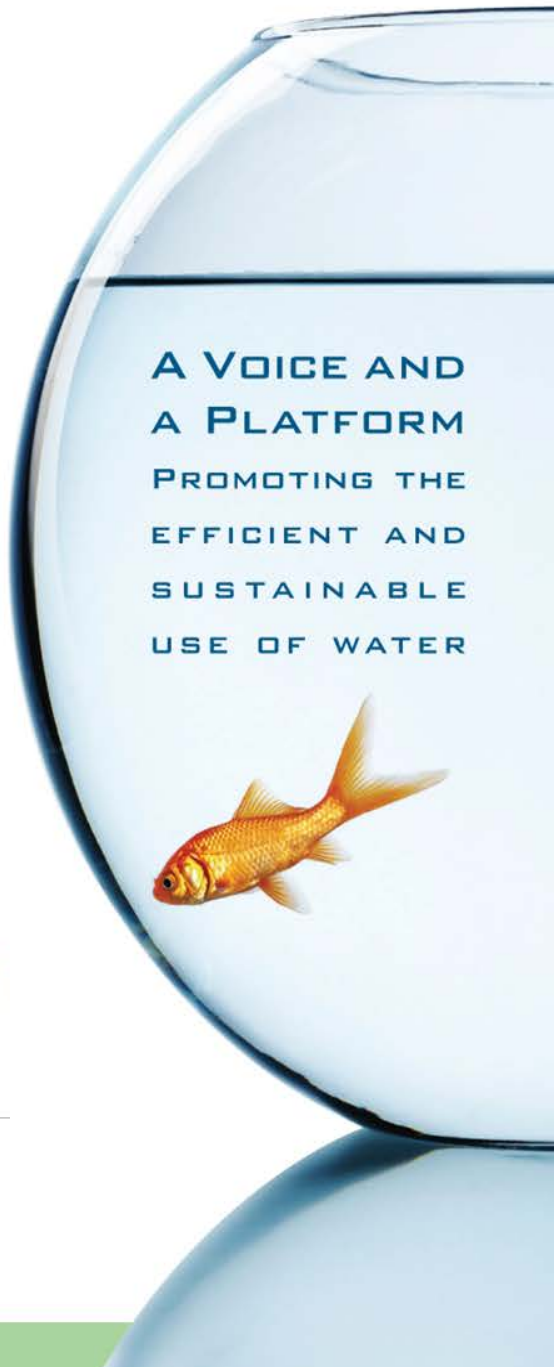
Water Efficiency: What Does it Mean for Your District?

