

## Brian S. Lohstroh

Principal Biologist

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### Areas of Expertise

- Special Status Species Surveys, Habitat Assessment, Monitoring and Research
- Wetland Delineation
- Permitting and Environmental Analysis
- Nesting Bird Surveys
- Construction Monitoring
- Vegetation Mapping
- Botanical Surveys
- Non-native Species Eradication

### U.S. Fish and Wildlife Service Recovery Permit No. TE-063608-5

#### *Presence/Absence Surveys:*

- Quino Checkerspot Butterfly (Acquired 2002)
- Fairy Shrimp (Acquired 2003)
- California Gnatcatcher (Acquired 2005)
- Southwestern Willow Flycatcher (Acquired 2005)

### Additional Species Experience

- Arroyo Toad (USFWS Approved Handler)
- Desert Tortoise (Approved Handler-Project Based)
- Flat-tailed Horned Lizard (DFW Approved Handler)
- Least Bell's Vireo
- Burrowing Owl Surveys and Relocation
- California Red-legged Frog
- Blunt-nosed Leopard Lizard
- Rattlesnake Relocation
- Wildlife Corridor Studies

### Education

Bachelor of Science, University of California, San Diego: Ecology, Behavior, and Evolution (1997)

### Over 16 Years of Experience

### Insured for Professional & General Liability

### Certified California Micro Business (#1752905)

### Certified City of San Diego Emerging Local Business Enterprise (ELBE #13LB0916)

Mr. Lohstroh is the sole proprietor and Principal Biologist of Lohstroh Biological Consulting, a small, San Diego-based firm established in 2010. Mr. Lohstroh is a USFWS-permitted biologist and has over 16 years of expertise in Southern California ecology. He has successfully completed and managed a wide variety of projects including those focused on wildlife surveys, habitat assessments, exotic predator control programs, and large construction projects requiring coordination of subcontracted biological monitors. Mr. Lohstroh is experienced in writing biological assessments and technical reports, conducting wetland delineations, habitat restoration, botanical surveys including focused rare plant surveys, vegetation mapping, pitfall trapping, environmental permitting and impact analysis. Mr. Lohstroh has also participated in several research projects focusing on the flora and fauna of southern California, including the Long Term Ecological Monitoring Project on Marine Corps Air Station Miramar, the Bird and Plant Atlas Projects with the San Diego Natural History Museum, and the Desert Tortoise Reproductive Study conducted by the Biological Research Division of the U.S. Geological Survey. Mr. Lohstroh regularly conducts nesting bird surveys for large scale projects, including the Tactical Infrastructure Maintenance and Repair Project along the International Border, SDG&E Wood to Steel, and the recently completed Sunrise Power Link.

### Project Experience

**Principal Biologist & Lead Biological Monitor, U.S. Border Patrol Tactical Infrastructure Maintenance and Repair Project, San Diego and El Centro Sectors.** Performed a number of duties for a contractor providing ongoing infrastructure maintenance along the international border in southern San Diego and Imperial counties. Identified key biological constraints and environmental compliance requirements, prepared results and provided recommendations in detailed reports on a short deadline. Conducted on-call nesting bird surveys, coordinated long-term biological monitoring, FTHL monitoring, provided support for Clean Water Act compliance and devised other environmentally-sound solutions for successfully executing the maintenance program. (2012 to present)

**Base Wide California Gnatcatcher Surveys, Marine Corps Base Camp Pendleton, California.**

Performed three rounds of protocol California gnatcatcher surveys on several 100-acre areas throughout the base. Documented nesting pairs and collected qualitative habitat data for each pair. Coordinated with the base to obtain permission to occupy restricted training areas. (2014)

**Cold Creek Southwestern Willow flycatcher Surveys, San Bernardino National Forest, Angeles Oaks, California.**

Conducted flycatcher surveys along a rugged one-mile segment of Cold Creek from its confluence with the Santa Ana River to State Highway 38. These surveys are part of a multi-year monitoring program documenting the creek's recovery from a diesel fuel spill. (2014)

**Arroyo Toad Clearance Surveys and Monitoring, SDG&E Talega Canyon Pole Replacement Project, San Juan Capistrano, California.**

