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
Scum in the Tail Piece
The Culprits
Consumer Behavior Exacerbates Problems

Microbead Scrub!
Water Conservation Devices that Waste Water
Breeding Bacteria ...
Including Legionella

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   - Reclaimed water
   - Low-flow urinals and faucets
   - Conservation behavior from tenant
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*Water stagnates as residence time increases.*

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.
Data from the Alliance for Water Efficiency

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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