# The Septic Times

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*April / May, 2013*

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# Don't Miss It!

# Rainwater Catchment, Filtration, Storage & Onsite Use Continues To Increase in the U.S.

by Christopher Keiger, PG

Rainwater harvesting (RWH) and use as a means of water conservation continues to become an important component in the array of solutions for many areas that have now reached their limitations. In order for many cities and communities across the country to meet future population growth demand the practice of stormwater capture and RWH is now seen as an important part of the water shortage solution. This is particularly evident in arid states, drought prone regions, coastal areas and island communities that have poor quality and/or limited available resources and have suffered severe shortages in recent years.

The current model in the United States is that the majority of homes and businesses continue to use potable water for non-potable needs. European countries, parts of Asia, Australia, and many places throughout the world have had no choice but to rely on RWH & use programs because of limited surface water and/or groundwater supplies. RWH and water reuse programs have become highly successful in European, Asian and Australian markets as the practice is becoming widely used for outdoor uses, toilet flushing and even clothes washing. The historic approach in the U.S. has been to use the potable supply for all water uses and instead of using storm runoff onsite, seek ways to divert it away to prevent flooding of the property. However, as the cost of providing potable water to the public continues to rise and with limited water resources it is becoming evident that the current model we've been used to is not sustainable in many areas of our country. Irrigation alone accounts for a least 1/3 of all fresh water used in the U.S. This places a heavy burden on existing water treatment infrastructure. As a result many of the stormwater and RWH collection systems are being built with outdoor irrigation as the intended end use.

In the past decade the technology of capture, filtration, storage and use of rainwater has made significant advances worldwide. More cost-effective components have become available along with a better understanding of the water quality requirements and a clearer definition of the concept of "fit for purpose" is becoming more accepted by regulators. Many states are introducing or adopting new standards that reflect these changes and the stage is being set for the stormwater capture and RWH industry to continue evolving and showing strong growth.

In many areas of the country new construction of homes, businesses and government buildings are starting to use duel plumbing designs which separate potable supply plumbing from onsite water capture and use plumbing. New plumbing standards are evolving to reflect these changes. Condensate from air conditioning systems and other water reuse initiatives that promote onsite graywater and wastewater reuse are also evolving and moving forward in an effort to achieve maximum conservation for the future. Examples include school applications which have achieved close to 100% reduction in non-potable water consumption where rainwater and condensate is collected on the roofs and used in toilets and urinal flushing, and wastewater is used for outdoor drip irrigation and irrigation on playing fields.

It can be anticipated that the continued progress of RWH and use as well as other water reuse initiatives in the United States is forthcoming. Continued progress of reuse regulations and government incentives and periods of water shortages in both rural and large population centers will heighten public awareness about all methods of water conservation and strengthen the perception that all water sources are a resource.

### *About the author:*

Christopher Keiger is a registered professional geologist in five southeastern states with a total of 27 years of experience. He is a managing partner of Smartwater Solutions Group and Owner of RainStore-USA &Innovative Environmental Products. Prior to his current position Chris worked for Bord Na Mona Environmental Products as a Business Development Manager promoting environmental products in the onsite wastewater treatment and water reuse sectors. Earlier in his career, Chris worked as a consulting geologist. He is currently focused on rainwater harvesting and use, onsite wastewater and other water reuse initiatives in North America and the Caribbean.