

Mark A Anderson, PE

Water Resource Engineer

Education

M.S., Civil Engineering (Water Resources Planning and Management), Colorado State University, 1999
B.S., Civil Engineering, University of Kansas, 1997

Professional Registrations

Professional Engineer: Oregon, 2003 (No. 71844PE); Washington, 2007 (No. 43365)
Professional Water Rights Examiner: Oregon, 2008 (No. 71844WRE)

Distinguishing Qualifications

- Certified Floodplain Manager (Association of State Floodplain Managers, U.S.)
- Designed stormwater management or water quality facilities for more than 40 project sites
- Performed hydrologic or hydraulic evaluations for over 35 river and stream systems

Relevant Experience

Mr. Anderson has more than 10 years of experience in surface water, sanitary, and drinking water system planning, design and construction and has performed a variety of engineering and project management roles. He has acted as design engineer for site utilities, grading, drainage, transportation, environmental, and water resources management tasks and projects. He has completed floodplain and surface water management studies and prepared design reports. He has expertise in water resources systems analysis and optimization, surface water best management practices (BMPs), water quality modeling, hydrologic modeling of large and small watersheds and hydraulic modeling of open channels and piped systems.

Representative Projects

Project Manager; Storm Drainage Master Plan Update; City of McMinnville; McMinnville, Oregon. Prepared an update to hydrologic and hydraulic models, updated capital improvements plan, reviewed pending water quality regulations and recommended strategies to address them.

Task Lead; Water Rights Strategy Development; Confidential Client. Assisting with the evaluation of options and preparing application materials for developing a water right for a 50 GPM to 100 GPM source. The work includes evaluation of water rights options and preparation of water rights documentation.

Task Lead; Anderson Road Improvements; City of Damascus; Damascus, Oregon. Prepared stormwater management construction documents for the first capital project in a newly incorporated City. Sustainable design elements included infiltration planters, porous asphalt paving systems, and natural biofiltration for water quality treatment.

Task Lead; Tualatin Basin Water Supply Project—Draft Environmental Impact Statement and Title Transfer Environmental Assessment; Tualatin Basin Water Supply Partners; Washington County, Oregon. Acting as sub-consultant project manager to provide water quality modeling support and assistance with development of a comprehensive water rights strategy for increased storage, change of operations, and modified downstream diversion for an existing surface water supply reservoir.

Task Lead; Public Facilities Plan; City of Damascus; Damascus, Oregon. Leading the evaluation of existing and future system needs to provide stormwater management services to a newly incorporated community expected to grow from 10,000 to 60,000 in the next 30 years. The Facilities Plan uses an innovative Ecosystem Services approach to identify natural resources that may serve measurable functions for stormwater management. Basin-scale strategies for meeting selected levels of service include onsite controls, best practices, credit trading and incentive programs, and regional facilities improvements.

Curtis L Bagnall, PE

Electric Utility Engineer

Education

B.A., Business Administration, Washington State University, 1972
B.S., Electrical Engineering, Washington State University, 1972

Professional Registrations

Professional Engineer: Alaska, 1985 (No. 6762); Oregon, 1977 (No. 9142); Washington, 1976 (No. 15969)
Wastewater Class II: Georgia, 1999 (No. 1447); Wastewater Grade II: Georgia, 1999 (No. 5045)

Distinguishing Qualifications

- Senior project manager with 34 years of experience, with specific expertise on dam and fish passage projects
- Strong working knowledge of fish passage, structural, civil, mechanical, electrical, geotechnical, and environmental issues at USACE dams

Relevant Experience

Background

Mr. Bagnall is a senior project manager and engineer with over 30 years of experience in planning, analysis, design and construction related to electric utility operations, power supply, transmission, distribution, financing and operations. His experience includes project management, feasibility, permitting and licensing, financing, contract negotiations, design, and services during construction for generation projects; transmission and distribution system planning, design and construction; cost-of-service, revenue requirements, and rate design; preparation of engineer's reports in support of bond sales for distribution, transmission and generation projects; and acting as the Owner's Engineer throughout project development.

Selected Experience

Project Administrator. US Army Corp. of Engineers (USACE) —Portland District, Oregon. Responded to delivery or task orders, assigning project managers, negotiating project scopes and fees, monitoring performance, coordinating invoicing, and managing efforts to remain in compliance.

Project Manager. US Army Corp. of Engineers (USACE) —Fairbanks, Alaska. Responsible for all phases of a comprehensive study to analyze heat and power alternatives for three military bases in central Alaska. The study addressed regulatory, environmental, contractual, technological, fuel supply, and transmission issues associated with a broad range of possible approaches. Several alternatives were then developed in more detail including preliminary project definition, costs estimates and pro-forma financial analyses. Report was produced under the sponsorship of the U.S. Army Assistant Chief of Staff for Installation Management (ACSIM).

Project Manager. **The Dalles Dam North Shore Fishway Hydroelectric Project—Northern Wasco County PUD, Washington.** Responsible for extensive discussion and negotiation with the interested fishery agencies and the USACE on their requirements for fish passage facilities and fish screens.

