



Troy Rahmig Endangered Species Program Manager

EXPERIENCE SUMMARY

Troy Rahmig works with public and private clients on local, state, and federal natural resources permit compliance, with a focus on state and federal Endangered Species Act (ESA) permitting and mitigation. Troy has managed permitting projects across many industry sectors, including urban development, extractive energy, transportation services, forestry, and renewable energy. This includes current work on several industrial-scale wind and solar projects in Washington, Oregon, and California, two high-profile HCPs for state forests in Oregon, and several long-term municipal HCPs in California and Washington.

Troy manages all aspects of projects as a project manager, including budget, staffing, project execution, key strategic decisions, managing client deliverables, and agency coordination and negotiation. He relies heavily on his skills as an ecologist to inform permit compliance, particularly on long-term permits that often involve habitat mitigation. He has prepared many permitting documents that outline and facilitate management, monitoring, and reporting requirements for mitigation lands resulting from permitting processes.

Troy now specializes in renewable energy projects across the U.S., with an emphasis in the western states. This includes advising commercial clients on early-stage development proposals, completion of technical studies in support of local and state land use approvals, and any local, state, or federal permitting that may be necessary to construct and operate the facility. Troy's role in projects ranges from Project Manager, to Senior, Biologist, to Senior Advisor. Currently Troy is working in some capacity on eight facilities in Washington, including three of the four currently under EFSEC review and one that is under construction during the summer of 2023.

EMPLOYMENT HISTORY

Endangered Species Program Manager, 2021 – Present

Tetra Tech, Bothell, WA

Manage all aspects of project inception, development, construction, and operation for renewable energy clients, with an emphasis on projects in Washington, Oregon, and California. Manage teams to complete local, state, and federal permit applications, including plans to avoid, minimize, and mitigate impacts on natural resources. Provide senior oversight for endangered species act permitting and compliance on projects across the U.S.

Director, Conservation Planning and Permitting, 2006 – 2021

ICF, San Jose, CA, and Seattle, WA

Led diverse project teams to complete complex endangered species act compliance documents, including several biological assessments and habitat conservation plans. Collectively completed habitat conservation plans for over 50 species across Washington, Oregon, and California that addressed impacts and mitigation for covered activities including traditional and renewable energy development, urbanization, transit, and forestry. Helped to

EDUCATION

MS, Biology (Avian Ecology),
Truman State University, 2001

BS, Biology, Truman State
University, 1999

AREA OF EXPERTISE

Endangered Species Act Permit
Compliance, Section 7 & 10

Permit Strategy and
Streamlining

Habitat Mitigation Planning and
Management

Stakeholder Engagement and
Meeting Facilitation

Conducting Training Courses
on Permit Compliance

OFFICE

Bothell, WA

YEARS OF EXPERIENCE

20

YEARS WITHIN FIRM

1

initiate the California Regional Conservation Investment Strategy Program implemented by the legislature in 2018 and oversaw the development of the first four pilot projects.

Endangered Species Program Supervisor, 2004 – 2005
Nebraska Game and Parks Commission, NE

Oversaw the process of state ESA for the state of Nebraska. Reviewed permit applications, worked with public and private applicants to come to agreement on avoidance and minimization measures on projects, and assessed and approved mitigation to offset effects that could not be avoided. Was the lead negotiator for Nebraska Game and Parks Commission with statewide water contractors on an assessment of environmental impacts of groundwater pumping on the Platte River ecosystem, including several threatened and endangered species which depend on that ecosystem.

Senior Wildlife Biologist, 2003 – 2004
Thunderbird Wildlife Consulting, WY

Conducted habitat assessments on private ranches and U.S. Bureau of Land Management (BLM) lands prior to coal bed natural gas development. Worked with surface coal mining companies to complete their natural resource management and monitoring requirements, including wildlife surveys, habitat management actions, vegetation monitoring, and educational awareness training. Oversaw and conducted surveys for greater sage-grouse, mountain plover, black-footed ferret, bald eagle winter roosts, and nesting raptors on thousands of acres across northeastern Wyoming and southeastern Montana. Worked on a daily basis with local landowners to facilitate surveys on private land.

Field Supervisor, 2003
Point Blue, Shrub Steppe Avian Nesting Project, CA

Led a team of researchers studying the effects of non-native grasses and juniper encroachment on avian nest success in shrub steppe habitats in northeastern California and northwestern Nevada. Focal species included greater sage-grouse, Brewer's sparrow, sage sparrow, and green-tailed towhee. Conducted point counts and vegetation composition surveys.