Performed arroyo toad exclusionary fence clearance surveys and construction monitoring in support of replacement of two steel poles along Talega Canyon in Rancho Mission Viejo. Relocated 6 arroyo toads from within two discrete exclusionary fence areas around a helicopter landing zone and pole work area. Coordinated with SDG&E and USFWS to provide an expert opinion and clearance survey data. (2013)

**Rare Plant and California Gnatcatcher Surveys, SX to PQ Wood to Steel/Upgrade Project, San Diego-Poway, California.**

Conducted focused surveys for rare plants and California gnatcatchers along a proposed wood to steel alignment from the Peñasquitos Substation in north San Diego to the Sycamore Substation in Poway. Supported production of a draft Biological Technical Report. (2013 to present)

**Belding's Savannah Sparrow, California Gnatcatcher, Southwestern Willow Flycatcher and Least Bell's Vireo Surveys, Olivenhain Trunk Sewer Project, Encinitas, California.** Assessed habitat and conducted surveys along a trunk sewer alignment for Belding's savannah sparrow, California gnatcatcher, least Bell's vireo and southwestern willow flycatcher in Escondido Creek and the San Elijo Lagoon. (2012-2013)

**Arroyo Toad Biologist, P1093/P1094 Utility Upgrade Project, Marine Corps Base Camp Pendleton, California.**

Provided on-call biological services for the base-wide utility pole replacement project. Assessed habitat and provided justification for avoiding installation of arroyo toad exclusionary fencing along a series of several utility poles. Conducted nocturnal arroyo toad clearance surveys at other utility pole locations surrounded by arroyo toad exclusionary fence. (2013)

**Biological and Aquatic Resource Monitor, San Diego Gas and Electric TL6910 Wood to Steel Project, Chula Vista, California.**

Conducted nesting bird surveys and provided biological and aquatic resource monitoring support for a 4 mile long wood to steel utility pole conversion project. Alignment traverses sensitive habitat associated with Salt Creek and the Otay River Valley and includes habitat for California gnatcatcher, least Bell's vireo, Quino checkerspot butterfly, and rare plants. (2013)

**Area 52 Fueling Station (BFOP) Arroyo Toad Handler/Monitor, Marine Corps Base Camp Pendleton, California.**

Monitored the installation of an arroyo toad exclusionary fence around a fueling station construction site adjacent San Onofre Creek. Conducted daily exclusionary fence surveys as an arroyo toad handler in morning before construction initiated and in the afternoon after construction ended per MCBCP mitigation requirements. (2012)

**Protocol California Gnatcatcher, Least Bell's Vireo, and Southwestern Willow Flycatcher Surveys, Oceanside, California.**

Performed protocol surveys for all three species on a site proposed for development. Searched for *Brodiaea filifolia* in suitable habitat. (2012)

**Protocol California Gnatcatcher Surveys, Tecolote Canyon, San Diego, California.**

Documented eleven gnatcatcher territories and monitored the breeding status of the resident pairs along a utility line corridor slated for improvements from the vicinity of the Tecolote Canyon golf course to the University of San Diego Campus (Approx. 1.6 miles). Documented findings in an exhaustive report with detailed location mapping. (2012)

**Biological Resources Permitting Lead, Kinder Morgan – Calnev Expansion Project.** Coordinated all focused biological surveys, including SW willow flycatcher, least Bell's vireo, California gnatcatcher, desert tortoise, arroyo toad, burrowing owl, Mohave ground squirrel, San Bernardino kangaroo rat, rare plants, and wetland delineation for a 234-mile long pipeline replacement and expansion (Colton, California to Las Vegas, Nevada). Procured and managed several subcontractors, in addition to an internal team of biologists from California, Alaska, Utah and the east coast. Completed the biological technical report, biological assessment & supplement, weed management plan, and restoration plan per BLM and USFS requirements. (2007-2012)

