



# WHY ARE WE HERE? CHANGES IN URBAN WATER DEMANDS CHALLENGE WATER PROVIDERS

Peter Mayer, P.E.

Urban Water Demand Roundtable

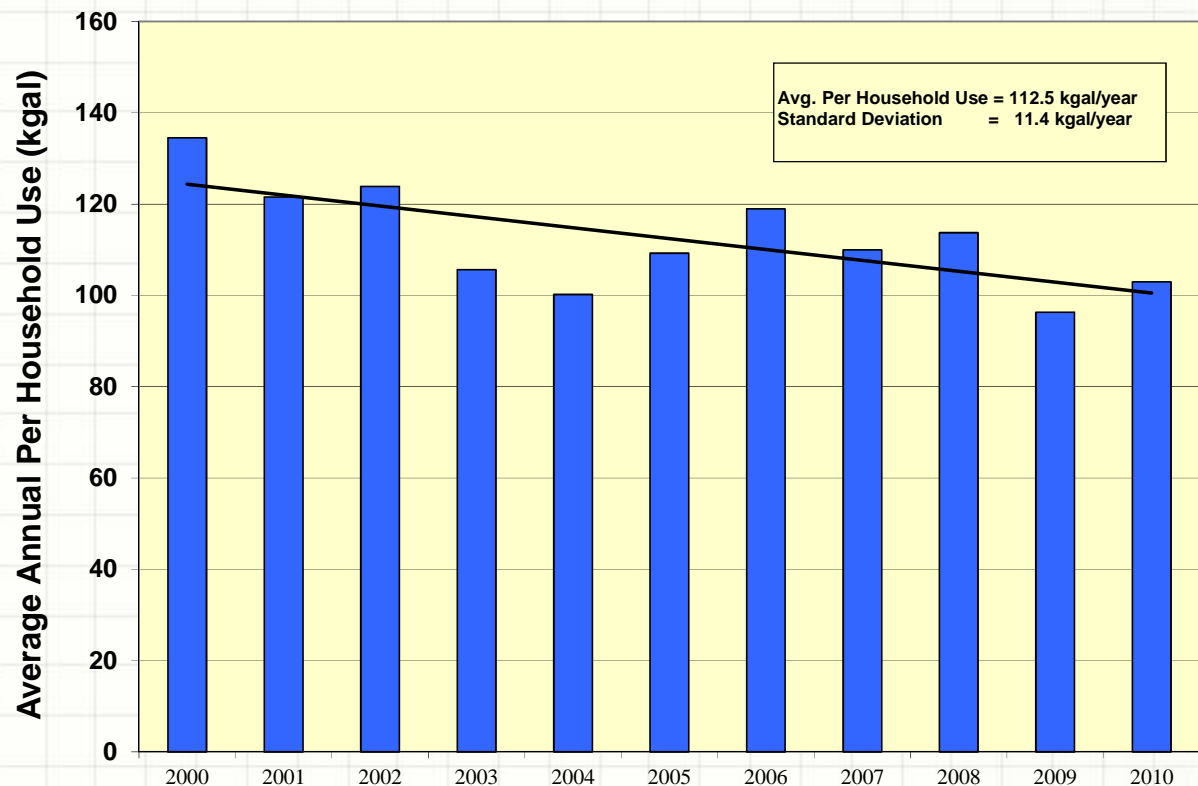
April 18, 2013



# Where did the demand go?

- Residential water use has declined.
- In 2008 a typical household used ~ 12,000 gallons *less* than in 1978 (Coomes, P. et. al. 2010).
- Significant demand reductions were observed prior to recession.

