



June 26, 2024

Susan Kunz, Administrator
County of Hawaii, Housing and Community Development
1990 Kinoole Street, Suite 102
Hilo, HI 96720

Subject: Professional SOQ Submittal for Fiscal Year 2024–2025

Dear Susan Kunz:

Thank you for the opportunity to submit our statement of qualifications (SOQ) and express our interest in providing professional services to the County of Hawaii, Housing and Community Development, during fiscal year 2024–2025.

Since 1970, the highly trained ecologists and professionals at **H. T. Harvey & Associates** have delivered exceptional ecological consulting services to public agencies, private entities, and nonprofit organizations. Areas of service include: environmental analysis; permitting; restoration design; landscape architecture and planning; compliance support; and conservation planning. We apply our expertise in wildlife ecology, restoration ecology, plant ecology, fish and aquatic ecology, and landscape architecture in pursuit of our mission to create ecologically sound solutions to clients' complex natural resource challenges. We have had an average of 78 employees over the past several years across four offices in California and one in Hawaii, where we have been operating since 1995 and opened a local office in 2013.

Our team has a keen understanding of state, federal, and county laws and regulatory procedures and are deeply familiar with the Hawaiian Islands' ecological history, native flora and fauna (including widely recognized expertise on federally and state listed threatened and endangered species), habitats, and species' environmental requirements, as well as the importance of managing invasive species. We also understand the relationships among Hawaii's unique natural resources, cultural traditions, economy, social values, and complex history. We perform rapid and efficient reconnaissance-level wildlife and plant surveys and assessments, conduct special-status species and habitat inventories, identify and assess plant and wildlife communities, understand community concerns, assist with county, state and federal permit processes, conduct pre and during construction biological monitoring, and develop management and mitigation recommendations and plans that are specific to client needs. Our Hawaii experts collaborate closely with their peers in our California offices, allowing us to provide quick and calculated responses to efficiently address client needs.

The professional service category for which we would like to be considered is:

- OH.2 Community Planning (Environmental Assessment)

I am the principal-in-charge for this work (408.458.3203; sterrill@harveyecology.com), and Shahin Ansari, senior ecologist and project manager (808.441.2082; sansari@harveyecology.com) will be the lead contact for projects for the County of Hawaii. Thank you for considering our SOQ.

Sincerely,

A handwritten signature in black ink, appearing to read "S. Terrill". The signature is fluid and cursive, with a large initial "S" and a long, sweeping tail.

Scott Terrill, VP and Principal



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**Professional Services Statement of Qualifications
Submittal for Fiscal Year 2024–2025**

Prepared for:

Susan Kunz
County of Hawaii
1990 Kinoole Street, Suite 102
Hilo, HI 96720

Prepared by:

H. T. Harvey & Associates

June 26, 2024

(1) Name of Firm, Principal Place of Business, and Location of Offices

Triple HS, Inc. dba as H. T. Harvey & Associates, is a privately-held California corporation.

Offices

San Francisco Bay Area (HQ, Est. 1970)

983 University Ave., Building D, Los Gatos, CA 95032-7637
408.458.3200

Hawaii

91-1020 Kai Loli Street, Ewa Beach, HI 96706
808.441.2082

Redwood Coast

890 L Street, Arcata, CA 95521-5748
707.822.4141

Sacramento Valley

1331 Garden Highway, Suite 310, Sacramento, CA 95833-9773
916.779.7350

San Joaquin Valley

8080 N. Palm Ave., Suite 205, Fresno, CA 93711
559.476.3160

(2) Age of the Firm and Average Number of Employees over the Past Years

H. T. Harvey & Associates was founded in 1970 and includes 11 principals and more than 80 additional ecologists, landscape architects, and other professionals in five offices in California and Hawaii. The average number of employees over the past several years is 78.

(3) Education, Training, and Qualifications of Key Members

The H. T. Harvey & Associates Hawaii team has decades of cumulative experience working in Hawaii. We have included resumes for senior staff who lead and work on Hawaii projects in Appendix A. These staff include:

Dr. Scott Terrill, Principal—Scott has a PhD in Biology/Ecology and an MS and BS in Zoology. He is an internationally recognized avian ecology and behavior expert with more than 40 years of experience.

Dr. Shahin Ansari, Senior Ecologist and Project Manager—Shahin has a PhD in Botany. She has more than 15 years of experience working in Hawaii on ecological projects. Her expertise includes vegetation ecology, invasive species ecology, wetland delineation, and native Hawaiian plants.

Dr. Sharon Kramer, Principal—Sharon has a PhD in Marine Biology, an MS in Zoology, and a BA in Aquatic Biology. She has more than 30 years of experience in fish and aquatic ecology, including work with Hawaiian species and habitats.

Joseph Howard, Principal—Joe has an MLA and BS in Natural Resources Landscape Design and Planning. He has 30 years of experience as a landscape architect working on projects at the intersection of ecology and landscape architecture.

Greg Spencer, Senior Ecologist and Project Manager—Greg has a BS in Marine Ecology. He has more than 20 years of experience and focused expertise in Hawaiian seabirds and habitat conservation plans.

Dr. Dave Johnston, Senior Associate—Dave has a PhD in Biology. He has conducted bat research and led bat-related projects for more than 40 years, including research on the Hawaiian hoary bat.

Dr. Sadie Trush, Spatial Ecologist—Sadie has a PhD in Forest Pollination Ecology. She has 5 years of experience and focused expertise in spatial analysis, natural resources mapping, and pollination ecology.

Dr. Karl Magnacca, Senior Ecologist—Karl has a PhD in Entomology and a BA in Biology. He has more than 25 years of experience studying and working with the insects of Hawaii.

(4) Name and Phone Numbers of Four Clients

Below are four client references and a very brief summary of services provided for each project. For all four projects, services were rendered in the preceding year.

