

David Phillips

Vice President of Environmental, Apex Clean Energy

Education

M.S., Wildlife Ecology/Statistics, University of Maine, 1994

B.S., Environmental Science-Biology/Forestry, Stephen F. Austin State University, 1991

Professional Registrations

Certified Wildlife Biologist - The Wildlife Society

American Wind Wildlife Institute - Board member

American Wind Energy Association, Siting Committee - Wildlife Subcommittee Member

Raptor Research Foundation - Member

The Wildlife Society - Renewable Energy Working Group member (Certified Wildlife Biologist)

Relevant Experience

Mr. Phillips is the Vice President of Environmental for Apex Clean Energy. He is responsible for managing environmental compliance across Apex's portfolio of wind and solar projects, providing overall guidance on wildlife and environmental issues to the development, construction, asset management teams and proactively identifying and addressing permit risk issues to ensure that projects are developed, constructed, and operated in compliance with state and federal regulations. A significant portion of his responsibilities at Apex involve Eagle Act (BGEPA) and Migratory Bird Treaty Act (MBTA) compliance and permitting and addressing federally listed bat species HCP/NEPA processes. Mr. Phillips is an established technical expert for resolution of environmental conflicts through permitting, studies, and agency interaction for industrial development projects. His demonstrated success with NEPA, Endangered Species Act, BGEPA, MBTA, Clean Water Act, National Historic Preservation Act, National Pollution Discharge Elimination System, and other relevant local, state, and federal environmental regulations applicable to development, construction and operation of utility scale power generation and transmission projects is substantial, as is his experience managing and working with diverse interdisciplinary teams (legal, financing, development, land, engineering, construction, biological, social, cultural, construction) to accomplish permitting, construction and operational compliance objectives.

PROFESSIONAL EXPERIENCE

Apex Clean Energy, Inc. - 4/13-present. Charlottesville, VA, ***Vice President, Environmental*** - Responsible for growing and managing the environmental team at Apex, overseeing permitting, studies, and environmental compliance across Apex's fleet of wind and solar projects. Currently leading multiple bat technical assistance letter and Habitat Conservation Plan/Incidental Take Permitting processes and overseeing take authorization efforts for bald and golden eagles for projects in multiple regions of the U.S, managing NEPA analyses on multiple federal actions, and leading agency coordination processes on a variety of development pursuits. Job responsibilities: 1) ensure that Apex makes informed acquisition decisions with regard to environmental risk, 2) ensure regulatory compliance for development, construction and operational assets through agency interaction, permitting and reporting, 3) develop and maintain relationships with key regulatory staff and consultants, 4) stay current on policy and regulatory issues affecting renewable energy development and operations, and 5) build Apex's environmental team by selecting, leading, and managing staff and program priorities.

CH2M HILL, Inc. - 4/08-4/13. Englewood, CO

Senior Project Manager/Biologist - Led teams to execute state, county and federal permitting, developed and implemented construction compliance programs, and completed

site evaluations and due diligence reviews for a wide variety of industrial pursuits (e.g., utility scale power generation, oil and gas, mining, site reclamation) with an emphasis on renewable energy projects.

- Coordinated client-agency interaction, public involvement, permitting, and technical reporting.
- Interacted extensively with federal agencies (USFWS, BLM, EPA, ACOE, and Western Area Power Administration), state resource agencies, county planning departments, and technical and legal teams.
- Provided technical expertise to clients on resource issues (biological, cultural, wetlands, SWPP, etc.).
- Prepared permit applications, particularly Eagle Conservation Plans, Bird and Bat Conservation Strategies, and federal/state Endangered Species Act compliance documents.
- Provided leadership and technical expertise on ecological assessments, due diligence reviews, study design and implementation, and development of conclusions and recommendations for agency submittals.
- Met client needs through knowledge of the regulatory environment and delivery of high quality work.

TRC Environmental Corporation – 4/07-4/08. Laramie, WY

Senior Project Manager/Wildlife Biologist – Senior role leading natural resource program of the Laramie office.

- Managed NEPA-regulated development projects (wind, pipeline, oil/ gas, mining), permitting projects, compliance oriented wildlife-monitoring projects, baseline studies/surveys, and wetland assessments.
- Conducted agency interaction, EIS/EA implementation, and associated technical reporting.
- Provided strong, client-oriented service, generating deliverables in a professional and timely manner.
- Managed field studies and surveys with multiple field crews; hired, mentored, and trained junior staff.

Hayden-Wing Associates, LLC – 8/05-4/07. Laramie, WY

Senior Wildlife Biologist - Combination technical/middle management position coordinating field projects, supervising employees, writing technical reports and environmental portions of EIS, EA, and BA documents.

- Coordinated project activities with clients and state and federal agencies.
- Managed development and execution of field studies and surveys using multiple field crews.
- Hired, trained, and ensured quality work of seasonal and permanent technical employees.
- Designed and conducted aerial and ground surveys of threatened, endangered, and sensitive species.
- Prepared proposals, cost estimates, contracts, and invoices.
- Job required extensive use of GPS and ARCGIS 9.2.

Maine Department of Inland Fisheries and Wildlife – 8/04-8/05. Augusta, ME

Wildlife Biologist II - Planning and policy level position performing administrative, coordination and technical functions in support of a wide range of programs for the Wildlife Division of Maine Department of Inland Fisheries and Wildlife.