City of Westminster, CO  
average annual  
household water use,  
2000 – 2010, with trend  
line. ~ **22% reduction**  
**from 2000 – 2010.**



# Utilities get Serious about Demand Management

**M.D. SHELTON**





# Forecasts Consistently Over-estimate Future Demands

Annual MGD

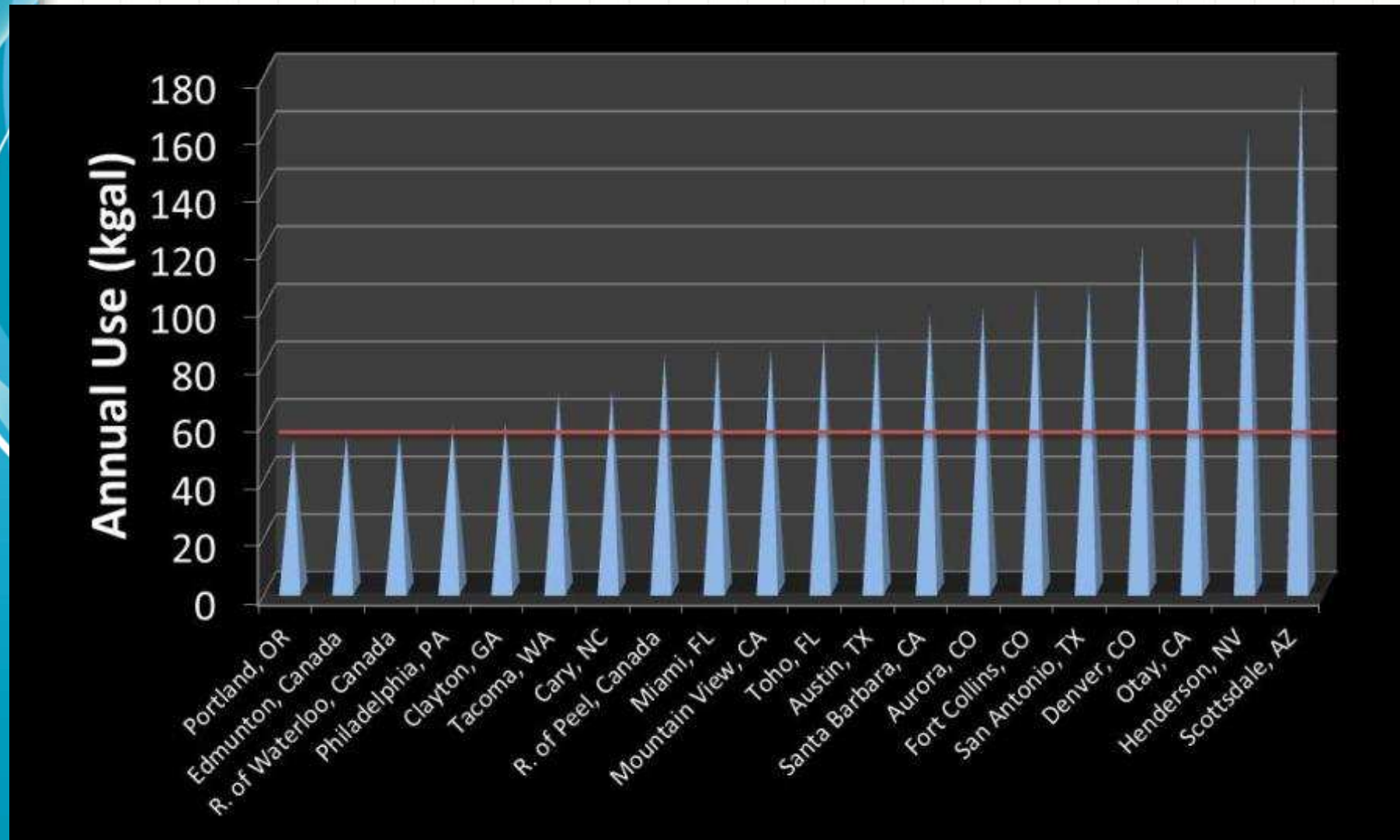


Seattle Public Utilities 4/24/12

