



Connecting the Drops

Transcript: Beverages brewed with reclaimed water advance reuse

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Beer and wine made from purified wastewater are offering the public exposure to a type of water reuse with the potential to reshape water consumption in Colorado. As part of Connecting the Drops, Hannah Leigh Myers explores water reuse.

Colorado is known for its adventurous and innovative microbrew industry. But, the beer served in October at the *Blue is the New Green: Recycled Water Fest* southeast of Denver, takes that reputation to a whole new level.

The Centurion Pilsner on offer was made with water taken from a wastewater treatment plant. As was the wine served, the Copperhead Cabernet Shiraz by InVINtions of Greenwood Village.

The free outreach event, hosted by *Water Education Colorado* and *WaterReuse Colorado*, offered the public perhaps their first exposure to a type of water reuse with the potential to reshape water consumption in Colorado.

Austa Parker is a Water Reuse Technologist with Carollo Engineers. In early 2018, she participated in the *PureWater Colorado Demonstration Project*, a collaborative pilot program intended to prove that a rarely used five-part water purification system can turn contaminated, used water into so-called potable water that's clean enough to drink. Parker says the treatment method the project utilized isn't new but the circumstances surrounding the project are unique.

"This treatment train has only been used once before in a project in Florida. This is the first one that was done in the winter and the first one that was done in a completely landlocked state. This system can produce a complete new drinking water supply for Colorado using treated wastewater that's usually discharged into rivers and streams."

And turning that reused water into beer and wine is a tactic members of the project, and members of the industry, say is hugely helpful in convincing the public reused drinking water is nothing to be concerned about.

“This is such an important outreach step for our community and industry of potable water reuse because no one is going to say no to a glass of wine or a glass of beer. We’re all okay drinking that and having a nice time so when we normalize drinking reused water in the context of beer and wine it makes normalizing it in the context of drinking water much easier,” says Tyler Nading, a Drinking Water Technologist with Jacobs Engineering.

Colorado’s been purifying and reusing wastewater for non-potables uses like irrigation and power generation since the 1970s but President of *WateReuse Colorado*, Allegra da Silva, says expanding water recycling into the realm of potable uses is a necessary next step considering the Colorado Water Plan’s prediction that the state may face a water shortage of up to 560,000 acre-feet per year by 2050.

“We’re not going to be able to find enough landscapes that we want to irrigate to close that gap. So, in other words, if we’re looking for some more golf courses to hook up for recycled water or maybe one or two more power plants it’s just not going to get us there. The only way we can approach several hundred acre-feet per year is some pretty innovative approaches including potable reuse.”

Da Silva says as the threat of water scarcity grows so is municipal interest in water reuse. The Town of Castle Rock on the Front Range is at the front of the charge towards municipal water reuse infrastructure, with a potable reuse system scheduled for completion in 2020. Water Resources Manager for Castle Rock Water, Matt Benak says they’re aggressive embracing water reuse out of necessity.

“We’re trying to wean ourselves off the deep Denver basin aquifer water that Castle Rock has been so reliant on for years and years and years and that’s a depleting resource. So, what we want to do is try to use water that comes from the deep Denver basin and reuse that over time.”

But due to a variety of state laws dictating what kind of water can be used and from where, not all municipalities will have the water rights necessary to do what Castle Rock is planning. University of Denver associate professor of law, Tom Romero says there’s a reason Colorado’s rules about water reuse are fairly strict. *“Unlike many of our downstream neighbors, we’re limited as a headwater state, we do have to deliver a big chunk of the water to our downstream neighbors because if we are in deficit we all pay in one way or another.”*

But, where Colorado water law is rigid, lawmakers have the ability to be flexible. *“The legislature can come in and pilot projects, for instance in the example of rainwater capture. It’s a type of reuse. So, these pilot projects allow us the flexibility to at least test the impact that it’s going to have on the system. We’re in an exciting moment to see where that leads us,”* says Romero.

In the 2018 Colorado legislative session lawmakers passed multiple bills expanding non-potable use of reclaimed water but it’s the absence of any state or federal laws regulating potable water reuse that’s putting recycled drinking water in a sort of limbo.

State and federal lawmakers are looking to pilot programs like the *PureWater Colorado Demonstration Project* to help them set regulations. But, water managers are hesitant to invest in infrastructure that future regulations may ultimately render obsolete or excessive and water consumers are hesitant to get behind the idea of drinking reclaimed wastewater without regulations in place to ensure safety and purity.

And that’s where the beer and wine comes in. According to Bartender Lucas Restrepo, judging by people’s reaction to the beer and wine, water reuse advocates working to normalize reclaimed drinking water should consider the *Recycled Water Fest* a success. *“They actually really enjoyed it. I didn’t see anyone turned off that it was recycled water.”*

So as Colorado water managers, lawmakers, scientist and advocates work to take big strides toward widespread potable reuse, the public is taking steps in that direction one drink at a time.