

American Water Resources Association
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Wednesday, Nov. 11

8:30 AM – 10:00 AM

SESSION 37: Integrating Instream Flows into Water Resource Planning

Market-Based Strategies for Stream Flow Restoration and Mitigation - Amanda Cronin, WA Water Trust, Seattle, WA

Washington Water Trust (WWT) is a 501(c)3 nonprofit organization working to restore stream flows in Washington state. Competing demands for surface and ground water have resulted in over allocated streams throughout the state and diminished instream flows have negatively impacted many aquatic and riparian species including salmonids. Washington Water Trust has 11 years of experience in using voluntary, market-based approaches to restore stream flows. Working cooperatively with irrigators, conservation districts, municipalities, agencies, tribes and other entities WWT has a unique approach to conservation of freshwater resources. This presentation will describe WWT's development and implementation of restoration, mitigation and water banking strategies to achieve river restoration, continued agricultural production and sustainable economic development. We will offer a full range of possible transactions that provide stream flow restoration and or mitigation, including: partial season leasing and purchase of water rights, full season purchase or leasing, waterbanking, shallow aquifer recharge, source substitution, and water conservation. Using real examples, from around Washington State we will discuss various flow restoration techniques as well as flow mitigation. The presentation will detail steps taken to determine the feasibility of implementing a water bank which include socio-cultural and political conditions as well as the ecological and hydrological conditions of the watershed. The presentation will also illustrate the institutional design for an exchange establishing pathways by which water rights can be redistributed and corresponding administrative mechanisms, and necessary reforms and actions to create an efficient marketplace that protects and restores instream flows.

Washington Water Law and Instream Flow – Lisa Pelly, Washington Rivers Conservancy, Wenatchee, WA (co-author: Tom McDonald)

Washington Rivers Conservancy will discuss the mechanisms available through Washington water law that allow for innovative projects, programs and ecological strategies for protecting water rights and enhancing instream flows. We will also discuss how the use of the state's Trust Water Rights Program can enhance efforts for protecting water rights for instream flow while protecting water rights from relinquishment and recently passed legislation that enhances the use of water banking; providing opportunities for enhancing instream flow and other benefits statewide. We will provide some examples of how these programs work in Washington. WRC works in Washington's communities providing water rights expertise, including negotiating and facilitating the transfer of water to instream flow. We partner with water right owners, land trusts, state and federal agencies, and tribal entities promoting voluntary, market based approaches that have economic, environmental and social benefits for communities in Washington. We provide expertise and technical assistance to local watershed planning groups, Conservation Districts, private landowners and others on water rights and water rights acquisitions. We assist private landowners in the development of innovative transaction methods for flexibly managing their water for irrigation use and instream flow. We also provide non-regulatory evaluations of the extent and validity of water rights for public entities and private individuals. WRC is the author of the Landowners Guide to Washington Water Rights, a primer on Washington water law available on their website.

Maximizing Groundwater Recharge Opportunities in Glaciated Terrain through Basin-Level Stormwater Planning: Case Histories from Eastern King County, Washington – Curtis Koger, Associated Earth Sciences, Inc., Kirkland, WA (co-author: Jennifer Saltonstall)

The glaciated terrain of the Puget Lowland region presents challenges to effective uses and practical application of stormwater management strategies attempting to mimic pre-development hydrology. Low Impact Development (LID) strategies to maximize ground water recharge are largely controlled by the surficial geology and local groundwater conditions. In areas of permeable sediments and shallow groundwater, infiltration opportunities include dispersed infiltration through pervious pavement systems in combination with rain gardens and bioswales. In areas of shallow groundwater or highly stratified sediments, concentrated infiltration systems, such as large rain gardens or conventional infiltration ponds, are generally not feasible without built-in mitigation, such as Underground Injection Control (UIC) wells.

Long term groundwater level monitoring programs from two Master Planned Communities in east King County, Washington demonstrate the effectiveness of integrated site planning and stormwater management in maintaining aquifer recharge. Case studies include a 2,580-acre Fully Contained Community near Redmond, Washington and a 2,075-acre development located in Snoqualmie, Washington. Stormwater management strategies were focused on maintaining hydrology to shallow wetland-based systems and maintaining deep groundwater recharge to regional aquifer systems. Baseline groundwater level monitoring was conducted prior to initial site development, continued throughout multiple phases of development, and into post-development. Long term groundwater level monitoring demonstrates aquifer levels have been successfully maintained throughout project buildout and post-construction monitoring phases. Maintaining aquifer recharge provides direct environmental benefit to groundwater and surface water resources such as baseflow to springs, streams, wetlands and water wells.

King County's Perspectives and Interests for Instream Flow Management - Stephen Hirschey, King County, Seattle, WA (co-author: Dave Monthie)

King County is a large multipurpose municipal government located on the eastern side of the central Puget Sound basin. The County shares part of three major watersheds covering an area of over 1,600 square miles stretching from the snow-capped Cascade Mountains down to the shores of Puget Sound. The water resource management interests of the County are diverse ranging from land use planning, permitting development in the unincorporated areas, stormwater management, salmon recovery, reclaimed water, roads, and flood management. Besides the varied interests, the role of the County ranges from a land owner, to the regulator, the regional facilitator for policy or funding and sometimes plain old cheerleading. Instream flow management and how others ranging from federal government, state, cities, special purpose districts, and general public interpret and implement their missions influences County interests. This portion of the central Puget Sound region is unique in Washington State for a lack of watershed planning to address instream flows under the State's current framework. That is not to say that various planning efforts have not been pursued. The presentation will outline what the County's interests in instream flow management are, how they have been presented over time, and whether or not those interests are by our current management system.