

Public outreach for informed acceptance

by Linda Macpherson

When Guy Lalibertè, founder of the Cirque du Soleil, spoke to the world from the international space station in 2009, he described how advanced technology was being used at the station to recycle astronauts' urine, sweat, and exhaled breath condensate into water for drinking. Thousands of people watching live on Facebook responded with positive comments, collectively approving of the process as though they were all saying, Hey, I get it! This doesn't seem bad at all! Gulping a drop of clear recycled water in weightlessness, Lalibertè said he hoped someday the same technologies could be used to solve water supply problems on earth.

Unfortunately, surveys have revealed that the overwhelming majority of Americans don't know where their drinking water comes from, or that their drinking water supply probably already includes some treated wastewater. In the urbanized world, water is delivered magically to the tap. Some may think, who needs to think about it?

As children, we learned that water naturally constantly circulates in a continuing cycle in our eco system. Many of the technologies that serve humankind today are adaptations of natural processes. This is the case with modern water treatment technologies, which have yielded astounding results. Today, we can reliably purify water far beyond the level required for human consumption—to levels much purer than the purest municipal drinking water. However, when we define DPR as the absence of an environmental buffer in the form of a reservoir or a groundwater basin, we imply to the uninformed that something beneficial to our health is missing. The environmental could be defined as an effluent degradation zone wherein the highly purified effluent is degraded through blending with less pure water. Words matter. It is the quality of the finished treated water that is critical – not the history of where it has been.

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Never has the need, or opportunity, been greater to focus public attention on sustainable water management and the potential role of potable reuse. But this opportunity will be lost unless the industry can put forth enticing, interesting information about water's use and reuse. Conventional stigmatizing definitions, language, and imagery will force that door shut, not keep it open.

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More interesting, accessible, and honest conversations about the real world of water use and reuse has been proven to open the minds of a skeptical public. A clear understanding of the use and reuse of water along our rivers gives important context, without which the public understandably imagines a utopian, fictional water supply system where no water is reused. Our definitions and conversations about water need to become real for people to have an equally real understanding on which to base realistic, rational decisions. The public deserves no less. As a changing climate puts water in the headlines, water utilities need to communicate with the public openly and transparently.

The task today is to create new symbolism and language of the water cycle – to show that the life cycle and the water cycle are linked. Water is safely reused every day nearly everywhere and technologies exist to do so more safely than ever before. In the future, sustainable communities will be those that embrace these technologies. Water truly is nature's reusable resource.



Linda Macpherson is an expert strategist on building public understanding and acceptance of water reuse as part of an integrated approach to sustainable water management. Macpherson has created environmental education exhibits, videos, interactive computer programs, and printed materials to help spread the message about water. Macpherson founded *New Water ReSources* in 2009 to focus on changing people's thinking and behavior about water, especially its use and reuse. She also remains a key contributor to CH2M's reuse practice where she serves as Principal Reuse Technologist.

Web link: Ways of Water Explains the Water Cycle and Potable Reuse
watereuse.org/foundation/ways-of-water

Making DPR a reality

A number of communities in the United States are practicing or considering the potential of DPR as a sustainable and local source of water supply, especially in areas experiencing water scarcity and extended droughts. Challenges to DPR do exist, and research is underway to ensure that DPR is protective of public health. The goal of the WaterReuse Research Foundation's more than \$12-million DPR program is to do just that. These experts – Shane Trussell, Andrew Salveson, George Tchobanoglous, Troy Walker, and Linda Macpherson – reflect on the need for approaches to addressing these challenges, including understanding the risks and controlling chemicals and pathogens, enhancing the operation of DPR facilities, training and certifying operators of advanced treatment plants, achieving public acceptance, and characterizing DPR as a sustainable water supply option. Let's continue to overcome the obstacles to make DPR a viable part of our diversified water portfolio.

Authors' Note



Julie Minton is the director of research programs for the WaterReuse Research Foundation, based in Alexandria, Virginia, United States. She is responsible for managing a comprehensive research program and staff. Collectively, her team oversees more than 50 active projects, including 20 to address the scientific and technical gaps associated with DPR.



Jeff Mosher is the executive director of the National Water Research Institute, a non-profit organization in California that addresses scientific and policy issues related to recycled water and water resources. His work has focused on the implementation of recycled water projects, including both IPR and DPR. He is working with cities, water districts, and state agencies on potable reuse efforts throughout the US southwest region, where water scarcity is a priority issue. He has also managed numerous independent advisory panels that provide expert review of potable reuse projects, including a current effort to develop a Framework for Direct Potable Reuse in collaboration with the WaterReuse Association, Water Environment Foundation, and American Water Works Association.

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