

Annual Conference & Exhibition  
Riverhouse on the Deschutes  
**Bend, Oregon**

# **PNCWA 2016**

Building Professional Excellence in Water Quality™

October 15-19, 2016

Pacific Northwest Clean Water Association  
**PNCWA**



# **COMPLETE TECHNICAL PROGRAM**

Annual Conference & Exhibition  
October 15-19  
Riverhouse on the Deschutes  
**Bend, OR** [www.pncwa.org/pncwa2016](http://www.pncwa.org/pncwa2016)

Monday Morning – October 17						
7:00 - 5:30	Registration					
8:00 - 10:00	Opening Session					
10:00 - 10:30	Break & Operations Challenge Viewing Time					
10:00 - 3:00	4-Person Operations Challenge					
	<b>Session 1A Resiliency</b>	<b>Session 2A Stormwater</b>	<b>Session 3A FOG / Solids Treatment</b>	<b>Session 4A Wastewater Treatment</b>	<b>Session 5A Plant Operations</b>	<b>Session 6A Collections–I/I</b>
10:30 - 11:15	Budd Inlet Treatment Plant Vulnerability Study against Climate Change and Sea Level Rise <i>Adam Klein, Brown and Caldwell</i>	Innovative Stormwater Treatment on the State Route 520 Floating Bridge <i>Stephen Sax, Washington Department of Transportation; Gordon MacDonald, Parametrix</i>	Food Waste – Worth the Trouble? <i>Mario Benisch, HDR</i>	Replacement and Retro-Fitting of Screens – Selecting the Proper Screen for the Application <i>Sean Goris, Black &amp; Veatch</i>	Improved Understanding of Mixing Helps Plan and Operate BNR Systems <i>Edward Wicklein, Carollo Engineers</i>	Infiltration and Inflow: Identification, Prioritization, and Rehabilitation Techniques <i>Ryan Withers and Zach Schrempf, RH2</i>
11:15 - 12:00	Risk and Resiliency Assessment and Modeling to Quantify Risks and Benefits <i>Forrest Gist, CH2M</i>	Are Oregon Stormwater Programs on a Path to Meeting Waste Load Allocations? <i>Angela Wieland, Brown and Caldwell</i>	Lifting the Fog from FOG Receiving <i>Rashi Gupta, Carollo Engineers</i>	BNR Optimization with Flow Equalization – Startup Lessons and First Year ROI <i>Paul Klatt, J-U-B Engineers</i>	What the Foam? <i>Nathan Roger Brown, MWH</i>	Whatcha Talkin' Bout, Wallace? - Adaptive Collection System Planning and Solving I/I on Both Sides of the Property Line <i>Chris Horgan, J-U-B Engineers</i>
Monday Afternoon – October 17						
12:00 - 1:15	Networking Lunch / Women's Networking Lunch					
1:15 - 2:00	Seismic 101: Wastewater Infrastructure Resiliency in the Pacific Northwest <i>Matthew Erich Perkins, MWH</i>	Refining Stormwater Maintenance Practices – Doing More with Less <i>Elizabeth Sagmiller and Billy Johnson, City of Keizer, Oregon</i>	Effect of High Performance Digester Operations on Biosolids Odor <i>Ganesh Rajagopalan, Kennedy/Jenks Consultants</i>	Down to the Nitty-Gritty: Tacoma Central Treatment Plant Grit Removal Optimization Study <i>Matthew J. Winkler, Brown and Caldwell</i>	How to Successfully Upgrade a SCADA System When Everyone Is Retiring <i>Christopher W. Kuperstein, City of Spokane</i>	Evaluation of Inflow and Infiltration Reduction Projects in Portland Oregon <i>Ian Kent Besaw, City of Portland</i>
