

Highlights

- Special status and general bird surveys and nest monitoring
- Small mammal trapping and identification
- Herpetological Surveys and Identification (including arroyo toad and red-legged frog)
- General wildlife inventories and butterfly surveys (including Hermes Copper)
- Wildlife tracking
- Vegetation mapping, restoration monitoring
- Botanical surveys

U.S. Fish and Wildlife Service Recovery Permit No. TE170389-5

Survey and nest monitoring:

- Southwestern Willow Flycatcher
- Least Bell's Vireo
- Coastal California Gnatcatcher
- Quino Checkerspot Butterfly
- Vernal Pool Branchiopods
- Western Yellow-billed Cuckoo (application pending)

California Department of Fish and Game Scientific Collecting Permit No. SCP-9719

Survey, live trap, handle, salvage small mammals, reptiles and amphibians, including:

- Yuma Hispid/Colorado River Cotton Rat
- Palm Springs Pocket Mouse
- Flat-tailed horned Lizard

*Presence/absence survey and nest monitoring**

- Willow Flycatcher (all subspecies)*
- Least Bell's Vireo*
- Arizona Bell's Vireo*
- Coastal California Gnatcatcher*
- Western Yellow-billed Cuckoo
- California Spotted Owl
- Elf Owl

Education

California Polytechnic University, San Luis Obispo, CA. Bachelor of Science- Ecology & Systematic Biology (2003)

Mr. Cooper is co-owner and Principal Biologist of Halcyon Environmental. Through a multi-disciplinary education and extensive project experience, he is very experienced working in the areas of ornithology, botany, mammalogy, and herpetology.

As a field biologist for more than 13 years, Mr. Cooper has worked on projects from Alaska to Mexico, spending thousands of hours in the field conducting biological surveys, focused sensitive species surveys, small mammal trapping, reptile and amphibian surveying and handling, vernal pool branchiopod surveys, identifying plants and construction monitoring. In addition to terrestrial bird species he has accumulated hundreds of hours capturing, handling, banding, bleeding and taking biopsies and diet samples from hundreds of seabirds. He has participated in and managed many aspects of focused wildlife surveys, habitat assessments and exotic predator control programs. Mr. Cooper is very experienced writing habitat assessments, technical reports, nesting bird survey reports, and focused sensitive species survey reports.

He has worked for a variety of clients that have included overhead utilities, natural gas, commercial developers and water utilities companies. Mr. Cooper has experience working with Section 7 of the Endangered Species Act, California Endangered Species Act, Section 1600 of the California Fish & Game Code, Migratory Bird Treaty Act, and Section 404 & 401 of the Clean Water Act. As a Southern California native, he possesses a well-rounded background in California natural history as well as an understanding of wildlife distribution and identification of local flora and fauna.

Project Experience

San Diego Gas & Electric (SDG&E), Cleveland National Forest Wood-to-Steel C78/TL625 Hermes Copper Protocol/Vegetation Mapping, Alpine, CA (2015) As a CPUC approved surveyor, conducted County of San Diego protocol level surveys, host plant vegetation mapping, and suitable habitat mapping of approximately 200 acres along an existing alignment.



Southern California Edison (SCE) Tehachapi Renewable Transmission Project (TRTP), Los Angeles, CA (2015) Conducted qualitative restoration monitoring of recovering tower sites that included native and non-native species identification and associated data entry/reporting.

The Rilmington Group, 30-Day Burrowing Owl Clearance Survey, Indio, CA (2015) Conducted a 30-Day Burrowing Owl clearance survey and general nesting bird survey in support of proposed grading activities.

SDG&E Sycamore to Penasquitos Burrowing Owl Survey, San Diego, CA (2015) Conducted protocol level Burrowing Owl surveys in support of the biotechnical report for a proposed transmission line.

Confidential Client, California Gnatcatcher Presence/Absence Survey, Poway, CA (2015) Conducted a protocol level CAGN survey in occupied habitat that will be used as future mitigation property.

SCE, Hazardous Tree Removal Project Arroyo Toad Surveys, Banning/Lake Arrowhead, CA (2015) Conducted diurnal and nocturnal presence/absence surveys within suitable habitat near San Bernardino National Forest in support of tree trimming along an existing SCE alignment.