Urban Community and Conservation Webinar
NACD

Mary Ann Dickinson
President and CEO

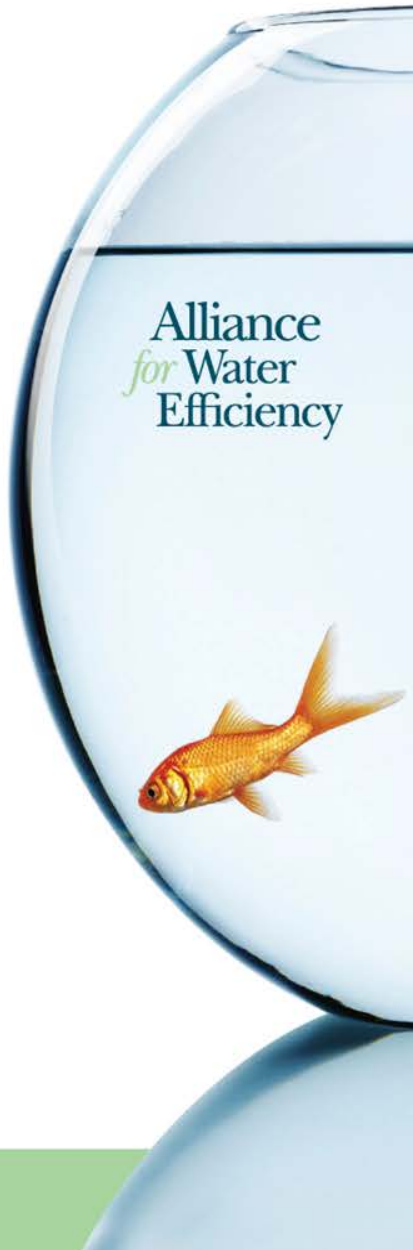
2014 AWARD WINNER
UNITED STATES WATER PRIZE



Alliance *for* Water Efficiency

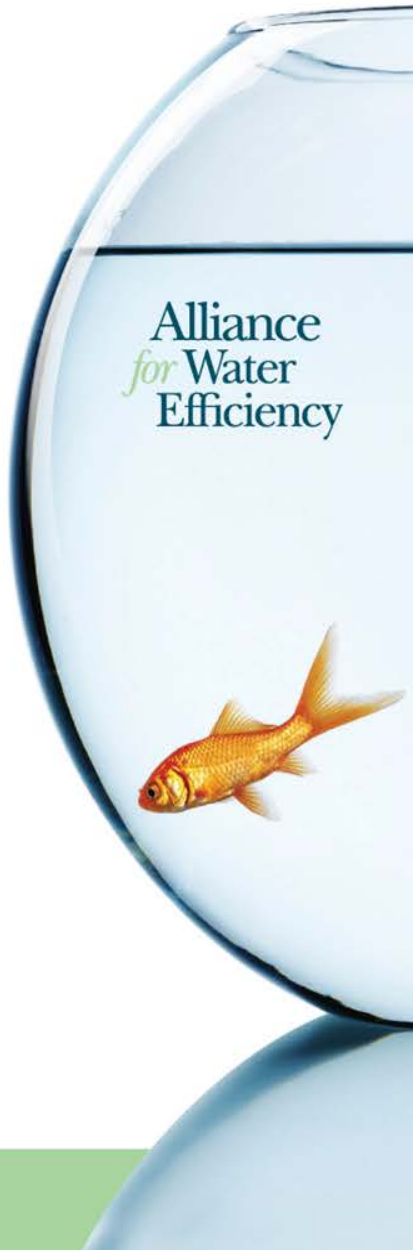
Water Key in All Communities

- Important for economic and environmental health of a community
- Growth, recreation, and well being all tied to adequate water resources
- Water supply and stream flows often not managed locally, although the impacts are local
- Not usually a national issue either: Last time a Presidential campaign debate discussed water was 80 years ago in the FDR/Alf Landon race in 1936



Water Efficiency Themes

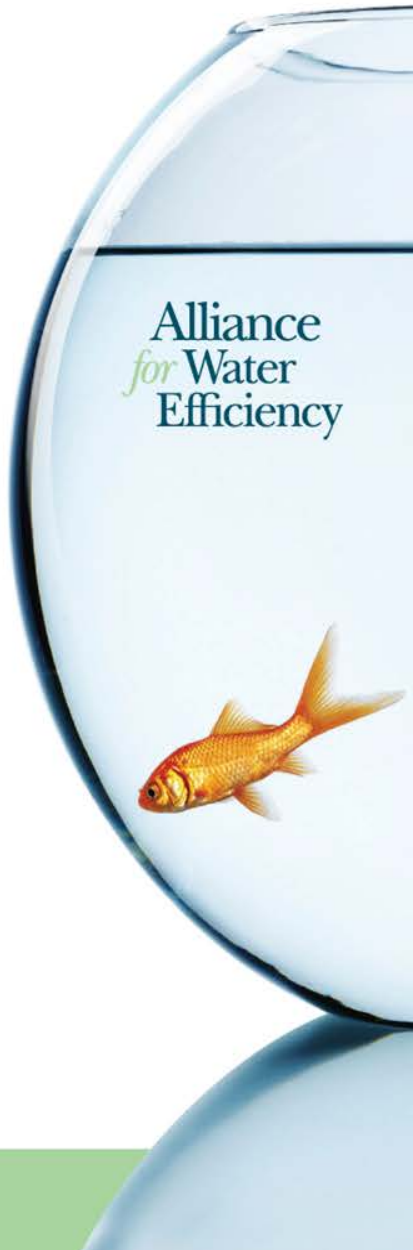
1. Benefitting by plumbing fixture and appliance codes and standards
2. Using water efficiency as a tool for sustainable water resources planning
3. Working to meet the challenge of reducing outdoor water use
4. Dealing with the rising rates conundrum