- Coordinated and developed proposals for funding of land acquisition projects.
- Served as Chair of Land Acquisition Committee and as departmental liaison to the Land for Maine's Future Board, Maine Outdoor Heritage Fund, Rabies Working Group, Vector Borne Disease Working Group, and Maine Dept. of Agriculture.
- Facilitated interagency meetings, and interacted extensively with the public, nongovernmental organizations, and state & federal personnel to accomplish regional planning goals.
- Administered policy development and permitting of wildlife rehabilitators.
- Reviewed special permits for wildlife possession and importation.
- Provided input to department on wildlife disease issues, and assisted with special projects as needed.
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Holderness School - 2002-2004. Holderness, NH

Biology Professor - Taught AP Biology and Biology, coached soccer and snowboarding, supervised residence halls/dormitories.

Eaglebrook School - 1997-2002. Deerfield, MA

Ecology/Biology Teacher - Extensive development of outdoor-based natural science curriculum - Grades 7-9.

Institute for Wildlife Studies - 2/95-9/96. Avalon, CA

Wildlife Biologist - Oversaw operation of field office for nonprofit wildlife research organization investigating pesticide influence on reproductive biology of bald eagles reintroduced to Catalina Island.

- Selected, trained, and supervised seasonal field personnel.
 - Coordinated field activities, data collection and analyses, acquisition and hack release of young.
 - Prepared annual reports and research presentations.
 - Interacted with public, media, USFWS, CA Dept. of Fish & Game, and natural resource professionals.
 - Used bownet, floating-fish snares, radio-telemetry, solar powered video-monitoring systems, motor boats, 4WD, and firearms; sampled blood and constructed hack towers.
 - Accomplished research objectives efficiently under challenging field conditions.
 - **Ancillary responsibilities:** Survey for peregrine falcons; band red-tailed hawk and American kestrel nestlings; capture/band loggerhead shrikes; conduct wildlife rehabilitation; harvest feral pigs and goats, guide hunters, and collect biological data for eradication program to restore endemic island vegetation.
- March - August 1998** - Rehired to purchase equipment, develop data collection protocol, and train field technician for a 3-year study of bald eagles along the Hudson River Corridor of NY designed to assess critical habitat, contaminant levels, and reproductive performance in resident bald eagles.

Bighorn Institute - 9/94-2/95. Palm Desert, CA

Biologist - Worked for nonprofit organization dedicated to research and conservation of wild sheep.

- Assisted with biological sampling of captive bighorn for disease research, cared for/evaluated health of captive herd, maintained log of activities, assisted with writing scientific reports and correspondence for membership and fundraising. Collected observation and telemetry data for wild sheep and served as key participant in capture (netgun from helicopter), radiocollaring, and aerial surveys of wild sheep.

University of Maine - 1/92-8/94. Baxter State Park, ME

Graduate Research Assistant - Oversaw telemetry study of American marten comparing social organization, survival, habitat selection, and population density between trapped and logged areas and a forest preserve.

- Managed field activities, data collection, and supervised field and data-entry personnel.
- Live-trapped and radio-collared marten, conducted ground and aerial telemetry.
- Designed research plan, compiled and analyzed data, prepared manuscripts for publication.
- Interacted daily with park resource managers, and the general public.

SPECIALIZED TRAINING / PROFESSIONAL DEVELOPMENT

- **24-hr HAZWOPER Certified:** 8-hour refresher course February 2013
- **Avian Radar:** Applications, limitations, risk calculation and alerting. Detect Inc. January 2011
- **Project Delivery Systems Training:** 2-day course for CH2M HILL Project Managers. Oct. 2008
- **FERC Regulatory Overview and Guidance and Environmental Compliance Seminars:** Sep. 2008
- **Wetland Delineation and Management Training:** 4-day course taught by Richard Chin. Aug. 2007
- **NEPA Training:** How to Manage the NEPA Process and Write Effective NEPA Documents. 4-day course taught by the Shipley Group. Salt Lake City, UT. June 2007
- **Phase 1 ESA Training:** Environmental Assessment Association. Aug. 2007
- **ESRI GIS:** Understanding Map Projections & Coordinate Systems (6/06); Cartographic Design (8/06)
- Mountain Plover Partner Meeting: Rocky Mt. Bird Observatory, Ft. Collins, CO. Feb. 2007
- **Wildlife Capture and Chemical Immobilization:** 2-days, Terry Kreeger, WGFD, Laramie, WY. (8/06).
- **Mexican Spotted Owl Inventory Certification Course:** Canon City, CO. May 2006
- 2nd International Chronic Wasting Disease Symposium: Madison, WI. July 2005
- USDA, APHIS, Animal Care conference on exotic wildlife and disease issues: Bethesda, MD. May 2005
- 2005 Rabies Management Team meeting: Riverdale, MD, Mar. 2005

- **Chronic Wasting Disease Sampling:** 1day course, MDIFW, Oct. 2005
- **Chemical Immobilization of Wildlife:** 1-day course, Institute for Wildlife Studies. May 1997

CERTIFICATIONS and RECENT PERMITS

- **Certified Wildlife Biologist** - The Wildlife Society.
- **Qualified Eagle Surveyor** - Meet 2012 and 2013 USFWS ECP Guidance requirements.
- **USACE Wetland Delineation Course** - Certificate of course completion (2007).
- Meet ACOE Wetland Delineation Certification program requirements.
- Certified by USFWS to supervise/conduct surveys for black-footed ferrets & Mexican spotted owls and trained to survey for mountain plover.
- Chemical Immobilization - Certificate of course completion. Sept. 2006
- Subpermittee - Federal Fish and Wildlife Permit #MB707809 - 2004-2007
- Permanent Teacher Certification, NY State - Biology, General Science.

