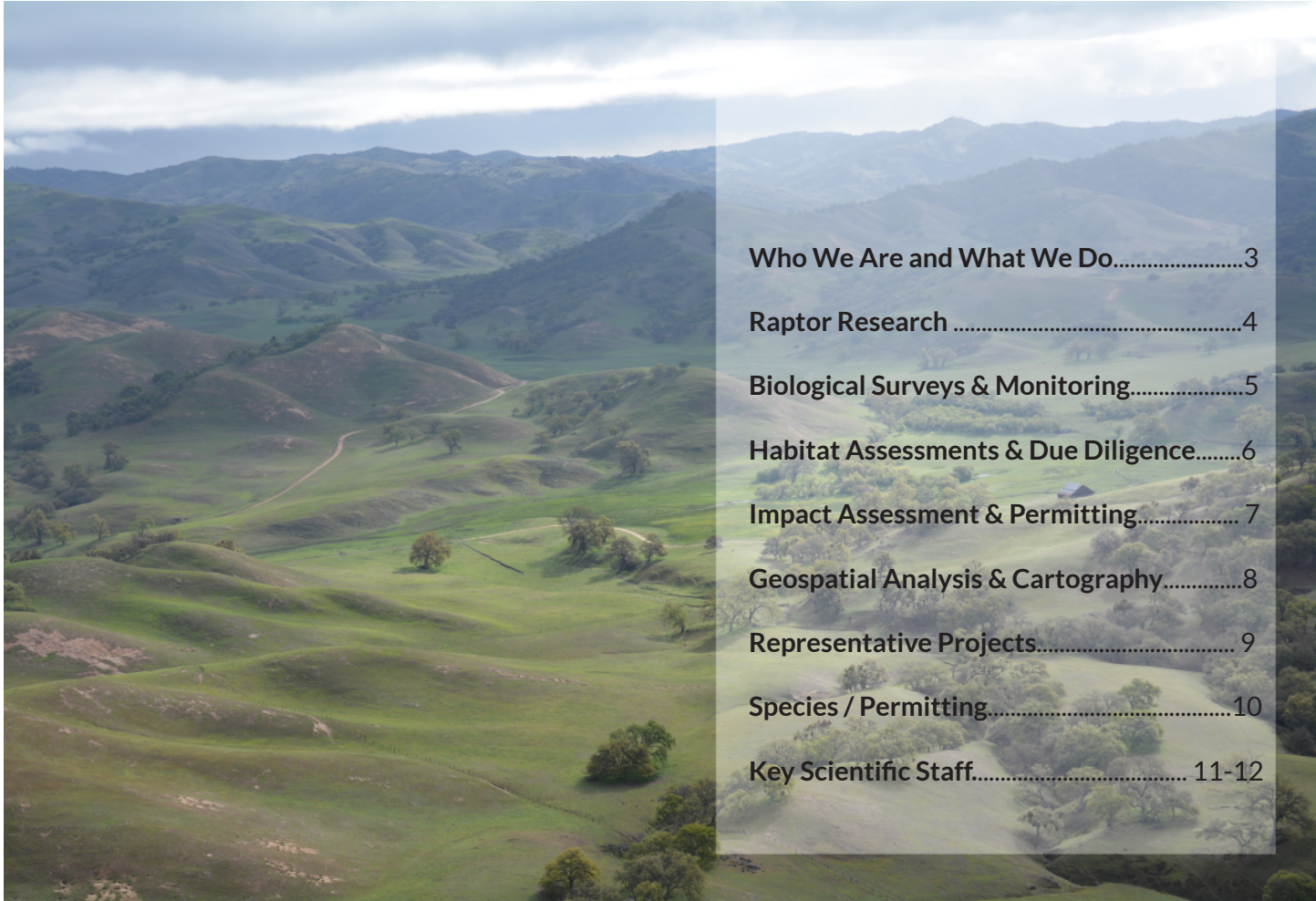




## 2016 Statement of Qualifications

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## WHO WE ARE AND WHAT WE DO

For more than 40 years, Bloom Biological, Inc. (BBI) has provided biological consulting services for large and small clients. Our resume of services includes raptor and endangered species research, biological monitoring, impact assessment, permitting, conservation planning, and geospatial analysis. Our innovative approach has provided solutions to complex problems for projects throughout a range of industries including alternative energy, utilities, oil and gas, residential development, and the public sector.