Client Reference #1: Jacky Takakura, Maui County Department of Planning; 808.270.7743

Project: Maui County Wetlands Overlay Mapping

Working with the County of Maui to map wetlands and other ecologically important water bodies in Maui County and create a wetlands overlay map per the County's new law to protect and restore these sensitive habitats.

Client Reference #2: Chris Takeno, Hawaii Department of Transportation; 808.586.2504

Project: HDOT Section 7 and HCP Consultations for Seabirds

Assisting the Hawaii Department of Transportation with seabird-related activities at its harbors and airports on Kauai, Maui, and Lanai.

Client Reference #3: Lance DeSilva, Hawaii Department of Land and Natural Resources; 808.587.4159

Project: Kamehamenui Forest Reserve Management Plan

Contributing ecological expertise to the creation of multiuse and adaptive conservation management plan for the Kamehamenui Forest Reserve.

Client Reference #4: James Buika, Maui County Department of Planning.; 808.270.6271

Project: Kanaio Stream Nature-Based Restoration Design and Implementation Plan

Development of a permit-ready design and implementation plan to restore Kanaio Stream, an intermittent stream in the Pohakea Watershed on West Maui, from its current diversion configuration to a pre-diversion natural state that is ecologically sound and provides the benefits of a nature-based solution.

(5) Descriptive Literature

A broad overview of our areas of service and expertise is provided below. We would like to provide these services in general as well as the specific services noted in Section (6).

Our areas of service include:

- Environmental analysis
- Permitting
- Ecological restoration
- Landscape architecture and planning
- Compliance support
- Conservation planning
- Ecological research

Environmental Analysis

H. T. Harvey & Associates has been preparing sound biological analyses for California Environmental Quality Act (CEQA) and NEPA documents since the passage of these laws. Through our Hawaii office, we also support compliance with the Hawaii Environmental Policy Act (HEPA).

With an established reputation for using applied science and a track record of crafting successful mitigation measures, our team delivers analyses and recommendations that inspire confidence in decision makers, reviewing agencies, and individuals.

We have created the biological resources sections for thousands of environmental impact statements, environmental impact reports, and initial studies, assessing the impacts for a wide variety of project types. Projects range from county general plans affecting hundreds of thousands of acres to bridge crossings and small developments, which have potential impacts on specific species. On large projects, we serve as a subcontractor

to environmental planning and engineering firms and prepare the biological elements of documents. For smaller projects with a clear biological focus, we develop documents as the prime contractor.

Permitting

We help clients work with regulatory agencies to successfully acquire approvals for their projects. Decades of experience and our reputation for applying sound science have earned us credibility among the agencies, and help us anticipate and address their concerns. We integrate with project planning teams to develop a permitting strategy that considers the proposed project improvements, construction methods, potential permitting avenues, costs, and timelines. We often collaborate with project engineers to redesign plans to minimize impacts on biological resources and advance the permitting process.

Our services include assembling permit applications, facilitating permit processing, and preparing the technical studies commonly required to support permits. Some of this supporting information is developed through impact assessments conducted for compliance with NEPA, CEQA, and HEPA.

Ecological Restoration

H. T. Harvey & Associates has been at the forefront of innovative ecosystem restoration and habitat mitigation work since our inception. We provide design support throughout the restoration process, from concept development through the production of construction documents. Our designs reflect the powerful synergy that we have built by integrating the skills of our restoration, wildlife, fisheries, and plant ecologists with those of our landscape architects. We guide projects through the often complex regulatory agency approval process, and provide oversight of construction and long-term site management and monitoring to ensure that goals are met.

H. T. Harvey & Associates has overseen more than 500 restoration projects for local, state, and federal agencies, as well as for private clients. Our expertise spans a range of habitats and is particularly deep with regard to tidal and seasonal wetlands, riparian habitats, and arid lands. We also have considerable experience in developing large-scale restoration plans in challenging stakeholder and landscape milieus—we realistically balance competing objectives and provide positive leadership while grounding plans in the best available science. Our restoration sites routinely exceed established success standards and are cited by resource agencies and other groups as commendable examples of successful mitigation, restoration, and monitoring.

Landscape Architecture and Planning

H. T. Harvey & Associates' landscape architects combine creative landscape planning and design skills with ecological training to create exceptional projects. Paired with the deep ecological expertise of the rest of the firm's staff, our landscape architecture team has the ability to assist with all project steps, from preliminary visioning and planning to design, to construction and postconstruction activities. Our projects cover parks, recreational and interpretative land, open space natural areas, private land, and trails. Clients include public agencies, private landowners, developers, conservation groups, and conservation banks.

We work in both natural and urban environments and at the interface between ecologically sensitive habitats and human uses. On sites where natural habitats adjoin more developed areas, we incorporate appropriate natural landscapes to soften the urban edge and recreate natural habitats.

Projects are designed in recognition of site constraints and biological principles, together with client-coordinated budgets and schedules. We collaborate closely with our in-house ecologists to successfully translate ecological principles into practical concepts and readily constructible projects that benefit project stakeholders and meet client goals. We create legible, easy-to-bid and -build construction documents in the various jurisdictional formats required to meet local and regional agency requirements.

Compliance Support

After project permits are secured and environmental documents are finalized, H. T. Harvey & Associates can manage the regulatory compliance process. Our services include conducting preconstruction surveys, creating and implementing compliance programs, providing training, and monitoring conditions during and after construction.

We work on all steps of a project to ensure compliance. Starting with project siting, we plan and conduct preconstruction surveys to guide clients during project development. If species of particular concern are present, we develop conservation measures or propose project adjustments to minimize detrimental impacts. If needed, we also develop creative and effective plans for relocating sensitive wildlife.

Our approach to compliance is to implement a program that encompasses all biological resource-related requirements. Throughout project construction, we also document mitigation measures and permit conditions and prepare required compliance reports. After construction is complete, we design and manage ongoing monitoring programs in compliance with permit requirements.

