



EDUCATION

Ph.D. Resource Geography, Oregon State University
M.S., Zoology, University of Massachusetts
B.A., Hampshire College
Continuing Education-Basic and Advanced NEPA

PROFESSIONAL REGISTRATIONS & MEMBERSHIPS

Society of Wetland Scientists
National Association of Environmental Professionals

EXPERIENCE

Senior Ecologist, Cascade Environmental Group, LLC,
Portland, Oregon, June 2017 – Present (Part-time)
Principal Technologist, CH2M, Portland, Oregon, October 2005
– September 2016
Wetland Consultant, 1992-2005
Extension Service, Dept. of Geography Instructor, Oregon
State University, 1984-1992
Research Assistant, Hampshire College, 1978-1984

QUALIFICATIONS

Dr. Lorenz has over 30 years of experience in consulting, Extension Service education, teaching, and research. He provides senior level biology leadership, strategic advising, and review to projects in multiple market segments and industries. His consulting practice focuses on multi-step and interdisciplinary project planning and permitting including critical issues analysis, development and analysis of alternatives, biological field studies, and evaluations and assessments. He has organized and participated in hundreds of inter-agency meetings, representing clients as the principal point of contact with agencies.

Dr. Lorenz has worked in many market segments: fossil and renewable energy; pipeline; water; transportation; transmission; and mine closures. He has expertise and experience in the following: Preparing, supervising, and reviewing (QA/QC) resource reports; biological assessments for Endangered Species Act (ESA) and Section 7 Consultation; National Environmental Protection Act (NEPA)-Categorical Exclusion, Environmental Assessment, Environmental Impact Statement; Migratory Bird Treaty Act (MBTA) plans and compliance; Marine Mammal Protection Act (MMPA) compliance; Bald and Golden Eagle Protection Act (BGEPA) plans and compliance; wetland delineations (Clean Water Act); state and federal Section 404/10 wetland permitting, mitigation and restoration plans, and banking; Section 401 permitting; Section 408 permitting; Federal Energy Regulatory Commission (FERC) licensing; Oregon Energy Facilities Siting Council (EFSC); and preparing oral and written expert witness testimony.

SELECTED PROJECTS

C800 Emergency Communication Facilities, Mt. Hood National Forest, October 2017 to present. Project manager and author preparing NEPA documentation (Categorical Exclusion and Environmental Assessment) for four proposed emergency communication facilities. Major issues include visual resources and rare plants. Serves as primary point of contact with Forest Service.

Eagle Point Subdivision, Astoria, OR May 2018 to present. Project manager preparing NEPA compliance document (EA) for installation of utilities in a road right-of-way on Department of Labor land.

Tillamook Public Utility Commission, Tillamook, Oregon, January 2011 to September 2016. Senior biologist for a proposed seven-mile electric transmission line. Senior review and supervision for wetland, wildlife, rare plant studies, and permitting. Reviewed client's MBTA Protection Plan for its applicability to the proposed project. Prepared scopes of work and budgets.

Salem Bridge Crossing, ODOT, August 2016 to September 2016 Senior biologist reviewing and editing conceptual mitigation plans for final EIS (NEPA).

Mine Closures, Freeport McMoran, UT/CO, May 2016 to September 2016. Senior technical consultant regarding field documentation of biological resources and preparation of Environmental Assessment (NEPA). Primary species issues at mine closings were bats and to a lesser degree kit fox, burrowing owl, and prairie dogs.



PacificPower, McNary to Walla-Walla Transmission Line, March 2016 to September 2016. Senior biologist updating habitat mapping, Washington ground squirrel surveys, and project impacts to comply with Oregon Department of Fish and Wildlife Habitat Mitigation Policy. Develop strategy for Washington ground squirrel field surveys and senior review field report. EFSC permitting process. Coordination with client and client's attorneys.