Collectively, the management and staff of BBI hold permits for participating in the conservation and recovery of more than a dozen endangered or threatened species, as well as a number of other special- status species, in California and the western United States.

Over the years, BBI has established an impeccable relationship with the resource agencies, project proponents, and environmental organizations by skillfully balancing the needs and objectives of land planning, resource conservation, and the public interest. In addition to our work in California and the western United States, BBI biologists have worked in Alaska, Central and South America, Europe, Southern Asia, and the western Pacific. BBI is a certified Small Business Enterprise.



## RAPTOR RESEARCH



Founder and chief executive Peter H. Bloom, Ph.D. is an internationally acclaimed raptor biologist, having spent more than four decades studying, banding, and tracking hawks, eagles, kites, condors, and owls, and working with landowners and the regulatory agencies in conserving their habitats. Dr. Bloom has published on the biology of raptors in more than 30 peer-reviewed scientific papers and technical reports and has spent over 600 hours conducting helicopter and fixed-wing nest survey work and aerial radio-tracking of raptors. BBI also employs a number of lead and supporting biologists with raptor expertise.

Having previously directed the successful efforts to capture all remaining wild free flying California Condors (*Gymnogyps californianus*) in the 1980's, BBI has also been called upon by numerous clients to provide expertise on this highly endangered species. Recent projects include a fatal flaw analysis for AES Wind, a condor conservation and management plan for Tejon Ranch Corporation, and consultation regarding the condor for Yokohl Ranch. Other recent but completed work includes fatal flaw analyses for Padoma Wind in San Benito, Mendocino and Monterey counties, and consultation on the condor for the Alta-Oak Creek Mojave wind project at the Tehachapi Wind Resource Area.

In addition to the condor projects listed above, BBI is also called upon frequently to advise on the effects or potential effects of wind power on raptors and other birds. As such, BBI has provided consulting services for Altamont Pass; the Homestead, Manzana and Pine Tree projects at the Tehachapi Wind Resource Area; and the Mesa Wind project near Palm Springs. BBI has also provided similar field studies and technical guidance for proposed solar projects, including the Rice, Rio Mesa, and Palen solar projects between Palm Springs and Blythe, the Hidden Hills solar project near Las Vegas, and the Panoche solar project in San Benito County.



# BIOLOGICAL SURVEYS & MONITORING

BBI staff can perform surveys for any biological resource anywhere in the State of California. BBI biologists also have experience and selected permits to conduct surveys for species outside of the State of California. Our services range from standard, agency-mandated protocol surveys for endangered, threatened, and sensitive species, to carefully developed and project-specific surveys for a wide array of resources, including protocol designs subject to rigid statistical analysis as is becoming commonplace for solar and wind energy siting cases.



Recently, BBI has provided highly-regarded biological monitors for the following projects:

- Tehachapi Renewable Transmission Project (Southern California Edison and ICF International), Kern and Los Angeles Counties, California
- Construction at MCAS Camp Pendleton (LSA), San Diego County, California
- Devers-Palo Verde 2 Transmission Project (Southern California Edison and CH2MHILL), Riverside and San Bernardino Counties, California
- Various tree trimming projects (Southern California Edison) throughout southern California.

Recent work to conduct surveys for endangered and threatened species has been completed by BBI on the following projects:

- Several detention basins (County of San Bernardino), San Bernardino County, California
  - Newhall Ranch (Newhall Land), Los Angeles County, California
  - Dam removal project in the San Bernardino Mountains (PSOMAS), Riverside and San Bernardino Counties, California
  - Los Angeles Department of Water and Power facilities (ESA), Los Angeles County, California
- BBI has also conducted recent, large-scale bird counts on several proposed wind and solar facilities in the California deserts.



