



**William E. Haas**  
**Senior Biologist/Executive Director**  
**Pacific Coast Conservation Alliance (PCCA)**

**Expertise**

Design & implementation of long-term biological studies  
Design & management of biological preserves  
Preparation of Property Analysis Records (PARs) and conservation easements  
Critical analysis of biological reports  
General biological surveys & habitat assessment  
Electronic Bat surveys

**Education**

Bachelor of Arts, Biology  
Harvard College  
Cambridge, MA

Master of Arts, Education in Math, Science and Technology  
U. C. Berkeley  
Berkeley, CA

**Professional Experience**

**1976-1980**

U.S.D.A Forest Service

**1980-1990**

Educator, curriculum development including Peace Corps service (Belize, 1980 – 1984)

**1990- 2005**

Owner/President, Varanus Monitoring Services

**2003 - present**

Executive Director, PCCA

*Bill's professional focus has been the development of assessment and monitoring (A&M) programs for federally protected species. He has had the responsibility of implementing and supervising A&M programs for major studies supported by the United States Navy; United States Marines; United States Corps of Army Engineers; California Department of Fish and Wildlife; and California Department of Parks and Recreation. He is an authority on the biology and ecology of several federally threatened/endangered species including the southwestern willow flycatcher (*Empidonax traillii extimus*), the California gnatcatcher (*Polioptila californica*), the least Bell's vireo (*Vireo bellii pusillus*), and the arroyo toad (*Anaxyrus californicus*). Haas served as a peer reviewer for United States Fish and Wildlife Service's critical habitat determinations for the willow flycatcher and the arroyo toad and has served as an expert witness on these species for the United States Department of Justice.*

*Bill has a richly varied background focusing especially in the areas of general vertebrate biology and natural history as well as the physiological adaptations of small vertebrates. He is proficient in a broad range of field methods-including pitfall trapping (for reptiles, amphibians, and small mammals); mist netting (for birds & bats); ultrasound and radar-based surveys for bats; and small mammal live-trapping. Bill is now responsible for the design and planning of long-term management and population monitoring programs for numerous conservation properties, perpetual management areas, and wildlife preserves. His expertise in the design process includes the preparation of baseline assessments and development of long-term management and monitoring plans. Because of this expertise, Mr. Haas has extensive experience evaluating the effects of large scale infrastructure endeavors including solar generation, electrical transmission, water storage, and water transfer projects as well as the critical analysis of the documentation prepared to support them.*

***Contact Information***

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***Pertinent Training***

- **Southwestern Willow Flycatcher** – Contributor and review expert for the Southwestern Willow Flycatcher (SWFL) survey protocol; organizer and presenter at numerous SWFL workshops in California and Arizona.
- **Arroyo Toad** – Contributor and review expert for the Arroyo Toad survey protocol; organizer and presenter at numerous southern California arroyo toad workshops.
- **Swainson’s Hawk** – The Wildlife Society (TWS) Swainson’s Hawk Workshop, Sacramento, CA; April-May 2012
- **Blunt-nosed Leopard Lizard** – TWS blunt-nosed leopard lizard workshop, Bakersfield, CA; May, 2013
- **Tipton and Giant Kangaroo Rat** – TWS Sensitive Small Mammal Species of the San Joaquin Valley Workshop, October 2012
- **Red-legged Frog** - Laguna de Santa Rosa Foundation Rare Pond Species Survey Techniques Workshop, Rohnert Park, CA; March, 2011
- **Western Pond Turtle** - Laguna de Santa Rosa Foundation Rare Pond Species Survey Techniques Workshop, Rohnert Park, CA; March, 2011
- **Desert Tortoise** - Desert Tortoise Council Workshop: Introduction to Desert Tortoises and Field Techniques, Ridgecrest, CA; October, 2011
- **Bat detection** – Wildlife Acoustics Bat Detector Training Course, Phoenix, AZ, April 2014; Anabat™ Workshop, Saint George, UT, June 2000.
- **Amphibians of the San Francisco Bay Area** Workshop, Sebastopol, CA, November 2014

***Permits***

- **U.S. Fish & Wildlife Service** Permit TE-779910 to survey, locate and monitor nests, and color band threatened coastal California gnatcatcher and southwestern willow flycatcher; survey, locate and monitor nests of least Bell’s vireo; capture, mark (PIT tag) and release endangered arroyo toad.
- **U.S. Geological Survey** Master (Bird) Banding Permit #22761
- **CA Department of Fish & Game** Permit #801015-07 to capture for study by means of pitfall traps, live traps, mist net, or other methods reptiles, amphibians, mammals and birds.