Confidential Wind Project-Columbia Basin, Oregon, April 2016 to September 2016. Senior biologist managing wildlife studies. Primary issue was state-threatened Washington ground squirrels.

Chugwater Wind Farm, Wyoming, NextEra, April 2016 to September 2016. Senior biologist and strategic advisor for permitting state Industrial Siting Council. Primary species issues were sharp-tailed grouse, potential impacts to migratory birds, and golden eagle management. Senior review of sub-consultants conducting avian surveys.

Confidential Solar Projects, Central/Eastern Oregon, April 2016 to September 2016. Senior biologist for wetlands, wildlife, and local permitting for several proposed projects with several different developers. Greater sage grouse an issue at one site. More than one potentially of a size to require EFSC permitting process. Prepared scopes and budgets for biological studies. Reviews critical issues analyses. Coordinated with client and client attorneys on permitting issues.

LNG Development, LLC and Oregon Pipeline Company, LLC (d.b.a. Oregon LNG) and Inter-related Washington Expansion Project, March 2007 to April 2016. Environmental Task Manager Oregon LNG project, a project that involved an LNG Terminal in Warrenton, Oregon, 86 miles of pipeline and inter-related inter-dependent upgrades to 140 miles of pipeline in western Washington (Washington Expansion). Supervised and co-authored FERC resource reports, the basis for FERC's Environmental Impact Statement (NEPA). Co-author and supervised preparation of applicant's biological assessment for Section 7, Endangered Species Consultation, a 1,000+ page document that assessed over three dozen listed species of fish, wildlife, and rare plants. Supervised field and greenhouse studies for design of a 150-acre estuarine wetland restoration site in Youngs Bay. Served as primary point of contact with agencies for biological issues and participated in over 200 inter-agency meetings with local, state, and federal agencies in Oregon and Washington. Provided expert testimony at local land use hearings.

Troutdale Energy Center, Multnomah County, OR, July 2012 to January 2016. Biology Task Leader for proposed 652 MW gas powered electric plant in Troutdale, OR. Supervised wetland and avian surveys, habitat mapping, and habitat mitigation planning to comply with ODFW Habitat Mitigation Policy. Conducted raptor nest survey. Drafted expert witness testimony for use in a contested case hearing regarding potential effects of noise on birds.

FEMA, Southern Flow Project, Tillamook, OR, March 2014 to June 2015. Biology Task Leader, EIS/NEPA analysis. Project involved modifications to flood control levees to restore historic wetland habitat to over 500 acres in the tidal floodplain. Major biological issues involved analyzing potential consequences to wetlands, fish habitat, and potential marbled murrelet habitat.

Confidential Client, LNG Project, Tacoma, WA, October 2012 to 2015. Senior biologist supervising biological documentation for inclusion in supplemental EIS and Biological Assessment for Endangered Species Consultation. Species included salmon and marine mammals.

E.ON, Brush Canyon Wind Project, Central Oregon, 2011 to 2015. Senior technical consultant, coordinating with ODFW on habitat mapping, big game range, and habitat mitigation to comply with ODFW Habitat Mitigation Policy for a proposed 223 turbine project on 76,000 acres. Senior reviewer of Exhibit P, Fisheries and Wildlife Habitat, for EFSC application.

NextEra, North Sky River Wind Project, Kern County, California, April 2010 to December 2013. Biology manager for a 162 MW wind project operating on approximately 13,000 acres near Edwards AFB. Supervised field surveys, coordinated and reviewed work of sub-consultants, mitigation planning, and construction monitoring. Drafted biological resource report and biological assessment. Drafted avian and bat protection plan that addressed potential impacts to migratory birds and golden eagles following USFWS and industry guidelines (MBTA and BGEPA). Coordinated with USFWS in preparing eagle management plan. Co-author and senior review NEPA Environmental Assessment for portions of the project on BLM land.

BrightSource Energy, Ivanpah Project, San Bernardino, California, March 2011 to June 2011. Drafted avian and bat protection plan for a 370-megawatt solar energy project.