Conservation Planning

Our conservation planning activities are focused on developing measures to guide long-term management of species and their habitats within the constraints posed by different types of land and resource use.

Developing a successful conservation plan requires an understanding of the regional interplay of ecological, physical, and human factors; an approach that balances the needs and concerns of stakeholders; collaboration; and solutions grounded in sound science. Working from this foundation, our in-house technical experts, including restoration planners and biologists, wildland managers, wetland and plant ecologists, permitting specialists, wildlife and fisheries ecologists, taxonomists, and landscape architects, seamlessly prepare effective management planning documents and assist in their implementation. We work on habitat conservation plans, natural community conservation plans, and other types of conservation plans.

Ecological Research

H. T. Harvey & Associates was founded by a group of university professors, and we believe strongly that basic and applied research is an integral part of ecological consulting. We recruit widely for scientists with research experience, and ecological research continues to be a critical part of our business.

Our research projects explore diverse topics, ranging from Adelie penguins in Antarctica to seabird and marine mammal foraging strategies, and from mariculture effects on estuarine systems to the ecology of bats foraging over aquatic systems. Much of our work is related to the habitat requirements of species and the species' responses to climatological, geological, or ecological fluctuations. The National Science Foundation, the National Oceanic and Atmospheric Administration, and the U.S. Fish and Wildlife Service have all provided funding to our basic research efforts. Collectively, we have published more than 500 peer-reviewed research papers on a variety of subjects in the biological disciplines. The focus on basic research contributes to our skill in practicing applied ecology—the heart of our business.

Our Expertise

We apply the expertise of scientists and professionals in wildlife ecology, aquatic ecology, plant ecology, restoration ecology, and landscape architecture in pursuit of our mission to create ecologically sound solutions to our clients' complex natural resource challenges.

Wildlife Ecologists—H. T. Harvey & Associates' wildlife ecology group has extensive experience with an array of species, including birds, bats and other mammals, reptiles, amphibians, and invertebrates. With our exceptional wildlife experience, we bring the following qualifications to client projects:

- Broad and deep expertise with special-status species
- Internationally recognized bird, mammal, raptor, bat, and herpetological capabilities
- Experience performing multidisciplinary work on large, complex projects

Aquatic Ecologists—Our aquatic ecology group consists of experts in a range of marine, estuarine, and freshwater habitats and communities in California, the West Coast, Hawaii, and the South Pacific. The team has more than 45 years of experience researching, monitoring, managing, and working to conserve fish and aquatic invertebrates. Our ecologists bring diverse perspectives to their work, drawing knowledge from their roles in federal and state agencies, academia, and the private sector.

Our team of aquatic ecologists applies expertise in the following subjects to client projects:

- Fish and invertebrate habitat requirements and linkages with the physical environment
- Fish and invertebrate biology and behavior
- Aquatic habitat restoration and mitigation
- Regulatory requirements for projects in or near aquatic habitats

Plant Ecologists—Our botany group is composed of highly skilled plant taxonomists and ecologists with expertise across a range of habitats in California, the western United States, and Hawaii. Each of our offices has botany experts versed in local habitats and species. Our team of botanists brings expertise in the following areas to client projects:

- Plant taxonomy
- Habitat analysis
- Wetland ecology and delineation
- Mitigation design

Restoration Ecologists—H. T. Harvey & Associates was among the pioneers of wetland restoration in the San Francisco Bay Area and has more than 40 years of continuous experience designing and implementing the restoration of tidal and seasonal wetlands and riparian habitats. Today we are still one of only a few firms in the western United States that have a large, dedicated team of professional restoration specialists and we currently are applying this expertise to habitat restoration projects in Hawaii. Our team offers the following advantages to projects:

- A highly customized approach
- Restoration ecology subdiscipline expertise
- Partnership with wildlife, botany, and landscape architecture groups

Landscape Architects—Every member of our landscape architecture team has training in ecology and works closely with seasoned H. T. Harvey & Associates ecologists on projects. The landscape architecture group has experience with all project phases: restoring habitats in natural and urban environments, creating conceptual designs, performing site analysis, creating master plans, writing detailed construction documents, and facilitating client and community group sessions.

Our landscape architecture professionals bring the following principles to projects:

- Ecological expertise as the foundation of every project
- Innovative and creative solutions
- Commitment to exceptional communication and project excellence

(6) List of Projects and Services

In addition to our services and expertise listed above, H. T. Harvey & Associates would like to provide the projects and services that are indicated in the separate excel checklist, submitted with this SOQ.

Appendix A. Resumes

Resumes follow for:

Scott Terrill

Shahin Ansari

Sharon Kramer

Joseph Howard

Greg Spencer

Dave Johnston

Sadie Trush

Karl Magnacca



Scott B. Terrill, PhD Wildlife Ecology

sterrill@harveyecology.com
408.458.3203



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HIGHLIGHTS

- 40+ years of experience
- Avian ecology
- Wildlife ecology
- Endangered Species Act consultation
- Regulatory permitting and compliance
- Principal-in-charge of wind energy projects

EDUCATION

PhD, Biology/Ecology, State University of New York, Albany

MS; BS, Zoology, Arizona State University

PERMITS AND LICENSES

CDFW scientific collecting permits for the California Ridgway's rail

PROFESSIONAL EXPERIENCE

Vice president and principal, H. T. Harvey & Associates, 1990–present

Associate adjunct professor, San Jose State University, 1995–present

Alexander von Humboldt Research Fellow, Max-Planck-Institut, Germany, 1985–present

Chair, Scientific Advisory Committee, San Francisco Bay Bird Observatory, 1999–present

Research director, Coyote Creek Riparian Station, 1991–95

Adjunct professor, State University of New York, Albany, 1988–90

Assistant professor, Siena College, New York, 1988–90

PUBLICATIONS

Berthold, P., and S. B. Terrill. 1991. Recent advances in studies of bird migration. *Annual Review of Ecology and Systematics* 22:357–78.

