

# TOWN OF SOUTH KINGSTOWN



## OUTSIDE WATER RESTRICTIONS

### FREQUENTLY ASKED QUESTIONS (FAQS)

July 2021

Almost every summer, local water utilities (with the exception of Kingston Water District - KWD) impose outside water restrictions in order to ensure adequate water supply for essential uses and fire protection needs.

The following FAQs are intended to provide clarification on the rationale for the seasonal outside water restrictions:

**Q: What local water utilities typically impose water restrictions?**

*A: Suez Water RI, South Kingstown South Shore & Middlebridge and the Town of Narragansett typically impose outside water restrictions during the summer months.*

**Q: Where do local water utilities get their water from?**

*A: In addition to their own water customers in Narragansett and South Kingstown (primarily the Wakefield and Peace Dale areas) Suez Water RI also provides wholesale water to the Town's South Shore and Middlebridge water systems in addition to the Town of Narragansett.*

**Q: How much does customer water demand change in a given year?**

*A: In general for the South Kingstown South Shore water system, we typically purchase approximately 250,000 gallons of water per day during the winter months. This amount increases upwards of 750,000 gallons per day during the summer months without outside water restrictions. Water demand is reduced by about 200,000 gallons per day (for a total of 550,000 gallons per day) once outside water restrictions are imposed.*

**Q. Where does Suez Water come from?**

*A. Suez has two (2) groundwater well fields located in the central part of South Kingstown.*

**Q. Why doesn't Kingston Water District (KWD) impose summertime water restrictions?**

*A. KWD currently has adequate water supply for summer usage due to a loss of some large users a number of years ago (ex.: Schneider Electric, f/k/a American Power Conversion and URI East Farm complex).*

**Q. Can KWD provide any surplus water it has to Suez Water on a wholesale basis?**

*A. KWD and Suez have discussed an interconnection between the two water systems in the past; however, the composition of each water system's water and the hydraulic gradient (difference in the height of water storage) for each water system is problematic since the KWD water system is significantly higher than the Suez water system. However, the water systems will continue to review this option.*

**Q. Why don't large urban areas such as Providence and Pawtucket impose outside water restrictions?**

*A. With the exception of a desalination plant in Taunton, MA, water utilities in New England typically rely on either groundwater wells or surface water reservoirs for potable water.*

*The northern part of the State, Aquidneck Island and the Town of Jamestown rely on surface water reservoirs, whereas South County relies strictly on groundwater supply and sole source aquifers as the source of supply for its water users.*

*Surface water reservoirs in most cases (ex.: Providence Scituate Reservoir) have vast reserves that can handle peak summer user demands associated with outside water consumption; however, smaller reservoir water systems (ex.: Jamestown Water System) have far lesser reserves and must rely on other sources of supply (ex.: groundwater well) to augment their surface water reservoir during peak demand period.*

**Q. Can the local water systems develop new sources of supply to provide more water during the summer months?**

*A. Unfortunately, groundwater suppliers do not have the luxury of having vast water source reserves that surface water systems have. Groundwater systems essentially pump from the aquifers to the water users and the water storage tanks to maintain system pressure.*

*Additional source of supply would provide additional water, but would likely not solve the summer outside water restrictions.*

*It is also important to note that SUEZ would likely not be able to secure State regulatory agency approval to develop a new source of supply in the Chipuxet or Mink aquifers. A preliminary Chipuxet Basin study prepared by the State of RI in 2014 noted that there is a 6.2 million gallons per day (MGD) withdrawal deficit in the Chipuxet basin during the summer months.*

Therefore, it is highly unlikely that regulatory permitting can be secured to develop new groundwater wells, where the intent of the water usage is for outside residential irrigation.

**Q. Can South Kingstown build a water treatment facility for its South Shore well field?**

*A. Since 2002, the Town has purchased water for the South Shore water system wholesale from SUEZ Water RI (f/k/a – United Water RI, Wakefield Water) due to elevated naturally occurring dissolved iron contaminates found in the aquifers. The South Shore water system could design and construct a water filtration plant at an approximate cost of \$7 – \$10 million, but that expense would be passed back on to the rate payers. The debt service for such a project, combined with the additional operational & maintenance (O&M) expense would be crippling to the rate payers unless grant funding could be secured (no such grant funding has been found to date).*

*Unlike the South Shore water system, the Middlebridge water system has no source of supply and has relied on a wholesale water connection with SUEZ since its construction in the mid-1970's.*

**Q: What is the purpose of local water utility water tanks?**

*A: As noted above, groundwater suppliers essentially pump out to their water customers and limited water storage tanks. The purpose of the elevated water storage tanks is three-fold:*

- 1. Maintain positive water system pressure, and*
- 2. Have reserve storage for fire suppression events, and*
- 3. Have reserves storage to handle peak demand*

**Q: Can the local water systems build larger water tanks to store more water for outside summer demand?**

*A: With respect to peak demand criteria, the water storage tanks were not designed to provide for unlimited, outside water usage, but rather to address peaks in essential uses (ex.: drinking, consumption, bathing) associated with seasonal increases in population. Outside water consumption puts the largest strain on ground water suppliers to maintain water supply during the summer months. This is further exacerbated by automated lawn sprinkler systems, especially those that do not employ “smart” technology (ex.: precipitation sensors, etc.).*

**Q. SUEZ recently replaced their “Prout” and “Sherman” (Allen Avenue) water tanks. Why can't they supply unlimited water for outside summer usage?**

*A. The “Prout” and “Sherman” water storage tanks recently replaced by SUEZ transitioned from existing “standpipe” tanks (essentially vertical cylinders) to elevated water storage tanks. In addition to being larger in size, the water storage in the new tanks is “elevated” to provide greater customer water pressure, since the volume of water at the bottom of the former “standpipe” tanks provides little, if any, water pressure benefit.*

*However, the tank volumes were not designed for unlimited outside water usage during the summer months.*

**Q. What problems are associated with building larger water tanks?**

*A. First and foremost, building additional water storage to replicate the volume of a surface water reservoir would be extremely expensive and in the case of the South Shore system, would be problematic for nine (9) months of the year, whereby water storage detention times would increase significantly during non-peak periods.*

*Second, longer water storage detention times also have an adverse effect on chlorine residual levels (ex.: chlorine residual decays over time), which is needed for disinfection and disinfection by-products - DBPs (ex.: DBPs increase over time).*

**Q. Would there be any additional local water system improvements that would be necessary to supply unlimited water for outside usage?**

*A. Assuming there was an unlimited source of supply and unlimited water storage, water utilities must be able to “move” water from one point to another. Upgrades to each water utility’s water distribution system, by increasing water main diameters, would likely need to occur (at a significant expense to be passed on to the ratepayer) in order to provide unlimited potable water.*

*It is also important to note that larger distribution piping systems also results in additional stored water, which will likely have a deleterious effect on chlorine residual and increased DBP levels.*

**Q. Are there any other concerns associated with local water utilities making improvements to provide unlimited water for outside usage?**

*A. As compared to the western portion of the United States and other parts of the world where water is a scarce commodity, water is relatively plentiful in New England. That being said, one must question if improvements to water systems are in order to provide potable drinking water, which meets or exceeds the USEPA Safe Drinking Water Act, for the purpose of unlimited outside irrigation.*