Biologist II, 2002
Alaska Bird Observatory, Avian Nesting Project, AK

Participated in a study on the effects from high-intensity noise (jet engines) on nesting rates and success of passerine species on and off Eielson Air Force Base in Alaska. Conducted nest searches and vegetation surveys and completed nest success analysis and reporting. Also supported additional data summaries and analysis for similar studies in central Alaska where field data collection had been completed previously.

RELEVANT PRESENTATIONS AND PUBLICATIONS

- Rahmig, Troy. 2022. When Does Habitat Loss Result in *Harm* Under the Endangered Species Act. Presented at the Renewable Energy Wildlife Institute's Wind Wildlife Research Meeting. November.
- Rahmig, Troy. 2023. Endangered Species Act Considerations During a Repower. Presented at the American Clean Power Siting and Environmental Compliance Conference. March.

REPRESENTATIVE PROJECT EXPERIENCE

Senior Biologist, 2021 – Present
Scout Clean Energy, Horse Heaven Wind Farm, Benton County, WA

Advising on special-status species mitigation and monitoring for a 1,150-MW wind, solar, and battery energy storage system (BESS) facility in Benton County, Washington. Included support during completion of land use compliance analysis, SEPA resource impact analysis, and critical areas review in support of an Application for Site Certification to the EFSEC. Supported coordination with the Washington Department of Fish and Wildlife

(WDFW) regarding estimating effects on the state listed ferruginous hawk as well as completion of a habitat mitigation plan for the project.

Project Manager, 2021 – Present
EDP Renewables, Saddle Mountain East Wind Farm, Adams County, WA

Completed an assessment of a previously approved State Environmental Policy Act (SEPA) Environmental Impact Statement (EIS) and Conditional Use Permit (CUP) to determine how a revised project description, including larger turbines, would influence additional studies that need to be completed and to determine whether additional SEPA analysis was needed. Coordinated with Adams County to determine the scope of additional studies and how to best update the previous SEPA analysis. Currently overseeing the completion of updated studies, including noise and visual assessments, which will lead to an updated SEPA document. Other updated studies include cultural resources, bat presence/absence, habitat assessment, and wetland delineation.

Project Manager, 2022 – Present
Brookfield Renewable, Goose Prairie Solar Project, WA

Project Manager of preconstruction compliance for an 80-megawatt (MW) solar facility with battery energy storage in Yakima County, Washington. Preconstruction compliance involves completion of all permit conditions outlined in the Site Certification Agreement issued by the Washington Energy Facility Site Evaluation Council (EFSEC) in December 2021. This includes completion of a Vegetation and Weed Management Plan, Habitat Restoration and Management Plan, Cultural Resources Survey Report and Unanticipated Discovery Plan, and Initial Site Restoration Plan. The team also completed a 30-percent construction design to facilitate permitting and to facilitate coordination with engineering procurement construction (EPC) contractors who would ultimately build the project.

Project Manager, 2022 – Present
Confidential Client, Confidential Solar Project, WA

Project Manager of a Critical Issues Analysis (CIA) and other studies for a solar project in Whatcom County, Washington. Analysis included assessment of key issues, including adjacency to public parks and the coastal zone. Additional studies included a Phase 1 Environmental Site Assessment, wetlands, cultural resources, and habitat surveys, as well as an assessment of avian activity in the project area.

Senior Biologist, 2022 – Present
Confidential Client, Confidential Solar Project, WA

Senior advisor providing permitting strategy and document review for a solar project in Klickitat County, Washington. Role involved reviewing technical studies and documents from other parties, assessing pros and cons of permitting strategies, and reviewing the application of site certification for approval through the EFSEC.

Senior Biologist, 2022 – Present
Confidential Client, Confidential Wind Project, HI

Senior advisor providing permitting strategy and document review for an existing wind facility on Maui, Hawai'i. Provided direction and review for easements and memoranda of understanding for mitigation requirements under existing permits. Advised on potential encumbrances and constraints that could be involved in a repower of facilities in the near future. Key issues include noise, visual, biological, and cultural resources.

Senior Biologist, 2022 – Present
Avangrid Renewables, Badger Mountain Solar, WA

Conducted senior review of biological resources information and analysis, including draft application materials and habitat mitigation planning documents. Coordinated with Washington EFSEC to complete data requests in support of the draft SEPA document and revised application materials accordingly.