BrightSource Energy, confidential solar project, California, March 2011 to June 2011. Senior review and strategic planning for raptor and bat studies.

Southern California Edison, Southern California, February to April 2010. Lead monitor for environmental compliance (clearance surveys for nesting birds and other special status species of wildlife) for a proposed transmission line.



City of Albany, Oregon, Talking Gardens Natural Treatment Wetlands, January to June 2010. Developed planting plan (plant list and spacing, seeding rates, typical cross-sections, and contractor specifications) for a multi-celled natural treatment wetland system on about 50-acres, 35 of which is wetlands. *Project Awards: Performance, Innovation, and Creating Environmental Success Award from EPA; Superior Achievement Award (top honor) from American Association of Environmental Engineers.*

Iberdrola, Roaring Brook wind project, Martinsburg, NY, October 2009. Assisted in summarizing wetland impacts and mitigation planning for wetland permitting.

Portland Oregon Air National Guard Base, Site 4 Remediation, 2007. Conducted wetland assessments and coordinated with Corps of Engineers to determine that wetlands on the site were non-jurisdictional, saving the project \$100,000 in anticipated permitting and mitigation costs.

Tacoma HOV, Tacoma WA, June 2006 to June 2007. Wetlands Task Leader for Washington Department of Transportation project involving widening of Interstate Highway 5 through Tacoma. Reviewed and updated outdated wetland delineation report. Searched for and evaluated dozens of potential wetland mitigation sites. Advised client on ranking and prioritizing potential mitigation sites. Wetlands field studies and reports incorporated into EIS.

Keystone Ferry Terminal Improvements, Coupeville, WA, July 2006 to December 2006. Task leader, wetland and vegetation community delineations in the vicinity of the Keystone Harbor. Prepared the Wetland Discipline Report in support of a draft Environmental Impact Statement.

Oregon Bridge Delivery Partners, Bundle 218, Lane and Klamath Counties, OR, August 2005 to August 2006. Environmental task lead for three bridge projects. Tasks included field reconnaissance, supervising wetland/waters delineations, insuring compliance with environmental performance standards (threatened and endangered species, SHPO, water quality, hazardous materials), preparing wetland permit applications using specialized OBDP forms, and preparing special environmental provisions for Oregon Department of Transportation construction specifications. Work also included assessing local permitting requirements and coordinating the preparation of a Lane County floodplain permit application.

Tillamook County Bridges, Tillamook, Oregon, December 2004 to April 2005. Environmental task lead. Conducted field studies and prepared state and federal (Section 404/401) permits for bridge replacement projects (Bewley Creek, Killam Creek, and Wilson River). Tasks included coordination with Oregon Department of Fish and Wildlife concerning threatened salmon, in-water work isolation, and fish passage. Coordinated and incorporated cultural and historic resource surveys and SHPO review into the permitting process.

Frazier Creek Wetland Mitigation Bank, Corvallis, Oregon, April 2000-2004. Prepared the Instrument for the 26-acre bank, wetland restoration design, coordinating the creation of the bank with the multi-agency Mitigation Bank Review Team, monitoring the performance of the wetland mitigation bank, preparing the annual monitoring report, and recommending strategies for adaptive management.

Project Manager/Co-Principal; Salem-Keizer Urban Growth Area, Oregon, August 1996 to September 1999. Conducted a local wetland inventory over an area of 46,000 acres and assessed wetland functions using the Oregon Freshwater Assessment Methodology.

Co-Principal; Warms Springs Indian Reservation; Oregon, April 1995 to September 1996. 640,000-acre wetlands inventory. Habitats included high elevation and high precipitation zones to lower elevation and arid zones.

Wetland Delineations and Permitting, Oregon and Washington, 1995-present. Conducted hundreds of wetland delineations in Oregon and Washington for residential, commercial, and private developers.