Terrill, S. B. 1991. Evolutionary aspects of orientation and migration in birds. Pages 180–201 in P. Berthold, editor, *Orientation in Birds*. Birkhauser Verlag AG, Basel, Switzerland.

Complete list of publications available upon request.

PROFESSIONAL PROFILE

Dr. Scott Terrill is vice president and the principal in the wildlife ecology group at H. T. Harvey & Associates. He oversees the Hawaii office as well as the firm's research activities. Scott is an internationally recognized avian ecology and behavior expert with more than 40 years of experience. He has made major contributions to the study of bird migration and movements, and also has a strong background in vertebrate community ecology and population biology in terrestrial, estuarine, and marine habitats. Scott has published more than 30 scientific papers and was the primary contributing author to the three-volume advanced field guide, *The Audubon Society Master Guide to Birding*. He was a regional editor for *North American Birds* and served for 18 years on the California Bird Records Committee.

Scott has managed more than 1,000 projects at H. T. Harvey & Associates. His expertise extends into all major habitats in western North America, and his experience ranges throughout North America, and Hawaii, Middle and South America, and Europe.

PROJECT EXAMPLES

Oversaw, as principal-in-charge, **evaluation of conservation needs and recommendations to support recovery of endangered Hawaiian petrel and threatened Newell's shearwater** in West Maui. The team developed dynamic population models to evaluate the efficacy of predator control at a mitigation site as a potential measure that could effectively mitigate project-related seabird losses in compliance with applicable Habitat Conservation Plans. This initial work was followed by mitigation site management and monitoring for potential nesting success by these species at the site.

Provides principal level project oversight; participation in planning discussions and meetings; providing process-oriented advisership for the **Kanaio Stream Nature-Based Restoration Design and Implementation Plan** in Maui.

Served as principal-in-charge for a **biological resources assessment to characterize the flora and fauna of a 10-acre lowland site near Hanapēpē Bay, Kauai**, and for recommendations for avoiding and minimizing potential project effects on native species and species classified as threatened or endangered under Hawaii or federal endangered species laws.

As principal-in-charge, provided senior review and oversight for development of scientifically sound and **operationally practical procedures for surveying, monitoring, and avoiding impacts on endangered Hawaiian hoary bats** during commercial forest harvest operations. This project was for the Hawaii Forest Industry Association.

As principal-in-charge, assisting with development of a **management plan and environmental assessment for the Kamehameui Forest Reserve** on Maui, Hawaii, for the Department of Land and Natural Resources, Division of Forestry and Wildlife.



Shahin Ansari, PhD

Plant Ecology

sansari@harveyecology.com

808.441.2082



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HIGHLIGHTS

- 15+ years of experience
- Expertise with Hawaiian flora
- Invasive species ecology and management
- Biological studies in support of NEPA and HEPA
- Restoration ecology
- Conservation and management planning
- Wetland delineation

EDUCATION

PhD, Botany, University of Hawaii, Mānoa

MS, Botany, University of Bombay, India

PROFESSIONAL EXPERIENCE

Senior ecologist 2, H. T. Harvey & Associates,
2014–present

SWCA Environmental Consultants, *plant ecologist/project manager*, 2007–14; *botanist*,
2003–07

Weed risk assessment specialist, State of Hawaii,
2006–07

PUBLICATIONS

Ansari, S., and C. C. Daehler. 2012. Fasciation in *Verbascum thapsus* (Scrophulariaceae): Testing roles of genetic and environmental factors. *Pacific Science* 65(4):451–463.

Ansari S., and C. C. Daehler. 2010. Life history variation in temperate plant invader, *Verbascum thapsus* along a tropical elevational gradient in Hawaii. *Biological Invasions* 12(12):4033–4047.

Daehler, C. C., et al. 2003. A risk assessment for screening out harmful invasive pest plants from Hawaii and other Pacific Island. *Conservation Biology* 18:360–368.

Complete list of publications available upon request.

PROFESSIONAL PROFILE

Dr. Shahin Ansari is a senior project manager in the Oahu office of H. T. Harvey & Associates. With more than 15 years of experience in tropical plant ecology and the invasion biology of island ecosystems, she leads project teams and vegetation ecology work in Hawaii. She has a deep understanding of the diverse ecosystems, unique biota, and natural history of the Hawaiian Islands. She conducts comprehensive botanical inventories throughout Hawaii to identify rare native plants, describe vegetation types, quantify species abundance, and map distribution of native and invasive plants. Both efficient and insightful, Shahin is an adept project manager. She has worked successfully with federal, state, and local governments, the private sector, and numerous stakeholders to create or implement natural resource management and conservation plans.

PROJECT EXAMPLES

As the wetlands subject matter expert and project manager for the **County of Maui Wetlands Overlay Map Creation Project**, assisting the Maui County Department of Planning with mapping wetlands and other aquatic features on the islands of Maui, Molokai, and Lanai, to address requirements established by an amendment to the Maui County Code addressing wetlands restoration and protection.

For the Department of Land and Natural Resources' project to develop the Central Maui Regional Park south of the city of Kahului, Maui, **led comprehensive Blackburn's sphinx moth (BSM) surveys and authored recommendations to avoid and minimize potential impacts on BSM.**

As project manager, helped **coordinate and lead a team of experts to develop the Lanai Cooperative Game Management Area steering document.** Contributed to management strategy; gaps and opportunities; and future goals and objectives as they relate to native habitats, threatened and endangered species, and habitat degradation.

Conducted **plant surveys in Molokai Waikolu Valley** for repair and maintenance activities for the Molokai irrigation system.