2:00 - 2:45	What Do You Do When the Levee Breaks? Planning for Climate Change and Sea Level Rise <i>Lynn Williams Stephens, Brown and Caldwell</i>	Monitoring the Effectiveness of Green Stormwater Infrastructure <i>Katie Holzer, City of Gresham</i>	Process and Regulatory Impacts of New Clean Air Act Rules for Sewage Sludge Incinerators <i>Frank Dick, City of Vancouver</i>	Membrane Treatment: Conducting Piloting to Inform Final Design <i>Mark Esvelt, Esvelt Environmental Engineering</i>	Benefits of Predictive SRT Control <i>Anne Conklin, Carollo Engineers</i>	Reducing the Size of a Pump Station through I&I Abatement; a Collaborative Effort <i>Michael Kebbe and Jessica Rinner, Clean Water Services</i>
2:45 - 3:00	Break					
	<b>Session 1B Utility Management / Training</b>	<b>Session 2B Stormwater</b>	<b>Session 3B Case Studies</b>	<b>Session 4B Watershed Planning</b>	<b>Session 5B Pretreatment</b>	<b>Session 6B Collections–Construction</b>
3:00 - 3:45	A Great Treatment Plant Operations and Maintenance Plan Starts with a Focus on Level of Service <i>Christa Overby and Mike Ciolli, City of Portland</i>	Manchester Stormwater Park <i>Christopher William May, Kitsap County Public Works</i>	Tri-City WRRF Peracetic Acid Disinfection Pilot Project <i>Michael Trent, Clackamas County WES and Phillip Block, PeroxyChem</i>	Using Integrated Planning for Effective Ecosystem Uplift and Quality of Life <i>Ting Lu, Black &amp; Veatch</i>	Development of a Nitrification Inhibition Test Kit Using Lyophilized Activated Sludge <i>Leila Barker, Clean Water Services</i>	Trenchless Crossing of a State Highway <i>Michelle Macauley, Jacobs Engineering</i>
3:45 - 4:30	CWS Operator Training Program <i>Bill Gulacy and Noah Harvey, Clean Water Services</i>	Clarks Creek TMDL Restoration Plan <i>Michael Milne, Brown and Caldwell</i>	Successful Collaboration Results in Innovative Odor Control for the Discovery Corridor <i>Alex Demith, CH2M and Michael Valliere, Biorem</i>	Major Milestones in Water Quality Trading Regulations <i>Carrie Sanneman and Neil Crescenti, Willamette Partnership</i>	To Fear or Not: Wine and Beer <i>Brett Converse, J-U-B Engineers, Inc.</i>	Use of a Novel Boring Machine for a Line-and-Grade-Sensitive Trenchless Crossing through Hard Rock in Bend, Oregon <i>Diana Worthen, CH2M</i>
4:30 - 5:15	Growing Future Clean Water Careers through On-the-Job Operations & Maintenance Training <i>Cari Simson, Urban Systems Designs and John Phillips, King County</i>	Industrial Stormwater Bioretention Retrofit – Port of Longview, Washington <i>Alan Thomas Flemming, Kennedy/Jenks Consultants</i>	If You Didn't Break It – You Should Have <i>John E. Koch, HDR Engineering and Jason Diamond, GE</i>	Creative Mitigation Alternatives for Thermal TMDL Compliance – A Robust Framework for Making Comparisons <i>Todd Miller, City of Springfield; Aaron Toney, Good Company</i>	Revitalizing the Enforcement Response Plan <i>Lindsay Lefevor, CH2M</i>	Using Cured-in-Place Pipe for Force Main Rehabilitation <i>Thomas Nielsen, Parametrix</i>
5:00 - 7:00	Exhibitors Reception—Exhibit Hall					
7:00 - 8:00	Monday Night Dinner					
8:00 - 11:30	Networking Night (hosted by PNCWA Young Professionals - offsite)					

