



Robyn Cook RG, LG, PG, CWRE

Principal Hydrogeologist

EXPERIENCE

18 years

EDUCATION

MS, Geology, University of Montana

BA, Geology, Middlebury College

REGISTRATIONS

Registered Geologist, Oregon

Certified Water Rights Examiner, Oregon

Licensed Geologist, Washington

Professional Geologist, Idaho

QUALIFICATIONS

- Site conceptual model development
- Hydrogeologic evaluations
- Supply well performance evaluation
- Expertise in aquifer testing and analysis
- Oversight of well drilling, design, installation, and testing
- Soil, groundwater, surface water, indoor air and soil vapor sampling
- ASR feasibility studies

Robyn has 18 years of experience in water resources and environmental consulting, in Oregon, Washington, and on the East Coast. Her focus includes municipal drinking water supply, hydrogeologic evaluations, aquifer storage and recovery (ASR) feasibility, and water rights. She has extensive experience in groundwater supply well design and construction oversight, and developing technical specifications for public procurements. She manages and supports projects for municipal, agricultural, and private clients, including groundwater assessments, production well construction and rehabilitation, aquifer testing, and water rights transactions.

REPRESENTATIVE PROJECTS

New Basalt Well, Port of Morrow, Boardman, Oregon. Robyn led the team that developed technical specifications and oversaw the drilling and construction of a new basalt production well. Part of this work included communication with the Oregon Water Resources Department regarding well requirements under the Port's current water right, and communication with the Oregon Health Authority regarding the Plan Review process. Robyn managed the field staff during the drilling phase, coordinated communications with driller and client, and communicated with state agencies. This well had specific construction requirements because of the water right, so Robyn worked closely with the drillers, a subconsultant, and the state to ensure construction requirements were met.

ASR Feasibility Study, City of Stayton, Oregon. Robyn was the lead hydrogeologist for this assessment of ASR feasibility in a basalt aquifer. The state grant-funded study included evaluating water availability, water quality, and the hydrologic regime to support an ASR system. Robyn developed technical specifications for a test well and managed the oversight of drilling and testing a basalt well. No fatal flaws were identified during the feasibility study and Robyn led the effort to apply for additional funding on behalf of the City to develop the ASR system.

ASR Feasibility Study, City of Pasco, Washington. The City needs to diversify its water supply portfolio and create a sustainable, resilient water source to help meet peak demands and future demand projections for their potable and irrigation systems. Robyn provided hydrogeologic support for a feasibility study to determine the feasibility of using ASR to optimize the use of existing water rights and to increase the sustainability and resiliency of the City's water supply given that new sources may not be available. The study evaluated the feasibility of using and storing off-season water available from the Columbia River and/or the shallow alluvial aquifer system in deep basalt groundwater storage zones beneath the City for use during the high-demand period.

Well Siting Analysis, Lady Creek Water System, Zig Zag, Oregon. Robyn reviewed the water right associated with a small water system to develop a conceptual design for a production well. She discovered a condition of the existing water right that led to



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discussions with the Oregon Water Resources Department and the client regarding the viability of pursuing an additional well that would be in compliance with the water right and well construction standards.

[Fifteenmile Creek Watershed Underground Storage Feasibility Study, Wasco County Soil and Water Conservation District and the Fifteenmile Watershed Council, The Dalles, Oregon.](#) Robyn manages a multidisciplinary team that is currently evaluating the feasibility of using ASR to enhance streamflow and reduce water temperatures during summer months to improve fish habitat, maintain the viability of the existing irrigated agricultural economy, and stabilize groundwater level declines in a deep basalt aquifer that is the source of water for orchards and the City of Dufur. The concept behind this state grant-funded study involved (1) diverting water filtered through the alluvial aquifer during high surface flow periods, (2) storing the water in a confined basalt aquifer, and then (3) pumping the stored water in lieu of diverting surface water. The overall goal was to assess whether this innovative use of ASR would be capable of providing sufficient water for irrigation in exchange for reducing diversions from senior surface water rights to improve ecological conditions in the creek.

[ASR Evaluation, Water Rights Support, and ASR Well Construction, City of Baker City, Oregon.](#) As project manager, Robyn provides a range of support to Baker City's ASR program. Robyn prepared water rights transactions (permit amendment and transfer) to provide operational flexibility to the City and supported an evaluation of whether the City has available water to support a second ASR well. Robyn looked at potential interference between existing and future wells to identify favorable locations for a second ASR well. She helped develop technical specifications for the City's second ASR well and coordinated with the City's Engineer regarding well design. She also managed the drilling, construction, and testing of the new well, and continues to help them with ASR permitting and water rights.

[Groundwater Supply Development, City of Ridgefield, Washington.](#) The City is pursuing development of additional groundwater supply sources and acquisition of new municipal water rights to meet projected growth and future water demand needs. The purpose of this work was to identify candidate well locations that potentially could support the City's groundwater development needs. As part of this work, Robyn identified potential options for new water supply well locations based on hydrogeologic, land use, water system infrastructure, demand, and water right permitting considerations.