*Current Responsibilities*

**Preserve Design & Management** – As Executive Director, Mr. Haas presides over the entire PCCA process of preserve and conservation easement design, management, and dedication. The process is initiated with a natural resource inventory, including both wildlife and habitat analyses. Through the assessment of conservation values of proposed preserve properties, Haas oversees all components of preserve design and is the primary author of all support documentation including:

- Design and implementation of baseline surveys
- Long-term and perpetual monitoring and management plans (including subordinate plans such as the fencing and signage plans)
- Conservation easements, including the tailoring of existing agency templates
- Preparation of property analysis records (PARs)
- Preparation and facilitation of financial documents including funding agreements

As PCCA's senior biologist, Haas designs and oversees all of its wildlife studies, and all of which incorporate established protocols and/or peer-reviewed standard methodologies while tailoring the chosen methods to study needs and goals while ensuring repeatability and facilitating statistical analysis of collected data.

**Energy Project Support** – As temporary staff/Senior Biologist for California Energy Commission, Haas is responsible for the review and critique of biological data and species-specific risk assessment for solar energy projects in Southern California. Specific assignments include the review and critique of biological field studies and theoretical assessments prepared for large-scale energy projects in order to evaluate survey method suitability, propriety of the study scale, and the validity of study findings with respect to potential adverse effects of project construction and operation on common and sensitive wildlife.

**Complementary Tasks** – The expertise of a non-profit conservation entity and supporting role in public energy projects has dovetailed in the design and facilitation of migratory bird mitigation strategies for large-scale energy projects including the development of funding strategies, research program development, and administration of mitigation grant award programs.

*Recent Design & Implement Wildlife Investigations*

- **Comprehensive Long-term Ecological Monitoring** - Responsible for the design and implementation of the initial (1999) study and the 10-year follow-up study (2009) for long-term ecosystem monitoring at the Marine Corps Air Station Miramar. The study utilized a suite of comprehensive field methods to determine the locations and habitats used by reptiles, amphibians, small mammal, and birds and the statistical analysis of diversity changes over time as they relate to military training as well as 10 years of stochastic events including wildfire and weather.
- **Arroyo Toad** - Principal investigator responsible for the design and oversight of a long-term (6-year) study of the federal endangered arroyo toad and state species of special concern Coast Range newt within the San Diego River watershed in order to ascertain the effects of water transfers on

their breeding success as well as the post-study design of an effective, low-impact water release protocol.

- **California Gnatcatcher** - Principal investigator for station-wide surveys for the federal threatened California gnatcatcher (*Polioptila californica*) on Marine Corps Air Station Miramar. Project tasks included not only the survey design and implementation to enumerate gnatcatchers within the station boundaries but also an analysis of the effects of wildfire on their habitat use, home range size, and post-fire dispersal and recovery.
- **Desert Bird Habitat Assessment** - Responsible for the design and implementation of a long-term field study to determine statistically significant patterns of diversity, occurrence, and habitat use of desert birds at the eastern extreme of the Anza-Borrego Desert for the California Department of State Parks and Recreation.
- **Riparian Bird Habitat Modeling** - Commissioned to design and implement field methods in order to develop a model to anticipate occurrence and distribution of sensitive riparian bird species based on remote sensing, vegetation sampling, and GIS. The model was designed to predict the occurrence and population densities of willow flycatcher, Bell's vireo, summer tanager, yellow warbler, and yellow-breasted chat in desert wash habitats of southern California in Imperial and Riverside counties.
- **Comprehensive Sacramento River Delta Analyses** - Designed and implemented analytical surveys - that is, designed surveys, obtained data, and analyzed extant Delta-area systems to determine maximal comparability and compatibility - in order to develop locally-effective strategies to mitigate for adverse effects to fish, bird, reptile, and amphibian species resulting from deep-water channel dredging of the Sacramento River. Served also as panelist of specialists (hydrologists, vertebrate biologists, botanists, and limnologists) advising the Corps of Army Engineers in the development of a comprehensive mitigation plan in the Sacramento River Delta.