Caltrans Schuyler Heim Bridge Replacement, Port of Long Beach, CA (2015) Conducted avian nest surveying and monitoring, implementing passive nesting deterrents, and monitoring the dismantling activities of the old bridge.

SDG&E, Sunrise Operations & Maintenance Nesting Bird Surveys, San Diego County, CA (2015) Conducted general and California Gnatcatcher pre-construction nesting bird surveys along various locations of the existing alignment in support of overhead, road, and helicopter activities.

Proctor Valley Quino Checkerspot Butterfly Surveys, Chula Vista, CA (2015) Conducted protocol level Quino checkerspot butterfly surveys and larval host/adult nectar source vegetation mapping within suitable habitat at a 249 acre site located near Otay Lakes. Larval host plant mapping for Hermes Copper butterfly was identified and mapped.

US Navy Camp Monsoor, Quino Checkerspot Butterfly Surveys, Campo, CA (2015) Conducted protocol level Quino checkerspot butterfly surveys and larval host/adult nectar source vegetation mapping within 200 acres of suitable habitat near Campo.

Montebello Annual California Gnatcatcher Point Count, Montebello, CA (2015) Conducted California Gnatcatcher population point counts within a recovering area of coastal sage scrub.

Mill Creek Bridge Project, Mentone, CA (2015) Conducted protocol level California Gnatcatcher presence/absence surveys at a 4 acre site in occupied habitat.

Apex Contracting and Restoration, Santa Ysidora Restoration Project, Camp Pendleton, CA (2015) Conducted biological monitoring of restoration activities within arroyo toad habitat. Her duties included ensuring the integrity of the arroyo toad exclusionary fencing and that no arroyo toads were harmed during construction activities.

Imperial Irrigation District (IID) Path 42 Transmission Upgrade Project, Coachella, CA (2014-2015) Conducted preconstruction nesting bird surveys along the 20 mile long transmission project. Monitored construction activities and ensured compliance with the project's mitigation measures and completed daily monitoring/survey reports.

SDG&E Wood-to-Steel, Tie-Line 649, Otay Mesa, CA (2014) Conducted preconstruction riparian bird surveys for Willow Flycatcher, Least Bell's Vireo and Western Yellow Billed Cuckoo along 5.5 miles of the Otay River.

SDG&E Wood-to-Steel Tie-Line 637, Ramona, CA (2014) Conducted preconstruction nesting bird surveys and nest monitoring along the 16 miles transmission line, monitored active nests in the vicinity of construction activities, and ensured construction compliance with project specific mitigation measures.

Institute for Wildlife Studies, San Clemente Island Sage Sparrow Annual Baseline Survey- San Clemente Island, CA (2013-2014) Conducted annual baseline surveys to determine the population of the federally threatened San Clemente Island Sage Sparrow. Several individuals were identified and their locations logged with a GPS unit in boxthorn maritime scrub habitat.

Utilities Installation Project, Camp Pendleton, CA (2013) Conducted preconstruction nesting bird surveys and focused California Gnatcatcher surveys along several miles of right-of-way for various electrical transmission and pipeline installation projects.

BNSF Emergency Railway Repair Project, Needles, CA (2013) Monitored construction activities and vegetation removal, led morning tailboards, and cleared work areas for desert tortoise prior to work activities in occupied desert tortoise habitat. Collected vegetation data prior to removal for restoration purposes.

Utilities Installation Project, Camp Pendleton, California (2013) Monitored overhead construction crews while working near habitat occupied by special status species including California Gnatcatcher, Least Bell's Vireo Arroyo Toad and listed Fairy Shrimp. Documented compliance with conservation measures.

San Bernardino Department of Public Works Annual Road Grading, Afton Canyon, CA (2013) Monitored a grading crew in occupied desert tortoise habitat. Conducted hourly sweeps of the access road in order to prevent desert tortoise fatalities.

SDG&E Sunrise Powerlink Project, Scripps Ranch to El Centro, California (2008-2012) Conducted pre-construction nesting bird surveys and focused protocol wildlife surveys along the 120 miles right-of-way, extensive California Gnatcatcher surveys and monitoring to determine presence and breeding status near project features, surveyed for other sensitive wildlife including Least Bell's Vireo, Southwestern Willow Flycatcher, Arroyo Toad and Quino Checkerspot Butterfly. Conducted over 1,500 hours of construction monitoring, including initial vegetation clearing and grading of a 60 acre substation, miles of access roads, pull sites and tower pads in native habitat. Ensured work maintained compliance within project specific mitigation measures and filed daily monitoring reports.