**Avian Biologist, Arroyo Toad Biologist and Biological Monitor, Sunrise Power Link Project, San Diego to El Centro, California.** Performed nesting bird surveys, nest monitoring, flat-tailed horned lizard and arroyo toad monitoring for the entire 120-mile Sunrise Power Link right-of-way, reconductor lines, and substations. Surveyed for listed species, raptors and other nesting birds up to 500 feet away from work areas; completed daily reports. Locations of all nesting attempts were recorded with GPS-equipped Pen Tablets, and recommendations were made for nest buffers to avoid impacts on nesting birds while allowing construction to proceed. Conducted weekly California gnatcatcher and least Bell's vireo surveys to monitor presence and breeding status near project features. Monitored surveyor and construction crews helicoptered into remote locations throughout the alignment. (2010-2012)

**Wetlands Delineation, San Marcos, California.** Assisted with a jurisdictional delineation along San Marcos Creek as part of the implementation of a proposed restoration area for Hunter Industries. (2011-2012)

**Wetlands Delineation, Reach the Beach Project, Del Mar Fairgrounds, California.** Assisted with a jurisdictional delineation along San Dieguito River and Lagoon as part of the proposed Reach the Beach trail segment of the Coast to Crest Trail. (2011)

**Protocol Vernal Pool Branchiopod Surveys, Marine Corps Base Camp Pendleton, California.** Conducted vernal pool surveys for the Base-wide Inventory Project where Mr. Lohstroh surveyed over 200 pools, collected specimens, and collected data within handheld pocket PC. Provided logistics on the base for dry season sampling by Marie Simovich of USD. Coordinated access to training areas as the designated Range Safety Officer. (2010-2011)

**Protocol Quino Checkerspot Butterfly and Arroyo Toad Surveys, Viejas/El Capitan Grande Fuels Management Project, Alpine, California.** Performed protocol Quino checkerspot butterfly surveys along and adjacent to over 3 miles of unpaved roads. Conducted protocol arroyo toad surveys along segments of King Creek and Los Conejos Creek for a proposed brush clearing project on the El Capitan Indian Reservation. Fieldwork required Native American escorts for the biologists participating in the project. Created project boundary files for use with GPS and provided peer review of final reports. (2010)

**Protocol Quino Checkerspot Butterfly Surveys, SDG&E East County Substation Project, Jacumba, California.** Conducted protocol Quino checkerspot butterfly surveys on over 500 acres of suitable habitat, including over 13 miles of proposed transmission lines. Participated on a team with five other biologists, and monitored a known Quino population on the site. Provided peer review of final report. (2009-2011)

**Protocol Quino Checkerspot Butterfly, Vegetation Mapping and Rare Plant Surveys, Campo Wind Energy Project, Campo, California.** Conducted protocol surveys for Quino on over 3400 acres of suitable Quino habitat, and conducted rare plant surveys on over 4400 acres of habitat for a proposed wind energy project on the Campo Indian Reservation. Fieldwork required Native American escorts for the 25+ biologists participating in the project. Rare plant species searched for included desert beauty (*Linanthus bellus*), sticky geraea (*Geraea viscida*), southern jewelflower (*Streptanthus campestris*) and Jacumba milk-vetch (*Astragalus douglassii* var. *perstrictus*). (2010)

***Biological Inventory Surveys, Otay Land Company Parcel D, Jamul Mountains, California.***

Conducted surveys for Quino checkerspot butterfly, and general biological surveys for special status species on an 1800-acre area in the Jamul Mountains. Documented several populations of Quino, and compiled an inventory of over 20 special status plant and animal species. (2000-2009)

***Desert Tortoise Relocation Plan Lead, Calico Solar Energy Facility Application for Certification (AFC) and Environmental Impact Statement (EIS), Pisgah, California.*** Prepared a desert tortoise translocation plan for a 15,000-acre, 800MW thermal generating facility located within San Bernardino County. Participated as a team lead for burrowing owl surveys covering the entire site and managed the coordination of field teams and equipment. (2009)

***Biology Task Lead, Gregory Canyon Landfill Permitting and Compliance, Pala, California.***

Provided support for Endangered Species Act compliance, jurisdictional waters permitting, and arroyo toad impact assessment and surveys. Conducted arroyo toad monitoring surveys, and over 50 hours of upland arroyo toad surveys to gather data on non-breeding arroyo toad activity along the San Luis Rey River. Conducted southwestern willow flycatcher surveys and documented least Bell's vireo habitat usage along the San Luis Rey River. (2005 to present)

