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Engineering & Scientific Consulting

Meghan Walter, M.S., P.E.

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Professional Profile

Meghan Walter is a civil and environmental engineer with more than 20 years of experience leading complex water resource and infrastructure projects across the U.S. Her work involves solving multifaceted water resource problems in challenging regulatory environments while balancing the needs of ecosystem services.

Ms. Walter's background spans dam rehabilitation, flood protection, habitat restoration, and environmental compliance, with expertise in hydrology, hydraulics, water resources, and dam safety. She specializes in surface water hydrology, rainfall-runoff modeling, one- and two-dimensional water surface profile modeling, remote sensing, fluvial geomorphology, fish passage, and water quality.

She has extensive experience evaluating altered watershed responses to extreme weather events, including flooding, wildfire, and slope stability issues. Ms. Walter also has expertise in evaluating engineering design and construction documentation for compliance with design standards and industry regulations. She is recognized for translating complex technical findings into clear, actionable conclusions for stakeholders, utility districts, regulators, legal counsel, and policymakers. Ms. Walter is a licensed civil engineer in Oregon.

Academic Credentials & Professional Honors

M.S., Civil and Environmental Engineering, Tufts University, 2010

B.S.E., Civil Engineering, University of Iowa, 2004

Licenses and Certifications

Professional Engineer Civil, Oregon, #93367PE

Academic Appointments

Instructor, Review Course for the Principles & Practice of Engineering (PE) Exam in Civil: Water Resources & Environmental Engineering Discipline, Kaplan North America, 2025 - present

Prior Experience

U.S. Department of Agriculture - Natural Resources Conservation Service (USDA-NRCS)

- Regional Environmental Engineer, West National Technology Support Center, Portland OR, October 2019 – February 2026

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- State Hydraulic Engineer, Oregon State Office, Portland OR, March 2010 - October 2019

- Civil/Hydraulic Engineer, Rhode Island State Office, Providence RI, June 2006 - March 2010

- Civil Engineer, Area Office, Williamsburg IA, March 2005 - June 2006

Professional Affiliations

Association of State Dam Safety Officials, Dam Failures & Incidents Committee

United States Society of Dams

Publications

Vogel, Richard M., Chad Yaindl, and Meghan Walter, 2011. "Nonstationarity: Flood Magnification and Recurrence Reduction Factors in the United States." Journal of the American Water Resources Association (JAWRA) 47(3):464-474. DOI: 10.1111/j.1752-1688.2011.00541.x

Presentations

Walter, M., Alvi, I., and Manwaring, R. Warnings Unheeded: The Tale of the Merriespruit Tailings Dam Disaster. Presented at the 2024 ASDSO Conference, Denver, CO, September 23-25, 2024.

Walter, M., and Johnson, D. Cracking Up: The Story of the 2014 Wanapum Dam Incident. Presented at the 2024 ASDSO Conference, Denver, CO, September 23-25, 2024.

Walter, M., Bentivoglio, A., Dawson, M., & Markov, J. Clear Branch Dam: A Case Study on Dam Rehabilitation in the American West. Presented at the 2023 International Commission on Large Dams (ICOLD) Annual Symposium, Gothenburg, Sweden, June 10-16, 2023.

Walter, M., and Markov, J. Dam Rehabilitation and the Perpetuation of Human Factors across Time and Space. Presented at the 2020 ASDSO Conference, Online, September 21-25, 2020.

Walter, M., Gillilan, J., and John Markov, J. Physical and Human Factors in a Spillway Failure: A Case Study on Clear Branch Dam. Presented at the 2019 ASDSO Conference, Orlando, FL, September 8-10, 2019.

Walter, M., and Vogel, RM. "." Presented at the 2nd Joint Federal Interagency Conference, Las Vegas, NV, June 27 - July 1, 2010.

Project Experience

Served as Project Manager for the planning and design phases of a large-scale rehabilitation of a high hazard embankment dam with hydropower generation in the Pacific Northwest. Led interdisciplinary team of engineers, geologists, biologists, and environmental scientists in developing an Environmental Impact Statement, conducting subsurface investigations and preparing detailed engineering designs to mitigate excessive seepage, slope instability, and seismic hazards. Collaborated with stakeholders to balance engineering performance, environmental protection, operational reliability, and budget throughout project development.

Led a post-wildfire flood risk assessment for residential areas in central Washington to evaluate changes in watershed hydrology and debris flow potential. Developed and calibrated flood risk models to quantify

altered runoff response and assess flood and sediment hazards to homes, roadways, and critical infrastructure.

Served as a subject matter expert in hydrology and hydraulics for a forensic engineering investigation into a post-wildfire debris flow incident at a high hazard debris basin in California. Performed detailed site investigations to document geomorphic and hydraulic conditions, collect field measurements, and compile physical and historical data. Analyzed hydrologic and hydraulic processes governing debris mobilization and basin performance under extreme runoff conditions.

Conducted technical and economic analyses of concrete design codes and their impact on construction costs for large-scale animal waste storage facilities to inform a federal agency's design policy. Evaluated and synthesized structural and environmental standards to assess design criteria and cost implications. Developed standardized design models for typical facility types and performed economic impact assessments to quantify how variations in code requirements influenced construction costs.

Served as a Project Manager for $2 million in emergency repairs to address flood damage, erosion, and debris deposition in Oregon. Directed environmental compliance and engineering design for twelve projects addressing slope instability and debris hazards threatening residences, transportation networks, and critical community infrastructure. Engaged with municipalities and public officials and provided technical briefings in response to Congressional inquiries. Monitored construction activities to verify compliance with engineering design, and certified completed projects for payment ensuring quality, safety, and regulatory compliance.