TECHNICAL SKILLS

NEPA: Formal training, professional experience, and proven success managing BLM, WAPA, and FERC projects.

ESA, HCP, ITP, ECP, BBCS and TAL processes: Demonstrated proficiency and success, including Section 7 involvements on project involving BLM, WAPA, FERC, EPA and USACE and leading Section 10 HCPs on private land projects.

ARC GIS: Competent collecting, managing, and analyzing spatial data, and producing professional quality maps.

GPS: Fully proficient utilizing handheld GPS units for spatial data collection in the field. Physically fit and capable of functioning safely and efficiently in field and office settings.

PUBLIC OUTREACH/COMMUNITY INVOLVEMENT

- Ski Patrol Candidate Volunteer - Gore Mountain Ski Area, 2017
- Volunteer ski racing coach - Snowy Range Ski Area (Laramie, WY) - 2010/2011
- Snowy Range Academy - volunteer wildlife and ecology presentations for grades K-7, 2005-2012
- Chronic Wasting Disease - Informative talk to Hunter Safety Coordinators, Bryant Pond, ME, June 2005
- Rabies and Nuisance Wildlife, talk given to ACO's, Augusta, ME, May 2005
- Weekly campfire talks and slide shows on raptor ecology, Catalina Island, May-Sep. 1996
- Slide presentations on eagle ecology - Avalon Lion's Club, June 1995. Avalon Rotary Club, Aug. 1996.

PUBLICATIONS

Payer, D., D. Harrison, and D. Phillips. 2004. **Territoriality and home-range fidelity of American martens in relation to timber harvesting and trapping.** Pages 99 -114 in D.J. Harrison, A.K. Fuller, and G.J. Proulx eds. *Martens and fishers (Martes) in human altered environments - an international perspective.*

Krohn, W., Hoving, C., Harrison, D., Phillips, D., Frost, H. 2004. **Martes foot-loading and snowfall patterns in eastern North America: implications to broad-scale distributions and interactions of mesocarnivores.** Pages 115-132 in D.J. Harrison, A.K. Fuller, and G.J. Proulx eds. *Martens and fishers (Martes) in human altered environments.*

Phillips, D.M., D.J. Harrison, and D.C. Payer. 1998. **Seasonal changes in home-range area and fidelity of martens.** *J. Mammal.* 79:180-190.

Chapin, T.G., D.J. Harrison, and D.M. Phillips. 1997. **Seasonal habitat selection by marten in an untrapped forest preserve.** *J. Wildl. Manage.* 61(3):707-713.

Chapin, T.C., D.M. Phillips, D.H. Harrison, and E.C. York. 1997. **Seasonal selection of habitats by resting martens in Maine.** Pages 166-181 in G. Proulx, H.N. Bryant, and P.M. Woodard, eds. *Martes: taxonomy, ecology, techniques, and management.* Provincial Museum of Alberta, Edmonton, Alberta, Canada.

Hodgman, T.P., D.J. Harrison, D.M. Phillips, and K.D. Elowe. 1997. **Survival of martens in an untrapped forest preserve in Maine.** Pages 86-89 in G. Proulx, H.N. Bryant, and P.M. Woodard, eds. *Martes: taxonomy, ecology, techniques, and management.* Provincial Museum of Alberta, Edmonton, Alberta, Canada.

Phillips, D. 1994. **Social and spatial characteristics, and dispersal of marten in a forest preserve and industrial forest.** M.S. Thesis, Univ. Maine Dept. Wildl. Ecol. 95 pp.

Phillips, D., T. Chapin, and K. Elowe. 1993. **The American marten.** *Maine Fish and Wildlife* 35(2):2-4.

CONTRACT REPORTS

2005 - present. Contributing writer, primary author, and senior technical reviewer of multiple EIS, EA, and BA, ECP, and BBCS documents submitted to federal agencies, and of various permit applications, technical memorandums, reports, and study plans submitted to federal and state agencies and industrial clients.

Phillips, D. **Status and Movements of Bald Eagles of the Hudson River Corridor - Nesting Season Summary Report, 1998.** Prepared for: New York Department of Environmental Conservation, Project C003835. 21pp.

Phillips, D. and D. Garcelon. 1996. **Research and management of bald eagles on Santa Catalina Island, California, 1996.** Submitted to Damage Assessment Office, U.S. Fish & Wildl. Serv., Sacramento, CA. 18pp.

Phillips, D.M. 1996. **Summary of the 1996 survey and banding effort for loggerhead shrikes on Santa Catalina Island, California.** Submitted to Natural Resources Office, U.S. Navy, San Diego, CA. 6pp.

Chapin, T.G., D.J. Harrison, D.D. Katnik, D.M. Phillips, and E.C. York. 1996. **Influence of landscape pattern, forest type, and forest structure on use of habitat by marten in Maine.** Submitted to the National Council of the Paper Industry for Air and Stream Improvement. New York, N.Y. 87pp.

Phillips, D.M. and D.K. Garcelon. 1995. **Bald eagle productivity, contaminant relations, and nesting behavior on Santa Catalina Island, CA, 1995.** Submitted to the Damage Assessment Office, U.S.F.W. S., Sacramento, CA. 26pp.

RESEARCH PRESENTATIONS

Sex-specific incubation behavior of bald eagles on Santa Catalina Island, CA. Abstracted presentation: Joint Meeting of the American Ornithologists' Union and the Raptor Research Foundation. Boise, ID. Aug. 1996.

Seasonal changes in density, range area and range fidelity of marten in a forest preserve. Abstracted presentation: 2nd International *Martes* Symposium. Edmonton, Alberta. 12-16 Aug. 1995.

