting; monitoring and inspecting exclusion fencing for Alameda whipsnake during Substation expansion; storm water protection inspections during construction.

### **Helm Substation Burrowing Owl Monitoring, 2013**

Biological monitoring during substation construction to ensure nesting burrowing owls remained undisturbed.

### **Paul Sweet Substation, Santa Cruz, 2013**

Constructability walk down with PG&E project management team to identify environmental and cultural constraints; nesting bird survey to ensure project compliance.

### **Fort Bragg Substation Amphibian Assessment, 2012**

Visual encounter survey and dipnetting to ascertain species of amphibians occupying SPCC pond within substation prior to construction.

### **Caribou-Palermo Rare Plant Surveys, 2013**

Rare plant surveys prior to construction to facilitate electrical transmission reconductoring.

### **Partington Ridge Condor Monitoring, 2013**

California condor monitoring during transmission line helicopter reconductoring to underground lines posing threat to condor breeding success.

### **FAA Lighting Project-Environmental Constraints Review, 2013**

Accompanied PG&E's biologist to provide a constraints analysis on 17 towers proposed for retrofitting for FAA compliance; final memo to support PG&E's permitting efforts.

### **Merced 116 Reconductoring Project, 2012**

Pre-activity surveys for San Joaquin kit fox, burrowing owl, nesting birds, Swainson's hawk, and other sensitive species and habitats covered by PG&E's Southern San Joaquin HCP guidelines prior to reconductoring.





## Gas Line Projects and Programs

Sequoia provides permitting support, performs preconstruction surveys, attends walkdowns, and provides environmental training and construction monitoring on various gas transmission and distribution support programs for several utility clients such as Kinder Morgan, PG&E, and Phillips 66.

### Kinder Morgan LS-72 Carquinez Strait Integrity Digs, 2019-Present

Construction monitoring, pre-construction nesting bird surveys, and pre-construction surveys for sensitive biological resources and special-status species with potential to occur in proximity to work areas.

### Kinder Morgan Pipeline LS-64 Vegetation Clearing, 2018-Present

Biological constraints review to determine potential biological constraints related to proposed vegetation management activities, field verification survey, preparation of project mapping files.

### Phillips 66 Line 200 Anomaly Investigation and Repair, 2017-Present

Biological monitoring; CDFW-approved and USFWS-approved biologist support; pre-construction surveys for California red-legged frog, California tiger salamander, western burrowing owl, San Joaquin kit fox, nesting birds, Swainson's hawk, and golden eagle; infrared camera surveys for San Joaquin kit fox; and protocol rare plant surveys across all project area habitats and landscapes.

### Community Pipeline Safety Initiative (CPSI), 2015-Present

Pre-construction surveys; rare plant surveys; environmental training; biological monitoring; sensitive habitat avoidance; impact assessments and biological compliance with BAHCP, SJVHCP, Santa Cruz LE HCP, CDFW LSAA.

### Pipeline Replacement Program, 2016-Present

Pre-construction surveys; rare plant surveys; environmental training; biological monitoring; sensitive habitat avoidance across PG&Es service territory.

### R-875 Caltrans WRO Salinas River Bridge Seismic Retrofit Project.

Protocol and pre-construction surveys for burrowing owl, least Bell's vireo, San Joaquin kit fox, badger, bats, and Monterey dusky-footed woodrat; biological monitoring; restoration monitoring; environmental training under Federal and State permits (USFWS BO, CDFW 1600, RWQCB MMP, USACE 404).

### R-309b L-107 Irvington Station South Replacement

Project. Pre-construction surveys; wetland delineation; biological monitoring; environmental training under State and Federal permits (CWA 401, USACE 404, USFWS BO).



## Energy Program Experience

### Valve Automation & Valve Repair, Replacement, & Retirement Program, 2017-Present

Pre-construction surveys; biological constraints reviews; environmental training; biological monitoring; sensitive habitat avoidance.

### Pipeline Safety Enhancement Program (PSEP), 2012-Present

**Pipeline Replacement – 114/103, Shorts (Shorts = short pipeline replacement segments).** Project management; environmental training; constraints analyses; nesting bird surveys; sensitive habitat avoidance in support of PG&E's Spans project.

**Hydrotest/Strength Test.** Biological compliance support to various consultants across PG&E's service territory; constraints analyses; monitoring; daily reporting; preconstruction surveys.

### External Corrosion Detection Assessment/Internal Corrosion Detection Assessment (ECDA/ICDA).

Includes spans (atmospheric corrosion-external), Maximum Allowable Operating Pressure (MAOP), In Line Inspection (ILI).

### Cathodic Protection - Tracy Cathodic Testing.

Preconstruction and protocol surveys for sensitive species including San Joaquin kit fox, Burrowing owl, California tiger salamander, Swainson's hawk and nesting birds; construction monitoring; environmental tailboards; daily reporting.

**Pipeline Right-of-Way Maintenance/Vegetation Removal (Pipeline Pathways-Northern and Central Valley Regions).** Preconstruction surveys; walkdowns; environmental training; construction monitoring on approximately 30 projects.

