

Laura Hartt
Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem, OR 97301

Via email [WRD DL rule-coordinator@water.oregon.gov](mailto:WRD_DL_rule-coordinator@water.oregon.gov)

6/14/24

RE: Oregon's Groundwater, Proposed Rulemaking to Protect Future Groundwater Availability

Ms. Hartt:

Thank you for the opportunity to comment on the proposed rulemaking, referenced above. I support the proposed rulemaking. Unfortunately, I believe the proposed rules are 20 + years too late—most groundwater systems alluvial and basalt, etc.—confined and unconfined—are already over-allocated and water use is not sustainable.

Most importantly, I do not believe adoption of these rules will have a beneficial impact on the declining groundwater levels **and streamflow** in the Grande Ronde Basin and specifically in the Grande Ronde Valley. In the area where I live (north of La Grande, Mt Glen Rd/Hunter Lane area), depth to groundwater in the alluvial aquifer has been declining since 1992, when I began measuring the depth to groundwater in the domestic alluvial water supply well on my property. Groundwater levels have declined to the point that one in five existing residences in the area have drilled new, domestic water supply wells in the past decade into the alluvial aquifer. Most of the original wells were completed at less than 160 ft bgs. The replacement/new water supply wells are completed to > 300 ft bgs.

More acres are currently used for agricultural irrigation than ever before in the Grande Ronde Valley and monitoring, oversight or enforcement by OWRD, of water rights and use, is almost non-existent. I recognize this is not the fault of the area watermasters—its due to too few OWRD staff and lack of agency focus. And most agricultural uses, and most domestic water users in the area, use more water than they are allowed by rule: irrigate more acres, irrigate a higher seasonal rate than permitted, use water very inefficiently (irrigation leaks, poorly maintained irrigation equipment, irrigating when not required, etc.).

I fully understand that the domestic water supply users contribute to declining groundwater levels—but irrigated agriculture is 99% of the problem. For example, a 160 acre irrigated agricultural site in the Grande Ronde Valley uses > 175,000,000 gallons/yr, which is equivalent to about 1,421 single family homes.

I hope OWRD will eventually enact rules (and have the budget to implement) that require sustainable use of groundwater and surface water in Oregon. Please contact me with any questions.

Best Regards,



Bart Barlow
Environmental Engineer
Certified Professional Soil Scientist, CPSS 2357
Certified Erosion and Sediment Control Lead, CESCL CWT21-1164

Attached: Bart Barlow, Work Experience Summary

QUALIFICATIONS AND WORK EXPERIENCE: Barton G. Barlow
Environmental Engineer, Certified Professional Soil Scientist CPSS 2357,
Certified Erosion and Sediment Control Specialist-Lead CESC 21-1164
Barlow Environmental Consulting
64302 Mt. Glen Rd., La Grande, Oregon 97850
phone: 541.786.6187 email: bartgbarlow@gmail.com

PROJECT EXPERIENCE, SUMMARY:

Mr. Barlow has forty-four (45) years of experience with management and permitting of:

- Industrial and municipal solid wastes including waste minimization, landfills, and beneficial use.
- Industrial, municipal and domestic wastewater, sludges and residuals, including recycling and pretreatment, land application, and lagoons and detention ponds (>50 million gallons).
- Soil investigations and designs of large and small on-site sewage systems.
- Management and treatment of stormwater, including erosion and sediment control plans and BMP's, wetland treatment systems, groundwater recharge systems, and testing and design of stormwater infiltration/detention basins.
- Air contaminant and pollution control systems and devices, for a large variety of industrial and commercial sources, including Regenerative Thermal and Catalytic Oxidizers, Wet and Dry Electrostatic Precipitators, Biofilters, Baghouses, Cyclones, Fluidized Beds, and Electrified Filter Beds.
- Troubleshooting and compliance testing of boilers, rotary dryers, veneer dryers, kilns, and press systems for particleboard and plywood.
- Design and installation of more than 400 groundwater monitoring wells at land application sites, landfills, and former industrial and commercial sites.
- Design and installation of vadose zone monitoring systems at land application sites and landfills.
- Closure and remediation of more than 30 industrial sites and 22 commercial sites.
- Soil and hydrologic investigations to support civil engineering projects, slope stability, and river-bank stabilization work.
- Environmental site assessments and remediation, to support acquisitions and closures of manufacturing facilities.
- Spill response plans for industrial and commercial sites, and spill cleanup and residuals management.
- Wetland delineations on sites with total acreages greater than 1,600 acres.
- Environmental compliance audits at more than 50 industrial manufacturing facilities.
- Operating plans and staff training to support the projects listed above.