Project Manager. **McNary Dam Washington Shore Fishway Hydroelectric Project—Northern Wasco County PUD, Washington.** Responsible for extensive discussion and negotiation with the interested fishery agencies and the Corps of Engineers on their requirements for fish passage facilities and fish screens.

Owner's Engineer. **White Creek Wind Project, LLC—Klickitat County, Washington.** Provided project management services the White Creek Wind Project. Responsibilities included preparation of the request for proposals for balance of plant design-build work.

Charles Leavious Blair

Wildlife Ecologist

Education

M.S., Wildlife Biology, South Dakota State University, 1978
B.S., Wildlife Ecology, University of Wisconsin at Madison, 1975

Professional Registrations

Certified Wildlife Biologist: National, 1981

Distinguishing Qualifications

- Extensive experience in rare, threatened, and endangered species surveys for fauna and flora and in agency consultation regarding protected species
- Designed and directed wildlife, habitat assessment, and wetland studies for several large, multi-feature projects
- Worked in shrub-steppe ecosystems for 30+ years, has led successful multi-species Section 7 Endangered Species Act (ESA) consultations, and is very familiar with complex habitat connectivity issues of linear projects (conveyance, transportation, transmission infrastructure)
- Well-versed in leading complex multidiscipline projects and has extensive experience in NEPA, ESA, CEQ, and other local, state, and federal regulations

Relevant Experience

Mr. Blair is a senior ecologist certified by the Wildlife Society and has more than 30 years experience in terrestrial ecology. He has designed numerous wildlife-, habitat-, botanical-, and wetland-related scientific investigations and has conducted evaluations of federal regulatory and review agency programs as they relate to resource management. Mr. Blair has conducted well over 150 wildlife, habitat, and botanical studies in terrestrial, riparian, and wetland communities and has prepared numerous impact assessments for these resources. He has also developed over 50 mitigation plans and designs to avoid, reduce, or compensate for impacts to wildlife and habitat and to meet wetland regulatory requirements.

Representative Projects

Biology Task Leader; I-90 Snoqualmie Pass East Habitat Connectivity Study; Washington Department of Transportation; Washington. This project involved design of the future I-90 project to accommodate connectivity of terrestrial and aquatic ecosystem components. Mr. Blair served as a peer reviewer of design documents and design rationale prepared by WSDOT, the U. S. Forest Service, U. S. Fish and Wildlife Service, and Washington Department of Wildlife.

Idaho 16, I-84 to SH-44 Environmental Study, ITD. Biological task lead and wildlife biologist for the Idaho 16 highway project in southwest Idaho. The project involves species and habitats associated with large rivers and floodplains.

Biological and Physical Science Technical Studies Lead and Wildlife Biologist; Odessa Special Study EIS; U. S. Bureau of Reclamation; Washington. This EIS is evaluating nine alternatives that would replace irrigation groundwater with surface water diverted from the Columbia River. Led all of the physical and biological science elements of the EIS preparation and all associated studies and conducted the wildlife impact analysis. The Odessa Special Study includes about 102,000 acres and is part of the Columbia Basin Project. The overall estimated cost of construction ranges from \$3 to \$4.5 billion.

Brittany Garton, EIT

Hydrology Engineer

Education

B.S., Civil Engineering, Oregon Institute of Technology, 2008

Professional Registrations

Engineer-in-Training: California (No. 131465)

Distinguishing Qualifications

- Broad understanding of civil engineering disciplines which include environmental, geotechnical, transportation, structural, and water resources
- Extensive knowledge on hydroplaning

Relevant Experience

Ms. Garton joined CH2M HILL's Water business group in Portland, Oregon, after graduating with highest honors from the civil engineering department at the Oregon Institute of Technology.

Representative Projects and Dates of Involvement

Staff Engineer; Coeur d'Alene Sediment Transport Model Research; Environmental Protection Agency; Coeur d'Alene, Idaho. Completed extensive research on various sediment transport and hydraulic models. Collected and organized information into two tables for use in choosing the most appropriate, cutting-edge model to model sediment transport in the Coeur d'Alene river.

Staff Engineer; Oregon State Hospital Project; KPFF; Portland, Oregon. Built a model in HEC-HMS and completed hydrologic calculations using TR-55 and Santa Barbara Unit Hydrograph Method to produce a peak flow and runoff volume hydrograph. Calculated for existing and future conditions to show the impact of the development on the watershed.

Staff Engineer; Lebanon Water Treatment Plant Site Selection Study; City of Lebanon; Lebanon, Oregon. Completed analysis and reported results on the suitability of four sites for the proposed water treatment plant in regards to the 100-year floodplain and the issues that would need to be address to build on each site, eventually ending in a recommendation of the site most-suited for building.

Staff Engineer; Salem Crossing Draft Environmental Impact Statement; ODOT; Salem, Oregon. Used drawings of alternatives in Microstation to calculate impervious area and used regulations of the City of Salem and ODOT to design and size detention and water quality facilities to treat runoff generated by each alternative. Eventually to result in providing the required land area needed to treat runoff.