[Water Rights Services, Cities of Camas and Washougal, Washington.](#) Robyn provided water right consulting services to the Cities in support of water rights due diligence and future transactions. The City of Camas is interested in adding the City of Washougal's Well 6 to their water right, in exchange for the opportunity for Washougal to develop a future well location currently included in Camas' water right portfolio. Work completed included reviewing the existing water rights associated with the proposed trade and discussing potential pathways for the transaction. Robyn also helped develop an outline for a mitigation plan for G2-30528 and worked with Ecology to understand and update an amendment for an existing water right for the City of Washougal.

[Well Evaluation and Rehabilitation Support, City of Vancouver, Washington.](#) Robyn reviewed historical information and well video surveys for three of the City's production wells to evaluate possible mechanisms for the observed declining productivity. She was part of a team that developed technical specifications for the City to solicit bids for rehabilitating three wells using a combination of mechanical and chemical methods. Impulse generation is included as a mechanical rehabilitation tool. Robyn managed the field staff during the rehabilitation work.

[Hydrogeologic Services, City of Scappoose, Oregon.](#) Robyn compiled pumping and analytical data to help the City develop operational procedures to increase the production rate at its Miller Road Wellfield. She reviewed chemical and bacteriological data and provided recommendations for well rehabilitation. She has reviewed hydrogeologic information for the Scappoose area and provided a preliminary assessment of the City's future water supply options. This information was used to help the City expand its current drinking water supply and make use of its permitted water rights. Robyn plays

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a key role in helping the City plan for and execute the expansion of its groundwater supply. She currently manages a review of operational data from the City's existing production wells, and is assessing future options for groundwater supply.

New Production Well, City of Scappoose, Oregon. Robyn performed a well siting evaluation for a new production well that included reviewing existing hydrogeologic information and historical pumping information from an existing well. The well siting evaluation was used to identify a location for a new production well, considering the balance between tying into the existing system and limiting interference from the existing well. She developed technical specifications for drilling the new production well. Robyn managed field personnel during construction and testing oversight. At the completion of construction and testing, Robyn completed the data evaluation, and provided a summary of the work for the City, including operational recommendations.

Hathaway Park New Production Well, City of Washougal, Washington. Robyn managed this project to install a replacement production well. She helped with the planning and design for the new groundwater production well. Her work on this project included coordination with the City, and assisting with developing technical specifications, coordinating water quality sampling, and coordinating with an engineering subcontractor. She managed field personnel who were onsite for observation of the production well drilling and construction, well development, and testing.

New Basalt Well, Port of Morrow, Boardman, Oregon. Robyn managed the siting of a production well based on known geology and a local fault, communicated with the Oregon Water Resources Department regarding well requirements under current water rights, communicated with the Oregon Health Authority regarding waiver requests for construction setbacks, and developed technical specifications. Robyn managed the field staff during the drilling phase, coordinated communications with driller and client, and communicated with state agencies. This well had specific construction requirements because of the water right, so Robyn worked closely with the drillers, a subconsultant, and the state to ensure construction requirements were met.

Evaluation of Impacts to Aquifer System from Quarry Operations, City of Oakridge, Oregon. The City needed to assess potential impacts to its wellfield wells from mining operations at a proposed aggregate quarry planned for development east of the City. GSI completed the evaluation under an accelerated timeline to fall within the public comment period. Robyn provided technical support for this effort. The project included conducting a review of available hydrogeologic information provided in the mine permit application and completing an assessment of potential impacts to groundwater quality and quantity based on that review and the proposed mining operations. GSI determined that proposed mining activities would be unlikely to have a significant impact on the amount of water recharging the City's wellfield, and estimated risk to groundwater quality to be low. However, GSI noted specific uncertainties with regards to impacts on groundwater quality and recommended that several monitoring programs be implemented prior to any excavation activities and continue through the lifespan of the quarry.

ASR Feasibility Evaluation, City of Cornelius, Oregon. Robyn compiled and reviewed geologic information to evaluate the feasibility of a deep ASR well for the City. She identified and tested potential observation wells near the proposed ASR project. Robyn also assisted with compiling the bid documents for the proposed well when the project was approved to move forward.

Assessment of Potentially Commingling Wells, Wasco County Soil and Water Conservation District, Oregon. Robyn assisted in the assessment of several wells that have the potential to commingle one or more aquifers in an area that has had significant water level declines. She reviewed geologic logs and video surveys, and worked together with the project team to develop a conceptual model of the hydrogeologic system to present to the client and other interested parties.

Groundwater Availability Study, Confidential Client, Ashland, Oregon. Robyn conducted research to determine whether a new development could use groundwater as a primary source of water for residences and irrigation. She examined well

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logs in the area, constructed a cross section, and calculated projected water use to determine if available water would meet demands.

New Production Well, City of Troutdale, Oregon. Robyn assisted in planning, designing, and testing a groundwater production well to evaluate production capacity and aquifer response to groundwater production. Her work on this project included observation of well drilling and construction, well development and testing, developing a recommended production rate, and assessing potential interference with other groundwater production wells in the area.

Lower Wellfield New Production Well, City of Washougal, Washington. Robyn assisted in planning, designing, and testing a groundwater production well to evaluate production capacity and aquifer response to groundwater production. Her work included observation of well drilling and construction of a monitoring well drilled with sonic technology and a production well drilled with reverse circulation, well development and testing, developing a recommended production rate, and assessing potential interference with other groundwater production wells in the area.

