October 20, 2020, 1:00 p.m. - 3:42 p.m.
via Zoom Webinar & Facebook Live

Symposium Schedule

Start	Speaker/Moderator	Topic
1:00	Moderator: Daniel Newberry (JCWC)	Introduction & housekeeping details
1:04	Moderator: Noelwah Netusil (Reed College)	Introduce speakers
1:05	Marissa Eckman (City of Gresham)	Amphibian surveys in the Johnson Creek Watershed
1:19	Adam Stonewall (USGS)	Temperature monitoring at Crystal Springs Lake
1:33	Chuck Lobdell (JCWC)	Kelley Creek Dam Removal
1:47	Julia Bond (Portland BES)	Fish AQI 20-year changes
2:01	Moderator: Noelwah Netusil (Reed College)	Q & A session, Session #1
2:15	BREAK	BREAK
2:30	Moderator: Daniel Newberry (JCWC)	Welcome back
2:32	Moderator: Katie Holzer (City of Gresham)	Introduce speakers
2:33	Derron Coles (The Blueprint Foundation) / Nuradin Abdirahman (African Youth Community Organization)	Leach Botanical Garden Community Habitat Enhancement Education Project
2:47	Becky Dorff (PSU)	The Evolution of Floodplain Management Approaches in the Johnson Creek Watershed
3:00	Ali McGarigal (City of Gresham)	Gresham Forest Dieback Mapping: The Case of the Disappearing Red Alders
3:14	Keri Handaly (City of Gresham) / Roy Iwai (Multnomah County)	Who is the Voice of Water and What Would Water Say?
3:28	Moderator: Katie Holzer (City of Gresham)	Q & A session, Session #2
3:42		End of Symposium

Speaker Bios

Nuradin Abdirahman

Nuradin is a Environmental Educational Coordinator and Cultural navigator for African Youth Community Organization (AYCO); where he mentors the youth in his community to become the best versions of themselves. He also plans, develops and implements a comprehensive environmental educational outreach program to increase awareness of environmental conservation issues within the community. He is a Junior at Portland State University currently studying Health Administration with a pre-PA focus. With his background and experience in community engagement and working with youth, Nuradin is looking forward to making a change in his community with AYCO's help.

Julia Bond

Julia Bond is an Environmental Specialist with the City of Portland's Bureau of Environmental Services. Julia's work focuses on evaluating water quality and watershed health in Portland's rivers and stream. She is responsible for environmental analyses, assisting in the implementation of regulatory activities and projects, and conducting technical water quality and natural resource evaluations related to stormwater and watershed health. Julia has a master's degree in Environmental Science with a focus in water resources, as well as a master's degree in Public Affairs.

Derron Coles

Derron Coles, Ph.D. is a Learning strategist with 20 years of experience designing learner-focused competency development training. Derron has a wide-ranging portfolio that runs the gamut from learning solutions for technical topics, like a globally utilized online training on river system analysis, to interpersonal skills training, such as his award-winning cultural competency curriculum.

Upon completing his bachelor's degree in mechanical engineering at University of Maryland, Baltimore County, Derron moved to Oregon to complete a masters and doctorate in civil engineering, with a water resources focus, at Oregon State University. Derron then spent eight years as head mathematics professor for the OSU Educational Opportunities Program, leading culturally responsive efforts to recruit and retain underrepresented science and engineering students.

Derron is now owner and principal consultant for DRC Learning Solutions, where he develops, evaluates and implements curriculum for technical and social justice-oriented education programs in Portland. Derron is also executive director of the Blueprint Foundation, a Portland nonprofit that implements career-specific mentoring programs for Black youth. The nonprofit focuses on diversifying the green sector through workforce development that improves watershed health while training the next generation of green sector professionals.

Becky Dorff

I grew up as the oldest of 5 in a suburb of Milwaukee, Wisconsin and later received my Bachelor of Science in Environmental Science from the University of Minnesota – Twin Cities. My professional experiences after college have taken me across the country as fisheries observer in Alaska's Bering Sea, a fisheries technician for ODFW in John Day, and a 911 dispatcher in Colorado's Rocky Mountains. I am currently working towards a Master's in Environmental Management from Portland State University and hope to focus my career on building resilient communities through sustainable watershed management.

Marissa Eckman

Marissa serves as Confluence Environmental Center AmeriCorps member with the City of Gresham as the Forest Education and Outreach Specialist and has been in this position since October of 2019. Since graduating from Pacific University in 2019 she has been exploring what the world of natural resources, environment education, and community engagement has to offer. As an advocate for environmental and social justice Marissa believes in building equitable futures through collaboration with community and centering the voices of those most marginalized by society.