Staff Engineer; Oregon LNG Joint Permit Application; Oregon LNG; Warrenton, Oregon. Collected and organized tables, figures, and appendices that were taken from all of the resource reports. Worked with several different authors to provide the most up-to-date information. Assisted in the organization, editing, and production of the joint permit application and supplement text.

Staff Engineer; City of Damascus Public Facility Plan; City of Damascus; Damascus, Oregon Researched, collected, and organized background information and supporting documents for the inventory portion of the Public Facility Plan. Worked on the stormwater piece of the plan which involved using the Santa Barbara Unit Hydrograph method to construct pre-settlement, existing, and future condition hydrographs; collect existing inventory for mapping exercise; and building a PLOAD model to model the pollutant loading for the existing and future conditions in the new City of Damascus. Used precipitation data to create a typical annual rainfall runoff event and analyzed results.

Mark Greenig, AICP

Senior Planner, Visual Resources Lead

Education

M.U.P., Urban Planning, Texas A&M University, 1985
B.S., Landscape Architecture, California Polytechnic State University, San Luis Obispo, 1978

Professional Registrations

Certified Planner, American Institute of Certified Planners, 1990

Distinguishing Qualifications

- Knowledgeable and experienced in applying visual resource management systems Service to planning efforts and impact assessments such as those developed by Bureau of Land Management and U.S. Forest
- Works well with stakeholder groups to build trust and come to conclusions that meet client needs while reflecting stakeholder concerns
- Discipline lead for multiple NEPA/SEPA/CEQA Environmental Impact Statements that assessed impacts related to forestry, forest health, roads and other types of development in environmentally and politically sensitive lands

Relevant Experience

Mark Greenig is a natural resource planner and landscape architect with 25 years of experience in the design, planning, and management of projects in the natural and built environments. His NEPA experience has focused on determining impacts and mitigation measures related to land use, aesthetics, and recreation resources for projects that include resource management plans, reservoirs, large-scale water delivery systems, timber sales, land exchanges, transmission lines and other linear utility features. Mark worked with Federal Energy Regulatory Commission staff as the lead-author for "Guidance for Shoreline Management Planning at Hydropower Projects," which explains how to conduct planning efforts at reservoirs in a way that reflects multiple resource requirements and the concerns of different stakeholders.

Representative Projects

Visual Resources Technical Discipline Lead; Caribou Transmission Line NEPA EIS; Bonneville Power Administration (BPA); Caribou, Idaho. Examined the visual impacts of a proposed transmission line in eastern Idaho and how to make the line consistent with the scenery management objects of the national forest it would partially pass through. Required working closely with the U.S. Forest Service visual resource staff to ensure consistency with the Forest's Resource Management Plan.

Visual Resource Technical Discipline Lead; Three Current Wind Energy Projects; Confidential Client; Pacific Northwest. Evaluating the potential impacts of three wind projects on visual quality. Developed a Zone of Visual Influence (ZVI) assessment to depict areas within the 30 miles of the sites from which the turbines at the sites would be potentially visible. From that data performed field verification and selected key viewing areas from which to assess potential impacts and develop photo-simulations of the proposed projects.

Visual Resources Technical Lead; Proposed Liquefied Natural Gas Terminal NEPA EIS; Confidential Client; Federal Energy Regulatory Commission (FERC); Washington DC. Developed a detailed visual resource technical report and visual resource section of an EIS. Examined the visual impacts of a proposed LNG terminal facility adjacent to the Columbia River and developed mitigation measures to reduce the impacts. Created visual simulations and a tool for examining different color combinations for the three large LNG storage tanks so that the relative impacts of the color combinations could be compared.

Jay R Lorenz, Ph.D.

Environmental Scientist, Senior Technologist

Education

Ph.D., Resource Geography, Oregon State University, Corvallis, Oregon, 1990
M.S., Zoology, University of Massachusetts, Amherst, 1978
B.A., Biology, Hampshire College, Amherst, Massachusetts, 1973

Professional Registrations

Professional Wetlands Scientist: 1994 (No. 935)

Distinguishing Qualifications

- Professional natural resource scientist with 30 years of experience—15 in wetland consulting in Oregon and Washington
- Has conducted several hundred wetland projects in Oregon and Washington including wetland delineations; state and federal permitting; mitigation landscape design; mitigation installation and monitoring; mitigation banking; endangered plant surveys; and, biological reviews and consultations
- Member of the Oregon Rapid Wetland Assessment Protocol (ORWAP) Technical Advisory Committee, an inter-agency committee making recommendations and reviewing statewide procedures for conducting wetland functional evaluations (2005 and 2008)

Relevant Experience

With 30 years of experience in research, teaching, extension service education, and consulting, Dr. Lorenz has been providing wetland consulting services in Oregon and Washington for 15 years and has worked on several hundred wetland projects. His experience includes employment at Oregon State University where he served as an Extension Specialist directing outreach programs in principles and practices in watershed and wildlife management. His work includes conducting and supervising complex and large-scale wetland projects including delineations on agricultural land, forensic wetland determinations, local wetland inventories, wetland mitigation banking, gas and water pipeline projects, and transportation projects. He has helped clients through the maze of state and federal resource permitting including FERC certification for a natural gas and pipeline facility; mitigation design, installation, and monitoring; and, endangered species consultations.

