

Recycled Water and Salinity Management: Lessons Learned from Colorado's Front Range

Ty Bereskie, Ph.D., Senior Planner
Denver Water, 1600 W 12th Ave. Denver, CO 80203
303-628-3717, Ty.Bereskie@denverwater.org

Damian Higham, Senior Planner
Denver Water, 1600 W 12th Ave. Denver, CO 80203
303-628-6537, Damian.Higham@denverwater.org

Abstract

Recycled water is rapidly gaining traction as a vital part of a sustainable municipal water supply portfolio, especially in areas with significant seasonal variability and/or drought vulnerability. While the use of recycled water has many benefits, it typically has higher salinity than freshwater sources. When used for landscape irrigation, the increased salinity levels can pose different challenges for plant cultivation. In Colorado's Front Range, the traditional water supply has naturally low salinity levels and the planted landscape is heavily non-native and often sensitive to salt. Therefore, a shift to recycled water with increased salinity levels requires different management approaches to maintain healthy landscapes.

To supplement the traditional water supply, Denver Water has provided select customers recycled water since 2004. Most of this water is used for landscape irrigation purposes, but is also utilized for other approved purposes such as industrial cooling processes, washwater applications, zoo operations, and fire protection. While Denver Water's technical staff were initially aware of potential issues associated with higher salinity levels from recycled water, it was anticipated that the significant rate discount would result in additional resources for recycled water use and landscape irrigation best management practices.

To satisfy internal and external stakeholders and better prioritize salinity management, Denver Water collaborated with Denver Parks and Recreation, Colorado State University, and experts in environmental consulting to conduct water, foliage, and soil sampling to better understand the urban landscaping salinity issues. Denver Water also worked to develop recycled water landscape irrigation best management practices and provide educational outreach to irrigation operators, while providing customers with information related to more resilient urban landscaping options.

As the use of recycled water continues to grow, a proactive and collaborative approach to salinity management, regulatory compliance, and stakeholder engagement must continue to be a priority. This poster will highlight Denver Water's experience, collaborative efforts, and lessons learned related to salinity management and recycled water.