Density, home range, and spatial overlap of martens in an industrial forest and a forest preserve. Abstracted presentation: Northeast Fish and Wildlife Conference. Burlington, VT. 3 May 1994.

The role of Maine and New Hampshire in recovery of the eastern timber wolf: A preliminary assessment.

Poster: Northeast Fish and Wildlife Conference. Burlington, VT. 2-4 May 1994.

Representative Project Involvements

- Oversaw environmental compliance from development through commercialization of over 2 GW of renewable power projects, and for over 1.5 GW of operating assets, as Director and VP of Environmental at Apex Clean Energy (2013-present).
- Alta East Wind Energy Project - December 2012 – April 2013: Managed preparation of Eagle Conservation Plan and Environmental Assessment (EA) for golden eagle Programmatic Take Permit application for Terra-en Power’s 300-MW wind energy project in Kern County, California. The project is regulated by BLM and Kern County (<http://pcd.kerndsa.com/planning/environmental-documents/250-alta-east-wind-project>) under NEPA and California Environmental Quality Act (CEQA); however, the eagle EA is a stand-alone document with USFWS as the lead agency. BLM is requiring USFWS approval of an Eagle Conservation Plan prior to issuing construction notice to proceed and requiring an approved take permit prior to authorizing operation on BLM lands.
- Alta South Wind Energy Project – Terra-Gen Power – March 2012 – April 2013: Developed California ESA application for Incidental Take Permit for State-listed Bakersfield cactus and desert tortoise for Terra Gen Power’s 37 turbine, 111-MW facility on private lands in Kern County, California.
- Hidden Hills Solar Energy Generation Station Project – BrightSource – May 2012 – April 2013: Lead biologist for permitting of 500-MW concentrated solar project in Inyo County, California undergoing California Energy Commission (CEC) and BLM permitting processes. Brought onto project team late in permitting process as technical expert to address issues of concern to the client regarding potential misconceptions on avian impacts and desert tortoise mitigation requirements. Led technical studies, modeling, and presentation of materials to illustrate potential impacts to avian species from convective heat and radiant flux associated with this relatively new solar energy generation technology. Provided expert testimony at CEC hearing in January 2013. Project information and CEC Staff Analysis available here: <http://www.energy.ca.gov/sitingcases/hiddenhills/>
- Rio Mesa Solar Energy Generation Station Project – BrightSource – August 2012-March 2013: Provided technical expertise on avian impact analyses and rebuttal of CEC Staff Assessment of project impacts.
- Ivanpah Solar Energy Generation Project – BrightSource - September 2012-April 2013: Developed cutting edge Avian Monitoring and Adaptive Management Strategy to assess avian impacts during operations of the first BLM regulated concentrated solar facility. Led strategic coordination with USFWS, BLM, California Department of Fish and Wildlife (CDFW), CEC, BrightSource Energy, Solar Partners and NRG.
- Alta East Wind Project – Terra-Gen Power – March 2010 – April 2013: Lead biologist on joint BLM NEPA and Kern County CEQA permitting. Oversee strategic agency interaction as it relates to developing and implementing requisite environmental studies for planned 300-MW wind project. Primary author of ABPP/BBCS, ECP, California Condor Avoidance and Mitigation Plan, Biological Assessment (BA) for the federally-listed California condor, desert tortoise and Bakersfield cactus, and other critical path items which are available for review in the Final Environmental Impact Statement (EIS) published in early March 2013 and available online: http://www.blm.gov/ca/st/en/fo/ridgecrest/alta_east_wind_project.html
- Quaking Aspen Wind Energy Project – EDF Renewables (February 2011 – April 2013): Managed NEPA EIS process for EDF’s proposed 150-MW wind energy project located on lands administered by the BLM in Sweetwater County, Wyoming. Drafted Plan of Development, and coordinated scoping, public involvement, baseline data collection and analyses processes and preparation of the draft EIS. Critical issues include aesthetic impacts, biological resource issues, MBTA compliance, risk of golden eagle take, cultural resource impacts, and public perception.
- Emma and Will Windpower Projects - Wyoming Wind and Power (November 2010-April 2013): Managed permitting and baseline environmental studies for a proposed 900-MW private land wind energy project near Wheatland and Chugwater, Wyoming. Developed and implemented

comprehensive 3-year biological resource study program in coordination with USFWS and Wyoming Game and Fish Department (WGFD) to specifically address state and federal regulatory requirements for wind project development. Wyoming Industrial Siting Permit application submitted in July 2013 and available here: http://deq.state.wy.us/isd/downloads/WW&P-ISA%20Permit%20Application-FINAL_PrintOnly.pdf