## HABITAT ASSESSMENTS & DUE DILIGENCE

BBI uses the latest in field techniques and computer technology to assess a study area's habitat composition and determine the potential presence of sensitive biological resources. BBI biologists have many years of experience conducting general habitat assessments and due diligence studies. These are often the first steps in determining the types of surveys and other studies likely to be required during environmental review for elucidating project impacts and shaping feasible mitigation measures. BBI biologists are capable and experienced in evaluating a site's potential to support endangered or otherwise sensitive species or their habitat, evaluating the nature and significance of project impacts on these resources, and working with project proponents in developing feasible mitigation measures to avoid, eliminate, or reduce these impacts.

### RECENT PROJECTS INCLUDE:

Newhall Ranch (Newhall Land), Los Angeles County, California

Palen Solar Electric Generating System (BrightSource Energy),

Riverside County, California

Jackson Property, Orange County, California Portuguese Bend Reserve,

Los Angeles County, California

Tehachapi Renewable Transmission Project (Southern California

Edison and ICF International), Los Angeles County, California

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BBI biologists have also conducted due diligence analyses for a large number of proposed residential developments in southern California, as well as larger projects such as 35,000 acres north of Las Vegas and 50,000 acres in the vicinity of Albuquerque, New Mexico.



## IMPACT ASSESSMENT & PERMITTING

In recent years, BBI has expanded its team with biologists and project managers with greater than 40 years of combined experience managing the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) process for large and small projects. These key staff are experienced with writing the biological sections of Environmental Impact Reports (EIRs), Section 7 consultations, and responding to public comments during the DEIR review process.

Consequently, BBI biologists have extensive experience preparing biological documents that fulfill the requirements of CEQA, NEPA, federal and state Endangered Species Acts (federal ESA Section 10(a) permits and Section 7 consultation, state ESA Section 2081 permits), single- and multiple-species habitat conservation plans, and other regulatory requirements.

Proper and accurate documentation of findings is a crucial aspect of the environmental and regulatory compliance processes, and BBI prides itself in the abilities of its biologists to prepare highly professional, attractive, concise, and readable reports in a timely fashion to both its clients and the resource agencies, whether they be daily monitoring reports, monthly or annual summaries, or final documents.

BBI is currently assisting with the permitting of a large number of a solar and wind projects under the Bald and Golden Eagle Protection Act. This work includes the design and implementation of field studies, reporting, collaboration with state and federal agencies, and the development of impact models and mitigation for Eagle Conservation Plans.