Project Manager, 2018 – 2021; 2023 - present
EDP Renewables, Las Camas Solar, CA

Completed a draft HCP (ESA) and incidental take permit (ITP) application (California Endangered Species) for construction and operation of a 200-MW facility in Merced County, California. Collectively, the permits cover San Joaquin kit fox and Swainson's hawk. Oversaw field data collection necessary to complete both permits, advised

the project team preparing the EIR for Merced County, and participated in agency negotiations. Manage pre-construction compliance tracking, coordination with EPC contractor, and permitting agencies to ensure monitoring and reporting is complete.

Senior Biologist, 2022 – Present
AEP, Auwahi Wind Project, HI

Provided senior review and permitting strategy for the Tier 5 Mitigation Implementation Plan, described in the Habitat Conservation Plan Amendment. Assisted with document reorganization for clarity and coordination with the USFWS and DOWFA on the terms and conditions of the mitigation actions and monitoring.

Senior Biologist, 2022 – Present
Confidential Client, Wheatridge East Wind Project, OR

Assisted with a Request for Amendment from Oregon Energy Facility Siting Council (EFSC) to amend and existing Site Certification Agreement to accommodate a revised project boundary and to update turbine technology. The project included the full suite of resource studies, with particular emphasis on cultural and biological resource surveys. Key biological resource issues included surveys for Washington ground squirrels, raptor nests, wetlands, and rare plants.

Project Manager, 2022 – Present
Brookfield Renewable, Saddle Butte Wind Project, OR

Managed a team that completed Washington ground squirrel surveys and raptor nest surveys for a project that will eventually need a Request for Amendment from Oregon EFSC to amend and existing Site Certification Agreement. The amendment will accommodate a revised project boundary and to update turbine technology, plus the addition of solar.

Project Manager, 2022 – Present
Confidential Client, Confidential Solar Project, MO

Completed a biological assessment for a solar facility in Adair County, Missouri. The biological assessment will facilitate consultation between the U.S. Army Corps of Engineers (USACE) and the USFWS on potential effects on the Indiana bat, gray bat, northern long-eared bat, and tricolored bat from the loss of habitat related to new roads and transmission corridors associated with the solar facility.

PREVIOUS EXPERIENCE

Director, Conservation Planning and Permitting, 2006 – 2021
ICF, San Jose, CA, and Seattle, WA

Project Manager, 2020 – 2021
EDP Renewables, Sandrini Solar, CA

Advised on overall permitting strategy, including sequencing of permits and alignment with the review under the California Environmental Quality Act (CEQA) for a 200-MW project in Kern County, California. Oversaw field data collection to inform siting and design of facility in compliance with the California and federal endangered species acts. Completed a take avoidance strategy memo and participated in discussions with the USFWS and California Department of Fish and Wildlife (CDFW) regarding construction compliance. Assisted with review of the CEQA environmental impact report (EIR) and response to CDFW comments on the draft EIR. Drafted an HCP to cover operations and maintenance activities once the construction was complete.

Project Manager, 2021
EDP Renewables, Driftwood Solar, CA

Advised on permitting strategy and participated in agency negotiations. Completed a draft HCP (ESA) and incidental take permit application (California Endangered Species Act) for construction and operation of a 200-MW facility in Kern County, California. Collectively, the permits cover San Joaquin kit fox, giant kangaroo rat, San Joaquin antelope squirrel, and Swainson's hawk.

Project Manager, 2012 – 2021**Frontier Renewables & Clenera, Wright Solar Park, CA**

Oversaw field data collection on project site and mitigation site for San Joaquin kit fox, Swainson's hawk, California tiger salamander, and rare plants for a 200-MW solar facility in Merced County, California. Completed a federal HCP (USFWS) and state ITP application (CDFW). Collectively, the permits cover San Joaquin kit fox, Swainson's hawk, California tiger salamander, and blunt-nosed leopard lizard. Completed two California lake and streambed alteration agreements for road crossings in the arrays. Oversaw completion of the revegetation plan, avian protection plan, and worker awareness training during construction. Managed the team implementing conservation monitoring, including data collection on avian mortality, San Joaquin kit fox den occupancy, and wildlife movement. This included three years of post-construction monitoring.

Project Manager, 2021**Idimetisu Renewables, Azalea Solar Project, CA**

Advised on permitting strategy and participated in agency negotiations. Completed a draft HCP (ESA) and ITP application (California Endangered Species Act) for construction and operation of a 60-MW facility in Kern County, California. Collectively, the permits cover San Joaquin kit fox, San Joaquin antelope squirrel, and blunt-nosed leopard lizard.