- Sand Hills Wind Energy Project - Avian Protection Plan - Shell Wind Energy (Fall 2010 to April 2013): Provided technical leadership for golden eagle impact assessment and ECP preparation for Shell Wind Energy's 50-MW project in Albany County, Wyoming. The ECP was prepared in response to BLM IM 2010-156 as part of the BLM and Western Area Power Administration (Western) Environmental Assessment. Also provided technical leadership for formal conferencing under Section 7 of the ESA for the mountain plover, a species that was proposed for listing by the USFWS as federally threatened. Completed data review and preparation of ECP and Advanced Conservation Practices for both species to develop biologically appropriate measures for the project through strategic coordination with the USFWS, BLM, and Western. Additional services included general BCS development, Wildlife Monitoring Plan development, and strategic agency communication and coordination.
- Alta Wind Project, Phases VII and IX - Terra-Gen Power - March 2012 - April 2013: Developed and implemented construction compliance system to meet environmental compliance requirements under the CEQA Final Environmental Impact Report (EIR) and Incidental Take Permit issued by CDFW for Bakersfield cactus and desert tortoise. Supervised and trained staff, developed environmental training program and communications and reporting systems to enable onsite staff to interface effectively with construction contractors and meet compliance objectives.
- Imperial Solar Energy Center West- (March 2011- April 2013): Led development and implementation of Avian Protection Plan, Burrowing Owl Mitigation and Monitoring Plan, and Fatality Monitoring Plan for CSOLAR Development Corporation's 230-MW photovoltaic solar energy project in Imperial County, California. Project required installation of 230-kV transmission lines across BLM lands and therefore involved a joint CEQA Environmental Impact Report (EIR) and BLM EA, with Imperial County functioning as the local lead agency. BLM right of way was authorized and follow on work involved extensive coordination with USFWS on avian protection planning. Special emphasis was placed on developing and implementing effective take avoidance measures for burrowing owls.
- Tesoro Refining and Marketing - Eagle Non-purposeful Take Permit Application - January 2012: Provided technical expertise and managed preparation of permit application for non-purposeful take of a bald eagle nest located within 660 feet of a Crude Railcar Unloading Facility planned for construction during the 2012 nesting season on Tesoro's Anacortes, Washington refinery property located on March Point in Skagit County.
- AWEA Technical Advisor - Jan-February 2012. Served as technical advisor for AWEA's sage-grouse task force for development of AWEA response to BLM sage-grouse policy IM 2012-043 and 044, and recommended Conservation Measures in preliminary priority and general habitats.
- Tule Wind Energy Project - Iberdrola Renewables - December 2011- January 2012: Led team to develop nesting Bird Monitoring, Management, and Reporting Plan required per BLM and County Final Impact Statement and Environmental Impact Report for the Tule Wind Project, located in an unincorporated portion of San Diego County approximately 70 miles east of San Diego. The project is located on lands administered by the U. S. BLM, the Ewiiapaayp Indian Reservation, Manzanita and Campo Indian Reservations (access only), and the California State Lands Commission, as well as private lands. The project is planned for construction during spring and summer 2012.
- Laurel Hill Wind Energy Project - Duke Energy Renewables - November 2011 - January 2012: Completed golden eagle risk assessment for Duke Energy's Laurel Hill Wind Energy Project located on private and state lands within Jackson and MacIntyre Townships of Lycoming County, Pennsylvania. Risk assessment included technical review of raptor migration studies completed for the project in 2005 and 2006, review of existing data and literature, a qualitative assessment of risk,

and recommendations for protective measures to avoid minimize or mitigate potential risks to golden eagles associated with construction and operations of the project.

- Confidential Client – Oil Shale Development project – March 2012 – April 2013: Served as wildlife technical lead on large scale oil shale development planned for Uintah County, Utah. The planned development is mainly on private land; however, requisite pipeline and road crossings of BLM land create challenging compliance issues, especially related to evolving greater sage-grouse policy on federal lands and MBTA/BGEPA compliance. Led review of existing data, provided technical guidance and assisting client-agency interaction, developed and led implementation of studies for special-status species to ensure adequate baseline data for NEPA compliance and development of effective impact avoidance and mitigation measures.
- Wind Project Avian and Bat Protection Plans –Terra Gen Power (June 2010 to April 2013): Led development of BBCSs for multiple private land and BLM wind energy generation projects in Kern County, California. BBCSs prepared include a corporate Plan to address all projects in development, construction, and operation and project-specific Plans for both private land and BLM NEPA regulated projects. BBCSs for BLM projects are designed to specifically address BLM and FWS expectations per the requirements of the BLM Instructional Memorandum 2010-156 requiring an approved “Avian and Bat Protection Plan” to address golden eagle impact risk issues and ensure acceptable avoidance and mitigation for the species. Processes involved technical expertise and strategic negotiation with USFWS and BLM with a client oriented focus. Recently prepared an ECP for the Alta East wind project which is currently being considered by USFWS for a Programmatic Take Permit..
- Black Hills Power & Light Co. – November 2011- August 2012: Served as senior technical consultant for Wyoming Industrial Siting Permit process and for USEPA Air Quality Permitting for Black Hills Power’s proposed natural gas combustion turbine generation facility consisting of five 40-megawatt natural gas combustion turbine generators and associated infrastructure. Responsible for design and implementation of wildlife and plant survey activities for ESA Section 7 consultation process, avian surveys to ensure MBTA and BGEPA compliance, and assessment of environmental impacts.
- East Helena Smelter RCRA Site, Montana Environmental Trust Group (November 2011- April 2013): Senior wildlife technical lead on wetland functional assessment necessary for agency decision making, coordination, and baseline data requirements to complete NEPA analysis and permitting of potential South Plant Hydraulic Controls project. Completed desktop review and onsite habitat evaluations in accordance with the Montana Department of Transportation Montana Wetland Assessment Method Parts 14 A, B, and C, covering wildlife habitats and species designated as federally listed, proposed, threatened, and endangered and rated S1, S2, or S3 by the Montana Natural Heritage Program. Developing plan for Migratory Bird Act Compliance during site reclamation.
- Sevier Dry Lake Exploratory Testing Project, Peak Minerals, Inc (Fall 2011): Prepared Wildlife and Plant Inventory Plan and Wildlife Mitigation and Monitoring Plan for potash mining exploration project located in Millard County, Utah and involving lands administered by the BLM Filmore Field Office. The inventory and monitoring plans were drafted in compliance with requirements of the Exploratory Testing EA (DOI-BLM-UT-W02002011-0115 EA) and Leasing Proposal EA (DOI-BLM-UT-W020-2010-014-EA) and designed to address federally listed and BLM-sensitive species, USFWS Birds of Conservation Concern, big game, and other sensitive/special status avian and mammal species warranting consideration.
- Confidential Wind Overpower Project (2011): Oversaw baseline studies and providing biological technical leadership for a 20-MW wind energy overpower project located in San Geronio County and Desert Hot Springs, California. Process involved strategic interaction with California Department of Fish and Game (CDFG) and USFWS to identify data needs for impact assessment and mitigation in accordance with state regulations and a programmatic Habitat Conservation Plan in place for the project. Led preparation of an Avian and Bat Protection Plan to address MBTA and BGEPA concerns raised by the USFWS.