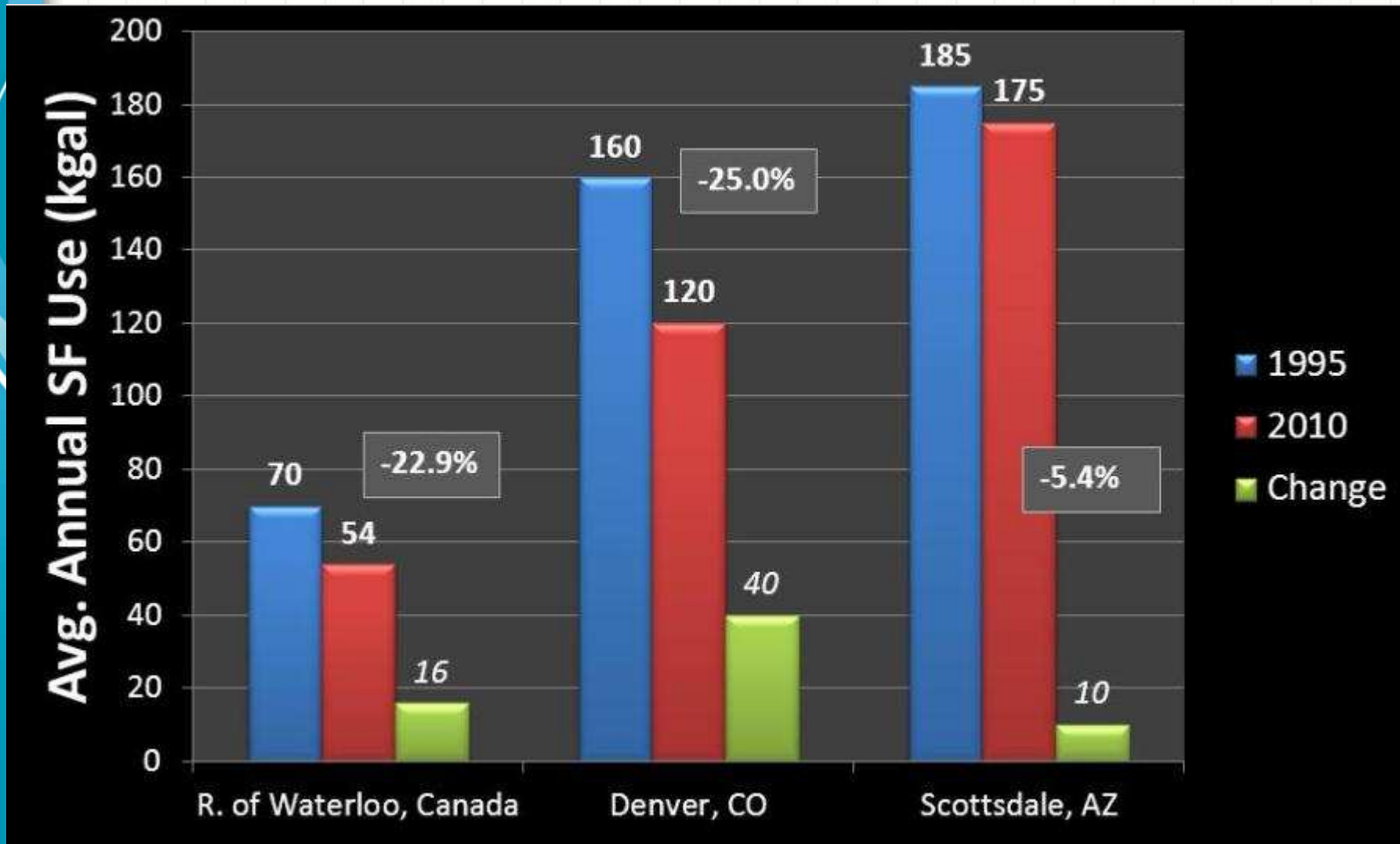
# WRF 4309 - Residential End Uses of Water Study Update

- 9 end use study sites
- Billing data from 20+ study sites
- Extensive statistical analysis of indoor and outdoor water use.
- Conservation saturation rates.
- Outdoor water use.
- Key factors that influence water use.
- Final report coming in 2014
- [www.aquacraft.com](http://www.aquacraft.com)