Helped manage and coordinate **updates to Hawaii's State Wildlife Action Plan and Forest Action Plan** for the Department of Land and Natural Resources. Applied plant ecology expertise to update accounts of plant species of greatest conservation need, identify statewide conservation needs, incorporate new forest data, and supplement other information in the plans.

Led the team effort to conduct **stream survey and delineate non-wetland jurisdictional waters for Board of Water Supply's Palolo Access Trail Repairs Project** on Oahu.

As project manager, developing a **management plan and environmental assessment for the Kamehamehū Forest Reserve** on Maui, Hawaii, for the Department of Land and Natural Resources, Division of Forestry and Wildlife.



Sharon Kramer, PhD

Fish Ecology

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HIGHLIGHTS

- 30+ years of experience
- Fish and aquatic ecology
- Coastal, estuarine, and riverine ecosystems
- Endangered Species Act compliance
- Ecological impacts of marine renewable energy projects
- Habitat conservation plans

EDUCATION

PhD, Marine Biology, University of California, San Diego, Scripps Institution of Oceanography

MS, Zoology, University of Hawaii, Mānoa

BA, Aquatic Biology, University of California, Santa Barbara

PROFESSIONAL EXPERIENCE

Principal, H. T. Harvey & Associates, 2007–present

Senior aquatic ecologist and principal, Stillwater Sciences, 2000–07

Regional science coordinator, National Marine Fisheries Service, 1997–2000

Resource specialist, Metropolitan Water District of Southern California, 1996

Fish/wildlife biologist, U.S. Fish and Wildlife Service, Oahu, Pacific HCP, 1994–95

Science associate, California Sea Grant College Research Program, 1993–94

Postdoctoral researcher, Australian Institute of Marine Science, 1991–93

PUBLICATIONS

Kramer, S. H., et al. 2015. Evaluating the Potential for Marine and Hydrokinetic Devices to Act as Artificial Reefs or Fish Aggregating Devices, Based on Analysis of Surrogates in Tropical, Subtropical, and Temperate U.S. West Coast and Hawaiian Coastal Waters. OCS Study BOEM 2015-021. U.S. Department of Energy, Energy Efficiency and Renewable Energy, Golden, Colorado.

Complete list of publications available upon request.

PROFESSIONAL PROFILE

Dr. Sharon Kramer is a principal who heads H. T. Harvey & Associates' North Coast, California office and provides management guidance to the company's Hawaii team. She has more than 30 years of experience in aquatic ecology and fisheries biology in Hawaii, California, Pacific Northwest, and Australia. Sharon is well-versed in the federal Endangered Species Act (federal ESA) and the National Environmental Policy Act (NEPA) and has been planning, coordinating, implementing, and evaluating all aspects of habitat conservation plans since the early 1990s. She has considerable experience with Hawaiian species and habitats. She has an MS in Zoology from the University of Hawaii, Mānoa and a PhD in Marine Biology from the Scripps Institution of Oceanography at the University of California, San Diego.

PROJECT EXAMPLES

Served as principal-in-charge on a project for the NMFS Pacific Islands Fisheries Science Center that **involved identifying Hawaiian fisheries that require federal conservation and management, and analyzing fishery, ecological, economic, and survey data** for the pertinent bottomfish, crustacean, precious coral, and coral reef ecosystem management unit species. Provided analyses and recommendations regarding which stocks require conservation and management and which should be considered for conservation and management, treated as ecosystem component species, or removed from protection under the Hawaii Fishery Ecosystem Plan.

Served as principal-in-charge and **contributed to the aquatic and marine biosecurity aspects of Hawaii Department of Agriculture's (HDOA) comprehensive, statewide biosecurity plan**, a 5–10-year roadmap for implementing the infrastructure and capacity needed to support biosecurity programs at multiple agencies, including HDOA.

Served as principal-in-charge of the **ESA Section 7 and essential fish habitat consultation for proposed boating facility improvements**, including construction of a new 45-foot-wide boat launch ramp and pile-supported loading docks, at the Kawaihae Small Boat Harbor on the island of Hawaii.

Contributed fish ecology expertise to the **development of the comprehensive characterization of current information on the freshwater and marine ecosystems in the He'eia National Estuarine Research Reserve**.

Served as principal investigator for a Department of Energy market acceleration project to **develop an environmental assessment framework for wave and tidal renewable energy projects** that included a case study for an offshore wave energy project in Hawaii.



Joseph M. Howard, MLA Landscape Architecture

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408.458.3224



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HIGHLIGHTS

- 30 years of experience
- Landscape architecture
- Trail and open space design
- Habitat restoration design
- Management of complex multistakeholder projects
- Community and regulator engagement

EDUCATION

MLA; BS, Natural Resources Landscape Design and Planning, University of Michigan

PERMITS AND LICENSES

Registered Landscape Architect,
CA# 4598

PROFESSIONAL EXPERIENCE

Principal, H. T. Harvey & Associates,
2002–present

Principal, JMH Design, 2000–02

Associate, Danadjieva & Koenig Associates, 1999–2000

Project manager, Merrill + Befu Associates, 1997–99

PROFESSIONAL AFFILIATIONS

American Society of Landscape Architects

PUBLICATIONS

- Howard, J. M. 2017-2018. Restoring Silicon Valley, Clarence Roy-Smithgroup/JJR Lecture.
- Howard, J. M., et al. 2007. Integrating Science and Design. Education Session, ASLA Meeting.
- Howard, J. M. 2005. Landscape architecture and the scientific approach to ecological restoration. *Ecosis* 15(3).
- Howard, J. M. 2005. Interactive Techniques for Building Community Support. Education Session, CPRP/NARP Training Conference.

Complete list of publications available upon request.

