

Water Conservation and Re-use in Virginia

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Coastal Groundwater

- Groundwater availability in the coastal plain is increasingly limited
- 60% of the groundwater withdrawn is used for industrial purposes
- Discussions have occurred to look at the viability of reducing groundwater use by supplying re-use water to some large users
- Not as easy as it seems, many issues to be addressed

Residential Irrigation

- Fastest growing water use sector
- Represents 30-35% of total annual public water system use
- 50% of that water evaporates or runs-off
- Uses highest quality water for lowest societal benefit
- Conservation could be achieved by greater use of drip and “smart” irrigation technologies

Agricultural Water Use

- Agricultural irrigation in VA is not well documented
- According to the USDA, irrigated agriculture is expected to increase in these regions due to climate change
- In Virginia, irrigation is the most significant on the Eastern Shore
- More reliance on the water table by agriculture instead of deep wells to conserve potable supplies

Water Re-use in VA

- Regulations became effective 2008
- Implemented through VPDES/VAPA permits
- Promote and encourage the reclamation and reuse of wastewater
- Protect the environment and public health
- Re-use water typically used for cooling, industrial processes, and in some cases irrigation

Water Re-use in VA

- Bay nutrient allocations (alternatives to discharge), rapid urban growth, and limited groundwater in coastal plain are driving greater consideration of re-use options
- No silver bullet to promote greater re-use
- Every opportunity is site and project specific

Who regulates water reuse in Virginia?

DEQ – regulates the reclamation and reuse of domestic, municipal (sewage) or industrial wastewater

VDH – provides guidelines on the reuse of gray water and potable reuse of harvested rainwater

DCR – will regulate the reclamation and non-potable reuse of storm water, including harvested rainwater (SB 378, 2008)

Current Activity

- Very little activity by most utilities on conservation or demand management
- Significant re-use activity with a number of projects moving forward
- Many worthy projects applied for stimulus funds and some re-use projects were funded

Conclusions

- Growth and development is necessary for continued prosperity
- Water may be the limiting factor for growth
- Current rates of use are causing groundwater problems in some areas
- There is not a single action to take to achieve greater sustainability
- Greater funding and incentives to promote greater conservation and more re-use are needed

Need Information?

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GW Availability Problem Areas