Representative Projects

Senior Technologist; Willamette Partnership; Willamette River Watershed. Provided support in identifying riparian plants that can be used to create shading and credits to off-set thermal loads to rivers and streams in the Willamette Valley. Plant lists and planting protocols developed by Clean Water Services were used as a model for the entire watershed.

Project Manager; Cascade View Development; Corvallis, Oregon. Managed a wetland delineation study on 700 acres of relatively flat farmland in the mid-Willamette Valley. Designed and supervised soil survey. Designed and supervised the installation of 100 shallow groundwater monitoring wells. Sub-contracted, site specific, one-foot contour interval topographic mapping using LiDAR technology. Supervised and provided senior review of field data and the final report.

Senior Technologist; Coal Creek Parkway; City of Newcastle; Newcastle, Washington. Tasks included preparing final stream and riparian restoration plans for a reach of Boren Creek. Work also included preparing special specifications for the bid package.

Kurt Lyell

Renewable Energy Engineer

Education

B.S., Mechanical Engineering, University of Texas

Distinguishing Qualifications

- Twelve years of engineering experience in energy, semiconductor, and manufacturing industries
- Six years of engineering and business experience in renewable energy including engineering, consulting, technical support, PV design, owner engineer consulting, PV conceptual layouts, and economic analysis experience

Relevant Experience

Mr. Lyell is an experienced mechanical engineer with twelve years of experience, with multiple years in renewable energy focused full time on solar photovoltaics and other alternative energy technologies. His related experience and skills include: supporting key clients with renewable energy engineering projects; providing consulting engineering and technical assistance to the Department of Energy Solar America Cities Initiative; and supporting large industrial clients with carbon reduction and renewable energy initiatives.

Representative Projects

City of Portland Solar Analysis, Portland, OR. Consulting engineer for a City of Portland scoping exercise related to renewable energy supply of an Ultraviolet water treatment facility. Performed a conceptual layout of a solar system on city-owned property, preliminary pricing estimates, incentive research, economic analysis, and other studies related to a solar PV project at the proposed treatment facility.

Gwinnette County Renewable Energy Workshop, Atlanta, GA. Consulting engineer for a Gwinnette County scoping exercise related to renewable energy supply of an existing water treatment facility. Presented solar information such as economic analysis and capacity potential/output modeling based on available land and roof areas at the facility. Solar information was presented as part of a two-day workshop also including landfill gas, digester gas, wind, cogeneration, and other generation strategies.

MASDAR Initiative, Masdar, United Arab Emirates. Project Engineer, Renewable Energy Program Management. Provide engineering support for a zero-emission city in the United Arab Emirates. Support includes solar PV output estimates, shading analysis, review Concentrating Solar Power technology briefs, bid review for parking carport, and go/no-go project support for an on-site biodiesel project.

DOE / Solar America Initiative, San Jose, CA. Project Engineer, Technical Support for Solar Showcase City. Provide technical support to the Solar America Initiative supporting a 2008 Solar Showcase City: The City of San Jose, California. Assisted city of San Jose staff in assessing multiple publically-owned facilities for solar potential. Solar technology included: solar photovoltaics (PV), concentrating solar power (CSP), concentrating solar PV (CPV), tracking technologies, and developmental solar technologies. Facilities included a landfill, a water treatment plant, a parking garage, a convention center, a multipurpose arena, a museum, a recycling center and a city maintenance facility. Systems ranged in size from 15kW to 7 MW. Scope of work included high level analysis of solar potential, solar output estimates, interconnection analysis, cost estimates, and financial analysis for each site.

Robin D McClintock

Cultural Resource Specialist

Education

B.S., Anthropology, Oregon State University, 1981

Distinguishing Qualifications

- 20 years experience designing and conducting cultural resource surveys and site evaluations
- Expertise in compliance with the National Environmental Policy Act (NEPA), Washington State Environmental Policy Act (SEPA), and the National Historic Preservation Act and Executive Order 11593, Oregon Energy Facility Siting (EFSC)
- Has prepared cultural resource mitigation and site management plans, and determinations of National Register eligibility

Relevant Experience

Mr. McClintock is a cultural resource specialist and project consultant who is responsible for directing and conducting cultural resource projects for CH2M HILL. He has experience in prehistoric archaeology, cultural anthropology, historic research, and historic preservation. He has been extensively involved in preparing cultural resource surveys and site evaluation reports in compliance with the National Environmental Policy Act, the National Historic Preservation Act, Executive Order 11593, and the Washington State Environmental Policy Act.

Having designed and conducted cultural resource surveys for more than 50 projects, Mr. McClintock has prepared cultural resource mitigation and site management plans, and determinations of National Register eligibility. He has recorded and evaluated a wide range of historic and prehistoric resources, including Native American, mining, ranching, transportation, and governmental properties.