PROFESSIONAL PROFILE

Joe Howard is the principal and leader of the landscape architecture group at H. T. Harvey & Associates with 30 years of experience. He is a licensed landscape architect who leads projects with complex ecological challenges and community issues by applying his design abilities, facilitation skills, strong ecological background, and hands-on knowledge of project construction. Joe helps identify and resolve ecological concerns during the early stages of site design and planning, and specializes in devising solutions to complex issues and incorporating them in intelligent planning and construction documents. He is well versed not only in the creation of natural habitats but also in skillfully designing elegant human spaces where nature and people coexist.

PROJECT EXAMPLES

Serves as principal landscape architect for **planning and design improvements to the waterbird nesting ponds** at the wildlife sanctuary in Kawainui Marsh on Oahu.

As principal leads ongoing on-call services to support the City of San Jose's Park, Recreation, and Neighborhood Services park and trail mitigation projects in Santa Clara County, California. This work includes an overall effort to **catalog, track, and design, maintain, and monitor San Jose's habitat mitigation obligations**. It spans 9 riparian mitigation projects, along 5 major Santa Clara Valley creeks, totaling approximately 10 acres. Helps lead community involvement, planning and habitat restoration efforts at two San Jose parks.

Serves as principal in charge for the Burlingame Shoreline Park project, to realize the vision of **a new 9-acre nature-based park on the San Francisco Bay waterfront**. Facilitated efforts to receive State Lands Commission approval to move forward with project; developed feasibility and concept studies; and coordinated with stakeholders. Coordinated with regulatory agencies, conducted site investigations, assisted in pursuing grant funding. Stewarding current are design phase of project.

Served as principal and led activities for the landscape architecture group on **bat mitigation efforts for a bridge replacement project** at Capell Creek in Napa County, California.

Served as the landscape architect of record, **managing and overseeing design, construction documentation, construction implementation monitoring** for a restoration project at Wrigley Creek in Santa Clara County, California.

Served as principal-in-charge and landscape architect of record for a multi-trail and multi-modal bicycle, pedestrian, parking and Shuttle Transit Circulation projects that was a collaborative effort between a technology firm and a regional agency in the San Francisco Bay Area. Project included the **use of sustainable materials, storm water capture, pervious paving, native planting, and ecological design to support urban wildlife habitats**.



Gregory C. Spencer Wildlife Ecology

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808.269.6480



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HIGHLIGHTS

- 20+ years of experience
- Ecology of marine birds and mammals
- HCP development and implementation
- Conservation strategies and mitigation planning
- Renewable energy—wildlife interaction

EDUCATION

BS, Marine Ecology, University of Hawaii,
Hilo

PROFESSIONAL EXPERIENCE

Senior ecologist, H. T. Harvey & Associates,
2013–present

Senior wildlife biologist, First Wind
Energy/Environmental Affairs, 2005–13

*Research coordinator for Steller sea lion research
program*, Alaska SeaLife Center, 2003–05

Independent ecological consultant, various clients,
1999–2002

PUBLICATIONS

Spencer, G., et al. 2024. Establishment of an
incipient Newell's Shearwater *Puffinus
newelli* colony on Maui. *Marine
Ornithology* 52:157–164.

Ainley, D., et al. 2023. Disparate decadal
trends in Kauai seabird populations:
Possible effects of resource competition and
anthropogenic impacts. *Marine Ornithology*
51:47–54.

Ainley, D. G., et al. 2014. The prey of
Newell's shearwaters *Puffinus newelli* in
Hawaiian waters. *Marine Ornithology*
44:69–72.

Ainley, D. G., et al. 2001. The status and
population trends of the Newell's
shearwater on Kauai: Insights from
modeling. *Studies in Avian Biology* 22:108–
123.

Ainley, D. G., et al. 1997. New insights into
the status of the Hawaiian Petrel on Kauai.
Colonial Waterbirds 20:1–7.

Complete list of publications available upon request.

PROFESSIONAL PROFILE

Gregory Spencer is a senior wildlife ecologist and project manager with H. T. Harvey & Associates, based in Maui, Hawaii. His more than 20 years of experience in wildlife ecology includes several years of seabird research throughout the Hawaiian Islands, Alaska, and the eastern North Pacific, both colony-based and at-sea, including the development and implementation of conservation management programs aimed at promoting conservation benefits for ESA listed species. He has participated in studies investigating the movements and foraging ecology of Stellar sea lions, California sea lions, northern fur seals, and Hawaiian monk seals. Over the past 15 years he has worked extensively with Habitat Conservation Plans (HCPs) in Hawaii with an emphasis on ESA listed seabirds, Nene, and native Hawaiian waterbirds.

At H. T. Harvey & Associates, Gregory applies expertise in developing conservation strategies for threatened and endangered seabirds. His knowledge of species ecology and management action feasibility, demonstrated capacity to establish and maintain productive relationships with stakeholders, state and federal agencies, and conservation organizations are instrumental in assisting clients and facilitating project success in Hawaii.

PROJECT EXAMPLES

Provides project management and coordination with client, partners, and the design team; develops relationships with stakeholders and agencies; and develops permitting framework for the **Kanaio Stream Nature-Based Restoration Design and Implementation Plan** in Maui.

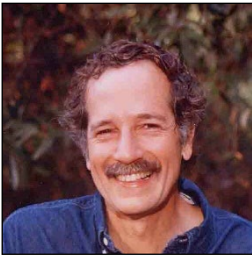
Contributed wildlife expertise to updating wildlife-related content in Hawaii's updated State Wildlife Action Plan and Forest Action Plan, especially that pertaining to sensitive species, marine resources, and freshwater species and habitats.

Managing development and implementation of monitoring programs, data analysis, and **habitat conservation planning for ESA-listed seabirds in Hawaii**. Assists with the design of conservation strategies to mitigate potential impacts and achieve net ecological benefits for affected seabirds.