Project Manager, 2020 – 2021**Avangrid Renewables, Stagecoach Solar, CA**

Advised on permitting strategy for a 200-MW solar facility in San Bernardino County, California. Completed a draft HCP (USFWS) and ITP application (CDFW) for desert tortoise and Joshua tree (state permit only). Oversaw field data collection at mitigation parcel, including rare plant surveys, a Joshua tree census, wetlands and waters mapping, and a desert tortoise survey. Oversaw the completion of state waters permits from the Regional Water Quality Control Board. Completed a draft desert tortoise translocation plan to be enacted during construction of the project. Participated in permit negotiations with the USFWS and California Department of State Lands (landowner and CEQA lead agency). Provided technical review of the CEQA EIR for consistency with state and federal permit applications and for practicability of implementation.

Project Manager, 2012 – 2015**Frontier Renewables, Four Confidential Projects, CA**

Reviewed CEQA documents and other permit applications and advised the client on risk associated with their contents. Participated in due diligence calls with investors to provide insight to risks and costs related to sensitive natural resources. Projects were located in Fresno, Kern, and Tulare Counties, California.

Lead Ecologist, 2006 – 2021**Multiple Clients (Santa Clara County), Santa Clara Valley Habitat Plan, CA**

Assisted in the completion of an HCP and natural community conservation plan in support of a 50-year ITP for 12 plant and animal species in Santa Clara County, California. The Habitat Plan facilitates the implementation of development and maintenance activities for Santa Clara County, Cities of San Jose, Morgan Hill, and Gilroy, the Santa Clara Valley Transportation Authority, and Valley Water over that time period and will result in approximately 40,000 acres of conservation land. Provided oversight of development of biological goals and objectives, conservation strategies, management, and monitoring activities, including development of the Burrowing Owl Conservation Strategy. The innovative strategy includes protection of breeding and overwintering habitat, experimental feeding and relocation of owls, and captive overwintering and breeding to supplement the population. Permitting for this project involved the USFWS, CDFW, USACE, and Regional Water Quality Control Board.

Project Manager, 2008 – 2010**Multiple Clients (Alameda County), East Alameda County Conservation Strategy, CA**

Assisted Alameda County, the Cities of Livermore, Dublin, and Pleasanton, Zone 7 Water Agency, Alameda County Waste Management, and East Bay Regional Parks District in the development of a regional permitting framework for 15 threatened and endangered species in eastern Alameda County. Completed the strategy in collaboration with the Natural Resource Conservation Service, Alameda County Resource Conservation District, USFWS, CDFW, USACE, and Regional Water Quality Control Board. Led a public stakeholder group with representatives from 15 to 20 interest groups ranging from recreation, environmental, business, agriculture, and land managers.

Project Manager, 2012 – 2021
City of Bakersfield and Kern County, Bakersfield HCP, CA

Assisted the City of Bakersfield and Kern County in an HCP and state ITP application for five species in the southern San Joaquin Valley of California. The HCP covers 36,000 acres of urban development and over 5,000 acres of transportation improvements over a 30-year permit term. It will result in the conservation of approximately 10,000 acres of habitat for the five covered species. The HCP also includes a robust conservation program for San Joaquin kit fox in urban Bakersfield. This urban population of San Joaquin kit fox represents the third largest population of the threatened species within its range. Creating a conservation strategy for this species in the urban environment was the primary driver for development of the HCP.

Project Manager, 2016 – 2021
City of Tumwater and Port of Olympia, Bush Prairie HCP, WA

Led the development of a programmatic HCP for the City of Tumwater and Port of Olympia to provide incidental take coverage for the continued growth of the city and operation of the Olympia Airport. The HCP covers four species: Olympia pocket gopher, Oregon spotted frog, streaked horned lark, and Oregon vesper sparrow. The conservation strategy in the HCP will be a large contributor to the recovery of the Olympia pocket gopher since the permit area almost completely overlaps with the range of this rare subspecies. The mitigation fee program will streamline permit compliance for private landowners and allow the City to purchase and manage mitigation lands for the covered species to offset impacts over time.