#### *Project-related Capabilities & Experience*

Mr. Haas has more than 20 years of experience in biological study analysis and the development of mitigation and long-term management plans for more than 50 construction and/or development-based projects that required some or all of the following services:

- Preparation of historic overviews of study areas
- Collection of data and preparation of baseline reports
- Pre-construction assessment of potential effects (constraints analyses) and development of best management practices to minimize or eliminate adverse wildlife impacts
- Developing pre-construction and site preparation monitoring plans
- Developing construction and post-construction monitoring plans
- Development, preparation, and delivery of worker training and information programs

***Preserve Dedication and Management Capabilities & Experience***

Mr. Haas has prepared documentation for more than 25 open space and wildlife preserve properties working with pre-existing documents in need of editing and/or site-specific tailoring as well as providing a complete suite of documents that include some or all of the following:

- Design and implementation of natural resource inventories including both wildlife and habitat analyses
- Assessment of conservation values of proposed preserve properties
- Preserve design
- Conservation easement authorship, including the tailoring of existing agency templates
- Design and implementation of baseline surveys
- Preparation of the baseline survey reports required for conservation easements
- Development and authoring of long-term and perpetual management plans including subordinate (e.g., fencing and signage) plans
- Preparation of property management analyses (PARs)
- Preparation and facilitation of financial documents including funding agreements

***Independent Research***

- **Willow Flycatcher**, 1993 to present: This long-term field study of California's largest meta-population of endangered southwestern willow flycatchers has focused on the ecology and breeding biology of one of North America's rarest bird species. Representing 2.5% of the world's population and perhaps more than 25% of California's breeding cohort, this study has documented important differences in female vs. male habitat preferences; the importance of vegetative structure as opposed to vegetative composition for successful nesting; and the importance of vegetative structure and cover at nest locations and innate behaviors of adult flycatchers as primary components that deter nest parasitism by brown-headed cowbirds.
- **Arroyo Toad**, 1993 to present: This comprehensive San Diego county-based long-term field study of the endangered arroyo toad has as its goal the publication of a monograph on the species' natural history including its ecology, habitat use and preferences, activity cycles, longevity, and thermoregulatory behaviors. Major findings include documentation of thigmothermy in adult females, year-round activity cycles in its southern range, and statistical evidence of the importance of immediately local sandy benches to long-term survivorship.
- **Savannah Sparrow**, 1997 to present: This long-term monitoring study focuses on populations of the large-billed and the Belding's savannah sparrows to document year-round activity cycles, breeding chronology, and population dynamics.
- **Long-eared Owl**, 1993 – 2009: Conducted review (literature and museum specimen review) of the historic distribution of the long-eared owl in San Diego County and changes in distribution through the 2009 breeding season. Initial research published in 2004 San Diego County bird atlas as author of its species account. Recommendations on conservation and status submitted to CDFW in support of species of special concern status.

***Relevant Publications and Reports***

- Campbell, K. F., R. A. Erickson, W. E. Haas, and M. A. Patten. 1998. California Gnatcatcher use of habitats other than coastal sage scrub: Conservation and management implications. *W.Birds* 29:421-433.
- Haas, W. E. and K. Fischer. 1999. An improved method of preparing small color bands. *N. Am. Bird Bander*. 24:42-43.
- Haas, W. 2001. Surveys to determine number and distribution of California gnatcatchers (*Poliophtila californica*) at the Naval Weapons Station Seal Beach, Detachment Fallbrook. 34pp.
- Haas, W. and I. Quon. 2001. Recent Gnatcatcher use of Point Loma, San Diego, San Diego County, California. Report prepared under contract to Space and Naval Warfare Systems Center, San Diego, CA. 15pp.
- Haas, W. and K. Campbell. 2003. Report of coastal California gnatcatcher juvenile dispersal across Interstate-8 at the MSCP Southern Lakeside Archipelago Lands San Diego County, California. Report prepared for County of San Diego Department of Parks and Recreation.
- Haas, W, and L. Hargrove. 2003. A solution to leg band injuries in willow flycatchers. *Studies in Avian Biology*, Cooper Ornithol. Soc., Lawrence, KS.
- Haas, W. E. 2004. Spotted Owl (*Strix occidentalis*), in San Diego County bird atlas (P. Unitt, ed.), pp.289–291. *Proc. San Diego Soc. Nat. Hist.* 39.
- Haas, W. E. 2004. Long-eared Owl (*Asio otus*), in San Diego County bird atlas (P. Unitt, ed.), pp. 291–293. *Proc. San Diego Soc. Nat. Hist.* 39.
- Haas, W. E. 2004. Cassin’s Vireo (*Vireo cassinii*), in San Diego County bird atlas (P. Unitt, ed.), pp.370-372. *Proc. San Diego Soc. Nat. Hist.* 39.
- Haas, W. E. 2004. Black-throated Magpie-Jay (*Calocitta colliei*), in San Diego County bird atlas (P. Unitt, ed.), pp. 599-600. *Proc. San Diego Soc. Nat. Hist.* 39.
- Haas, W. E. 2004. Black-throated Gray Warbler (*Dendroica nigrescens*), in San Diego County bird atlas (P. Unitt, ed.), pp. 479-481. *Proc. San Diego Soc. Nat. Hist.* 39.
- Haas, W. E. and P. Unitt. 2004. Willow Flycatcher (*Empidonax traillii*), in San Diego County bird atlas (P. Unitt, ed.), pp. 337-339. *Proc. San Diego Soc. Nat. Hist.* 39.
- Haas, W. 2006. Results of a riparian bird breeding census and habitat modeling in the Indian Canyons of the Aqua Caliente Indian Reservation, Palm Springs, Riverside County, California. 33pp.