Codes and Standards

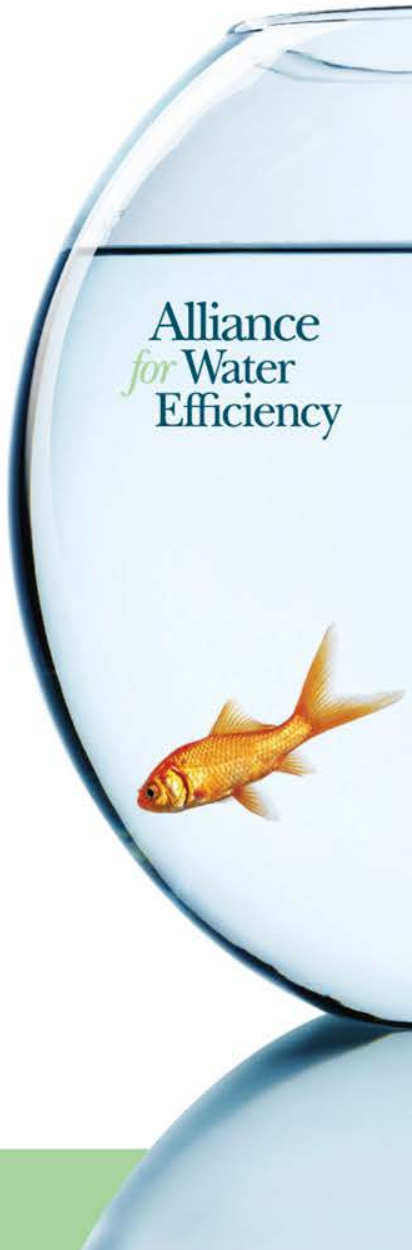
1992 Federal Energy Policy Act

Fixture	US Standard Maximum
Water Closets	1.6 gallons/flush
Showerheads	2.5 gallons/minute
Faucets	2.2 gallons/minute
Urinals	1 gallon/flush

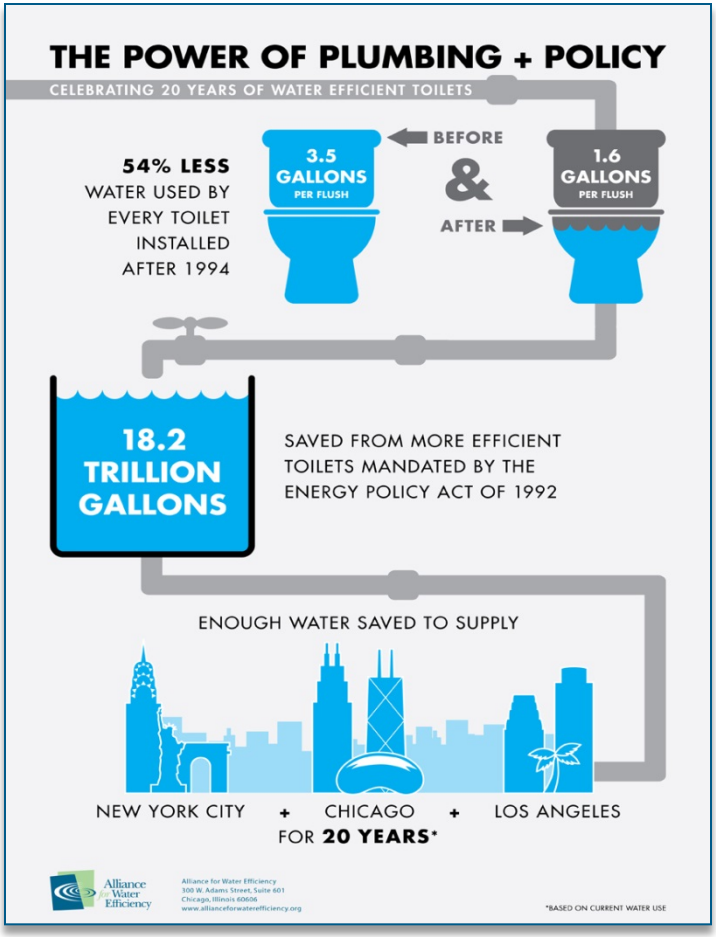


More Standards

- Pre-rinse spray valves
- Standard dishwashers
- Residential clothes washers
- States with plumbing requirements beyond the federal standards: California, Texas, Georgia, Colorado
- Green Stretch Codes and Green Building Specifications (LEED, Green Globes)



How Much Do Standards Save?



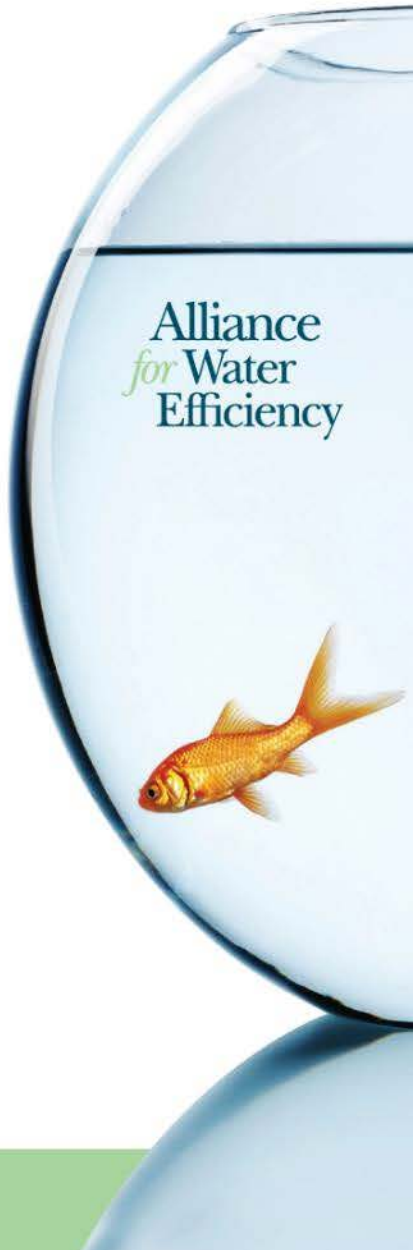
- Toilets alone, assuming a 4% change-out rate
- Savings occur without cost to the water utility
- Savings are permanent over the life of the fixture
- 18.2 trillion gallons
- Enough to supply New York City, Chicago, and Los Angeles for 20 years