Representative Projects

Cultural Resources Task Leader; Sellwood Bridge Project; Portland, Oregon. Coordinating historic built environment research and evaluation and archaeological research and evaluation. Requires direct consultations with ODOT and Multnomah County.

Cultural Resources Task Leader; Salem Willamette River Crossing; Salem, Oregon. Cultural resources task leader for historic built environment and archaeology for construction of new bridge over the Willamette River. Consulting directly with ODOT.

Cultural Resources Task Leader; Council Creek – Quince (Highway 47 Bypass) Project; Washington County, Oregon. Prepared NEPA Environmental Assessment for all resource disciplines, successfully guiding the document through multiple iterations of ODOT review and concurrence. Conducted consultations with Oregon Department of Transportation and FHWA.

Principal Investigator; Archaeological Excavations at 35WN43 (Beef Bend / Elsner / Scholls-Sherwood Roadway Project); Washington County, Oregon. Principle Investigator for data recovery excavations for Washington County road improvement project, in consultation and cooperation with USFW and Washington County.

Principle Investigator; Leaning Juniper Wind Project; PPM Energy, Inc.; Gilliam County, Oregon. Led cultural and archaeological investigations for the siting of a Wind Power Project in Gilliam County, Oregon. Included preparation of technical report and Exhibit S of the EFSC application.

Peggy O'Neill

Environmental Scientist

Education

M.S., Environmental Sciences and Resources, Portland State University, 1999

B.A., Portland State University, 1992

B.S., Earth Science, Western Oregon University, 1975

Professional Registrations

Professional Wetland Scientist, (Society of Wetlands Scientists, 2005)

Distinguishing Qualifications

- Extensive experience preparing federal, state (Oregon, Washington) and local permits for removal-fill activities, including use of SLOPES programmatic biological opinion process
- 11 years of experience conducting biological investigations including riparian corridor assessments, wetland delineations, vegetative analyses, botanical surveys, habitat assessments, and threatened and endangered species evaluations
- Develops action plans for protection of wetland, riparian, and stream habitat from impacts associated with urban developments; federal, state, and local highway improvements; and renewable energy projects
- Experience performing environmental monitoring during construction phase of projects

Relevant Experience

Peggy O'Neill has 11 years of experience conducting biological investigations. Biological investigations include riparian corridor assessments, wetland delineations, vegetative analyses, and threatened and endangered species evaluations, and plant surveys including sensitive species and noxious weeds. Ms. O'Neill has extensive experience in riparian and wetland habitat assessment and in protocol-level surveys for sensitive plant species. She has been integral in developing action plans for protection of riparian, stream, and other sensitive habitats from impacts associated with urban development, highway improvements including bridge replacements, and siting of wind energy facilities. Her responsibilities include public presentation of study results to coordinating agencies as well as to citizen groups.

Representative Projects

Project Botanist/Wetlands Scientist. Bighorn Wind Power Project, PPM Energy, Bickleton Washington. Conducted protocol-level surveys for threatened and endangered plant species identified as potentially occurring in the vicinity of the project area. Purpose of the survey was to facilitate siting of wind turbines for generation of electric power. Facilitated site meetings with agency personnel to identify potential natural resource issues and options for avoidance, minimization, and potential mitigation for impacts. Performed delineation of wetlands and jurisdictional waters within the project area. Coordinated with PPM staff to site wind turbines, underground cables, and access roads to minimize and/or avoid impacts to sensitive species and habitats.

Wetlands Scientist/Project Botanist/Permit Specialist, Leaning Juniper Wind Power Project, Arlington, Oregon. Conducted protocol-level surveys for threatened and endangered plant species identified as potentially occurring in the vicinity of the project area. Facilitated site meetings with agency personnel to identify potential natural resource issues and options for avoidance, minimization, and potential mitigation for impacts. Performed delineation of wetlands and jurisdictional waters within the project area. Coordinated with PPM staff to site wind turbines, underground cables, and access roads to minimize and/or avoid impacts to sensitive species and habitats. Prepared and facilitated acquisition of Joint Permit Application for impacts to wetlands and waters for Phases 1 and 2 of the project.

Forrest Parsons

Wetlands Scientist

Education

M.Ed., Biology, Portland State University, 2005

B.A., Biology, University of Iowa, 1998

Distinguishing Qualifications

- 9 years of experience as lead environmental inspector, environmental inspector and biological monitor on small to multimillion-dollar projects for the transportation, energy transmission, natural gas, and telecommunications industries
- Experience leading and conducting field surveys and construction monitoring and oversight on construction activities in accordance with National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), Endangered Species Act (ESA), Clean Water Act (CWA), (National Pollutant Discharge Elimination System [NPDES] and Section 404) state and federal permit requirements

Relevant Experience

Forrest Parson is a staff scientist with CH2M HILL's Industrial Systems Business Group in Portland, Oregon. He has more than 9 years of experience in environmental field work, monitoring, and permitting. Forrest has performed hundreds of wetland delineations in accordance with the 1987 U.S. Army Corps of Engineers (USACE) wetland delineation guidelines, rare plant, and wildlife surveys. In addition, he has compiled multiple federal, state, and local permits for small- to large-scale projects. He recently completed two Pacific Gas and Electric Company (PGE) transmission line projects under budget and ahead of schedule (2008).