### Maximum Allowable Operating Pressure (MAOP) Validation Digs, 2012-2014

Preconstruction surveys; walkdowns; environmental training; construction monitoring on approximately 20 MAOP projects.

### PG&E Distribution Project Managed Work, 2014-Present

Preconstruction assessments; client coordination; site assessments; reporting; permitting; walkdowns; environmental training; project management.

### CAES Phase 1 Environmental Compliance, 2013

Section 7 Biological Opinion enforcement; biological surveys and monitoring.

### Line 300A and B Centerline Surveys, 2013

Environmental constraints and sensitive species/habitats identification; construction monitoring.

### L306 Vegetation Maintenance Biological Review, 2012

Vegetation mapping and floristic surveys to support gas line vegetation clearing along GL306; GIS mapping and avoidance and minimization measures recorded in letter report to PG&E.







## Hydroelectric Power Generation Projects

Sequoia provides project support on a variety of projects statewide, including permitting, license compliance studies, biological and construction monitoring, permit compliance, protocol-level long-term surveys and studies, restoration planning and implementation, and large- and small-scale construction projects.

### **SoCal Edison's Big Creek Hydroelectric Project, 2012-2013**

Snorkel and terrestrial surveys for various species in challenging terrain; focused surveys for hardhead and salmonid counts; western pond turtle trapping; stream bank visual encounter surveys; field surveys for compliance with long-term Federal Energy Regulatory Commission licensing requirements examining hydropower effects on multiple listed species.

### **Spring Gap Stanislaus, 2012-Present**

**Lyon's Dam.** Biological constraints analysis; wetland delineation; rare plant surveys; protocol surveys for California spotted owl, Northern goshawk; helicopter surveys for nesting bald eagle.

**Philadelphia Diversion and S-83 Gauging Weir Biological Support.** Protocol surveys for California spotted owl, northern goshawk, bald eagle and great grey owl; wetland assessment reports; rare plant surveys, helicopter surveys.

### **Spring Gap Stanislaus Aquatic and Terrestrial Surveys.**

Protocol-level survey (Seltenrich and Poole 2002) for foothill yellow-legged frog of all life stages (egg mass, tadpole, metamorph, and adult); egg mass and tadpole surveys; annual licensing compliance reports.

### **Spring Gap Stanislaus Riparian Vegetation Monitoring and Cattle Exclusion Study.**

Geomorphic assessments; habitat restoration monitoring in support of Federal Energy Regulatory Commission (FERC) relicensing; project management; data collection and analysis.

### **Relief Reach Kennedy Meadows Restoration and Bank Stabilization Project.**

Sierra Nevada yellow-legged frog surveys using PG&E survey protocols, Standard Operating Procedures (SOPs) and data sheets (2001); terrestrial wildlife surveys; nesting bird surveys; rare plant surveys; wetland delineation; permitting and planning (USACE 404, SWRCB 404, and CDFW 1602 Permits).

### **Sand Bar Dam Biological Support.**

Preconstruction surveys for foothill yellow-legged frog, western pond turtle, osprey, great grey owl, bald eagle, pallid bat and Townsend's big-eared bat; nesting bird surveys; daily construction monitoring and environmental compliance.



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**Spring Gap Stanislaus Terrestrial Monitoring.** Cross-section topographic surveys and long-term water quality monitoring at established sites to inform spill channel management.

**Sand Bar Dam Revegetation Project.** Tree mapping; diameter at breast height (DBH) surveys; revegetation plan development, implementation and monitoring; plan reporting and annual monitoring.

**Stanislaus Afterbay Dam.** Preconstruction surveys for foothill yellow-legged frog, fisher and western pond turtle; riparian tree inventory; rare plant surveys; fish relocation; revegetation and restoration monitoring; plan preparation and annual monitoring.

**Pinecrest Lake Rockfall.** Biological surveys; environmental training; project management and client coordination; rare plant surveys.

**Strawberry Weir.** Revegetation implementation and oversight; annual monitoring and reporting.

**Kennedy Meadows Grassland Revegetation Project.** Grassland revegetation oversight; restoration monitoring; photo-documentation.

**Mokelumne River Stream Geomorphology Monitoring Project.** Geomorphic and vegetative field studies in support of FERC license compliance.

### Phoenix Project PAD Relicensing, 2016-Present

Study plan and PAD methodology authorship for multiple document sections; preliminary biological studies for FERC PAD including focused Foothill yellow-legged frog studies and great grey owl and willow flycatcher habitat assessments; focused habitat mapping for all project areas; focused rare plant and invasive weed surveys.

### Phoenix Project Flow Variance Sampling, 2014-2015

In-situ water quality sampling; fish sampling; aquatic habitat assessment; foothill yellow-legged frog egg mass survey.

### Helms Section 7 Biological Assessment, 2015-Present

Habitat suitability assessment and constraints analysis for Sierra Nevada yellow-legged frog, Yosemite toad, and Pacific fisher; Biological Evaluation for formal Section 7 consultation with USFWS for Yosemite toad and conference report for Pacific fisher.