Production Well Evaluation, City of Washougal, Washington. Robyn assisted in testing a groundwater production well to evaluate production capacity and aquifer response to groundwater production. Her work on this project included sampling for Safe Drinking Water Act constituents, performing aquifer tests, developing a recommended production rate, and assessing potential interference with other groundwater production wells in the area.

New Production Well, City of Tigard, Oregon. Robyn assisted in designing and testing a City groundwater production well to evaluate production capacity and ASR potential. Her work on this project included observation of well drilling and construction, and an extended 5-day aquifer test for evaluating aquifer response to groundwater production for assessing aquifer boundaries and specific capacity. Robyn also assisted in designing a recommended production rate and injection rate for ASR operation.

Well Rehabilitation and Well Siting, City of Troutdale, Oregon. As a staff hydrogeologist, Robyn evaluated geochemical data and helped to develop rehabilitation options for a municipal well. She also assisted in siting a new production well location by creating cross sections and evaluating available aquifer parameters. After a new site was chosen, Robyn assisted with writing the technical specifications for the bid document.

Hydrogeologic Review, Spring Lake Estates, Salem, Oregon. Robyn assisted with a hydrogeologic review of an area south of Salem. There was concern from an existing development that future upgradient development would affect the springs that feed a water-right-permitted lake. Tasks included creating a cross section of the area, field-checking the springs and seeps, obtaining an oral history of the spring flows, and writing a technical memorandum summarizing existing water rights and findings from this work.

Collector Well Feasibility Study, City of Independence, Oregon. Robyn provided oversight to the drilling of four monitoring wells. The wells were drilled with sonic technology and Robyn logged the cores. She also conducted an aquifer test and wrote a technical memorandum summarizing the results of the drilling and testing.

Environmental Impact Assessment, Newhall Land and Farming Company, Valencia, California. Robyn provided technical hydrogeologic and water quality support for an environmental impact assessment. She drafted a memorandum outlining the existing conditions in the area that will be used/considered in future development (Newhall Ranch), and worked on creating a water budget to assess the impact that developing the area would have on the local groundwater system.

ASR Project, Madison Ranches and McCarty Ranch, Echo, Oregon. As staff hydrogeologist, Robyn evaluated water quality during two ASR pilot projects in eastern Oregon. Her evaluation included tracking the quality of water samples collected during each phase of the ASR cycle, particularly for nitrate. Robyn continues to support the Madison ASR project,

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performing ongoing assessments of water quality and groundwater data and preparing annual reports to the Oregon Water Resources Department (OWRD) to maintain current licenses for the project

ASR Project, Sunrise Water Authority (SWA), Portland, Oregon. As a staff hydrogeologist, Robyn provided support in completing a feasibility report for ASR in multiple aquifers. She assisted SWA with implementing and analyzing baseline well performance, and aquifer testing to prepare for ASR cycle testing in 2006/2007. As part of this work, Robyn created cross sections of the area to help define an aquifer suitable for ASR.

Groundwater Technical Services, City of Portland, Water Bureau (PWB), Oregon. As a staff hydrogeologist, Robyn assisted with evaluating potential failure mechanisms for four high-capacity production wells in the City's wellfield that produce excessive sand. She reviewed well video logs, developed as-built figures and schematics of repair options, and assisted with completion of a pre-design technical memorandum outlining well repair options, costs, and recommendations.

Monitoring Well Completion, City of Portland, PWB, Oregon. As a staff hydrogeologist, Robyn oversaw the development of a newly installed monitoring well. Work included monitoring water quality field parameters.

Water Rights Support Services, Eugene Water and Electric Board, Eugene, Oregon. Robyn assisted in the process of amending a large groundwater right permit application for a regional water supplier to increase the likelihood of a permit being issued by the Oregon Water Resources Department. Her work included compiling historical data to determine baseline conditions in the area so that future impacts to the aquifer may be monitored. Robyn also created a database to input future monitoring parameters.

Water Rights, Port of Portland, Oregon. Robyn assisted in compiling water rights obtained by the Port under the purchase of Reynolds Metals Company. Work for this project included analyzing historical records to determine the current status of the water rights.

Groundwater and Soil Evaluation, Circle 9 Dry Cleaners, Corvallis, Oregon. Robyn assisted with sampling soil, groundwater, and soil vapor for chlorinated solvents in an area that had been affected by former dry-cleaning activities. She also oversaw the drilling of several direct-push geotechnical borings. The sampling activities were part of a voluntary cleanup managed by the Oregon Department of Environmental Quality (DEQ).

Groundwater and Soil Evaluation and Report, Confidential Client, Corvallis, Oregon. Robyn sampled groundwater for petroleum contaminants remaining after the removal of two underground storage tanks (USTs) and associated contaminated soil using Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites, issued by DEQ.

Well Rehabilitation, Confidential Client, Lebanon, Oregon. Robyn worked on a well rehabilitation project for a trichloroethylene (TCE) cleanup site. The rehabilitated wells were part of a bioremediation system to remediate a groundwater plume. Robyn conducted field sampling of the wells, assisted the project manager in developing remediation plans, and oversaw well rehabilitation.

Remedial Investigation, City of Portland, Oregon. Robyn was part of a team providing support to the City for a remedial investigation (RI) of sediments at Portland Harbor Superfund Site under U.S. Environmental Protection Agency (EPA) regulatory oversight. Her work included compilation of analytical data, data verification, and writing several technical memoranda that summarize the results of source control investigations, reprioritizing City outfall basins, and characterizing a City outfall basin. Other work included filtering and screening fish tissue and sediment data, GIS analysis, work plan development, and project coordination.