Bend Water Reclamation Facility Tour 1:15 - 3:45

Tuesday Morning – October 18							
7:00 - 5:30	Registration						
7:00 - 8:00	Operators Breakfast						
	<b>Session 7 Regulatory</b>	<b>Session 8 Odor Control / Smaller Communities</b>	<b>Session 9 Pumping Systems</b>	<b>Session 10 Nutrient Removal</b>	<b>Session 11 CEPT / Outfalls</b>	<b>Session 12 Collections–Modeling</b>	EXHIBIT HALL Section Exchange 8:00 - 9:30
8:00 - 8:45	Accepting Hauled Wastes at Wastewater Treatment Plants <i>Jon Gasik, Oregon DEQ</i>	Smelling Like Roses: LOTT Clean Water Alliance Solves Odor Control Challenges at its Capital Lake Pump Station <i>Ben McConkey, LOTT Clean Water Alliance</i>	Remove the 4 x 4's and the Pumping Station Will Still Operate <i>John Koch, HDR Engineering</i>	Optimization of Enhanced Biological Phosphorus Removal at the West Boise Wastewater Treatment Facility <i>William Leaf, CH2M; Ron Gearhart, City of Boise</i>	The Story of the Big CSO Plant that Could (treat 450 MGD) <i>Muriel Gueissaz-Teufel, City of Portland</i>	Modeling Under Pressure – Optimizing and Eliminating Pump Stations in Rolling Terrain <i>Peter Cunningham, BHC</i>	
8:45 - 9:30	Water Quality Criteria Based on the Biotic Ligand Model (BLM): State Adoptions, Options and Examples <i>Scott Tobiason, Windward Environmental</i>	Not All Biofilters Are Created Equal – Lessons Learned from Trouble-Shooting the Poor Performance of a Biofilter Odor Control System <i>River Wan and Dennis Field, Pierce County</i>	Pump Station Assets – Evaluating and Planning for the Future <i>Brian Casey, Murray, Smith &amp; Associates</i>	Operational Differences between Tertiary Treatment Technologies for Phosphorus Removal <i>Peter Schauer, Clean Water Services</i>	Optimizing Chemically Enhanced Primary Treatment to Maximize Plant Capacity <i>Anthony Benavidez, CH2M</i>	Micro-Monitoring for I/I: How to Exploit the 80/20 Rule <i>Patrick Stevens, ADS Environmental Services</i>	
9:30 - 10:30	Break - Exhibit Hall						
10:30 - 11:15	Visions of a Dystopian Future with Effluent Limits Based on New Criteria for Toxics <i>David L. Clark, HDR</i>	Wastewater Management Options for Small Communities <i>Daniel David Ayers, J-U-B Engineers</i>	Investigation and Development of the Modern, Self-Cleaning Circular Wastewater Wet-Well <i>Bob Domkowski, Xylem Inc. - Flygt</i>	Optimization of an Integrated Fixed-Film Activated Sludge Process for Energy Efficiency and Nutrient Removal <i>Ana Maria Arango, CH2M</i>	Student Design Competition Presentations Moscow Fermenter Evaluation <i>University of Idaho Design Team</i> Alderwood Marine Outfall Alternatives <i>Seattle University Design Team</i>	Don't Blow a Gasket!: A comparison of field measurements and numerical modeling in pipeline surge pressure mitigation <i>Brandon Billing, Brown and Caldwell</i>	
11:15 - 12:00	Blending – An Effective and Necessary Strategy to Manage Peak Flows <i>David Romilly, Brown and Caldwell; Walt Meyer, West Yost</i>	Morton Wastewater System – Responding to Small Town Problems With a Self-Sufficient Approach <i>Robert James Scott, Gray &amp; Osborne</i>	City of Bend Colorado Lift Station – A Case Study of Teaming During Planning, Design, and Construction <i>Dennis Galinato, Murray, Smith &amp; Associates</i>	Enhanced Biological Phosphorus Removal Bacteria: Who are they and how might their presence relate to design and operation <i>Erik Coats, University of Idaho</i>	Selecting the Right Models for Outfall Designs and Studies – Using Field-Measured Dilutions <i>David P. Wilson, CH2M</i>	Innovation in Tracking Sewer System Conveyance Capacity <i>Shad Roundy, Murray, Smith &amp; Associates</i>	
12:00 - 1:15	PNCWA Annual Business Luncheon						