Representative Projects

Wetland Scientist; Walla Walla-McNary Transmission Line Project; PacifiCorp; Oregon and Washington.

Performed wetland delineations according to 1987 USACE wetland (2007-2009) delineation guidelines, and 2008 Arid West Supplement for a 54-mile-long 230kV transmission line.

Environment Scientist; Tillamook Transportation Refinement and Gibbs Street Overpass Projects; Oregon Department of Transportation (ODOT); Tillamook and Portland, Oregon. Developed several local, state, and federal reports and permits for transmission line, pipeline and transportation projects including Clean Water Services (CWS) Site Assessment documentation, Oregon Department of State Lands (DSL) Wetland Delineation Report and Removal Fill permits, USACE Wetland Delineation Reports and Section 404 permits, DSL and USACE JPA permits, ESA permits and documentation, Coastal Zone Management Act (CZMA) consistency documents, NPDES permits, Conditional Use Permits.

Wetland Scientist; Glenrock Wind Energy Development; PacifiCorp; Oregon. Performed wetland delineations according to 1987 USACE wetland delineation guidelines, and 2008 Arid West Supplement for a potential wind farm.

Project Scientist; Wind Energy Fatal Flaw Reports (6); Iberdrola Renewables; Oregon and Washington.

Identified potential fatal flaws (for example, environmental, land use) for potential wind energy development areas throughout Oregon and Washington.

Lead Wetland Scientist; Ridder Road, St. Mary-Trojan, Wilsonville-McLoughlin, Pleasant Valley, and 65th Avenue Transmission Line Projects; Pacific Gas and Electric Company; Oregon. Performed wetland delineations according to 1987 USACE wetland (2007-2009) delineation guidelines and the 2008 Western Mountains, Valley and Coast Region Supplement for multiple small to medium sized transmission line developments.

Nichole M Seidell

Project Manager

Education

M.S., Bioscience and Biotechnology, Drexel University, 2002

B.S., Biology, Chestnut Hill College, 1995

Distinguishing Qualifications

- Writes expanded SEPA Checklist Document and prepares Conditional Use Permit (CUP) applications for wind and solar projects in Oregon and Washington
- Performs wetland delineations and functional assessments for wind, solar, and transportation projects in Washington and Oregon
- Prepares FAA applications for wind and solar projects
- Prepares Wetland Delineation Technical Reports, Joint Permit Applications (Oregon), and JARPA applications (Washington) for agency submittal
- Experienced in permitting efforts for environmental and transportation projects and performing environmental and biological surveys at the federal and local levels
- Background managing environmental permits for both existing and new development activities and coordinated with various state, local, and federal agencies through the permitting process

Relevant Experience

Nichole Seidell has a total of 15 years in the environmental permitting and consulting field. She has 9 years of experience assisting permitting efforts for environmental and transportation projects and performing environmental and biological surveys at the federal and local levels in Oregon, Washington, and California. Prior to joining CH2M HILL, she managed environmental permits for existing and new developments and coordinated with various state, local, and federal permitting agencies for the Port of Vancouver, Washington.

Representative Projects

Assistant Project Manager; Seven Mile Hill Wind Farm; PacifiCorp; Wyoming. Assistant project manager for Wyoming wind power project. Lead role coordinating wetland, cultural studies, facility layout, associated reports, and facility permit applications.

Project Manager; Biglow Canyon Wind Farm; Portland General Electric (PGE). Project manager for cultural, wetland, and biological studies for wind farm.

Wind Power Project; Confidential Client; Washington. Project manager for visual assessment analyses for Washington wind power project.

Lead Author; Fatal Flaw Analyses; Confidential Client; Oregon and Washington. Lead author for fatal flaw analyses of six potential wind farm sites in Oregon and Washington. Analyses included key land use, permitting, biological, visual, and other factors that could potentially impede development of wind farm sites.

Permitting and Construction Compliance Lead, I-5 Clarks Branch to Tunnel Mill Race Design-Build Project, ODOT. Responsible for securing state and federal permits for construction of replacement bridges in wetlands and waters. Was first time use of OTIA III Programmatic Environmental Permits. Manages environmental compliance program. Coordinates with the program managers (Oregon Bridge Delivery Partners), subcontractors, and regulatory agencies on compliance and permitting related issues. Attends design reviews to ensure bridge and road design are consistent with environmental regulations.

