

# Reinventing the Water Grid

Successes, Challenges, and Unintended Consequences

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# Challenges

## ***Watershed level: Supplies***

Overdrafting available supplies

## ***Building Level***

Codes and current practices are hard to change

Diminished flow of treated water

Dual piping

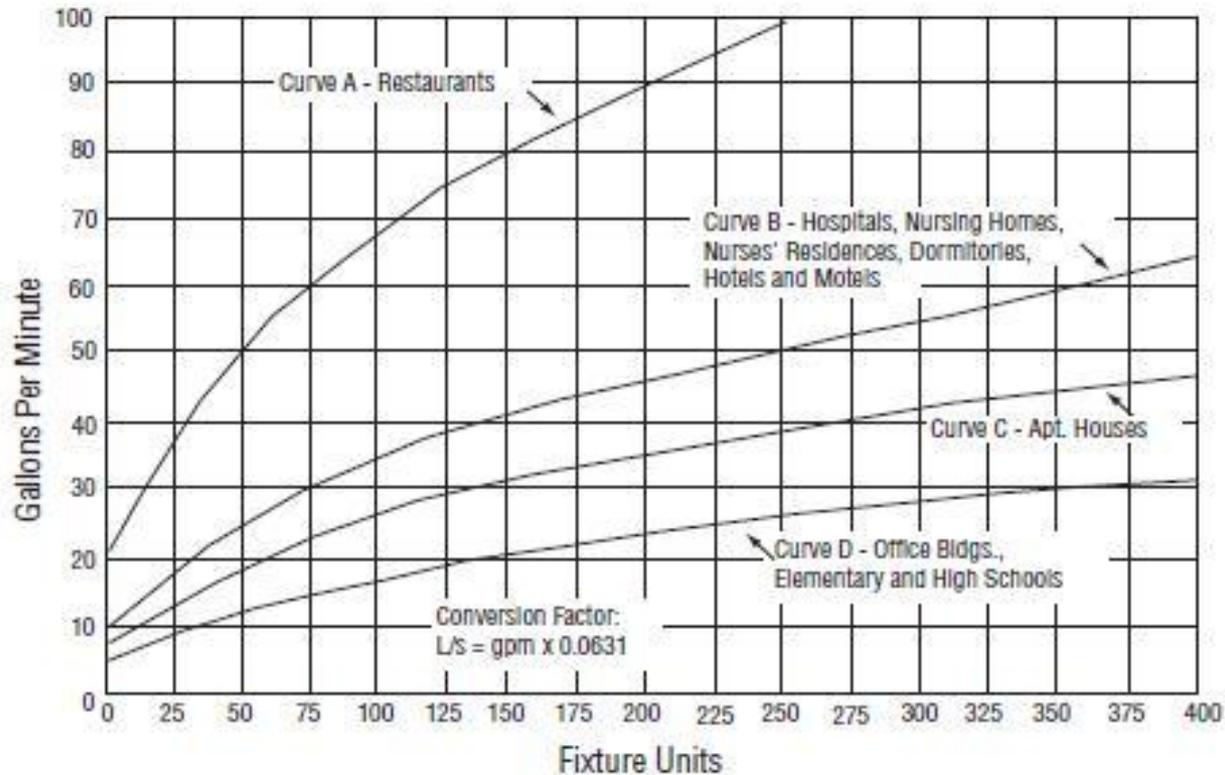
## ***Watershed level: Stormwater and Wastewater***

Green / Low impact infrastructure

Decentralized treatment:

Public health and public acceptance concerns

# Hunter's Curve



# Scum in the Tail Piece



# The Culprits



# Consumer Behavior Exacerbates Problems



**Microbead Scrub!**

## Water Conservation Devices that Waste Water



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2. Residual chlorine from the treatment plant gets used up so bacteria start to breed.

# Solutions

- Weekly tap flushes  
(adding 1,000 to 3,000 gallons of additional water use)
- Use bottled water
- Add on-site disinfection.
- Disallow showering on the site.

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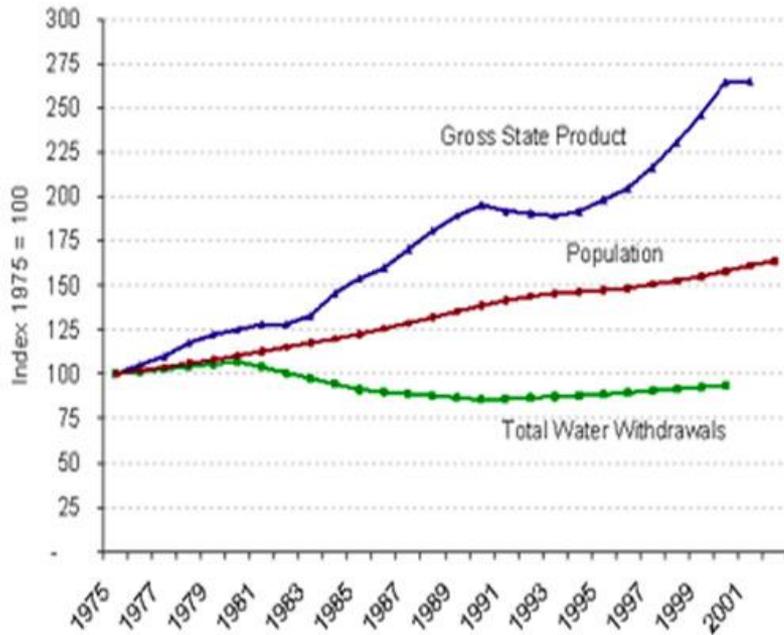
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- \$193-million jury award for gross negligence and other failures in a case of legionellosis that resulted in long-term disability and severe debilitation, but not death.

# An Apparent Success Story from American Water



# Yet Another Challenge: Declining Revenues

California Economy, Population, and Water Use



Trends in consumer prices (CPI) for utilities [1978 to 2009]