## *Brief Résumé of William E. Haas*

- Haas, W. and I. Quon. 2008. Importance of second nests following a catastrophic weather event: Evidence of colonial behavior in southwestern willow flycatcher (*Empidonax traillii extimus*). *W. Birds*.
- Haas, W. E. 2010. Baseline bird surveys of the Freeman Property, Ocotillo Wells, California. Report prepared for California Department of Parks and Recreation Ocotillo Wells SVRA under agreement C0754015. 28pp.
- Haas, W. E. 2010. Distribution of the California gnatcatcher (*Polioptila californica*) on Marine Corps Air Station Miramar; Results of 2009 surveys. Report prepared under contract M67865-08-T-0068. 25pp + fig.
- Haas, W. E. and M. G. McCain. 2010. 2010 report: Results of arroyo toad and coast range newt surveys in the San Diego River watershed; Helix Water District amphibian study. Report prepared under contract to Helix Water District, La Mesa, California. 21pp+figures & tables.
- Haas, W. E. 2012. Long-term ecosystem monitoring of the vertebrate fauna at Marine Corps Air Station Miramar, San Diego, California: small mammal component, 2009. Report prepared under contract. M67865-08-T-0051. 12pp+figs.
- Haas, W. E. 2012. Long-term ecosystem monitoring of the vertebrate fauna at Marine Corps Air Station Miramar, San Diego, California: bird survey component, 2009. Report prepared under contract. M67865-08-T-0051. 23pp+figs & app.
- Haas, W. E. 2012. Long-term ecosystem monitoring of the vertebrate fauna at Marine Corps Air Station Miramar, San Diego, California: Reptile & Amphibian Component, 2009. Report prepared under contract. M67865-08-T-0051. 17pp+appendices
- Haas, W. E. 2012. Long-term ecosystem monitoring of large vertebrate fauna at Marine Corps Air Station, San Diego, California; Results of 2008 Spotlight Surveys. Solicitation No.M67865-08-T-0051.12pp+app.
- Haas, W. E. 2012. 2011 report: Results of arroyo toad and Coast Range newt surveys in the San Diego River watershed; Helix Water District amphibian study. Report prepared under contract to Helix Water District, La Mesa, California. 23pp + figures & tables.
- Haas, W. (in press, 2014). Activity cycles of the arroyo toad (*Anaxyrus californicus*) in San Diego County. *Herpetologica*.
- Haas, W. (in press, 2014). Behavioral thermoregulation in an adult female Bufonid (*Anaxyrus californicus*). *Herpetologica*.
- Haas, W. 2014. California breeding of the Black-throated Magpie-Jay, including evidence of helping. *W.Birds* 45-3:228-230.

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Haas, W. (in press, 2014). Ecology of the willow flycatchers along the upper San Luis Rey River, results of a 10-year study. *W. Birds*.

Haas, W., T. Lee, and K. Klutz. (in prep). Effects of fire-related sedimentation on arroyo toad recruitment.

Zych, A. C. and W. E. Haas. 2006. Results of preliminary surveys for the arroyo toad and Coast Range newt in the San Diego River Watershed, Helix Water District water release regime study. Report prepared under contract to Helix Water District, La Mesa, California. 19pp + figures & tables.