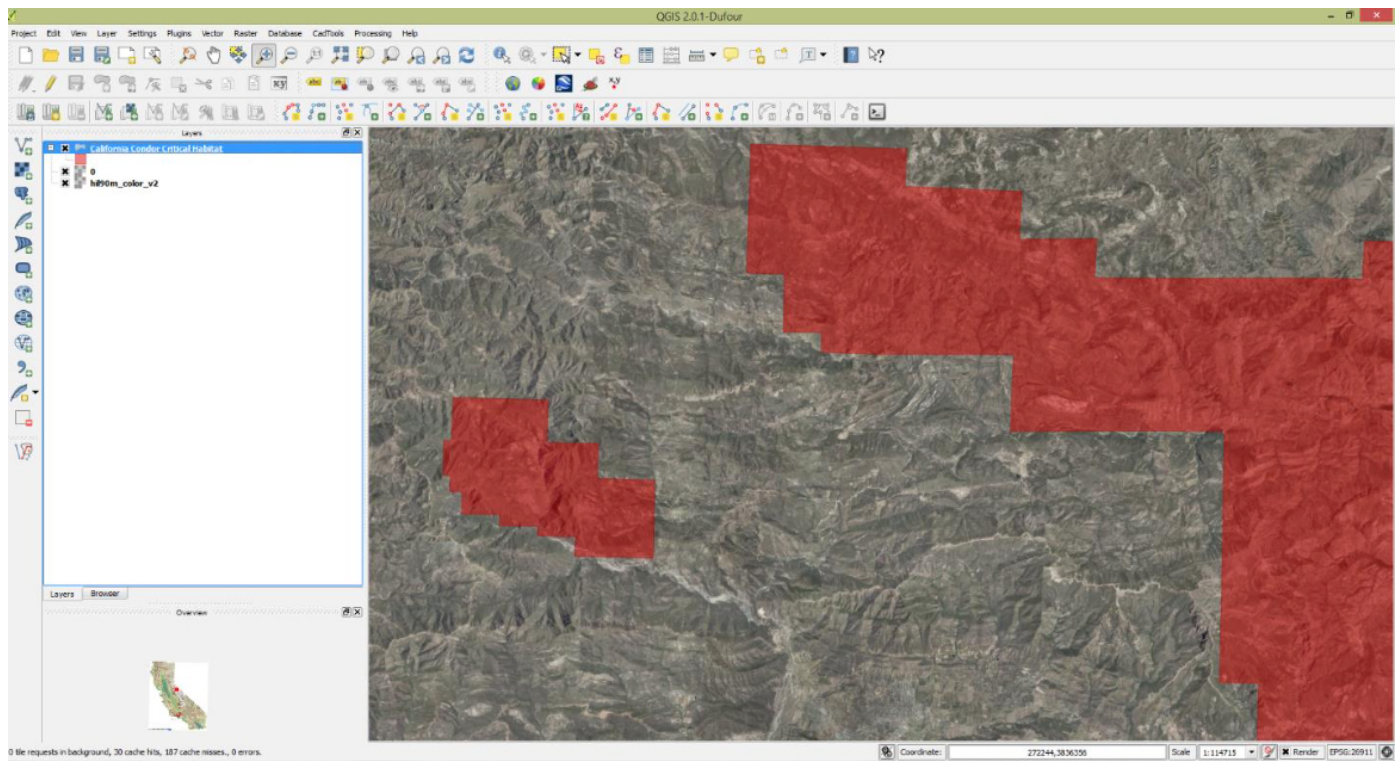


## GEOSPATIAL ANALYSIS & CARTOGRAPHY

BBI's geospatial consulting services provide unmatched depth, detail and background to any analysis of potential project-related resources. Our cartography results in "artful" maps that make the data easy to understand and lend authority and clarity to your permitting documents.

A Geographic Information System, also known as GIS, is defined as a computer system for capturing, storing, checking, integrating, manipulating, analyzing and displaying data related to positions on the Earth's surface. We would also define GIS as a system that creates phenomenal efficiencies in data collection, analysis and storage as well a system that allows you to see data in ways that were impossible to fathom prior to the invention of GIS technology. Far beyond making simple maps, a complete GIS is a database that allows you to investigate a wide variety of spatial and non-spatial relationships among data. The limits are endless.

BBI utilizes the most advanced available techniques in GIS to retain and analyze all project data, from simple survey results to the most detailed impact analyses and mitigation planning. Our state-wide geospatial database allows us to view a project's resource information instantly in a much larger context, resulting in more accurate results than those obtained with older methods. Besides databases, our GIS toolbox includes a large variety of spatial analysis and statistical tools.





## REPRESENTATIVE PROJECTS

### **GOLDEN EAGLE CAPTURE AND TRANSMITTER APPLICATION**

**Project Type:** Government Agency

**Location:** Oregon

Description: BBI biologists are spending three winters baiting, establishing camera traps, and trapping and marking Golden Eagles in southeastern Oregon. This work will assist in federal efforts to track local Golden Eagle populations and assist in the management of area land use to minimize impacts on this species.

### **PALEN SOLAR PROJECT**

**Project Type:** Solar

**Location:** Riverside County, California

Description: BBI biologists conducted wintering and nesting Golden Eagle surveys and designed and implemented migration point counts to assess potential impacts of the proposed project to migratory birds and Golden Eagles. BBI also provided assistance in the review process with the California Energy Commission and the REAT agencies.

