

Treatment, Public Health and Regulatory Issues Associated with Graywater Reuse

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Abstract. Concerns over limited water resources in arid and semi-arid regions, in addition to overloaded and/or costly wastewater treatment facilities, have resulted in utilities looking toward new concepts for water management. This is particularly true in the Southwestern United States. One approach, which is increasingly gaining popularity, is the reuse of graywater for nonpotable uses. Graywater reuse has been known to be prevalent in the U.S. for at least 10 years. A study conducted by the Water Conservation Alliance of Southern Arizona showed that 13% of homes were reusing graywater in the year 2000. Despite the prevalence of graywater reuse, most current regulations have not been based on science and states currently looking toward developing regulations and guidelines on the safe reuse of graywater are seeking guidance on doing so. Also, the link between graywater constituents and risk to human health has not been well studied. Therefore, risks posed to human health by graywater reuse remain largely unknown. The objective of this project is to gather useful data on the water quality, currently available technologies, and standards for integrating graywater systems into various types of localized sites. Additionally, surveys from state health officials (including both states that allow graywater use and states that lack a graywater regulation) will contribute in developing the key issues of implementing a graywater regulation. The data gathered will help regulatory agencies to make decisions based on water quality information, available technologies and standards. A spreadsheet based end product will be created bringing together all accessible data on water quality for a range of graywater treatment levels.