# 2010 Annual Water Use Comparison (kgal)

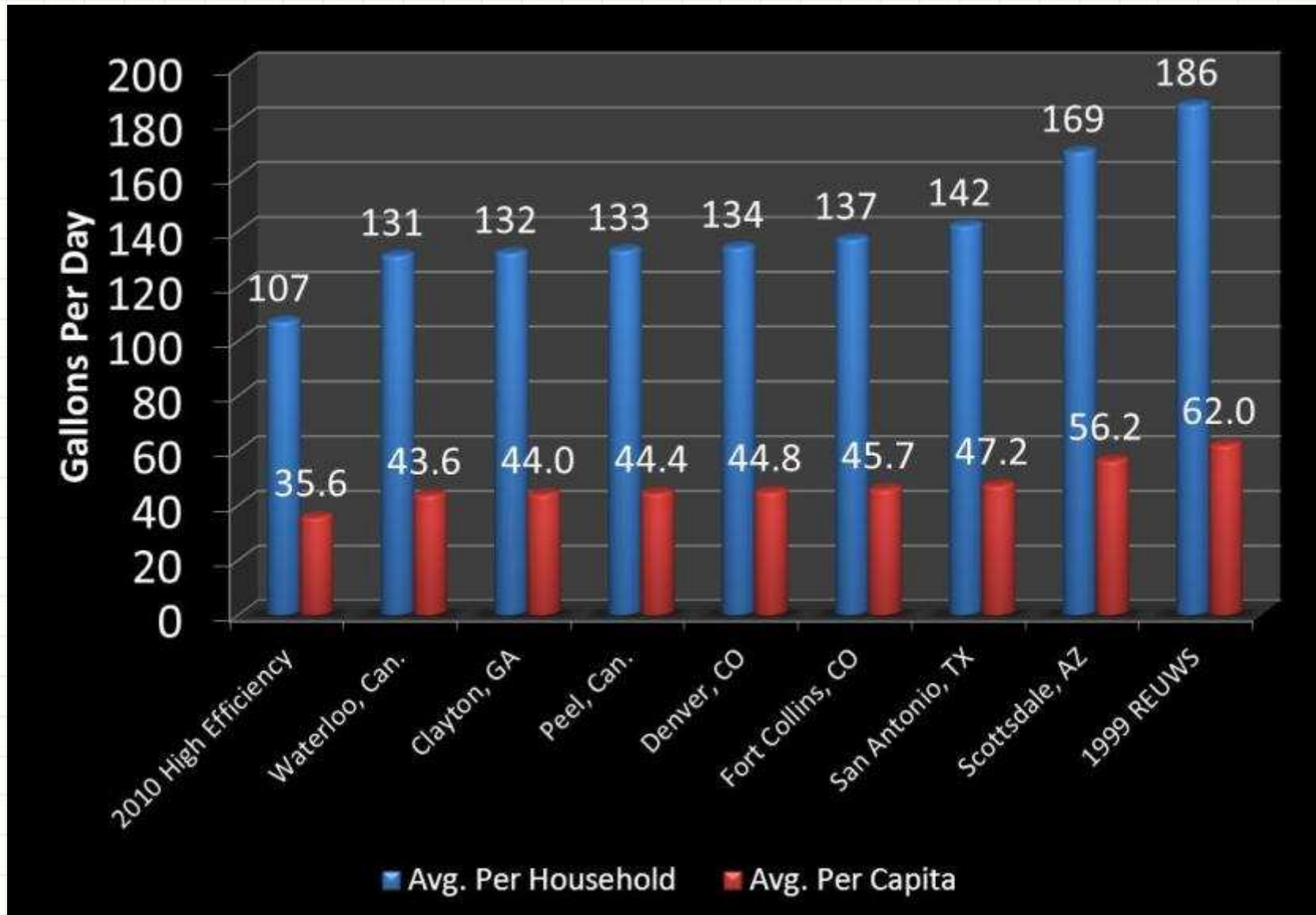


# 3 Sites Participated in Both REUWS Projects





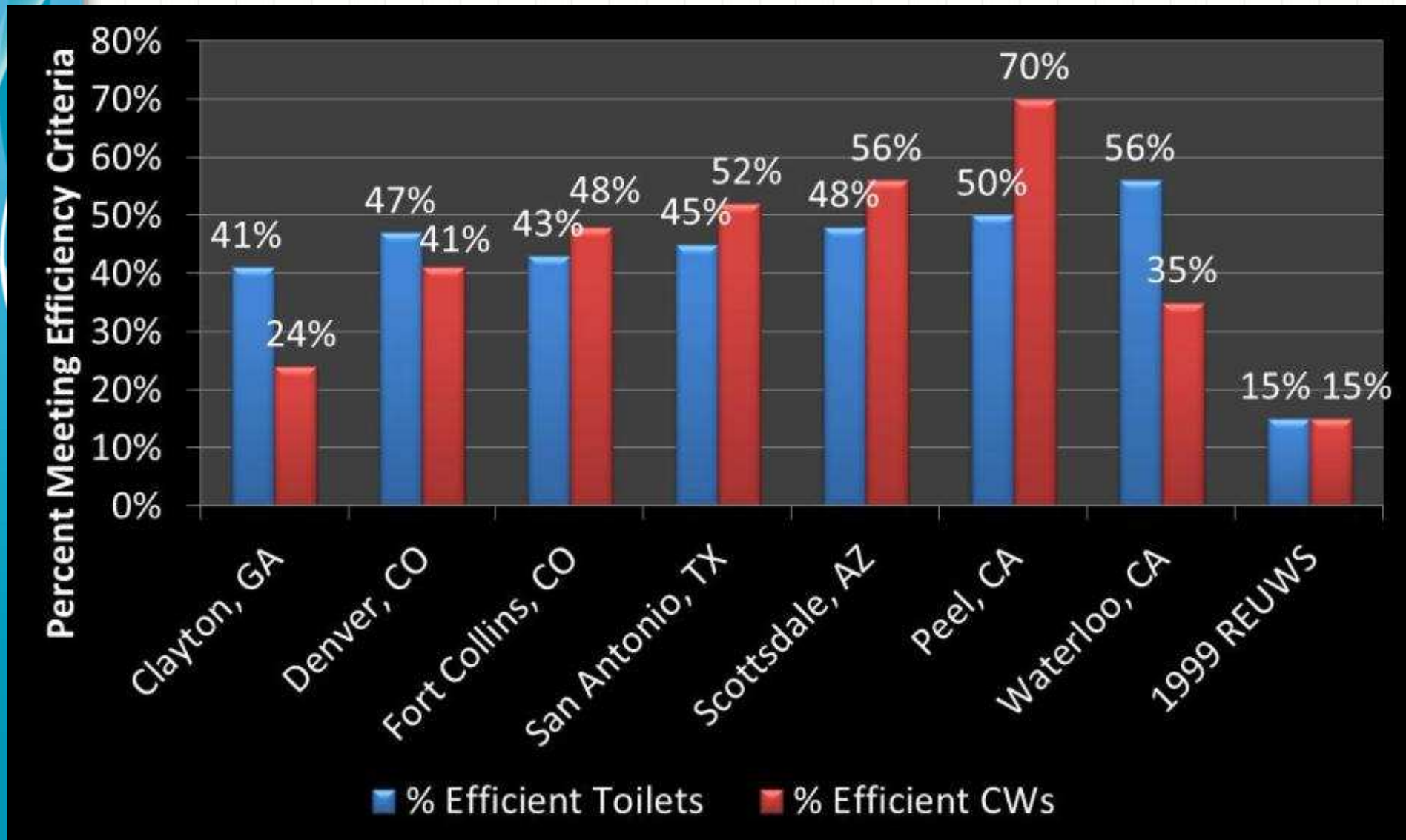
# Normalized Water Use for Household of 3 People - REUWS Update





# Homes Meeting Efficiency Criteria

Toilet < 2.0 gpf, Clothes washer <30 gal/load



# Summary



- **Technological change** - Residential indoor water use has declined and will continue to decline.
- **Temporary change?** - Residential outdoor water use has also declined in some regions, but long term trends are not certain.



**THANK YOU**

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