Clark Fork River and Missoula Aquifer Study, Missoula, Montana. For her master's degree, Robyn collected surface water and groundwater samples using ultra-clean techniques. After a 14-month sampling period, she analyzed and interpreted

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chemical data to determine the interaction between the Clark Fork River and the Missoula Aquifer, which is a sole source aquifer for the City of Missoula. Specific goals were to understand the fate of arsenic in a dynamic system, and to create a chemical mixing model for the interaction between surface water and groundwater.

Contact

havekost@mcmjac.com

www.linkedin.com/in/mark-havekost-298aa0b (LinkedIn)
www.linkedin.com/companies/jacobs-associates (Company)

Top Skills

Civil Engineering
Geotechnical Engineering
Tunnels

Certifications

Professional Engineer (PE)

Mark Havekost

Principal Engineer / Regional Manager
Portland, Oregon, United States

Summary

Principal engineer with a background in civil and geotechnical engineering. 30 years of U.S and international experience in the planning, design, and construction of water, wastewater, transportation, and hydropower infrastructure. Successful track record delivering complex and resilient underground infrastructure, strategic business planning and new market development, and technical staff development.

Delve Underground is an employee owned engineering and construction company focused on the heavy civil underground and water resources markets.

Experience

Delve Underground

24 years 6 months

Principal Engineer / Vice President / Market Lead

January 2025 - Present (5 months)

Principal Engineer / Regional Manager / Vice President

December 2000 - Present (24 years 6 months)

Portland, Oregon

Regional manager for the pacific northwest. Responsible for delivery of a broad range of geological, geotechnical, and civil engineering projects. Manages and delivers consulting services to public and privately owned utilities and underground contractors. Significant U.S. and international experience in the underground industry concentrating on tunnel design and geotechnical engineering. Participated in the design, construction, or evaluation of numerous hydropower, water conveyance, storm water, sewer, and highway tunnels. Also experienced in design and rehabilitation of dams, spillways and intake structures for hydropower and water conveyance projects.

Coordinated work on multi-discipline teams and has extensive project management experience on civil infrastructure projects that required production of contract documents (drawings, specifications, geotechnical reports) by a variety of contract delivery methods including Owners Agent for Design Build procurement.

Involved in number of industry firsts using trenchless, tunneling, and shaft construction methods to address unique challenges related to access, routing, subsurface conditions, hydraulic performance, corrosion, and seismic resiliency.

Woodward Clyde Consultants

Senior Civil Engineer

1993 - 2000 (7 years)

Involved in design and construction of dams and tunnels. Performed inspections of dams, penstocks, and radial gates. Conducted field exploration drilling programs for dam and tunnel projects in soil and rock, Performed slope stability analyses and slope mitigation designs. Involved in the design of pipelines using trenchless construction methods.

Education

University of California, Berkeley

MS, Civil/Geotechnical Engineering · (1993 - 1994)

California Polytechnic State University-San Luis Obispo

BS, Civil Engineering

California Polytechnic State University-San Luis Obispo

Bachelor of Science - BS, Civil Engineering

University of California, Berkeley

Master of Engineering - MEng



Ken Lite RG

Senior Hydrogeologist

EXPERIENCE

45 years

EDUCATION

MS, Geology, Portland State University

BS, Geology, Southern Oregon State College

REGISTRATIONS

Registered Geologist, Oregon (#G881)

QUALIFICATIONS

- Expertise in planning and conducting complex groundwater studies
- Experienced in groundwater project management
- Highly knowledgeable about OWRD policy and administrative rules development
- Expert in developing and using groundwater flow models and conducting groundwater flow modeling

Ken has over 45 years of experience, including 34 years in hydrogeology, groundwater project management, intergovernmental groundwater studies, and groundwater administrative law as a hydrogeologist for the Oregon Water Resources Department (OWRD). He is an expert in conducting basinwide groundwater investigations and developing strategies to effectively manage groundwater resources for all beneficial uses. He has experience in applying groundwater study results such as hydraulic head trends and groundwater flow simulations to help guide policy development. Ken's research has focused on quantitative analysis of groundwater flow systems in volcanic terranes; specifically, quantifying the influence of the geological framework on groundwater recharge, water chemistry, hydraulic head distribution, and the interaction of groundwater and surface water. Ken has substantial experience in working with stakeholders to create successful outcomes, and a proven ability to manage projects and meet deadlines and objectives.

REPRESENTATIVE PROJECTS

New Basalt Well, Port of Morrow, Boardman, Oregon. Ken provided technical support for the design and installation of a new basalt production well developed in basalt aquifers that are part of the Columbia River Basalt Group hydrogeologic unit. The new well replaced an existing well in the Port's Airport Industrial Park.

Aquifer Storage and Recovery (ASR) Program Support, City of Tualatin, Oregon. Ken is providing hydrogeological technical support for the City's ASR program. He has been working with the GSI team that has been conducting a technical analysis of the effects of dewatering operations in a nearby quarry on the basalt ASR storage aquifer and the City's ASR recovery capacity.