**Tuesday Afternoon – October 18**

12:00 - 1:15 PNCWA Annual Business Luncheon							
	<b>Session 13 Project Delivery</b>	<b>Session 14 Stormwater</b>	<b>Session 15 Biosolids / Solids Treatment</b>	<b>Session 16 Wastewater Treatment and Modeling</b>	<b>Session 17 Gas Utilization and Energy Efficiency</b>	<b>Session 18 Collections – Asset Mgmt, CMOM and Planning</b>	
1:15 - 2:00	Evaluating Project Delivery Alternatives to Deliver New Water Supply through Advanced Water Treatment and Potable Reuse Program <i>Patrik Huston, Kennedy/Jenks Consultants</i>	Innovative Stormwater Solutions in Boise's Central Addition LIV District  <i>Steven L. Hubble, City of Boise</i>	Biosolids Program Diversification Options  <i>Dan Laffitte and Steve Wilson, Brown and Caldwell</i>	Rejuvenating New Life into a 60-Year Old Treatment Plant to Meet Low Phosphorus Limits with Greater Energy Efficiency  <i>Royce Davis and Ron Gearhart, City of Boise</i>	Pipeline Quality Renewable Natural Gas from Anaerobic Digester Gas  <i>Jennifer Strehler, CDM Smith</i>	The Sewer Awakens: Leveraging 20 Years of Past Data to Develop an Optimized Asset Management Plan for the Future of Vancouver's Large Diameter Interceptors <i>Daniel Buonadonna, CH2M</i>	
2:00 - 2:45	Journey of \$240M Chambers Creek Regional WWTP  <i>Tom Paul, Mortenson Construction</i>	Storm Drain Improvements as Stimulus for Downtown Redevelopment  <i>Bob Jacobsen and Coleen Doten, Brown and Caldwell; Mark Palmer, City of Puyallup</i>	City of Bend Unlikely Path to Class "A" Biosolids  <i>Scott Thompson, City of Bend</i>	Copper and Zinc Reduction at a WWTP by Enhancing Biological Treatment  <i>Jeffrey Coyne, MWH Global</i>	Avoiding the Cogen Blues: Digester Gas to Vehicle Fuels  <i>Luke Werner, Kennedy/Jenks Consultants</i>	Seattle Public Utilities Sets New Direction for Phase II of Capacity, Management, Operations and Maintenance (CMOM) Program <i>Julie Crittenden, EMA</i>	
2:45 - 3:00	Break - Exhibit Hall						
3:00 - 3:45	Leveraging the WA State Heavy Civil General Contractor/Construction Manager Statute to Select a Membrane Supplier for Spokane's "Next Level of Treatment" Project <i>Craig Massie, CH2M</i>	Stormwater Infiltration: Practical Findings from Recent Nationwide Applied Research  <i>Aaron Poresky, Geosyntec Consultants</i>	Characterizing Polymer Thickened Biosolids for Pumping Applications  <i>Brian Hilts, CDM Smith</i>	Struvite Recovery and Plant-Wide Phosphorus Removal at the West Boise WWTF  <i>Ron Gearhart, City of Boise</i>	City of Gresham WWTP: Energy Net Zero for over a Year!  <i>Jeff Maag and Alan Johnston, City of Gresham</i>	A Living CIP: Combining O&M with Capacity Needs to Optimize a Sewer Collection System  <i>Bhargavi Ambadkar, Carollo Engineers</i>	
3:45 - 4:30	Envisioning Integrated, Distributed One-Water Utilities, Lessons for the Electricity Sector <i>Dan Vizzini, Carollo Engineers</i>	Do You Know Where Your Assets Are? Finding, rating, and managing stormwater assets in the roadway right-of-way <i>Elizabeth Lowell, HDR Engineering</i>	Nitrogen, Phosphorus, and Carbon Dioxide Removal using Algae – Now what do I do with this biomass? <i>Taylor Romenesko, University of Idaho</i>	Case Study on Developing and Maintaining a Process Model at a Wastewater Utility  <i>Adrienne Menniti, Clean Water Services</i>	Energy Efficiency and Recover  <i>Terri Lee Prather, LOTT Clean Water Alliance</i>	Taking Action with Aging Sewers – How to Implement Early Actions and Effective Program Planning <i>David Scott, Tetra Tech</i>	
4:30 - 5:15	Don't Dig Yourself into a Hole: Keeping Oak Harbor's Clean Water Facility Moving Forward – Using an Early Exploration GC/CM Package to Confirm Site Selection and Mitigate Archeological Risk <i>Michael Borrero, Carollo Engineers</i>	Achieving 1200-COLS Tier II Compliance at City of Portland Columbia Blvd Wastewater Treatment Plant  <i>Aaron Lawler, City of Portland</i>	Are your Digesters Burping, Frothing, or Otherwise Not Behaving? – A "New" Understanding of What's Actually Going on Inside Could Help  <i>Christopher Muller, Brown and Caldwell</i>	Lagoon System Expansion and Upgrade Evaluation Assisted with Process Modeling  <i>Li Lei, CH2M</i>	Expanding Process Capacity and Increasing Cogeneration Effectiveness with Primary Filtration for Carbon Diversion  <i>Onder Caliskaner, Kennedy/Jenks Consultants</i>	Alternatives Analysis Process for Complex Conveyance Project in Sensitive Areas  <i>Kevin Goss, Tetra Tech</i>	
5:15 - 7:00	Exhibit Hall Closing Reception						
7:00 - 9:00	PNCWA Awards Banquet						

EXHIBIT HALL

2 separate tours from 1:15 - 3:45 PM #1 Bend Stormwater, #2 Colorado Lift Station/Deschutes Brewery Waste Management