Keri Morin Handaly

Keri is currently the Stormwater Permit Coordinator & Toxic Reduction Educator in the Water Resources Division for the City of Gresham and has been working in the field of pollution reduction for almost 20 years. She is passionate about waste reduction, toxics reduction and a more sustainable future. In addition to her work at the City of Gresham, she collaborates with the urban watershed councils on campaign work, the tri-county Regional Coalition for Clean Rivers and Streams, and is on the steering committee of the statewide collaboration called the Clean Rivers Coalition. She studied environmental science at the University of GA and has a Master's degree in public policy from UW.

Katie Holzer (Moderator)

Katie Holzer is a Watershed Scientist with the City of Gresham where she conducts studies of water quality in urban streams. She has a Ph.D. in Ecology from the University of California, Davis where she studied habitat values of urban stormwater ponds.

Roy Iwai

Roy Iwai has managed the Water Quality Program with Multnomah County's Transportation Division since 2007. He has been a member of the Clean Rivers Coalition Steering Committee since its founding in 2015. Roy has a Master's degree in Oceanography and was formerly a sushi chef for nearly ten years. He now protects the fish he once used to serve.

Chuck Lobdell

Chuck Lobdell is a professional fish and wildlife biologist with 22 years of aquatic habitat restoration experience in the Pacific Northwest. Most of his professional career has been focused on restoring wetlands and floodplain habitats in Oregon and Washington. His role with JCWC focuses on fish passage and stream restoration, as well as stormwater projects. Chuck earned both his bachelors and master's degrees from the University of Idaho.

Ali McGarigal

Ali served with Confluence AmeriCorps last year as the Forest Health Specialist at the City of Gresham in their Natural Resources Program. She is a budding ecologist and environmental educator that is passionate about environmental justice and building more equitable futures. Ali is currently working at The Catamount Center for Environmental Science and Education in Colorado as the Science Fellow for the Teaching and Research in Environmental Education Semester program for undergraduates. She hopes to inspire young people to envision and enact positive change in the world that redefines our fundamental relationships with each other and the land.

Noelwah Netusil (Moderator)

Noelwah R. Netusil is the Stanley H. Cohn Professor of Economics at Reed College. Her current research explores willingness-to-pay for flood insurance, flood insurance literacy, and flood risk perceptions in the Lents and Powellhurst-Gilbert neighborhoods. She teaches courses on environmental and natural resources economics, economics of the public sector, and the intersection of law and economics. She received her BS in Chemistry and Economics from Allegheny College in 1986 and her PhD from the University of Illinois-Urbana in 1992. She has been at Reed College since 1990.

Daniel Newberry (Symposium organizer)

Daniel Newberry has been the Executive Director of the Johnson Creek Watershed Council for the past 5 ½ years. He has worked in watershed management since 1993, including serving as a hydrologist with both the Mt. Hood National Forest and the Hoopa Valley Tribe, as the Executive Director of both the Applegate River Watershed Council and the Siskiyou Field Institute, and as an independent consultant. He holds a B.A. in Physics from Middlebury College and a Masters of Forest Science from the Yale School of Forestry and Environmental Studies. He currently serves as a volunteer commissioner on Portland's Urban Forestry Commission.

Adam Stonewall

Adam holds a BS in Hydrology from the University of Arizona and a MSc in Forest Hydrology from the University of British Columbia. Been with USGS since 2001. He is currently a hydrologist and the Surface Water Specialist with the USGS Oregon Water Science Center (OrWSC). He has been the Primary Investigator for Johnson Creek project with the OrWSC for about 10 years.

Program Abstracts

Session #1 (Moderator: Noelwah Netusil, PhD)

Amphibian presence in constructed stormwater ponds throughout Gresham, Oregon

The amphibian life cycle requires both healthy wetland and upland riparian habitat in order to thrive. However, in the Willamette Valley we have seen a steady decline in naturally occurring wetland and riparian habitats and a corresponding rise in constructed stormwater facilities. Some of these sites also serve as wetlands that are attracting native amphibians, but are these stormwater facilities a healthy alternative to naturally occurring wetlands? In the Winter of 2020, the City of Gresham conducted volunteer amphibian egg mass surveys at 18 ponds, both constructed and natural, across Gresham to track the presence of four different amphibian species native to the Pacific Northwest; *Rana aurora, Pseudacris regilla, Ambystoma macrodactylum, Ambystoma gracile.* Volunteers found that there are individuals of all four species persisting in an urban landscape and breeding in constructed stormwater ponds and these species are discovering and breeding in ponds that were constructed as recently as 2017.

Temperature Monitoring at Crystal Springs Lake

Crystal Springs Lake is a known source of heating for Crystal Springs Creek and Johnson Creek, which results in summer water temperatures downstream of the lake regularly exceeding the Oregon Department of Environmental Quality criterion of 18.0 °C. Recent water balance analysis has shown that the amount of surface springs flowing into the lake does not account for the all flow leaving the lake, suggesting the presence of springs below the surface.