Recharge Feasibility and Commingling Well Remediation Studies, OWRD and Wasco County Soil and Water Conservation District, The Dalles, Oregon. For 35 years, Ken was the Oregon Water Resources Department (OWRD) technical lead evaluating the causes of and potential remedies for groundwater declines in the Mosier Creek watershed. He helped develop the conceptual model of the basalt aquifer system, identify and replace commingling wells, and develop a new groundwater source. Ken is now the technical lead for the GSI team that has evaluated 80+ wells and repaired/replaced 17 wells.

Upper Deschutes and Upper Klamath Groundwater Studies, OWRD, Oregon. As lead hydrogeologist and co-principal investigator, Ken was responsible for groundwater project management, planning, staffing, and conducting two basin-wide cooperative groundwater studies with the U.S. Geological Survey (USGS) in central and south-central Oregon (1993-2013). Ken was responsible for planning, scoping, and staffing. He conducted major groundwater studies and participated in all aspects of the investigations, including data collection, research, analysis, and supervising junior staff on discrete geological and hydrological tasks. Ken conducted geological framework research and



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Senior Hydrogeologist

analysis and developed water budgets. He worked with OWRD and USGS staff to determine estimates of water use and compiled seepage data to evaluate groundwater surface water interaction. Ken also compiled and conducted aquifer tests, assisted in developing the hydraulic head maps, constructed hydrographs, and analyzed and interpreted groundwater time series data. He assisted with flow model development—including determining model domain, grid spacing, model discretization, permeability zones, horizontal boundaries, calibration, and scenario testing—and compiled stream fluxes and head observations. Ken co-authored reports on hydrogeology, geologic framework, and model simulations, and was responsible for presentations to local government and stakeholders, committee meetings, and professional meetings.

Geological Mapping Studies, OWRD, Oregon. Ken was responsible for working with state, federal, and university geologists to provide adequate surface geological mapping in areas where subsurface geological correlations were being developed through groundwater studies. He participated on a subcommittee to assist the Oregon Department of Geology and Mineral Industries (DOGAMI) in producing a long-range strategy for assessing statewide geological mapping needs. He also participated with DOGAMI, USGS, and University of Hawaii in implementing geological mapping projects in the Lower Crooked River Drainage, Hood River/Mosier area, and The Dalles/Dufur area to provide more detailed geological mapping to aid in understanding local groundwater flow systems.

Groundwater Policy and Rules Development, OWRD, Oregon. At OWRD, Ken was responsible for drafting guidance documents, implementing groundwater management plans, analyzing potential impacts to scenic waterways, drafting parts of administrative rules, and testifying in contested case hearings. Examples include the following:

- He drafted the guidance document for Deschutes Mitigation zones of impact and participated in ongoing implementation of the Deschutes Groundwater Mitigation Program.
- He drafted guidance for the Mosier well repair/replace program and participated in the ongoing efforts to restore the aquifers in the area.
- He conducted model simulations to assess groundwater pumping impacts to the Metolius and Klamath Scenic Waterways to aid in policy development.
- He assisted with modifying statewide well construction rules, and in the development of Mosier special area well construction rules.
- He assisted in drafting two groundwater withdrawal orders for Columbia River Basalt Group (CRBG) aquifers and presented the orders in a hearing and at committee meetings.
- He assisted in drafting groundwater classification rules for the upper and lower Troutdale aquifers (Sandy and Willamette Basin rules).
- He also represented OWRD as an expert witness in a major Deschutes Basin contested case and a Mosier area well construction contested case.

Groundwater Resource Assessment Program, OWRD, Oregon. Ken led a team in developing methods to assess statewide groundwater resources and prioritize potential study areas. He supervised the development of a methodology for analyzing State Observation Wells data and supervised the development of a statewide aquifer unit map.

Oregon Wellhead Protection Program, OWRD, Oregon. Ken served on the interagency technical advisory committee that developed the policies and procedures for Oregon's Wellhead Protection program.

Mosier and Sandy/Boring Groundwater Studies, OWRD, Oregon. Ken managed and conducted two OWRD groundwater studies, one in the Mosier area and one in the Sandy/Boring area. He participated in data collection, research, analysis, and guiding junior staff. He compiled geological maps, conducted geological mapping, and constructed geological cross sections to determine geological framework, and he worked with local well drillers to gather drill cuttings samples for

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logging and chemical analyses. He led OWRD staff in determining estimates of water use and evaluated groundwater/surface water interaction. Ken also assisted in conducting aquifer tests, assisted in developing the hydraulic head maps, constructed hydrographs, and analyzed and interpreted groundwater time series data.

[State of Oregon Groundwater Policy and Rules Development, OWRD, Oregon](#). Participated in drafting orders and basin rules, attended public meetings, public hearings, and Water Resources Commission meetings to adopt orders and rules, testified in a contested case hearing.

Contact

www.linkedin.com/in/laura-miles-6255a1110 (LinkedIn)

Certifications

Professional Engineer, CA, HI, OR

Laura Miles

Principal Engineer at Delve Underground
Bend, Oregon, United States

Experience

Delve Underground

Principal Engineer

November 2007 - Present (17 years 7 months)

Bend, Oregon

Design Project Management, Construction Management, Design Build Professional, Claims and Dispute Resolution.