- Vasco Wind Repowering Project, NextEra Wind Energy (2011): Drafted Avian Protection Plan (APP) for the Vasco Winds Repowering Project (Altamont Pass) in Contra Costa County, California to address potential avian and bat impacts resulting from the operation of the Project. The goal of this APP is to meet the intent of the MBTA, BGEPA, ESA, and the California Endangered Species Act (CESA) by implementing the provisions and conditions of a 2010 Settlement Agreement a settlement agreement among NextEra Energy Resources, the Audubon Society, the State of California Attorney General's Office, local chapters of the Audubon Society, Californians for Renewable Energy, and others, thereby reducing and managing risk to avian and bat species.
- Alta Oak Creek Mojave Wind Energy Project, Phases 1-5 - Terra-Gen Power (January 2010 - March 2011): Managed construction compliance by assisting client with adherence to mitigation measures as defined in federal, state, and county level permits during construction of an eight phase, 800-MW wind energy generation project near Tehachapi, California. Compliance measures included oversight of two CH2M HILL onsite Compliance Specialists, preparation and delivery of training materials for construction teams, wildlife and botanical survey and monitoring commitments, and cultural and paleontological mitigation programs and management plans, and oversight of environmental subcontractors. Role required extensive staffing and scheduling, coordinating CH2M HILL employees and subcontractors, and effective client communication to respond to immediate and long-term planning issues. Effectively mentored mid-level project manager to assume responsibilities in spring 2011 for remaining construction compliance associated with the final two phases of construction.
- Alta Wind Energy Center - Terra-Gen Power (March 2010 - June 2011): Senior technical lead coordinating preparation of California Incidental Take Permits, federal Habitat Conservation Plan, and Biological Assessment for state/federal listed species (Bakersfield cactus, desert tortoise, southwest willow flycatcher, California condor), and leading preparation of Avian and Bat Protection Planning for five confidential wind energy projects in the development stages located near Tehachapi in Kern County, California.
- Confidential Wind Project (June 2011-April 2013): Oversaw biological resource studies required for siting energy facilities under the Oregon Department of Energy siting statutes and leading strategic agency coordination with USFWS related to eagle act compliance for a proposed 150-MW wind energy project located in Sherman and Wasco Counties, Oregon. Process involved strategic interaction with Oregon Department of Fish and Wildlife and USFWS to identify data needs for impact assessment and mitigation. Serving as eagle technical specialist with regard to study design, defensible impact/risk assessment, take estimation and programmatic take permitting.
- Mountain Air Windpower Project - Duke Energy (Fall 2010): Due Diligence review of wind projects located near Mt. Home, Idaho, during consideration for acquisition. Review consisted of a cursory evaluation of development and operational risk issues related to permitting and environmental issues. Managed informal consultation with the USFWS per requisite ESA Review Procedures for NPDES Construction General Permitting under U.S. Environmental Protection Agency permitting authority. Managed setup and implementation of baseline avian and slickspot peppergrass (federally threatened plant species) studies, wetland delineations for subsequent permitting with the U.S. Army Corps of Engineers, and cultural resource assessments to ensure no impact to cultural resources.
- Alpine Solar Project - NRG (March 2011): provided professional testimony for an appeal of a California Environmental Quality Act (CEQA) mitigated negative declaration granted to a 96 MW photovoltaic solar energy project in Los Angeles County, California. Process included technical review of biological resource studies and preparation with NRG legal counsel for testimony to address opposition by a local conservation organization.
- Imperial Solar Energy Center South- (2011): Managed preparation of Avian Protection Plan, Burrowing Owl Mitigation and Monitoring Plan, and Fatality Monitoring Plans for CSOLAR Development Corporation's 200 MW concentrated photovoltaic solar energy projects in Imperial County, California. Projects involves installation of 230-kV transmission lines across BLM lands and therefore involves a joint CEQA EIR and BLM EA, with Imperial County functioning as the local lead

agency. BLM right of way has been authorized for Phase 1 (200 MW), and project is currently under construction.