### **TEHACHAPI RENEWABLE TRANSMISSION PROJECT**

**Project Type:** Utility

**Location:** Kern, Los Angeles, and San Bernardino counties, California

Description: BBI has provided biological services on this project since its inception in 2009. Initially, BBI provided construction monitoring, nesting bird surveys, and Swainson's Hawk surveys. BBI also developed the draft version of the project's Nesting Bird Management Plan and currently provides the project's Nesting Bird Lead monitor.

### **MANZANA WIND PROJECT**

**Project Type:** Wind

**Location:** Kern County, California

Description: BBI was initially tasked with completing wintering and nesting raptor surveys, as well as nesting bird displacement surveys, for two years using methods provided in the RFP. Subsequently, the scope was expanded to conduct large bird migration counts and provide other assistance to minimize potential avian impacts.

### **RESIDENTIAL PROJECT IN LOS ANGELES COUNTY**

**Project Type:** Residential

**Location:** Los Angeles County, California

Description: BBI has been conducting yearly surveys for Southwestern Willow Flycatcher, Least Bell's Vireo and other riparian birds for the last five years. BBI is also providing updated vegetation mapping for the survey area.



## SPECIES AND PERMITTING

BBI BIOLOGISTS ARE PERMITTED TO CONDUCT SURVEYS AND ANALYZE POTENTIAL PROJECT EFFECTS FOR MOST THREATENED AND ENDANGERED SPECIES OCCURRING IN THE STATE OF CALIFORNIA.

### Threatened and Endangered Species

#### Birds

California Condor (*Gymnogyps californianus*)  
 Bald Eagle (*Haliaeetus leucocephalus*)  
 Swainson's Hawk (*Buteo swainsoni*)  
 Peregrine Falcon (*Falco peregrinus*)  
 Snowy Plover (*Charadrius nivosus*)  
 California Least Tern (*Sterna antillarum browni*)  
 Western Yellow-billed Cuckoo (*Coccyzus americanus*)  
 Southwestern Willow Flycatcher (*Empidonax traillii extimus*)  
 Least Bell's Vireo (*Vireo belli pusillus*)  
 California Gnatcatcher (*Poliophtila californicas*)

#### Mammals

Mohave Ground Squirrel (*Xerospermophilus mohavensis*)  
 Pacific Pocket Mouse (*Perognathus longimembris pacificus*)

#### Reptiles & Amphibians

Desert Tortoise (*Gopherus agassizii*)  
 Arroyo Toad (*Anaxyrus californicus*)  
 California Red-legged Frog (*Rana draytonii*)  
 Mountain Yellow-legged Frog (*Rana muscosa*)  
 Invertebrates  
 Delhi Sands Flower-loving Fly (*Rhaphiomidas terminatus abdominalis*)  
 Quino Checkerspot Butterfly (*Euphydryas editha quino*)

### Non-Agency-listed Sensitive Species

#### Birds

Golden Eagle (*Aquila chrysaetos*)  
 Northern Harrier (*Circus cyaneus*)  
 Northern Goshawk (*Accipiter gentilis*)  
 Burrowing Owl (*Athene cunicularia*)  
 California Spotted Owl (*Strix occidentalis occidentalis*)  
 Long-eared Owl (*Asio otus*)  
 Short-eared Owl (*Asio flammeus*)  
 Loggerhead Shrike (*Lanius ludovicianus*)  
 Cactus Wren (*Campylorhynchus brunneicapillus*)

#### Mammals

San Diego Desert Woodrat (*Neotoma lepida intermedia*)  
 Los Angeles Pocket Mouse (*Perognathus longimembris brevinasus*)  
 Ringtail (*Bassariscus astutus*)  
 American Badger (*Taxidea taxus*)  
 Bighorn Sheep (*Ovis canadensis*)  
 Bats

#### Reptiles & Amphibians

Coast Range Newt (*Taricha torosa torosa*)  
 Western Spadefoot Toad (*Spea hammondii*)  
 Western Pond Turtle (*Actinemys marmorata*)  
 Orange-throated Whiptail (*Aspidoscelis hyperythra*)  
 California Legless Lizard (*Anniella pulchra*)  
 Coast Horned Lizard (*Phrynosoma coronatum*)  
 Flat-tailed Horned Lizard (*Phrynosoma mcallii*)  
 Mountain Kingsnake (*Lampropeltis zonata*)  
 Two-striped Garter Snake (*Thamnophis hammondii*)  
 South Coast Garter Snake (*Thamnophis sirtalis infernalis*)  
 Southern Rubber Boa (*Charina umbratica*)