US Army Corps of Engineers

4 years

Senior Civil Engineer

2006 - 2007 (1 year)

Senior Civil Engineer

2003 - 2006 (3 years)

Honolulu, Hawaii

United States Air Force

Chief of Civil Design Section

2001 - 2003 (2 years)

Yokota, Japan - near Tokyo

Dick Pacific Construction Co

Senior Project Engineer

1998 - 2001 (3 years)

Honolulu, Hawaii

Education

Colorado School of Mines

Bachelor of Science (BS), Mining Engineering

Boston University - Metropolitan College

MSBA, Business Administration

Contact

www.linkedin.com/in/jade-ajani-ujcic-ashcroft-79451648 (LinkedIn)

Top Skills

Ecology

Birds

Wildlife

Languages

Spanish (Limited Working)

Jade Ajani Ujcic-Ashcroft

Wildlife Biologist

Portland, Oregon, United States

Summary

I am an environmental and field science professional specializing in terrestrial wildlife and natural resource management. I have over 12 years of experience and expertise in a wide variety of biological science and natural history disciplines with a specialty in field ornithology and avian ecology. My skillset is broad, ranging from supervisory experience as a crew leader, collaborative efforts as a team member, independent research and report writing, policy implementation, and data-oriented technical and analytical work

Experience

City of Portland

6 years 2 months

Terrestrial Wildlife Biologist

September 2022 - Present (2 years 9 months)

Portland, Oregon, United States

Avian Biologist

April 2019 - September 2022 (3 years 6 months)

Portland, Oregon, United States

National Park Service

5 years 9 months

Crew Lead: Vegetation Monitoring

July 2017 - November 2019 (2 years 5 months)

Marblemount, Washington, United States

Field Crew Lead in 2017-2019, Assistant Crew Lead 2016: managed and trained six-person field crew in project protocols. Responsible for scheduling site visits and backcountry work tours.

- Installed and monitored subalpine vegetation plots and Whitebark Pine monitoring plots throughout North

Cascades, Olympic and Mount Rainier National Parks.

- Responsible for identifying all species of herbaceous vascular vegetation found on plots.
- Assessed Whitebark Pine health focusing on blister-rust infection and mountain pine beetle infestation.
- Assisted in refining and developing monitoring protocols. Refined field data collection forms. Produced maps using ArcGIS. Composed field trip and logistics reports. Entered and managed all field data collected.

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- Installed remote temperature data-loggers in soil at plots. Downloaded data from loggers in field. Uploaded and modeled soil temperature data. Collected soil samples on plots.
- Supported efforts on a variety of vegetation management projects - EPMT, plant propagation, erosion control, habitat assessment, revegetation, rare plant surveys and bryophyte surveys.

Physical Science Technician

July 2018 - October 2019 (1 year 4 months)

Marblemount, Washington, United States

Conducted glacier monitoring at various glaciers at North Cascades, Olympic and Mount Rainier National Parks. Position required glacier travel, safely climbing/descending steep snow and ice, navigating exposed rock and crevassed terrain, and off-trail travel. Some glaciers were accessed via helicopter. Probed ice/snow/firn at fixed long-term monitoring stakes and took various measurements. Collected hydrologic data associated with ice melt. Photography was also used to document glacier conditions.

- Installed acoustic monitoring stations throughout park: Regularly checked, repaired and troubleshot stations.
- Installed, checked and collected data from many stream-temperature monitoring sites.
- Replaced and repaired components and equipment at remote weather and climate monitoring stations and air quality monitoring sites. Often worked solo for multiple days in backcountry.
- Working closely with park geologists, used ArcGIS to digitally map the landforms of the Skagit River floodplain at a 1:600 scale.

Co-Crew Lead: Owl Monitoring

March 2016 - July 2017 (1 year 5 months)

EI Portal, California, United States

- Conducted surveys and off-trail area searches for California Spotted Owl throughout Yosemite National Park.
- Utilized “mousing” of Spotted Owls to determine nesting and breeding status. Conducted nest searches and nest monitoring in occupied territories. Resighted color bands on historic previously banded owls.
- Conducted broadcast surveys for Great Grey Owl in montane meadows and wetlands to determine occupancy. Made intensive behavioral and foraging observations of owls in historic territories to determine pair/nesting status. Searched for and collected owl pellets for diet analysis and feathers for genetic analysis.
- Responsible for scheduling site visits, backcountry work tours, training crew in project protocols and safety procedures, and communicating project status with managers, including composing weekly progress reports.
- Responsible for submitting crew timesheets, travel authorizations and reimbursement vouchers, as well as maintaining field equipment, and other supervisory tasks associated with overseeing a six-person field crew.

Biological Science Technician: Whitebark Pine and Alpine Vegetation Monitoring

July 2014 - October 2016 (2 years 4 months)

North Cascades and Mount Rainier National Parks, WA

- Installed and monitored subalpine and alpine vegetation monitoring plots and whitebark pine/forestry monitoring plots throughout backcountry and frontcountry areas of North Cascades and Mount Rainier National Parks.
- Responsible for identifying all species of herbaceous vegetation and trees on plots. Collected samples of unidentified species. Used herbarium and microscope to aid in species identification. Assisted other team members in plant identification and understanding project protocols/SOPs.
- Assisted in refining and developing aspects of vegetation monitoring protocol.
- Assessed whitebark pine health focusing on blister rust infection and mountain pine beetle infestation.
- Installed remote data-loggers in soil at plots. Downloaded previously installed data loggers. Uploaded and managed data in computer database.
- Conducted data entry and verification in electronic databases. Scanned, organized and filed data sheets.
- Prepared field maps using ArcGIS. Prepared work logistics and access schedules for backcountry tours.
- Composed weekly trip reports of backcountry tours and scope of work accomplished and communicated/updated project supervisors on work progress. Composed logistics reports and notes for future plot access and work tours.