**Wednesday Morning – October 19**

7:00 - 1:00	Registration						Redmond Water Pollution Control Facility Tour 8:00 - 10:30 AM
	<b>Session 19A</b> <b>Utility Management and Mentoring</b>	<b>Session 20</b> <b>Reuse</b>	<b>Session 21A</b> <b>Thickening / Dewatering</b>	<b>Session 22</b> <b>Wastewater Treatment</b>	<b>Session 23A</b> <b>Public Involvement</b>	<b>Session 24A</b> <b>Collections – Project Delivery</b>	
8:00 - 8:45	Bridging the Operational Gap between Two Utilities with Interconnected Systems  <i>Corinne De Leon, City of Seattle</i>	The Reality of Reclamation  <i>Jim Kimball, J-U-B Engineers</i>	Design and Operation of Series WAS Thickening in a WASSTRIP™ Process  <i>Christopher Edward Maher, Clean Water Services</i>	Tertiary Rehab: Evaluate and Improve Existing System to Meet TP Permit  <i>Karen Bill, HDR</i>	Vibrating Hammer versus Neighbors – A Tale of Two Cities  <i>Anne Aurand, City of Bend</i>	Bend Southeast Interceptor: Partnership Delivers Deep Sewers through Solid Rock  <i>Jim Albin &amp; Ron Hand, DOWL; Brady Fuller, CH2M; Eric Forster, City of Bend</i>	
8:45 - 9:30	Tacoma Wastewater Treatment Operations Makes Changes to Deliver on Environmental Services Strategic Plan <i>Jody Bratton, City of Tacoma</i>	Innovative Treatment for Potable Reuse  <i>Steve Green, Xylem</i>	Factors Impacting Dewatering  <i>Mario Benisch, HDR</i>	Grit Happens – You Don't Know What You're Missing  <i>Pat Herrick, Hydro International</i>	What's in a Name? Reintroducing the City of Boise Wastewater Division  <i>Haley Falconer, City of Boise</i>	CSO Storage Tank Design – O&M and Constructability Considerations  <i>Nichole Kruse, CDM Smith</i>	
9:30 - 10:15	Mentoring: The Critical Path  <i>Kimberly Ann Kelsey, CH2M</i>	Developing Idaho's First Large-Scale Class A Infiltration Project  <i>Matt Gregg, Brown and Caldwell</i>	Central Wastewater Treatment Plant: Sludge Dewatering Facilities and Equipment Systems Upgrades <i>Jennifer Coker, Kennedy/Jenks Consultants</i>	Conquering Operational Challenges of New Tertiary Membrane Filtration System in Coeur d'Alene  <i>Michael Zeltner, HDR</i>	Beyond the Open House: Meeting communities where they're at to build a successful project  <i>Kevin Dour, Tetra Tech</i>	Design, Selection and Delivery of Ultraviolet Disinfection Equipment for a Combined Sewer Overflow Treatment Facility  <i>Pat Roe, HDR Engineering</i>	
10:15 - 10:30	Break						
	<b>Session 19B</b> <b>Innovative Approaches</b>		<b>Session 21B</b> <b>Stormwater</b>		<b>Session 23B</b> <b>Emerging Contaminants</b>	<b>Session 24B</b> <b>Disinfection</b>	
10:30 - 11:15	Putting Drones to Work  <i>John N Crippen and Howard Young, CDM Smith</i>	Closing the Loop on an Hydrologic "Island" in Kitsap County, WA  <i>Tadd Giesbrecht, Brown and Caldwell</i>	Solving Problems at the Source – Seattle Public Utilities Source Control Program  <i>Kevin Joseph Buckley, Seattle Public Utilities</i>	Piloting the Cleargreen Deammonification Process at the Tri-City WRRF  <i>Dale Richwine, Richwine Environmental</i>	Taking an Holistic Approach to Identifying Cost-Effective Management Strategies for CECs in U.S. Watersheds  <i>Tanja Rauch-Williams, Carollo Engineers</i>	Family Ties: Replacement of UV Disinfection Systems at Sister Plants  <i>Thomas Paul Giese, BHC Consultants</i>	
11:15 - 12:00	Decant Water Reuse  <i>Jeff Rudolph, Pierce County Public Works</i>	Stormwater Capture Planning in Southern California: Lessons Learned for PNW Municipalities  <i>Scott Mansell, Geosyntec</i>	Enhancing Implementation of Green Infrastructure through Partnerships  <i>Dustin Atchison, CH2M</i>	Successful Deployment of Foam Control Systems in Activated Sludge Systems  <i>Henryk Melcer, Brown and Caldwell</i>	Assessing the Fate of Emerging Contaminants during Biological Treatment: Are nitrifiers doing the work? Can microbes really eat BPA?  <i>Sandeep Sathyamoorthy, Black &amp; Veatch</i>	PAA Disinfection at NWL WWTP – A Safe and Effective Alternative to Chlorine  <i>Joshua Goldman, CDM Smith</i>	