Knottwood Way Bridge Project, Bonsall, CA (2011) Conducted pre-construction Arroyo toad, Least Bell's Vireo and Southwestern Willow Flycatcher surveys at a 6 acre site along a tributary of the San Luis Rey River and made avoidance recommendations for construction activities.

Laguna Canyon Wetlands and Riparian Mitigation Project Laguna Beach, CA (2010-2011) Conducted Least Bell's Vireo and Southwestern Flycatcher surveys in a 120 acre riparian restoration site.

Temecula Medical Center Project, Riverside County, CA (2010) Conducted protocol presence/absence surveys for Southwestern Willow Flycatcher on a 2 acre site.

City of Industry Recycled Water Project - Zone 900 Reservoir Project (2010) Conducted protocol California Gnatcatcher surveys on the 4 acre project site, and located an incidental Least Bell's Vireo pair nesting within the construction buffers.

Los Angeles-San Diego-San Luis Obispo(LOSSAN) San Onofre to Pulgas Double Track Railway Upgrade Project, Camp Pendleton, CA (2010) Conducted protocol California Gnatcatcher surveys along a 6 mile stretch of railway, identifying numerous pairs of the target species.

Pio Pico Energy Center Project, Otay Lake, California (2010) Collected baseline biological data for a proposed 350 acre project site with high biodiversity and many sensitive species. Daily surveys included full protocol surveys for Least Bell's Vireo, Southwestern Willow Flycatcher, Quino Checkerspot Butterfly, Fairy Shrimp, and botanical surveys.

Burrowing Owl and Fairy Shrimp Surveys, Perris, CA (2010) Conducted full protocol surveys on a 1,100 acre site identifying several pairs of Burrowing Owl and active burrows. Assisted with Fairy Shrimp surveys and identifying special status shrimp species.

Riverside County Transportation Department (RCTD) Pigeon Pass Transportation Corridor Project, Moreno Valley, CA (2010) Conducted protocol Least Bell's Vireo, Southwestern Flycatcher and Yellow Billed Cuckoo surveys in suitable habitat on a 20 acre site.

USGS Bell's Vireo and Willow Flycatcher Surveys, Camp Pendleton, CA (2009) Responsible for conducting protocol surveys for 156 Least Bell's Vireo territories and nest monitoring for 16 of those territories in addition to one polygynous Southwestern Willow Flycatcher pair in areas with severe cowbird parasitism. Duties included plot-transect vegetation sampling, plant ID, cowbird egg removal, and measuring nests characteristics, and maintaining an electronic database of all data collected.

IID Habitat Conservation Plan Baseline Biological Surveys, Imperial County, CA (2007-2009) Assisted in developing and implementing a study design for this 3-year project (640,000 acre area), that focused on evaluating the habitat suitability and presence/absence of 84 sensitive plant, invertebrate, amphibian, reptile, bird, and mammal species with to a establish a long-term monitoring plan and support the Imperial Valley NCCP.

All-American Canal Lining Wetland Restoration and Wildlife Monitoring Project, Imperial County, CA (2008) Conducted extensive literature review and site reconnaissance; assisted in the design of a rigorous avian and mammal monitoring study; conducted a pilot study to determine the feasibility of the initial survey methodology; conducted bird point count and mammal track station surveys to determine changes in relative abundance and distribution of wildlife species associated with wetland enhancement activities. Assisted in preparation of technical reports associated with studies.

Willow Flycatcher Survey and Nest Monitoring, Big Sandy River Bridge Widening Project, ADOT, Wikeup AZ (2007) While working under contract with the Arizona Department of Transportation, solely conducted surveys and monitoring of 21 Southwestern Willow Flycatcher territories to determine effects of a bridge-widening project over the Big Sandy River in Arizona. Duties included territory searching, nest monitoring, protocol level surveys and operation and maintenance of cowbird traps.

Desert Ranch Project Site, Indio, CA (2006) Conducted focused desert tortoise and Burrowing Owl protocol surveys through transects on a 4,000 acre project site documenting numerous Burrowing Owl pairs.