Jim Sharpe

Archaeologist

Education

M.S., Resource Management, Central Washington University, 1997
B.S., Anthropology, Central Washington University, 1994

Distinguishing Qualifications

- Archaeological experience in Washington, Oregon, California, Colorado, Idaho, Alaska, and Nevada
- Extensive experience building trust as a liaison to numerous Native American tribal groups in the Pacific Northwest
- Expertise in archaeological survey, excavation methods, historical research, technical report writing and National Register of Historic Places eligibility assessments

Relevant Experience

Mr. Sharpe has 15 years of cultural resources experience in Washington, Oregon, California, Idaho, Nevada, Colorado, and Alaska. He has extensive and unique experience with prehistoric and historic sites. His experience includes cultural resource support at the Department of Energy's Hanford Site and several states. This experience includes completion of cultural resource reviews for compliance of Section 106 of the National Historic Preservation Act, historical research, site inspection, archaeological survey, site monitoring, research designs, subsurface testing, excavation, site evaluations, laboratory analysis, technical report writing, and tribal liaison with numerous Native American tribes.

Mr. Sharpe has extensive experience with the prehistoric and historic cultural resources from his work in several states. His primary experience is in the Columbia Plateau. He has extensive experience with historic agriculture and has authored numerous articles and technical reports on archaeological and historical topics.

Representative Projects

Cultural Resources Investigation for Well Decommissioning Project. Archaeological survey and technical report for the U.S. Department of Energy, 2010.

Cultural Resources Investigation for the Characterization and RTD Activities for the 200-MG-1 Waste Sites Project. Archaeological survey, technical report and monitoring for the U.S. Department of Energy, Richland, Washington, 2010.

Cultural Resources Investigation for the 100-HR3 OU and DR-5 System Enhancement Project. Archaeological survey, shovel probes and technical report for the U.S. Department of Energy, Richland, Washington, 2009.

Cultural Resources Investigation for the Port Townsend Wastewater Treatment Plant Outfall Replacement Project. Archaeological survey and shovel probes for the City of Port Townsend, 2009.

Cultural Resources Investigation for the Gales Addition Reservoir Project, Clallam County, Washington, for the Clallam County Public Utility District No. 1. Port Angeles, Washington, 2009.

Cultural Resources Investigation for the 100-HR-3 Resource Process Optimization Wells, Benton County, Washington (HCRC#2010-100-007). CHPRC, Hanford Site, Richland, Washington, 2009.

Cultural Resource Review for the Characterization and RTD Activities for the 200-MG-1 Waste Sites 600-220, 600-222, 600-226, 600-228 and 600-281, Benton County, Washington. CHPRC, Hanford Site, Richland, Washington, 2009.

Renee Storey

Biologist

Education

B.S., Wildlife Biology, University of Georgia, 2003
Wetland Delineation Training, Portland State University, 2007

Distinguishing Qualifications

- Conducts biological surveys including rare and endangered plant and animal surveys, and stream assessments
- Assists with technical writing Environmental Impact Statements (EIS), Biological Assessments (BA), and resource reports
- Conducts routine wetland delineations
- Conducts Total Maximum Daily Load (TMDL) and other state- and federally-mandated water quality monitoring
- Manages and organizes field data and databases
- Completes quarterly and annual monitoring reports for clients

Relevant Experience

Renée Storey is a biologist with more than 7 years of experience conducting environmental and biological surveys at the federal and local levels. Prior to joining CH2M HILL, she spent 3 years conducting avian, mammal, fish, and aquatic macroinvertebrate surveys. Since joining CH2M HILL, she has continued to conduct wildlife, plant and stream surveys. She is adept at biological field surveys, technical writing, and data analysis. Renée is qualified to conduct various types of biological surveys to detect presence and abundance of wildlife species. She has prepared protected species survey reports, water quality compliance reports, and annual monitoring reports. She regularly contributes technical writing for EIS, BA and resource reports for project permit compliance. In addition, she is experienced operating YSI, Hydrolab and ISCO water quality samplers, Trimble and Garmin GPS units and Smith Root backpack electrofishers. Renée is a skilled biologist with experience completing projects in a cost efficient and timely manner.

Representative Projects

Biologist; Ecological Services Evaluation; City of Damascus; Damascus, Oregon. Evaluating the ecological services provided by the land recently incorporated into the city of Damascus urban growth boundary. Participating in meetings to determine the process for valuation. Preparing technical memoranda and maps related to the valuation of ecological services. Conducting site visits.

Biological Surveys; Central Idaho; U.S. Air Force. Biological surveys of the Greater Sage Grouse lek, avian point count, and raptor surveys on Air Force base lands in Idaho.

Biologist; Biological Surveys; Eastern Oregon and Eastern Washington. Conducted biological surveys for a proposed transmission line project in eastern Oregon and Washington. Surveys conducted include avian point counts, rare mammals (Washington Ground Squirrel), reptile and amphibian presence or absence, and habitat mapping. Assisted in report preparation.

Biological Surveys; Boise River Basin, Idaho. Conducted bat surveys for a road construction project along the Boise River.