Managed a seabird conservation initiative at the Makamaka'ole Seabird Mitigation in West Maui. Work includes predator exclusion, predator control, social attraction network, and monitoring needed to promote breeding colony establishment for the **threatened Newell's shearwater**.

Contributed the **aquatic and marine biosecurity aspects of Hawaii Department of Agriculture's (HDOA) comprehensive, statewide biosecurity plan**, a 5–10-year roadmap for implementing the infrastructure and capacity needed to support biosecurity programs at multiple agencies, including HDOA.

Assisting with development of a **management plan and environmental assessment for the Kamehameui Forest Reserve** on Maui, Hawaii, for the Department of Land and Natural Resources, Division of Forestry and Wildlife.



Dave S. Johnston, PhD

Wildlife Ecology

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exploration, and excellence

HIGHLIGHTS

- 40+ years of experience
- Bat studies, conservation, and mitigation
- Bird and bat fatality estimation
- Avian and bat protection plans
- Wildlife and avian ecology

EDUCATION

PhD, Biology, York University

MA, Biological Sciences, San Jose State University

BS, Biology, California State University,
San Luis Obispo

PERMITS AND LICENSES

CDFW Scientific Collecting Permits for mammals,
including all species of bats statewide (SC-004098)

PROFESSIONAL EXPERIENCE

Associate, H. T. Harvey & Associates, 1996–present

Executive director, Youth Science Institute, 1979–95

MEMBERSHIPS AND AWARDS

Board member of the North American Society for
Bat Research, 2013–16

American Society of Mammalogists, Life Member
Western Bat Working Group, V.P., 2012–14

Appointed member of the Altamont Pass Wind
Resource Science Advisory Committee for a
Habitat Conservation Plan for two years

PUBLICATIONS

Johnston, D. S., et al. 2019. California Bat
Mitigation: A Guide to Developing Feasible and
Effective Solutions. Caltrans.

Johnston, D. S., et al. 2013. Bird and Bat Movement
Patterns and Mortality at the Montezuma Hills
Wind Resource Area. CEC-500-2013-015.
California Energy Commission, Public Interest
Energy Research (PIER) Program, Sacramento.

Johnston, D. S., and M. B. Fenton. 2001.
Individual and population-level variability in
diets of pallid bats. *Journal of Mammalogy* 82(2).

Complete list of publications available upon request.

PROFESSIONAL PROFILE

Dr. Dave Johnston is a renowned wildlife ecologist and authority on bats and other small mammals of the western United States and Hawaii. He has conducted bat research and led bat-related projects for more than 40 years. In addition to bats, Dave has worked with numerous federally endangered species, including the California red-legged frog, salt marsh harvest mouse, Ridgway's rail, western snowy plover, south central California coast steelhead evolutionarily significant unit (ESU), and central California coast steelhead ESU.

Dave's work includes evaluating habitat, assessing potential impacts, and proposing mitigation for bats and dozens of species in California, Hawaii, Southwestern states, and abroad. He has prepared the wildlife sections for more than 50 CEQA and NEPA documents, including natural environmental studies, initial studies, and biotic assessments. He has written biological assessments for Endangered Species Act Section 7 consultations for many federally listed species.

David is a former board member of the North American Society for Bat Research and a vice president of the Western Bat Working Group.

PROJECT EXAMPLES

Led team that **developed and tested survey methods for detecting the Hawaiian hoary bat** during the summer maternity season, and designed monitoring and survey protocols and best management practices for a study for the Hawaii Forest Industries Association. The goal of the study was to develop scientifically sound and operationally practical procedures for surveying, monitoring, and avoiding impacts on endangered Hawaiian hoary bats during commercial forest harvest operations.

Contributed **Hawaiian hoary bat expertise to Hawaii's updated State Wildlife Action Plan and Forest Action Plan.**

As **project manager and senior bat biologist** for the **PG&E Topock Compressor Station**, located 11 roosts for bats and developed innovative, state of the science mitigation for special-status bats that facilitated the implementation of the Topock Compressor Groundwater Remediation Project. Conducted initial habitat assessments, found roosts through radio-tracking bats, and established science-based buffer zones so that operations could resume through summer months.

Was **lead author and project manager for *California Bat Mitigation: Techniques, Solutions, and Effectiveness* (2004)**, and the 2019 updated version, ***Caltrans Bat Mitigation: A Guide to Developing Feasible and Effective Solutions***, providing guidelines on effective mitigation for impacts on bats found on bridges.



Sadie Trush, MS

Spatial Ecologist

strush@harveyecology.com



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exploration, and excellence

HIGHLIGHTS

- 5 years of experience
- GIS analysis
- Spatial modeling
- Natural resources mapping
- Remote sensing platforms
- Pollination ecology
- ArcGIS

EDUCATION

PhD Candidate, Forest Pollination Ecology,
University of Washington

MS, GIS and Remote Sensing, University of
Southampton, England

BS, Environmental Services, University of Oregon

PROFESSIONAL EXPERIENCE

Spatial ecologist, H. T. Harvey & Associates,
2022–present

Predocutorial instructor, University of Washington,
2021–present

Workshop lead, Ministry of Environment, Forest,
and Climate Change, Ethiopia, 2019

Research assistant, remote sensing analyst,
University of Washington, 2018–2019

GIS data analyst, California Trout Inc., 2018

Research assistant, GIS analyst, University of Oregon,
2016

Research assistant, National Science Foundation,
2015

PUBLICATIONS

Williams, T. G., S. A. Trush, et al. 2021. Land-use
changes associated with large-scale land
transactions in Ethiopia. *Ecology and Society*
26(4):34.

Complete list of publications available upon request.