Pine Valley Estates Project, Chino Hills, CA (2006) Conducted protocol level Least Bell's Vireo and general bird surveys and monitored nests of numerous passerine bird species on a 53 acre site.

LVSD School and Bridge Construction Project, Thousand Oaks, CA (2006) Monitored vegetation clearing and grading activities and conducted nesting bird surveys and associated nest monitoring.

Laysan Albatross foraging ecology study, Guadalupe Island, MX (2006) Under the direction of a UC Santa Cruz doctorate student, monitored nests

of several dozen pairs of Laysan Albatross and assisted in data collection. Duties included collecting diet and blood samples, banding, attaching and retrieving satellite transmitters and stomach temperature loggers, conducted point counts for terrestrial birds and assisted with small mammal trapping and predator control on the island.

Yerba Buena Elementary School Project, Agora Hills, CA (2005- 2006) Conducted nesting bird surveys and nest monitoring on this 10 acre site.

Bird Point Count and Insect Surveys, Irvine CA (2005) Conducted bird point counts and insect surveys at a 2 acre site along San Diego Creek.

Burrowing Owl Surveys, Ontario, CA (2005) Conducted protocol level Burrowing Owl surveys on a 260 acre site, identifying active burrows, pellets, and several pairs of Burrowing Owl.

Los Angeles Department of Public Works (LADPW) Debris Basin Maintenance Project, Los Angeles Co., CA (2005) Conducted nesting bird and protocol Least Bell's Vireo surveys at various sites throughout LADPW jurisdiction from Castaic to Pasadena and Thousand Oaks.

Serenity Estates Project, Wildomar CA (2005) Conducted nesting bird surveys on a 60 acre site.

Crown Valley Parkway Bridge Project, Mission Viejo, CA (2005) Conducted nesting bird surveys, nest monitoring, and Least Bell's Vireo protocol surveys identifying several pairs of vireo and nest of

Dayton Canyon Development Project, West Hills, CA (2005) Conducted nesting bird surveys and nest monitoring on a 28 acre site.

Northlake Housing Development, Castaic CA (2005) Conducted nesting bird surveys and construction monitoring on a 65 acre site.

CA High Speed Train Project, Along SR14, CA (2010) Assisted in mapping vegetation communities and creating plant inventory along a 50 mile route from Palmdale to the San Fernando Valley.

Centennial Planned Community Project, Gorman, CA (2005) Mapped native grassland communities and assisted in creating a plant inventory on an 11,700 acre site near Quail Lake.

Rare Plant Surveys, Bernam Landfill Project, Santa Clarita, CA (2005) Conducted focused rare plant surveys and assisted in creating a plant inventory.

Tapia Canyon Project Site, Santa Clarita, CA (2005) Conducted focused rare plant surveys and assisted in creating a plant inventory.

Fagan Canyon Project, Santa Paula, CA (2005) Conducted focused rare plant surveys and assisted in creating a plant inventory.

Tesoro Project, Valencia, CA (2005) Conducted focused rare plant surveys and assisted in creating a plant inventory.

Grapevine Development Project, Gorman, CA (2005) Conducted tree surveys, identifying, measuring, and marking dozens of individuals of several species of oak. In addition, performed focused rare plant surveys and assisted in creating a plant inventory.

Smokey Bear Rd., Newhall, CA (2005) Conducted a habitat assessment and plant inventory of a 4 acre site.

Burbank Landfill Project, Burbank, CA (2005) Oversaw vegetation clearing and grading activities located and monitored bird nests.

Northlake Housing Development, Castaic CA (2005) Oversaw vegetation clearing and grading activities; located and monitored bird nests.

LADPW Debris Basin Clearing Project, Los Angeles Co., CA – 2005 Identified sensitive and common plant species and created a plant inventory at various sites throughout LADPW jurisdiction from Castaic to Pasadena and Thousand Oaks. Monitored vegetation clearing and grading activities and conducted nesting bird surveys and associated nest monitoring.

South Fork Santa Clara River Stabilizer Bar Project, Santa Clarita CA (2005) Oversaw and documented construction activities and ensured project environmental compliance.

UAF-Gulf Apex Predator Project, Kodiak Island, AK (2004) Conducted daily nest monitoring of various seabird species, primarily Black-legged Kittiwake, Tufted Puffin, and Glaucous-winged Gull. Participated in capturing, handling, banding, bleeding, fat excision and collecting diet samples from hundreds of these birds. Long days in the field including repelling to cliff nesting birds, overnight camping, daily small boat operation, setup and maintenance of stationary and mobile radio-telemetry equipment.