***Peninsular Bighorn Sheep Biological Assessment, Imperial Valley Solar Facility AFC and EIS, Imperial County, California.*** Prepared a biological assessment for Peninsular bighorn sheep in support of an Application for Certification for an 7,000-acre, 800MW thermal generating facility located within Imperial County. (2009)

***California Red-legged Frog, Arroyo Toad, Least Bell's Vireo and Southwestern Willow Flycatcher Surveys, Santa Clarita, California.*** Conducted USFWS protocol surveys along a proposed rail alignment. Detected a previously undocumented population of California red-legged frogs along a tributary to the Santa Clara River/Soledad Canyon. Assessed and surveyed over 10 miles of habitat for the frog, toad, vireo and flycatcher. (2009-2010)

***Biological Surveys and Assessment, Flat Rock Land Company Parcels A, B, and C, Chula Vista, California.*** Managed and performed Quino checkerspot butterfly surveys, least Bell's vireo surveys, California gnatcatcher surveys, special status plant surveys, vegetation mapping, wetland delineation and impact assessment on parcels along the Otay River Valley. Compiled field data and prepared biological technical reports. (2000-2010)

***Blunt-nosed Leopard Lizard Surveys, San Joaquin Solar 1&2 Hybrid Power Plant, Coalinga California AFC.*** Conducted surveys for blunt-nosed leopard lizard, San Joaquin antelope squirrel, kangaroo rat, and performed general wildlife and vegetation mapping of a 640-acre site and 6-mile transmission line alignment in Fresno County, CA. (2009)

***Blunt-nosed Leopard Lizard Surveys, SunPower California Valley Solar Ranch, California.***

Conducted blunt-nosed leopard lizard survey within a team of biologists in support of a Conditional Use Permit for a photovoltaic facility located within San Luis Obispo County. The project survey effort covered 19,000 acres. Other species observed included San Joaquin kit fox. (2008-2009)

***Senior Project Biologist, Coastal Rail Trail, San Diego, California.***

Led a team of biologists who conducted least Bell's vireo and California gnatcatcher surveys and wetland delineations along a segment of Rose Canyon in support of permitting this project for the City of San Diego. (2007-2009)

***Biology Task Lead, I-805 Managed Lanes Project, San Diego, California.*** Led and managed listed species surveys, including least Bell's vireo, southwestern willow flycatcher, California gnatcatcher, vernal pool brachiopods, and Quino checkerspot butterfly. Also participated as a task leader for the wetland delineation along a 15 mile stretch of freeway. Prepared NES for Caltrans. (2006-2007)

**Wildlife Corridor Study, Del Mar, California.**

Conducted a wildlife corridor assessment for a horse stable located within a suspected wildlife linkage corridor. Installed and maintained 30 gypsum powder passive tracking stations and 5 infrared sensor cameras. Identified tracks and scat of large mammal species, including, bobcat, coyote, and southern mule deer. (2006)

**Arroyo Toad and Southwestern Willow Flycatcher Surveys, Whitewater Canyon, Riverside County, California.** Conducted USFWS protocol arroyo toad and southwestern willow flycatcher surveys along a 2000 foot segment of Whitewater Canyon in support of a FEMA permitting program. (2006)

**Burrowing Owl Passive Relocation, Caltrans State Route 7, Calexico, California.** Constructed artificial burrows and passively relocated over 50 pairs of burrowing owls for a road project in the Imperial Valley. Monitored nesting pairs and burrow occupation with a fiber-optic scope. (2005)

**Exotic Predator Control, San Mateo Creek and Lagoon, San Onofre, California.** Coordinated and executed an exotic predator control program at San Mateo Creek in San Diego County. Removed exotic species including bullfrogs, crayfish, and mosquito fish using gigs and seines to benefit native rare tidewater gobies and arroyo toads. Managed the project database, provided biweekly summary reports to CalTrans, and composed a summary report. Conducted diurnal and nocturnal eradication with the aid of seine nets, dip nets, and frog gigs. Obtained approval from USFWS to conduct these activities in arroyo toad habitat. Collaborated with ichthyologist Camm Swift during the entire program. (2004-2005)