Project Manager, 2018 – 2021
Oregon Department of Forestry (ODF), Western Oregon State Forests HCP, OR

Led the development of an HCP that covers 17 species on nearly all of Oregon state forest lands west of the Cascades, totaling 635,000 acres. The process included working closely with the ODF technical, field, and management staff to craft practical strategies that will minimize and mitigate effects of timber harvest activities on listed species, while creating certainty and predictability for the ODF's operations. Led the technical team through an intense 2-year planning process, which culminated in the completion of an administrative draft HCP in the spring of 2021. Completion of the HCP included close work with the USFWS, National Marine Fisheries Service, Oregon Department of Fish and Wildlife, Oregon Department of Environmental Quality, and Oregon Department of State Lands (ODSL). Assisted ODF management in meetings to inform field staff about the contents of the HCP and to gain alignment on the terms of the HCP, in part to ensure they can be integrated into day-to-day forest management planning. Also routinely presented information about the project at stakeholder meetings, meetings open to the public, and several Board of Forestry meetings.

Project Manager, 2018 – 2021
ODSL, Elliott State Research Forest HCP, OR

Led the development of an HCP that covers three species for the Elliott State Forest, an area of approximately 85,000 acres. The process included working closely with the ODSL and Oregon State University (OSU) to craft practical strategies that will minimize and mitigate effects of research-related timber harvest activities on listed species, while maintaining enough flexibility for those research activities to occur and change over time. Completion of the draft HCP involved an integration of the terms of the HCP and the OSU research proposal and negotiating terms of agreement between the ODSL, OSU, USFWS, and NMFS. Completion of the HCP also included working closely with representatives from the Oregon Department of Fish and Wildlife. Served as the primary point of contact for the project and presented to the ODSL Advisory Committee on a number of occasions, in public meetings, and the State Land Board three times, on behalf of the project.

Project Manager, 2016 – 2018
Conservation Strategy Group, Santa Clara County Regional Conservation Investment Strategy, CA

Managed completion of the draft regional conservation investment strategy, included revisions in response to changes in legislation and statewide guidance from the CDFW. Created a conservation framework for 15 focal species and addressed issues related to wildlife connectivity, aquatic connectivity, and the urban-wildlife interface. Engaged stakeholders and technical advisory groups and led negotiations with the CDFW.

Senior Advisor, 2016 – 2018

Conservation Strategy Group, East Bay Regional Conservation Investment Strategy, CA

Advised the project team and client on key resource issues in Alameda and Contra Costa Counties. Assisted with stakeholder engagement and outreach strategy. Provided senior review for regional conservation investment strategy and participated in negotiations with the CDFW.

Project Manager, 2012 – 2018

Contra Costa Water District, Los Vaqueros Watershed Resource Management Plan and HCP, CA

Led the development of a resource management plan for the Los Vaqueros Watershed and associated mitigation lands for 25,000 acres managed by Contra Costa Water District in the East San Francisco Bay Area. The resource management plan addressed natural resource issues, including required management and monitoring strategies for species listed under the ESA and California ESA. It also addressed cultural resources, fire management and risk assessment, emergency management, invasive plant management, an integrated grazing management plan, and an assessment of infrastructure and capital resources. The resource management plan also integrated with a habitat management plan on mitigation land mandated by ESA permits for California red-legged frog, California tiger salamander, San Joaquin kit fox, Alameda striped racer, and valley elderberry longhorn beetle. Oversaw the completion of the resource management plan and habitat management plan and the implementation of the first 4 years of management and monitoring activities. Both plans were approved by the USFWS, CDFW, and U.S. Bureau of Reclamation.

Senior Biologist, 2008 – 2014

Pacific Gas and Electric (PG&E), Bay Area Operations and Maintenance HCP, CA

Led the impact analysis, development of biological goals and objectives, conservation strategy, and monitoring and reporting program in support of the Bay Area Operation and Maintenance (O&M) HCP. This plan resulted in a 50-year permit for 17 species and operational consistency for PG&E within the 9-county San Francisco Bay Area. The HCP also included standardized avoidance and minimization measures and a compensatory mitigation program tied to permanent and temporary habitat impacts over the permit term. Impact analysis included creation of species habitat distribution models and a deep understanding of PG&E's O&M activities for gas and electric transmission and distribution facilities.

Project Manager, 2008 – 2014

PG&E, Multi-region O&M HCP, CA

Oversaw the completion of the draft Multi-region O&M HCP, which included the impact analysis, development of biological goals and objectives, conservation strategy, and monitoring and reporting program in support of the Bay Area O&M HCP. This plan resulted in a 50-year permit for 40 species and operational consistency for PG&E across more than 30 counties in northern California, the central coast, the Sacramento Valley, and the Sierras. The HCP also included standardized avoidance and minimization measures and a compensatory mitigation program tied to permanent and temporary habitat impacts over the permit term. Impact analysis included creation of species habitat distribution models and a deep understanding of PG&E's O&M activities for gas and electric transmission and distribution facilities.