- Critical Issues Analysis (May 2011): Managing assessment of critical issues for confidential client in Albany and Carbon Counties, Wyoming, including, but not limited to complete raptor nest assessment for project area and region.
- Confidential Wind Project (2010-11): Overseeing baseline studies and providing technical leadership on Los Angeles County Conditional Use Permit, CEQA EIR preparation, and related agency consultation for confidential wind project in early development stages.
- Confidential Solar Project (2011): providing technical leadership for agency interaction and development of biological resource study design for proposed solar project near Barstow, California in San Bernadino County. Process involves strategic negotiation to address golden eagle impact assessment and potential permitting issues.
- Wind Project Site Assessment (Fall 2010): Managed baseline environmental studies and agency consultation for confidential wind project in Laramie County, Wyoming.
- Wind Project Due Diligence (Fall 2010): Due Diligence review of wind project under consideration for acquisition by Confidential Client in Carbon County, Wyoming. Thorough evaluation of development and operational risk issues related to permitting and environmental issues.
- Sand Hills Wind Energy Project - Shell Wind Energy (September 2009 to November 2011): Managed preparation of Plan of Development and Environmental Assessment for Shell Wind Energy's 50-MW wind project in Albany County, Wyoming. BLM is the lead federal agency with Western Area Power Administration as the cooperating agency. Managed cultural and environmental resource reviews and preparation of relevant monitoring and environmental protection programs during construction and operation, such as wildlife monitoring, revegetation, and reclamation plans. Also managing county and local permitting processes.
- Reno Junction Wind Energy Project - Third Planet Windpower (Spring 2010): Managed development of Wyoming Industrial Siting Act (ISA) Permit Application for Third Planet's proposed 150-MW wind energy generation project and 5-mile transmission line in Campbell County, Wyoming. Assisted client with requisite agency consultation and negotiation (USFWS, WGFD, Wyoming Department of Environmental Quality (WDEQ), Wyoming State Historic Preservation Office (WSHPO), communication with local officials, and public involvement activities.
- Confidential Solar Project, Confidential Client (Fall 2010): Senior review for initial site assessment of proposed solar energy facility near Desert Center in Riverside County, California.
- Alpine Solar Project; Confidential Client; California (Summer 2010): Senior environmental review for initial site assessment and of proposed solar energy facility in Los Angeles and Kern County, California.
- Resolute 1 Wind Energy Project - Clipper Windpower (Spring 2010): - managed coordination with WGFD, WDEQ, WSHPO, and local officials for State and County level permitting of Clipper's proposed 150-MW wind project in Converse County, Wyoming. Leading strategic negotiations with USFWS Wyoming Ecological Services Field Office to proactively address operational risk issues relevant to wind farm development (impacts to federally listed species, MBTA, BGEPA).
- Confidential Solar Project; Kern County, California (Spring 2010 to Present). Senior review and guidance on biological risk assessment and impact mitigation for during development and permitting phase of a large scale solar energy facility in Kern County, California.
- Operational Risk Management - Avian Risk Issues, Confidential Client (2009-Apr 2013): Worked with confidential wind energy generation client to proactively address operational risk issues related to MBTA and BGEPA compliance at two wind project sites. Assisted with agency consultation and

consideration of options for impact mitigation to USFWS trust species and their habitats. Provided technical and policy-oriented guidance to the client and legal counsel, and to the third party consultant that is responsible for preparing project-specific ABPPs and completing field studies.

- Top of the World Wind Energy Project – Duke Energy (Fall 2008-Fall 2010): managed preparation of state ISA Permit Application for Duke Energy’s 200-MW wind energy generation project and 6-mile transmission line in Converse County, Wyoming. Managed baseline environmental studies to evaluate biological, cultural, and wetland/waterbody resources impacts. Provided oversight of construction activities outlined in the SWPPP, SPCC plan, and ISA Permit and to ensure compliance with Section 404 of the CWA, ESA, and MBTA and other agency directives. ISA permit application available online: http://deq.state.wy.us/isd/downloads/TOTW_ISA_Permit_Application_09-21-09.pdf.
- Dunlap Ranch Wind Energy Project – PacifiCorp Energy (Summer 2009 - Present): executed permitting and environmental studies for state Industrial Siting Permit Application process for PacifiCorp Energy’s proposed wind energy generation project and 15-mile transmission line located on private and state lands in Carbon County, Wyoming. Managed execution of environmental compliance audits to provide oversight of construction activities outlined in the SWPPP, SPCC plan, ISA Permit, and County Conditional Use Permits and to ensure compliance with cultural and avian nest buffers, Section 404 of the CWA, ESA, and MBTA. ISA permit application available online: http://deq.state.wy.us/isd/downloads/Dunlap_ISA_FINAL.pdf
- Campbell Hill Wind Energy Project – Duke Energy (Summer 2008-Fall 2009): managed state Industrial Siting Permit Application and environmental subcontractors for Duke Energy’s 99-MW Wind Project and 11-mile transmission line in Converse County, Wyoming. Developed written environmental compliance plan and assisted with preparation of reports to regulatory agencies. Assisted development of Wildlife Mitigation and Monitoring Program to address impact concerns to sensitive environmental resources specifically focused on avoiding, minimizing, and measuring impacts to nesting raptors. Provided oversight of construction activities outlined in the SWPPP, SPCC plan, and ISA Permit and to ensure compliance with Section 404 of the CWA, ESA, and MBTA and other agency directives. ISA Permit Application available online: http://deq.state.wy.us/isd/downloads/Campbell_Hill_All_Combined_Final_010709.pdf.
- Limon Wind Energy Project – Iberdrola Renewables (Fall 2008 – Apr 2013): managed preparation of county Use by Special Review permit application, and Western Area Power Administration NEPA Analysis and baseline wildlife monitoring program for Iberdrola’s proposed 100-MW wind project in Lincoln County, Colorado.
- High Plains McFadden Ridge Wind Energy Project – PacifiCorp Energy (Summer 2009 – Spring 2010): executed environmental compliance audits to provide oversight of construction activities outlined in the SWPPP, SPCC plan, ISA Permit, County Conditional Use Permits and to ensure compliance with cultural and avian nest buffers, Section 404 of the CWA, ESA, and MBTA.
- Williams Echo Springs Gas Plant Industrial Siting Permit (Fall 2008): team member for State Industrial Siting Permit Application for a gas plant expansion project near Wamsutter, Wyoming. ISA Permit Application available online: http://deq.state.wy.us/isd/downloads/Williams_ISA_FINAL.pdf.
- Fatal Flaw Analyses (2009): completed fatal flaw analyses for two potential wind project areas near Clovis, New Mexico for Confidential Client, evaluating environmental, cultural, and Federal Aviation Administration concerns.
- Fatal Flaw Analyses (2009): completed fatal flaw analyses for potential wind project areas in Converse and Natrona Counties, Wyoming for Confidential Client, evaluating resource and permitting concerns and challenges or limitations for development.