**Fairy Shrimp Surveys, SONGS RPV Transport Marine Corps Base Camp Pendleton, California.** Identified federally listed Riverside fairy shrimp (*Streptocephalus woottoni*), and San Diego fairy shrimp (*Branchinecta sandiegonensis*) during presence/absence surveys of approximately 50 vernal pools. (2005)

**Restoration Monitoring, Dana Point Headlands, California.** Conducted point-intercept transects for a revegetation monitoring program. Collected rare plant (cliff spurge) location data using a submeter GPS in order to avoid potential impacts resulting from the proposed development of an interpretive trail within the headlands preserve. (2003-2007)

**Special Status Species Surveys, Twin Creeks Ranch, Aguanga Valley, California.** Conducted Quino checkerspot butterfly, least Bell's vireo and southwestern willow flycatcher surveys for the land owner in anticipation of a proposed development. Detected a previously undocumented population of Quino. (2003)

**Special Status Species Surveys and Wetlands Delineation, Pacific Clay Products, Alberhill, Riverside County, California.** Conducted Quino checkerspot butterfly, least Bell's vireo and southwestern willow flycatcher surveys for the clay harvesting facility. Performed a jurisdictional delineation along Temescal Creek, and orchestrated completion all pertinent reports and figures in coordination with GIS analysts. (2003)

**Fairy Shrimp Surveys, Kinder Morgan Concord to Sacramento Pipeline, Central Valley, California.** Assisted a permitted biologist with surveys for fairy shrimps along a proposed gas pipeline corridor. Dip-netted over 200 pools. Fairy shrimp observed included the U.S. Fish and Wildlife listed endangered vernal pool fairy shrimp (*Branchinecta lynchi*) and vernal pool tadpole shrimp (*Lepidurus packardii*), as well as midvalley fairy shrimp (*B. mesovallensis*), California fairy shrimp (*Linderiella occidentalis*) and versatile fairy shrimp (*B. lindahli*). (2002)

**Limonite Avenue Wetlands Delineation, Riverside County, California.** Assisted with conducting a jurisdictional delineation along a segment of Limonite Avenue, a road requiring county improvements. Dug soil pits, identified vegetation, and assessed hydrology. (2002)

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**Biological Assessment, Prescribed Burn Program, Federal Emergency Management Agency, San Bernardino, California.** Performed an Assessment of USFS modeled habitat and conducted special status species surveys in the Front Range of the San Bernardino Mountains. Assessed impacts on California gnatcatcher, least Bell's Vireo, southwestern willow flycatcher, arroyo toad, and Nevin's barberry for a prescribed burn program. Prepared Biological Assessment for FEMA. (2001-2003)

**Wetlands Habitat Assessment, Gas Research Institute, Midland, Michigan.** Assessed local effects to habitat and wildlife from pipeline rights-of-way through wetlands. Recommended best management practices as part of an adaptive management approach to minimizing impacts and facilitating reclamation. Published findings in a final report. (2001)

**Project Biologist, State Route 58 Bypass Freeway Project, CalTrans, Mojave, California.** Supervised and orchestrated preconstruction surveys and construction monitoring for a major road construction project through desert tortoise habitat. Implemented the worker environmental awareness program, and conducted regular biological monitoring visits of project site. (2000-2004)

**Permit Compliance and Restoration Monitoring, San Diego River Improvement Project, Lakeside Land Development Company, California.** Involved in Section 404 permitting and Endangered Species Act Compliance for a major floodplain-restoration project on the San Diego River. Participated in habitat restoration implementation, including vegetation transects and data analysis. Conducted regular biological monitoring visits of project site, and documented recolonization of least Bell's vireo into a reclaimed sand mine. (2000-2006)

**Wildlife Corridor Study, Chino Hills, California.** Led a team of biologists for a large-scale wildlife corridor assessment in the hills of Orange County. Monitored and maintained 90 passive tracking stations and completed 6-mile transects locating and identifying tracks and scat of large mammal species, including mountain lion, bobcat, coyote, and southern mule deer. Managed the project database and directed creation of exhibits with GIS. (2000)