Biological Field Technician: Fisheries

January 2016 - March 2016 (3 months)

Grand Canyon Village, Arizona, United States

- Worked as part of a large crew to enhance native fish habitat and restore endangered native fish species to tributaries of the Colorado River.
- Removed introduced non-native trout species via electrofishing and netting. Operated electroshock packs and netted fish using dip nets while wading in cold, fast-flowing, sometimes deep water for prolonged periods.
- Collected various data on fish including measuring, sexing and aging all fish. Native fish were returned to the creek while non-native fish were processed, cleaned, frozen and vacuum-sealed for future use and consumption, primarily by local indigenous communities.

Biological/Physical Scientist

October 2015 - December 2015 (3 months)

Astoria, Oregon, United States

- Implemented a variety of re-vegetation projects in coastal, wetland and forest habitats. Installed a comprehensive ethnobotanical native plant garden. This included work in the park nursery and coordinating many volunteers.
- Conducted elk pellet monitoring and elk presence/absence surveys.
- Conducted water quality sampling and monitoring at many sites. Processed samples in lab.

Biological Field Technician: Spotted Owl Monitoring

March 2014 - July 2014 (5 months)

Olympic National Park, WA

- Conducted surveys and off-trail searches for Northern Spotted Owls in historic breeding territories throughout the backcountry and frontcountry of Olympic NP.
- "Moused" owls to determine nesting and breeding status. Nest searching and nest monitoring at occupied territories.
- Live captured Spotted Owls using hand-grab and/or noose-pole techniques. Color banding and processing of unbanded owls. Resighted color bands on historic previously banded owls.
- Searched for and collected owl pellets for diet analysis and feathers for genetic analysis.
- Installed remote audio recorders to help determine presence/absence of Spotted and Barred Owls.
- Documented presence/absence of Barred Owls, Northern Goshawks, Great-horned Owls and Merlins.
- Data entry and verification.

Paradise Birding

Birding Guide

January 2013 - April 2017 (4 years 4 months)

Sisters, Oregon, United States

Intermittently acted as a guide on guided birding tours in Oregon and Washington. Helped clients spot and identify birds by sight and sound and discussed bird ecology and general natural and cultural history of tour areas. Scouted birding tour sites in Vietnam, Taiwan, and Japan. Assessed logistics and feasibility of running potential tours in areas of East Asia.

Point Blue Conservation Science

Field Crew Lead: Post-fire Avian Monitoring

April 2015 - July 2015 (4 months)

South Lake Tahoe, California, United States

Trained personnel and managed logistics and schedule of seven-person bird monitoring field crew.

- Conducted multi-species avian point count transects throughout Forest Service land in the central Sierra

Nevada. Worked primarily in post-fire habitats of various ages. Conducted USFS Management Indicator

Species broadcast surveys for Mountain Quail and Hairy and Black-backed Woodpeckers.

- Deployed remote automatic recording units equipped with both ultra-sonic and acoustic microphones to record nightly bat and owl activity in post-fire habitats.

Hamer Environmental

Research Biologist/Forester

November 2013 - December 2013 (2 months)

Grants Pass, OR

- Sampled a wide variety of remote forest plots. Collected very precise tree and vegetation data in order to correlate on-ground forest data with aerial LiDAR imaging for the Bureau of Land Management.
- Appraised nesting suitability and critical habitat for Spotted Owl and Marbled Murrelet.
- Entered, uploaded and verified data using an advanced Trimble GPS unit/tablet.

HawkWatch International

Observer, Trapper and Site Interpreter

August 2011 - October 2013 (2 years 3 months)

Bonney Butte, OR

3 seasons of fall raptor migration monitoring. Responsible for identifying, ageing, sexing and counting migratory raptors (and vultures) as they passed over the butte during fall migration. Responsible for trapping, handling, banding and processing migratory raptors, from Sharp-shinned Hawks to Golden Eagles. Acted as primary site interpreter and educator for visitors, explaining raptor adaptations, ecology, and migration and supervising visitors while they handled and released hawks. Interpreter duties also included talking to the media about the site and coordinating and managing large groups of visitors, from Portland Audubon to local high school groups. Other responsibilities included collecting hourly weather data on each day of counting and caring for the live lure birds.

National Park Service

1 year 5 months

Biological/Physical Science Technician

July 2013 - August 2013 (2 months)

Sierra Nevada Network (SIEN) - Yosemite and Sequoia-Kings Canyon National Parks

- Installed 5-needle pine monitoring plots in the backcountry. Measured, tagged and assessed health of all trees on plots.
- Collected various water and aquatic data and gathered filtered water samples from remote sub-alpine lakes. Assessed and measured flow of lake outlets.
- Data entry and verification in MS Access

Field Crew Leader: Bird Monitoring

April 2012 - August 2013 (1 year 5 months)

Sierra Nevada Network (SIEN) - Yosemite and Sequoia-Kings Canyon National Parks

Crew leader/supervisor for two seasons of bird monitoring for NPS and the Institute for Bird Populations.