- Fatal Flaw Analyses (2009): completed fatal flaw analyses for three potential wind project areas in eastern Colorado for Confidential Client, evaluating resource and permitting concerns and challenges or limitations for development.
- Environmental Constraints Analyses (2009): completed constraints/fatal flaw analyses for three potential project areas in Laramie County Wyoming for Confidential Client.
- Fatal Flaw Analyses (2009): completed fatal flaw analyses for potential wind project areas in Carbon and Albany Counties, Wyoming for Confidential Client, evaluating resource and permitting concerns and challenges or limitations for development.
- Critical Environmental Issues Analyses (2008): completed Critical Issues Analyses for two potential project areas in Colorado for Confidential Client and designed wildlife monitoring program in coordination with state and federal agencies.
- White Mountain Wind Project EA (Fall 2007- Spring 2008): managed early stages of BLM EA, and planned and implemented preconstruction wildlife monitoring program for Teton Wind Energy, LLC's proposed 130-turbine wind project in Sweetwater County, Wyoming. Project details are available online: <http://www.blm.gov/wy/st/en/info/NEPA/rsfdocs/whitemtnwind.html>
- Albany County Predator Control Project (2007): prepared literature review and designed research program to evaluate the potential influence of predator control for livestock protection on wildlife population dynamics in Albany County, Wyoming.
- BNSF Railway Biological Assessment, Biological Evaluation, & Management Indicator Species Analyses (2007): contributing writer to documents required for 31-mi rail project on Forest Service and BLM administered lands.
- Jonah Bridger to Opal Natural Gas Project EA - Teppco (now Enterprise) (2005-2006): coordinated wildlife surveys and habitat mapping and completed the biological resource impact assessment and BA for Jonah Gas Gathering Company's 80-mi pipeline intersecting three BLM Field Offices in western Wyoming.
- Continental Divide-Creston EIS (2005-2006): served as NEPA IDT-wildlife lead, interacting with industry and BLM, planning and implementing resource assessments, and preparing NEPA documents (Ch.3&4, and BA) for conglomerate of natural gas companies developing gas resources in south central Wyoming.
- Creston Blue Gap EIS (2005): key participant in initial planning phases of EIS prior to project being combined with the adjacent Continental Divide EIS. Worked with BP, Anadarko, Devon Energy, and BLM to proactively identify and address biological resource issues associated with a large-scale gas field development.
- Waterfowl Assessment, Duck Valley, Idaho (2005): Executed study of potential impact of water development projects to migrating waterfowl on the Shoshoni Paiute Indian reservation. Utilized aerial and ground surveys to quantify baseline use and evaluate potential impacts resulting from the proposed action.

LINEAR PROJECTS

- Tehachapi Renewable Transmission Project, Southern California Edison, (Fall 2011). Oversaw preparation of the biological resources portion of a Supplemental Environmental Impact Report (EIR) evaluating potential impacts associated with installation and maintenance of lighting and aviation markers required by the FAA that were not considered in the final EIS or EIR for the project. The final

Project Modification Report is subject to evaluation by the California Energy Commission, U.S.D.A. Forest Service, USFWS, and FAA.

- Milford Wind Corridor Project – First Wind (Fall 2008): team member for preparation of Plans of Development and EAs for First Wind’s geotechnical work, 300-MW wind project, and 80-mile transmission line involving BLM and private lands near Milford, Utah.
- TEMAX and TIME III Pipeline Projects – Spectra Energy (Summer 2008): Team member in preparation of FERC Environmental Report for Texas Eastern Transmission, LP’s (Spectra Energy Corp.’s) planned installation and upgrade of natural gas pipelines and compression facilities through six counties in southern Pennsylvania.
- White River Hub Natural Gas Pipeline Project EA – Questar Pipeline (2007): coordinated FERC Environmental Report/EA preparation for FERC/BLM NEPA analysis of Questar Pipeline Company’s 8-mi natural gas pipeline and compressor project in northwest Colorado. Managed execution and completion of resource reports, wildlife/plant/cultural surveys, Plan of Development, permitting, and maintenance of project website. Environmental reports and draft EA are available online: <http://www.whiteriverhubproject.com/documents.htm>. Project information is at <http://www.whiteriverhub.com/>
- FMC-349 Storage Area Development Project – FMC Corporation (2007): prepared EA for water lines, road construction, and injection/extraction wells associated with an FMC Corporation sodium mine. Responsible for NEPA documentation, and exception requests required for implementation of projects.
- Coordinated wildlife, plant, wetland, and habitat mapping surveys for major gas development and pipeline projects in the Powder River Basins of Wyoming and Montana, the Great Divide and Green River Basins of Wyoming, and the Piceance Basin of Colorado for clients such as Fidelity, Petro-Canada, Anadarko, Devon, ConocoPhillips, Questar, BP, and FMC Corporation (2005-2006).