Soils and Hydrologic Experience

Mr. Barlow was the lead professional responsible for soils and hydrologic investigations and designs of wastewater detention ponds, landfills, and remediation systems on more than 500 projects. Projects included earthen and synthetic lined lagoons and ponds for wastewater, stormwater or leachate control with capacities greater than 50 million gallons, landfills covering more than 20 acres and groundwater monitoring and contaminant recovery systems at sites of more than 1,500 acres. Mr. Barlow has completed site investigations, soil interpretations to support the designs of on-site sewage disposal systems, wetlands, building foundations, concrete vaults, dewatering systems and retaining walls, slope and streambank stability; and, groundwater, vadose zone and vapor phase monitoring systems. Mr. Barlow was responsible for soil and slope stability investigations on the banks of the Snake River and Payette River in Idaho, and for the City of La Grande.

Environmental Engineering Experience

As a former Region Environmental Engineer for Boise Cascade Corporation (1995 to 2017), Mr. Barlow managed more than 2,000 environmental and geotechnical engineering projects and was responsible, at various times, for all environmental compliance at wood products manufacturing facilities in Oregon, Washington and Idaho (see work experience below). Mr. Barlow was responsible for environmental considerations and associated risks for acquisitions and closures of multiple wood products manufacturing facilities, and corporate environmental audits. Typical projects included recycling, reuse, land application and disposal of industrial wastes and residuals, log yard sprinkling system management, stormwater management, process wastewater management and reuse, management of hazardous wastes, engineering and administrative controls for air pollution and regulatory negotiations. Mr. Barlow prepared more than 200 NPDES, wastewater, solid waste disposal and TV Air Operating Permit and minor source applications, and developed performance/compliance testing, monitoring and maintenance plans as required by those permits. Mr. Barlow was responsible for feasibility, construction, operation, OM&M Manuals, training, troubleshooting and performance testing of air pollution control equipment (more than 92 control devices) including regenerative catalytic oxidizers (RCO), regenerative thermal oxidizers (RTO), dry electrostatic precipitators (DESP), wet electrostatic precipitators (WESP), electrified filter beds (EFB), fluidized bed combustors (FBC), press vents, cyclones and baghouses.

As a former Vice President and co-owner of Cascade Earth Sciences, Ltd. (1981 to 1995), Mr. Barlow managed more than 1,000 environmental engineering and geotechnical projects in the U.S. and internationally (see work experience below). Projects included land application of industrial and municipal wastes, groundwater and vadose zone monitoring, industrial residuals disposal, recycling and reuse; environmental site assessments, remediation and closure; mining waste management, landfill management, and acquisition and closure of facilities.

As a former Environmental Engineer with the Oregon Department of Environmental Quality (1978-1981), Mr. Barlow was responsible for, in a nine-county area of northeast Oregon, permitting and compliance at industrial and municipal facilities, and on-site sewage disposal systems for all sanitary wastewater sources. Responsibilities included air quality, water quality, solid waste, hazardous waste, on-site sewage, and spill response.

EMPLOYMENT EXPERIENCE:

September 2017 to Present: Environmental Engineer, Soil Scientist and Erosion and Sediment Control Specialist, Barlow Environmental Consulting, DBA.

Mr. Barlow provides consulting and related compliance assistance to industrial and municipal clients, engineering firms, and private parties. Specialties include air quality, water quality, solid and hazardous waste, closure and remediation of facilities, soil and hydrologic investigations, wetland determinations, on-site sewage disposal; and, manufacturing facility acquisitions, closures, regulatory negotiations and audits.

September 1995 to August 2017: Region Environmental Engineer, Boise Cascade Corporation, Wood Products Division.

Mr. Barlow was responsible for environmental engineering and compliance at multiple wood products manufacturing facilities. Responsibilities included air quality, water quality, solid and hazardous waste management, environmental site assessments, closure and remediation of facilities, geotechnical and hydrologic investigations, performance monitoring (air, water, solid and hazardous waste), acquisitions, closures, regulatory negotiations and development and implementation of operating and monitoring plans as required by permit or statute. Mr. Barlow was responsible for environmental training of all managers and support staff. Mr. Barlow participated in more than 60 corporate environmental audits of wood products manufacturing facilities in Oregon, Washington, Idaho, Louisiana, and Mexico.

Mr. Barlow was responsible for environmental engineering and management at the following manufacturing locations (varied by year as Boise Cascade redefined region boundaries):

Eastern Oregon: Elgin Plywood, Elgin Studmill, Mt Emily Lumber, Kinzua Lumber, Island City Particleboard. Acquisition, and later closure of McNary Fiber; closure and remediation of Joseph Lumber.

Western Idaho: Homedale Deck and Beam; Emmett Plywood, Emmett CoGen, Emmett Sawmill, Emmett GlueLam Plant; and, sawmills in Cascade, Horseshoe Bend, and Council. Environmental assessment, remediation and closure of Council, Cascade, Emmett, and Horseshoe Bend sites. Confidential potential acquisitions of wood products facilities in Idaho.