**Storm Drain GPS Survey, Port of San Diego, California.** Collected global positioning system data of storm drain systems within parks owned by the Port of San Diego. Instructed others in the use of the submeter Trimble GPS system. Performed data post-processing and managed the GIS database. (2001)

**AFC Biology Task Lead, Pacific Gas and Electric Generating Company, Otay Mesa Power Generating Plant, San Diego, California.** Conducted least Bell's vireo, Quino checkerspot butterfly and general biological surveys for a biological resource assessment and prepared the biology section of the Application for Certification. Coordinated the preparation of the biology report for the County of San Diego, biological assessment for the U.S. Fish and Wildlife Service, and biological resources mitigation and implementation plan for the California Department of Fish and Game and U.S. Fish and Wildlife Service. Maintained GIS map updates for all documents. (1999-2000)

**Biological Monitor, Range 314, MCB Camp Pendleton, California.** Monitored construction to ensure avoidance of endangered arroyo toad and other sensitive species during a communications line installation project adjacent to San Mateo Creek. Trained construction crews in the identification of protected species and ways to reduce impacts to species' habitat. (1999)

**Brown Pelican Monitoring, Harbor Dredging, Marina Del Rey, California.** Conducted nocturnal monitoring of roosting endangered California brown pelicans during harbor dredging operations. Observed pelicans with night-vision binoculars. (1999)

**Light-footed Clapper Rail Surveys, Sweetwater River, Bonita, California.** Conducted light-footed clapper rail presence/absence surveys in freshwater marsh habitat along the Sweetwater River. Conducted territory photo-documentation. (1999)

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**Biological Monitoring, San Elijo Joint Powers Authority Water Reclamation Project, San Elijo Lagoon, Cardiff, California.** Performed daily biological monitoring during pipeline installation and horizontal directional drilling operation. Duties included monitoring construction limits, water quality, and California gnatcatcher activity in the work area. Completed daily reports with a shorebird and upland bird list and took construction photographs. (1999)

**Long Term Ecological Monitoring Project, Marine Corps Air Station Miramar, San Diego, California.** Participated in a pitfall trapping program (4,500 pitfall trap days) capturing mammals, reptiles, and amphibians for five-year ecological monitoring study. Conducted introduced bullfrog and fish control using seine nets, dip nets, and hand capture. Performed over 230 trap hours of small mammal-trapping, and became familiar with procedures associated with proper handling and identification of small mammals captured with both Sherman and Stoddard traps and skill at identifying mammal tracks. Maintained and analyzed species data using Microsoft Access, and Excel. (1998-2000)

**Arroyo Toad Surveys and Permit Compliance, Sloan Canyon Sand Company Project, Dehesa, California.** Involved in management of Endangered Species Act compliance and developing a plan to mine while conserving the endangered arroyo toad population. Participated in construction monitoring and arroyo toad surveys. (1999-2003)

**Storm Drain Habitat Assessment, San Diego County, California.** Conducted preliminary evaluations of 718 storm drain sites for the County of San Diego Department of Public Works in support of RGP 63 compliance. Habitat evaluations considered use by arroyo toad, willow flycatcher, least Bell's vireo, and California gnatcatcher. Photographs were taken when required and storm drain site descriptions and characteristics formatted and organized into a large Excel database. (1998-1999)

**Exotic Predator Control, Sweetwater River, San Diego, California.** Assisted with removal of exotic fish, crayfish, turtles and bullfrogs with the aid of a fine-mesh seine and dip nets within the Sweetwater River in the vicinity of the Sweetwater Reservoir. (1998)

**Arroyo Toad Exclusionary Fence Installation, San Pasqual Valley, California.** Installed 7,020 feet (nearly 1.3 miles) of arroyo toad exclusionary fence using a trencher and hand tools in the San Dieguito River for the City of San Diego. Monitoring surveys conducted subsequently. (1998)

**Volunteer Biologist, Desert Tortoise Reproductive Study, Mojave National Preserve (Joshua Tree National Park) and Mesa Power Station (Palm Springs, California).** Provided technical support, including recovering desert tortoises with radio telemetry, transmitter attachment/logistics, x-radiography procedures, conducting field surveys of tortoises, vegetation sampling, and data entry. (1998)

*Additional Project Experience and Credentials Available On Request*