Fiber Optic Distributed Temperature Sensing Technology (FO-DTS) can measure continuous temperature at a high spatial resolution, with high precision, and at a large scale. In this study we deployed 1.3 km of FO-DTS cable to identify underwater springs within Crystal Springs Lake. Hourly temperature readings were taken at intervals of about one meter along the cable. Results show a high degree of spatial variability in the lake, and suggest the presence of at least one underwater spring.

Kelley Creek Dam Removal

JCWC's instream habitat program is focused on restoring salmon habitat and water quality and restoring fish access to these habitats, with emphasis on cold water tributaries. The Kelley

Creek sub-watershed is the largest in Johnson Creek, entering near the center of the watershed. Kelley Creek and its tributaries feature cooler water temperatures and protected headwaters, such as Mitchell Creek. In 1989, a dam nearly 6' high was built in the lower most reach of Kelley Creek to feed a gravity flow diversion to an off-line pond. This dam functionally blocked all fish passage to Kelley Creek and all of its tributaries. We began planning fish passage improvements at this site in 2015, and by 2018 we had the landowners' support and approval to remove the dam and service their water right with a pump. The project was completed in August of 2020, and fish passage has been restored to nearly 3 miles of Kelley and Mitchell Creeks. This project was made possible by funding from American Rivers and the Paul Allen Family Foundation, the Oregon Watershed Enhancement Board as part of the Clackamas Focused Investment Partnership, and the East Multnomah Soil and Water Conservation District.

Stream habitat changes in Johnson Creek over the past 20 years

Past human activities have degraded stream habitat in Johnson Creek, including efforts to armor the channel, remove large wood, and disconnect the stream from the floodplain. These activities have resulted in a loss of stream habitat and have negatively impacts aquatic species. Characterizing stream habitat provides natural resource managers with information about habitat quality throughout these systems that can be used to inform where restoration work would be beneficial, as well as identify areas of high quality habitat that should be protected. Stream habitat in Johnson Creek was surveyed by the Oregon Department of Fish and Wildlife (ODFW) in 1999. In 2019, the City of Portland partnered with ODFW to re-survey the lower 12 miles of Johnson Creek, as well as Crystal Springs Creek, portions of Kelley Creek, and Mitchell Creek. Comparing these two datasets provides insight into how and where stream conditions in the Johnson Creek watershed have changed over the past 20 years.

BREAK

Session #2 (Moderator: Katie Holzer, PhD)

Leach Botanical Garden Community Habitat Enhancement Education Project

Multicultural collaborations can lead to collective impact that contributes to improvements in watershed health and advancement of environmental justice goals. The Leach Back 5 project is an example of one such collaboration focused on restoring biodiversity of a 5-acre site in a way that also increases the diversity of people engaging in nature-based activities and environmental stewardship at the site.

In this presentation, we give an overview of the project, while also providing lessons learned that can be applied to other initiatives that involve partnerships between predominately White and culturally-specific environmental organizations.

The Evolution of Floodplain Management Approaches in the Johnson Creek Watershed

Johnson Creek has a long-standing history of stream channel and floodplain modifications from various anthropogenic uses and specific flood management techniques. These modifications have changed our way of thinking of flood management and had significant implications for future projects. This research includes a documented history of floodplain management approaches, an assessment of how management has evolved over time, and the impact on salmon habitat over these changes. The geographic scope of the project is fixated within Portland city limits of the watershed and focuses on important geographic anchor points, including the Lents neighborhood, the Springwater Corridor, Zenger Farm, and Foster Rd. The findings of this research will be displayed in an interactive web tool using photographs, narrative text, and interactive maps. The web tool, also known as a story map, will serve as an education tool for communicating the relative benefits and limitations of various flood mitigation approaches.

Gresham Forest Dieback Mapping: The Case of the Disappearing Red Alders

Red Alder stands have been in decline in the region, likely due to the synergistic effects of climate change, aging forests, and pests and diseases. This has raised concerns about the health and resilience of our urban forests and how we can manage them to mitigate climate change impacts. In 2019, the City of Gresham began to assess this issue on the 3,000+ acres of forested lands with the City limits. We delineated the forest stands, mapped canopy dieback, and are currently mapping understory stand health. We found that since 2014, we have lost 180 acres of forest canopy due to increasing rates of Red Alder mortality. Our concern is that *Rubus armeniacus* (Himalayan Blackberry) has and will continue to expand into these stands and interrupt natural forest succession, posing a further threat to the resilience of our urban forests.

Who is the Voice of Water and What Would Water Say?

Five years ago a group of passionate water educators came together and formed a voluntary collaborative called the Clean Rivers Coalition. Together they had a dream to protect Oregon's natural resources by focusing on water. They have collaborated with 60+ stakeholders including watershed councils, SWCDs, environmental non-profits, state and federal scientists, and the Columbia River Inter-Tribal Fish Commission to determine the top concerns for water health. Keri will present the summary of the science R&D conducted as a foundation for the group to move into the future. Roy will present where we are today and where we are going in the next year. Join us for the revolution.