### Crane Valley Wildlife Crossing Study for License Compliance, 2014-Present

Existing information review and feasibility analysis for remote wildlife movement monitoring; remote camera monitoring plan development; remote camera monitoring of Project facilities and wildlife movement; results report and recommendation for facilities improvements to reduce wildlife mortality; facilities improvements oversight and construction coordination; post- construction monitoring and reporting.







## Debie Montana's PG&E Experience

Mrs. Montana has spent roughly half of her career in environmental consulting and half of her career as a terrestrial biologist with PG&E, where she oversaw development, permitting, and construction of PG&E's generation, electric and gas transmission, and distribution facilities. She has developed and overseen capital infrastructure programs with annual operating budgets of over \$100M. This included work on the following projects:

### **PG&E Shell Pond Remediation Project, 2011**

PG&E Shell Pond is a 73-acre former wastewater pond located at the foot of Suisun and Honker Bays within a 292-acre parcel owned by PG&E. Under a cleanup plan approved by the California Department of Toxic Substances Control (DTSC) in 2011, PG&E proposed to remove and dispose of 240,000 cubic yards of material from the pond and re-vegetate nearby areas. As the Sr. Program Manager of Biological Services, Mrs. Montana supervised a team of biologists to conduct environmental inspections (biological and storm water) during the initial phase of construction. Species of concern included burrowing owl, black rail and nesting birds.

### **Contra Costa-Las Positas 230 kV Reconductoring Project, 2010**

The project included the replacement and upgrade of approximately 27 miles of electric transmission line conductor between Contra Costa Power Plant Substation in the City of Antioch and Moraga Substation in the City of Orinda. In addition, approximately 51 existing towers were modified to accommodate the new conductor. The project was located within unincorporated parts of Contra Costa County, as well as the cities of Antioch, Clayton, Walnut Creek, and Moraga.



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Approximately half of the project—between the Contra Costa Substation and Tower 56—was located within the East Contra Cost County Habitat Conservation Plan/Natural Communities Conservation Plan (ECCC HCP/NCCP), and thus, was subject to the take and mitigation guidelines already established under this plan. For the first time, PG&E utilized the HCP to permit a project and was able to complete construction within six months. Mrs. Montana managed the environmental compliance with the HCP NCCP, CDFG, USFWS and USACE, and Contra Costa Water District. She also developed and managed the restoration planning, implementation, and monitoring efforts.

### **Contra Costa-Moraga Reconductoring Project, 2010**

The Contra Costa-Moraga 230-kV Reconductoring Project involves reconductoring an approximately 27-mile long 230-kV transmission line and modifying approximately 70 existing steel lattice towers to accommodate the new conductor. The project area the Contra Costa Power Plant Substation in Antioch to the Moraga Substation in Orinda.

Prior to leaving her position at PG&E, Mrs. Montana assisted in permit planning, preliminary biological surveys and construction planning for the project. Sequoia is currently conducting protocol Swainson's hawk and wintering/breeding burrowing owl surveys along the line in preparation for construction.



## Energy Program Experience

### **PG&E's Avian Protection Program Training DVD- Executive Producer, 2009**

Mrs. Montana contracted, managed, and directed the development of PG&E's Avian Protection Plan Training DVD. The training is required training for all employees within the Company that interact with facilities that have potential to impact nesting bird species.

### **Delta Substation Biological Resource Surveys and Compliance Monitoring, 2007-2008**

Mrs. Montana supervised, coordinated, and conducted preconstruction surveys as well as environmental compliance and biological resource monitoring during construction of the Delta Substation project. Environmental compliance monitoring included daily wildlife surveys, monitoring construction activities for compliance with mitigation measures and permitting requirements, protection of sensitive wetland and riparian habitats, and conducting weekly tailgate meetings and environmental training sessions for all project personnel. Sensitive resource issues included agricultural topsoil preservation, cultural resource sites, wetland and riparian habitat protection and the following sensitive species: valley elderberry longhorn beetle, western burrowing owl, loggerhead shrike, California tiger salamander, California red-legged frog and Swainson's hawks.

### **Jefferson-Martin 230 kV Reconductoring Project- Avian Protection, 2005**

The Jefferson-Martin 230 kV Transmission Line Project, located on the San Francisco Peninsula, installed a new 27-mile 230 kV transmission line with overhead and underground segments, and rebuilt the existing Jefferson-Martin 60 kV double-circuit power line. Mrs. Montana contracted out the development of an Avian Protection Plan and negotiated with both USFWS and CDFG to ensure compliance with state and federal laws as they pertain to migratory birds. Mrs. Montana supervised approximately 30 field biologists, managed the field data, and analyzed the survey/monitoring results during construction. In consultation with the California Department of Fish and Game, the initial survey methodologies were prepared, implemented, and modified during the first few months of the project to improve nest searching effectiveness, minimize monitoring impacts, and facilitate project implementation to the maximum extent feasible.

### **Metcalf-Moss Landing 230 kV Reconductoring Project, 2004**

Mrs. Montana coordinated and conducted initial biological studies along the 36-mile long transmission line between San Jose and Monterey County. All towers, laydown areas, access roads and helicopter landing zones were located and marked via GPS, surveyed for sensitive biological resources, and mapped.



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