PROFESSIONAL PROFILE

Sadie Trush is a geospatial analyst at H. T. Harvey & Associates with five years of professional experience. She has worked with GIS platforms and statistical models on a variety of research projects in California and the Pacific Northwest, as well as international projects. Sadie has experience with natural resources mapping and monitoring, including land cover classification, pollinator community and habitat suitability modeling and stream surveying. She is well-versed in remote sensing and machine learning technology, which she has utilized to identify large- and local-scale landscape changes, detect spatiotemporal patterns of forest change through time series analysis, and integrate environmental and social information into geospatial models.

At H. T. Harvey & Associates, Sadie contributes her analytical skills to project teams. She assists with project design concerning native pollinators, data analysis, mapping, and statistical models.

PROJECT EXAMPLES

Conducts wetlands and waterways mapping of Maui County; compiling a large geodatabase of environmental and city data, satellite imagery analysis, wetlands classification and risk analysis. The final output will inform future project developers on Maui, Lanai, and Molokai of potential restrictions and impacts their projects may have on local wetlands and waterways.

Handles geospatial data and maps covariate outputs to portray the distribution of seabirds off a portion of the California and Oregon coast. Work is to support development of 3-dimensional seabird abundance models at various heights in the California Current. The models will inform risk assessments and siting decisions for offshore wind facilities.

As a GIS data analyst at a nonprofit conservation organization, **collected, created, and curated data to monitor stream habitat** for salmon in Humboldt County.

Operated a UX5 drone to collect imagery on the statue pathways from the quarry to coastline on Easter Island, Chile. Conducted surveys of the freshwater and saltwater interface to collect conductivity and temperature readings.

As a graduate researcher, **designed a spatiotemporal network of blue vane traps** in coniferous forests around Mount Rainier and Mount St. Helens to analyze the persistence of native pollinator communities in relation to timber harvest practices. **Modeled alternative forest management scenarios in R and PRESENCE.**

Developed a novel pollen tracking methodology using quantum dot nanotechnology for a graduate research project in Washington.

Oversaw the digitizing of land cover classes from high resolution imagery in Ethiopia to develop machine learning algorithms and a two stage matching approach to understand effects of large-scale land transactions on the landscape.



Karl N. Magnacca, PhD Entomology



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HIGHLIGHTS

- 25+ years of experience
- Entomologist
- Native Hawaiian bees and drosophila species
- Insect taxonomy and identification
- Entomological surveys
- Rare and endangered plant surveys

EDUCATION

PhD, Entomology, Cornell University

BA, Biology, Wesleyan University

PROFESSIONAL EXPERIENCE

Senior ecologist 1 H. T. Harvey & Associates,
2013–present

Entomological specialist, Oahu Army Natural
Resources Program, 2013–present

Research entomologist, State of Hawaii Division of
Forestry and Wildlife, 2011–13

Postdoctoral researcher, University of Hawaii–Hilo,
2009–2011; Trinity College, Dublin, 2007–09;
University of California, Berkeley, 2006–07

Invertebrate inventory specialist, USGS BRD, 2004–06

Invertebrate workgroup facilitator, NPS Inventory and
Monitoring Program, Pacific Islands Network,
2003–04

Entomological technician, USGS BRD, 1994–98

PUBLICATIONS

Magnacca, K. N., and P. M. O'Grady. 2009.

Revision of the modified mouthparts species
group of Hawaiian *Drosophila* (Diptera:
Drosophilidae). University of California
Publications in Entomology 130.

Magnacca, K. N., and B. N. Danforth. 2006.

Evolution and biogeography of native Hawaiian
Hylaeus bees (Hymenoptera: Colletidae).
Cladistics 22(5):393–411.

Daly, H. V., and K. N. Magnacca. 2003. Hawaiian
Hylaeus (*Nesoprotopis*) Bees (Hymenoptera:
Apoidea). Volume 17 of *Insects of Hawaii*.
University of Hawaii Press, Honolulu.

Complete list of publications available upon request.

PROFESSIONAL PROFILE

Dr. Karl Magnacca is an entomologist with more than 25 years of experience studying and working with the insects of Hawaii. Karl has particular expertise in the evolution and genetics of Hawaiian native bees and pomace flies, two groups of major evolutionary significance to the Hawaiian Islands. His work has dealt with the ecology, evolution, systematics, conservation biology, and invasive species management issues associated with these and other native insects. In his career, he also has conducted surveys for insects on conservation lands, monitored rare damselflies in coastal ponds, explored methods for controlling introduced yellowjackets, and sampled leaf litter and soil microinvertebrates to study the impacts of feral pigs. Karl regularly presents at major international, national, and local scientific conferences, and is a research affiliate at the Bishop Museum in Honolulu.

At H. T. Harvey & Associates, Karl provides expertise in entomology to client projects, such as entomological surveys and insect taxonomy and identification.

PROJECT EXAMPLES

Contributed entomological expertise to develop the Lanai Cooperative Game Management Area steering document. Contributed to management strategy; gaps and opportunities; and future goals and objectives as they relate to native habitats, threatened and endangered species, and habitat degradation.

Served as invertebrate expert for a Blackburn's sphinx moth survey at the construction site for the Central Maui Regional Sports Complex.

Contributed damselfly expertise as part of a team providing biological services for the Board of Water Supply's Palolo Access Trail Repairs Project on Oahu.

Conducted damselfly surveys in Molokai Waikolu Valley for repair and maintenance activities for the Molokai Irrigation System.

Performed insect sampling and insect identification for the 'Uko'a Wetlands Research and Monitoring Plan, a part of the Habitat Conservation Plan being developed to mitigate for take of the Hawaiian hoary bat at the Kawaihoa Wind Energy Project on Oahu.

As a research entomologist for the state Division of Forestry and Wildlife, **conducted extensive field surveys for candidate endangered *Hylaeus* bees** across the islands of Oahu and Hawaii.

With the U.S. Geological Survey Biological Resources Division at Hawaii Volcanoes National Park, worked on **numerous monitoring and research projects to inform management of habitats and nonnative species affecting insects.**