Eastern Washington: Kettle Falls Plywood/Lumber, and Kettle Falls Lumber. Site assessment, acquisition, remediation and management of Arden Sawmill.

Western Oregon: Medford Plywood, White City LVL, Rogue Valley Plywood, White City Lumber, White City Veneer, Willamina Veneer, Independence Veneer, St Helens Veneer. Closure and remediation of Valsetz, Independence and a portion of St Helens Veneer.

January 1983 to September 1995: Vice President, Cascade Earth Sciences, Ltd. (CES)

When Mr. Barlow joined CES, it had two full time employees. When Mr. Barlow left CES, it had seven field offices, and a staff of more than 60. Mr. Barlow was responsible for opening and overseeing CES offices in La Grande, Oregon, Spokane, Washington, Boise, Idaho and Pocatello, Idaho. Mr. Barlow managed more than 750 projects in Oregon, Washington, Idaho, Minnesota, North Dakota, Wisconsin, New Mexico, Nevada, Utah, Montana, and Mexico. Most of these projects were for industrial clients: food processing and the wood products industry. Repeat clients included Boise Cascade, Basic American Foods, Borden Chemical, Hermiston Foods, Joy Canning, Lamb-Weston, Micron, Nonpareil, Oregon Potato, R.D. Mac, Sequoia Forest Products, J.R. Simplot, Smith Frozen Foods, A.E. Staley, Universal Foods, Sarah Lee, WTD Industries, Winnemucca Farms; the Idaho Correctional Institute, Idaho Association of Commerce and Industry, and U.S. Navy; cities of Hermiston, La Grande, Milton-Freewater, Portland, Sumpter, and Weston, Oregon; and, the Port Morrow and Umatilla.

September 1981 - February 1983: Research Hydrologist, U.S. Forest Service, Pacific Northwest Forest Range Sciences Laboratory and Wallowa-Whitman National Forest and Graduate Research Associate, Washington State University (dual appointment).

Research focused on site hydrological factors affecting infiltration, erosion, transport of water and solutes in saturated and unsaturated soils, and on the effects of grazing and timber harvest on water quality and soil productivity. Mr. Barlow participated in a multidisciplinary team, which selected and instrumented sites for remote data collection, completed detailed site investigations, analyzed collected data and wrote technical reports.

July 1976 - August 1981: Environmental Engineer/Branch Office Manager, Oregon Department of Environmental Quality, La Grande, Oregon.

Responsibilities included implementation of oversight of State of Oregon permits for air contaminant discharge systems, landfills, waste discharge and water quality permits, and on-site sewage disposal systems. Responsibilities also included compliance inspections and enforcement, remediation of hydrocarbon contamination of soil and groundwater, livestock waste management, and, spill response. During his tenure with ODEQ Mr. Barlow was responsible for more than 300 projects in the above categories and was ODEQ's lead investigator in Eastern Oregon for experimental on-site sewage disposal systems.

SPECIAL APPOINTMENTS AND ADVISORY ROLES

Session Chair, Industrial Waste Section, PNWPCA, 1991, 1992, 1993, 1994, 1995.

Principal Technical Advisor, Northwest Food Processors Association, 1993, 1994, 1995.

Session Chair, Food Processing Engineering and Waste Management, 1994, 1995.

Principal Instructor, Environmental Training Consultants under contract with Oregon, Washington, Idaho, Utah, and Wyoming State Departments for Wastewater and Biosolids Land Treatment, and Lagoon Management, 1990 through 2009.

Chairman, Urea-Formaldehyde Board Committee, Northwest, 1996, 1997, 1998.

Chairman, Associated Oregon Industries, Eastern Oregon Environmental Committee, 1995, 1996.

EDUCATION

M.S., Soils, 1983, Washington State University; 30 Additional Quarter Hours Post Graduate Work in environmental engineering.

M.S. Thesis: "Surface Hydrologic Variability within Soil-Geomorphic Units." WSU. 219 pp.

B.S., Environmental Engineering, Environmental Health Option 1976, FSU.

Registration: Certified Professional Soil Scientist, ARCPACS Certification Number 2357

Certified Erosion and Sediment Control-Lead, CESC 21-1164

REFERENCES

Luke Aldrich, PE, EOU Engineering Dept, Former Region Engineer Boise Cascade Corp. (541.786.3173)

Cody Cox, PE, Cox Engineering, Former Region Engineer Boise Cascade Corp (509.570.3249)

Derrick Howard, PE, CB Construction, Inc., Former Region Engineer Boise Cascade Corp (541.786.5315)

Eric Steffenson, Region Environmental Engineer, Boise Cascade Corp (509.675.5391)

Russell Strader, Corp. Environmental Engineer, Boise Cascade Corp (208.384.6679)