## KEY SCIENTIFIC STAFF

### Peter H. Bloom, Ph.D. - Zoologist/President



Dr. Bloom has been a professional environmental consultant for more than 35 years. He specializes in the environmental sciences, is an internationally recognized expert in raptor biology and conservation and is considered one of the best all-around field biologists in California with his extensive knowledge and experience with all terrestrial vertebrate groups (amphibians, reptiles, birds, and mammals) and the vascular plants. Corporate clients for whom he has prepared or contributed to the production of numerous biological assessments and environmental impact reports include The Irvine Company, Rancho Mission Viejo, Tejon Ranch, Newhall Ranch, Ahmanson Ranch, Metropolitan Water District, and Los Angeles Department of Water and Power. He has also worked extensively with the Department of Defense, U.S. Fish and Wildlife Service, National Park Service, Bureau of Land Management, U.S. Forest Service, California Department of Fish and Game, and various non-profit conservation groups providing valuable research and advice, primarily on raptor ecology and conservation. He has conducted avian and herpetological research in the western United States, Alaska, Peru, Ecuador, and India and has been responsible for a wide variety of biological, ecological, and conservation studies ranging from local biological assessments to regional conservation planning. Dr. Bloom has published more than 30 peer-reviewed scientific papers and technical reports and taught California natural history at a local junior college for more than 12 years.

### Marcus C. England - Vice President/Senior Biologist



Mr. England is a biologist with expertise in avian biology, population ecology, project permitting, technical writing, geographic information systems, and database management and project experience in the residential development, wind and solar industries. He has a U.S. Fish and Wildlife Service recovery permit to conduct surveys for California Gnatcatcher and has extensive experience conducting protocol surveys for Least Bell's Vireo, Burrowing Owl, and Desert Tortoise. Mr. England is also experienced in conducting tree surveys and designing and conducting complex vegetation mapping efforts. Mr. England has a thorough knowledge of the California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA) and Federal Endangered Species Act (FESA) and how these state and federal policies, as well as local land use and environmental policies, apply to the project permitting process. Mr. England has written CEQA documents for some of the largest development projects in the State of California, including projects in Kern, Ventura, Los Angeles, Orange, San Bernardino, Riverside, and San Diego counties. He has considerable expertise with project permitting under the Western Riverside County Multiple Species Habitat Conservation Plan. He has also written due diligence documents for large projects in northern California, Arizona, New Mexico and Nevada.



### Michael Kuehn, Ph.D. - Senior Biologist & Statistical Analyst



Dr. Kuehn is an avian ecologist with experience conducting field research throughout the Americas from Ecuador to Alaska. He also has a solid working knowledge of the other terrestrial vertebrate groups (amphibians, reptiles, and mammals), and has taught courses about their ecology and identification at UC-Santa Barbara. He is familiar with the fauna and flora of coastal California and the Mojave/Sonoran Desert regions. He has studied nesting birds for 15 years, principally in California, Nevada, Arizona, Montana, Idaho and Alaska, but also in Ecuador. Dr. Kuehn has been responsible for a wide variety of biological, ecological, and conservation studies ranging from local biological assessments to studies aimed at understanding specific stressors on regional avian communities. He has designed and conducted numerous avian field studies, and supervised field crews during the implementation of these studies in addition to performing statistical analysis and interpretation of data for report preparation..

### Jaclyn Catino - Biologist & Assistant Secretary

Jaclyn Catino is an avian biologist with a particular interest in raptors. Since joining BBI in 2012, she had conducted daily nesting bird surveys and monitoring for large construction projects, and conducted point count surveys for large birds for energy projects. She has worked with Virginia Coastal Wildlife Observatory to trap and band raptors and San Diego State University to trap and band Gull-billed Terns on a US Navy base.