Nathan Williams, PE

Associate Engineer

Education

B.S., Civil Engineering, Gonzaga University, Spokane, Washington, 2003

Professional Registrations

Professional Engineer: Oregon, 2009 (No. 81700PE)

Certified Erosion and Sediment Control Lead (CESCL): Washington, 2007

Distinguishing Qualifications

- Experience on site remediation projects with focus on stormwater and erosion control
- Experience inspecting large-scale construction sites for adherence to erosion, sediment, and stormwater pollution plans

Relevant Experience

Mr. Williams works on site remediation and construction projects, with a primary focus on stormwater and erosion control. He prepares erosion and sediment control plans for a variety of construction and remediation projects, including plans for linear projects (power distribution systems, pipelines, and road construction) and other projects requiring NPDES permit coverage. Mr. Williams inspects large-scale active construction sites to verify that the prepared erosion and sediment control plans, or stormwater pollution prevention plans, are adhered to during construction.

Representative Projects and Dates of Involvement

Project Engineer; Herman Road Expansion; City of Tualatin; Tualatin, Oregon. Responsible for preparing the erosion and sediment control plan for construction of two phases of road expansion.

Project Engineer; Anderson Road; City of Damascus; Damascus, Oregon. Responsible for preparing the erosion and sediment control plan for construction of a newly planned road.

Project Engineer; East Parkcenter Bridge; Ada County; Idaho. Responsible for reviewing weekly erosion and sediment control inspections, and providing on-call support for various Best Management Practices (BMPs) implementation needs during construction of a new bridge over the Boise River.

Project Engineer; Teanaway Solar Reserve; Cle Elum, Washington. Responsible for preparing the construction stormwater pollution prevention plan (SWPPP), and necessary materials to obtain an individual NPDES permit for a proposed solar reserved located in Cle Elum.

Project Manager; Underground Injection Control (UIC) Compliance; Pacific Power; Idaho, Oregon, Utah, and Washington. Performing site inspections at various industrial facilities to determine the presence of UICs within the facility. At the completion of the assessment, responsible for preparing the necessary permits, sampling plans, and recommendations for retrofitting the existing stormwater conveyance system. Also oversees and reviews site inspections performed by team members of this project.

Project Manager; Erosion and Sediment Control Site Inspections; Iberdrola, Central Oregon and Washington. Performing site inspections during construction of various wind facilities with regular visits to active construction sites to assess the functionality of installed Best Management Practices (BMP). Also oversees and reviews inspection performed by team members of this project.

Fatuma Yusuf, Ph.D.

Socioeconomics Task Lead

Education

Ph.D., Agricultural Economics, Washington State University
M.S., Statistics, Washington State University
M.A., Agricultural Economics, Washington State University
B.S., Range Management, University of Nairobi, Kenya

Relevant Experience

Dr. Yusuf is an economist and statistician. She has conducted economic analyses for energy, water quality, agriculture, transportation, recreation, and water projects; evaluated project feasibility; and assessed economic impacts associated with project implementation. She has experience in preparing the socioeconomic analysis for power plant permitting and other environmental documents, regional economic impact analysis, cost-benefit analysis, and rate impact analysis. She also has experience in the development of statistical predictive models for condition assessments involving pipeline deterioration and factors leading to pipeline deterioration.

Representative Projects

Ivanpah Solar Electric Generating System (Ivanpah SEGS), San Bernardino County, California.

Socioeconomics Task Lead. Prepared the socioeconomic analysis section of the AFC. Also analyzed the regional economic impacts of the project on employment and income.

Applications for Certification, Numerous California Energy Projects (incl San Francisco Electric Reliability Project in San Francisco; Walnut Energy Facility in Turlock; Eastshore Energy Project, Hayward; and South Bay Replacement Project, Chula Vista). Economics Task Lead. Prepared the socioeconomic analysis section of the AFC. Also, analyzed the regional economic impacts of the project on employment and income.

Economic Analysis for the Calpine LNG Facility and Power Plant in Eureka, California.

Project Manager. Provided screening-level economic, socioeconomic and fiscal impact analyses of the construction and operation associated with the Calpine LNG and Power Plant Projects in Eureka, California.

Socioeconomic Study Plan for the SMUD Upper American River Project Iowa Hill Pumped Storage Development Project. Socioeconomic Task Lead. Prepared the socioeconomic study plan and evaluated the socioeconomic impacts associated with the Iowa Hill Pumped Storage Development Project as part of the SMUD Upper American River Project Hydroelectric relicensing application. Also, analyzed the regional economic impacts of the project on employment and income.

Revision of SMUD Upper American River Project Socioeconomic Impact Study Report. Socioeconomic Task Lead. Prepared Revision 1 of the SMUD UARP Socioeconomic Impact Study Report on the SMUD Upper American River Project Hydroelectric relicensing. Revision 1 involved the verification of the study conducted by CSUS. Also, analyzed the regional economic impacts of the project on employment and income.

Agricultural Impact Study of the PacifiCorp's Hydroelectric Power Project. Analyzed the socioeconomic and regional economic impacts associated with the increased energy costs faced by Klamath irrigators. Prepared the regional economic impact report.

Industrial Siting Application, Numerous Wyoming Energy Projects (incl. Medicine Bow Coal to Liquid Project, Wygen III Unit 5, Seven Mile Hill and Glenrock Wind Energy). Analyzed the regional economic impacts of the projects on employment and income.