California State Parks Snowy Plover and Least Tern Management Program, Pismo Beach, CA (2004) Performed daily nest searches and monitoring of egg and brood success of threatened Western Snowy Plover and endangered California Least Tern, including band combination ID, shorebird/seabird surveys, predator tracking, terrestrial bird surveys, as well as daily maintenance of vehicles and optics, intensive record keeping, and public relations.

Rat Eradication and Seabird Restoration Project, Anacapa Island, CA (2003) Assisted a mammalogist for a graduate research project funded through the Island Conservation and Ecology Group, trapped and handled hundreds of Anacapa deer mice, setting and checking 400 traps per night, in which we assessed reproductive status, molt, age, and sex.

Woodrat Midden Cohabitation Study, Carmel, CA (2003) Served as assistant mammalogist for a graduate research project along the Carmel River funded through Caltrans. Duties included trapping a wide variety of small rodents assessing woodrat midden cohabitation. Activities included handling, ear tagging, identification to subspecies level, aging, sexing, and assessing reproductive status.

Catalina Island Weed Mapping, Santa Catalina Island, CA (2003) Working with the Catalina Island Nature Conservancy, assisted with identification and mapping of all non-native weed species across the whole of Santa Catalina Island.

California Condor Tracking Project, San Luis Obispo, CA (2003) While working with the U.S. Fish and Wildlife Service through Cal Poly State University, tracked California Condor movements using radio telemetry at Hi Mountain lookout (Pozo, CA) as well as by vehicle. Staffed Hi Mountain visitor center, assisted with project set-up, conducted data collection of various plant, mammal, and bird surveys.

Ornithology student assistant and Lab Instructor, Cal Poly State University, CA (2003) Assisted students in the field with identification of bird species by sight and sound. Lab time was spent helping students learn the difference in bird phylogeny and interesting aspects of various bird families. Additionally, instructed the acoustics portion of the lab, helping students separate difficult species by call and song alone.

Coastal Seabird Research Project, Cal Poly State University, San Luis Obispo Coastline, CA (2002-2003) As part of my senior project at Cal Poly, developed a protocol as a basis for a long term study of seabird population dynamics and foraging locations along the San Luis Obispo County coastline. Performed two consecutive years of seabird counts including shorebird abundance. Analysis of results through regression and ANOVA statistics.

MAPS Bird Banding Assistant, Morro Bay, CA (2002-2003) Conducted mist netting, identification, aging and sexing of birds by plumage and reproductive condition.

Avian Museum Curatorial Supervisor Cal Poly State University, CA (2002-2003) Prepared study skins and live mounts of all species of birds including identification, aging, sexing and determining cause of death. Organized and maintained museum specimens, data logs, and records.

La Graciosa Thistle Restoration Project, Guadalupe, CA (2002) Assisted a graduate student collecting data in a demography and conservation study on the endangered wetland species *Cirsium loncholepis* for a UNICAL restoration project. Duties included setting up grids, taking various measurements of plants, assessing the plants survivorship, and making recommendations for future rehabilitation.

Trainings

- Western Yellow-billed Cuckoo Survey Training Workshop, Kern River Preserve, CA – 2015, 2010
- The Anostraca and Notostraca of California Workshop, San Diego, CA – 2013
- San Diego County Sensitive Butterfly Workshop, San Diego, CA – 2012
- Southwestern Research Station Herpetology Field Course, Portal, AZ – 2011
- Willow Flycatcher Survey Training Workshop, Kern River Preserve, CA – 2005, 2011
- 25th International Ornithological Congress, Camops do Jordão, SP, Brazil – 2010
- Earth Skills Wildlife Tracking Workshop, Joshua Tree, CA – 2007
- Flat-Tailed Horned Lizard Monitoring Training, El Centro, CA – 2007
- Willow Flycatcher Survey Training Workshop, San Pedro River Preserve, AZ – 2007
- Desert Tortoise Survey and Handling Techniques Workshop, Ridgecrest, CA – 2006
- Ecology and Conservation of California Bats Workshop, Truckee, CA – 2005
- Earth Skills Wildlife Tracking Workshop, San Luis Obispo, CA – 2004