

# Public Acceptance of Recycled Water – New Water Brew

**Abstract:** The concept of potable reuse is no foreign notion, particularly for drought driven communities in several parts of the world and throughout the southwestern part of the United States. However, considerable growth in the understanding and implementation of potable water reuse as a standard throughout the globe is still essential. In the State of Florida, where potable reuse is not yet a demand, but an innovative alternative for sustainment of growing populations and increasingly limited fresh water supplies, several municipalities have begun the process of exploring potable reuse and educating the community about the future of a sustainable water supply.

One of the greatest ways to educate is to demonstrate and validate. Creative and engaging approaches to teaching a community about potable reuse can aid in capturing public attention on a local and national level, in addition to delivering a message about the robustness, safety and reliability of potable water reuse. A growing trend in potable reuse research efforts is the use of highly purified reclaimed water in commercial applications, such as the beer brewing process. By intertwining a universally consumed beverage with a concept that is still extraneous to the general public, a creative approach is produced for enlightening the community and stakeholders as well providing data and validation of the treatment process to regulatory agencies for the advancement of potable reuse in Florida.

A creative water technology demonstration project was built and operated at the Hillsborough County Utilities' Falkenburg Advanced Wastewater Treatment Plant (AWWTP), where tertiary treated reclaimed water was treated with full advanced treatment technologies to meet or exceed potable water drinking standards for distribution to home brewers. The demonstration project is one of the first direct potable reuse (DPR) demonstrations, and was performed in conjunction with the WaterReuse Association. The project illustrated the influence of advanced treatment technologies for purifying reclaimed water into a water of superior quality for drinking and other high quality uses, which included an industry-leading, multiple treatment barrier water purification process known as the full advanced treatment (FAT) process. The FAT process used in this project consisted of membrane filtration (UF), reverse osmosis (RO), and ultraviolet disinfection with advanced oxidation using hydrogen peroxide (UV-AOP). Results from the water quality monitoring indicated that the highly purified water produced from the treatment process met primary and secondary standard maximum contaminant levels (MCLs) established at the Federal and State levels. A virus surrogate study was also performed on the treatment processes that indicated at least 15.6 log reduction credit for viruses. The presentation will discuss the unique project approach, results and existing and future plans for expanding the knowledge on this creative educational approach and outreach demonstration program nationwide.

**Presenter:** **Bart Weiss, P.G.**  
**Title:** Director, Reclaimed Water and Discharge Elimination Division  
**Organization:** Hillsborough County Public Utilities Department  
**Phone:** 813-209-3000  
**Email:** [weisst@hillsboroughcounty.org](mailto:weisst@hillsboroughcounty.org)

Mr. Weiss is the current Water Reuse Person of the Year and he is on the National Water Reuse Association Board of Directors and the WE&RF Board of Directors. He is a registered Professional Geologist with the State of Florida and has over 27 years of experience in the water resource and supply industry.

Mr. Weiss has extensive experience in public utility management, where he has overseen Operations Command/Control associated with over 455,000 customer accounts and 12,000 mission critical assets. Additionally, he is heading up Hillsborough County's initiative to beneficially use 100% of their reclaimed water.

Mr. Weiss's educational background includes a B. A. in History from Erskine College, a B. S. in Geology from Texas A & M, and a Masters of Business Administration from Saint Leo University.

**Presenter:** **Abigail Antolovich**  
**Title:** Business Development Manager  
**Organization:** Xylem

Abigail Antolovich is Xylem's North American Municipal Business Development Manager. She has 15 years of experience in the water and wastewater industry and has worked in the public and private sectors in domestically and abroad. She is currently the co-chair for the Water Reuse Association's industrial committee, is a past president and current board member of Water Reuse Colorado, and was previously named the Rocky Mountain WEF/AWWA Young Professional of the year. Abigail holds a chemical engineering degree from the University of Colorado at Boulder and is a registered professional engineer.

**Presenter:** **Jared Kinnear**  
**Title:** Recycled Water Program Manager  
**Organization:** Clean Water Services  
**Address:** 1345 SW Fern Hill Rd, Forest Grove, OR 97116  
**Phone:** 503-547-8080  
**E-mail:** [kinnearj@cleanwaterservices.org](mailto:kinnearj@cleanwaterservices.org)

Jared is the Recycled Water Program Manager at Clean Water Services. He is a Professional Wetland Scientist and has worked on design, permitting, and implementation of wetland mitigation and stream enhancement projects throughout the Pacific Northwest over the past 20 years. For the Fernhill Wetlands Natural Treatment Systems project, Jared will be responsible for wetland design elements and permitting, construction oversight, wetland plant selection, operations and maintenance, and programmatic development of the entire 750 acre site. Jared manages the Reuse and Bio-solids Programs for Clean Water Services. Clean Water Services manages the largest reuse program in the state of Oregon.