- Oversaw a 3-person team conducting multi-species avian point-counts for the Sierra Nevada Network (SIEN) Inventory and Monitoring Program.
- Counts were conducted throughout the parks' backcountry, along off-trail transects using GPS and compass for navigation. The work schedule involved extensive time spent camping in the wilderness, backpacking long distances on a daily basis. Basic habitat data at each point count station was also collected.

- Implemented twice daily check-ins to supervisors in the frontcountry from our location in the backcountry using Park Service radio and GeoPro satellite-messaging device.
- My duties as crew leader also included pre-season training of crew in visual and aural avian identification and training in the project protocol and standard operating procedures. During the season I was responsible for managing crew logistics, schedules and maintaining gear during the field season. I was also responsible for managing all the data collected, including data entry and verification.
- Composed the end-of-season field report for the NPS and Institute for Bird Populations.

Institute For Bird Populations

Avian Field Biologist

April 2010 - July 2013 (3 years 4 months)

Sierra Nevada, CA

Various Seasonal Projects across four years:

Conducted Black-backed Woodpecker (a U.S. Forest Service Management Indicator Species [MIS] in Sierra Nevada National Forests) broadcast surveys in burned forest ecosystems of the Sierra Nevada in California in both backcountry and frontcountry contexts.

Assisted in Black-backed Woodpecker radio tracking/telemetry, collecting foraging data as well as monitoring active Black-backed nests and collecting behavioral data. Additional responsibilities included conducting multi-species point counts and assessment of habitat and vegetation at survey locations.

Conducted multi-species avian point counts, comprehensive area searches and single-species broadcast/playback surveys for Willow Flycatcher, Virginia Rail and Sora in various meadow habitats throughout the Sierra Nevada as part of a larger interagency Sierra Meadow Restoration Project. Assessed vegetation, habitat and meadow hydrology at point count locations and survey sites.

Conducted multi-species point counts in Olympic Wilderness, Olympic National Park, WA. Counts were conducted throughout the parks' backcountry, along off-trail transects using GPS and compass for navigation. The work schedule involved extensive time spent camping in the wilderness, backpacking long

distances on a daily basis, often in very snowy conditions. Basic habitat data at each point count station was also collected.

Performed data entry and verification on some projects.

- Trained in mist netting, ageing, sexing and banding passerines through the Institute for Bird Populations' MAPS (Monitoring Avian Productivity and Survivorship) program.

Arizona Game and Fish Department

Avian Field Technician

February 2013 - April 2013 (3 months)

Sonoran Desert, AZ

- Conducted Sonoran Desert breeding bird surveys using spot-mapping and nest-searching on an array of remote desert plots.
- Surveyed for Le Conte's Thrasher using playback/broadcast device.
- Gathered various data on occupied nests. Collected a variety of habitat and vegetation data.
- Followed strict safety protocols associated with working in sensitive and restricted areas along the US-Mexico border.

Education

Bard College

Bachelor of Arts (BA), Film/Cinema/Video and Environmental Studies · (2002 - 2006)

Portland Community College

GIS Certificate, Geographic Information Science and Cartography · (January 2018 - December 2022)

Universidad de Costa Rica UCR

Tropical Ecology and Conservation · (January 2005 - June 2005)



LUP Hearings <lup-hearings@multco.us>

Applicant's First Open Record Period Submission -- T3-2022-16220

Zoe Powers <zpowers@radlerwhite.com>

Mon, May 5, 2025 at 11:47 AM

To: LUP Hearings <lup-hearings@multco.us>

Cc: "Peters, David" <David.Peters@portlandoregon.gov>, Renee France <rfrance@radlerwhite.com>, Zoe Powers <zpowers@radlerwhite.com>

**External Sender** - Be Suspicious of Attachments, Links, and Requests for Payment or Login Information.

Multnomah County Staff,

At this link, please find the applicant's submissions into the record for the First Open Record Period of T3-2022-16220 on remand:

<https://radlerwhite.sharefile.com/d-sc32887acc9964f03b16e192384a89def>

I have personally endeavored to make sure these are all searchable, unlocked/editable, and of a proper size. I understand that in our last submission we missed recognizing that one of the documents was locked by an engineer's stamping procedure and it caused additional work for staff. Please let me know if you have that issue again and I will have the document corrected.

Thank you,

Zoe Lynn Powers

Partner

RADLER WHITE PARKS  **ALEXANDER LLP**
ATTORNEYS AT LAW

Direct Telephone: 971.634.0215

E-Mail: zpowers@radlerwhite.com

Address: 111 SW Columbia Street, Suite 700, Portland, OR 97201

Website: www.radlerwhite.com

Pronouns: She/her

Work Hours: I work normal business hours all days except for Tuesdays. **On Tuesdays, I work until 2:30 PM and then return around 7 PM.** If you have an urgent matter on a Tuesday afternoon between 2:30 PM and 7 PM, please call my legal assistant, Brittany, at 971.634.0216. Brittany will be able to contact me.

We advise you that any discussion of federal tax matters in this email is not intended or written to be used, and may not be used by you or any taxpayer, to (a) avoid penalties under the Internal Revenue Code, or (b) promote, market or recommend to any other party any transaction or matter addressed herein. All taxpayers