WaterSense Label

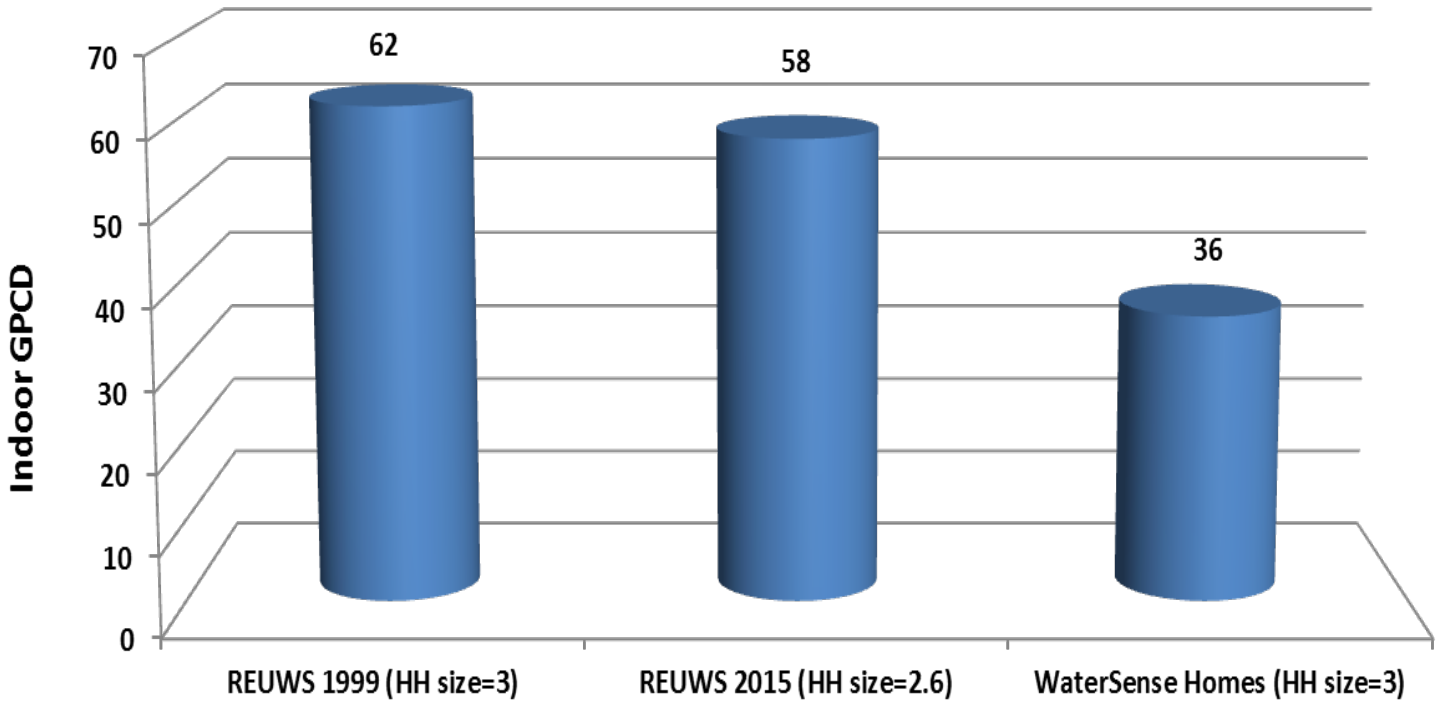
- **20%** more efficient than Federal standard
- Performance Tested
- 17,000 product models labeled
- Savings:
  - ✓ 1.1 trillion gallons of water
  - ✓ over $21.7 billion in water and energy bills
  - ✓ 146 billion kWh of electricity
  - ✓ 54 million metric tons of carbon dioxide

WaterSense's Future?

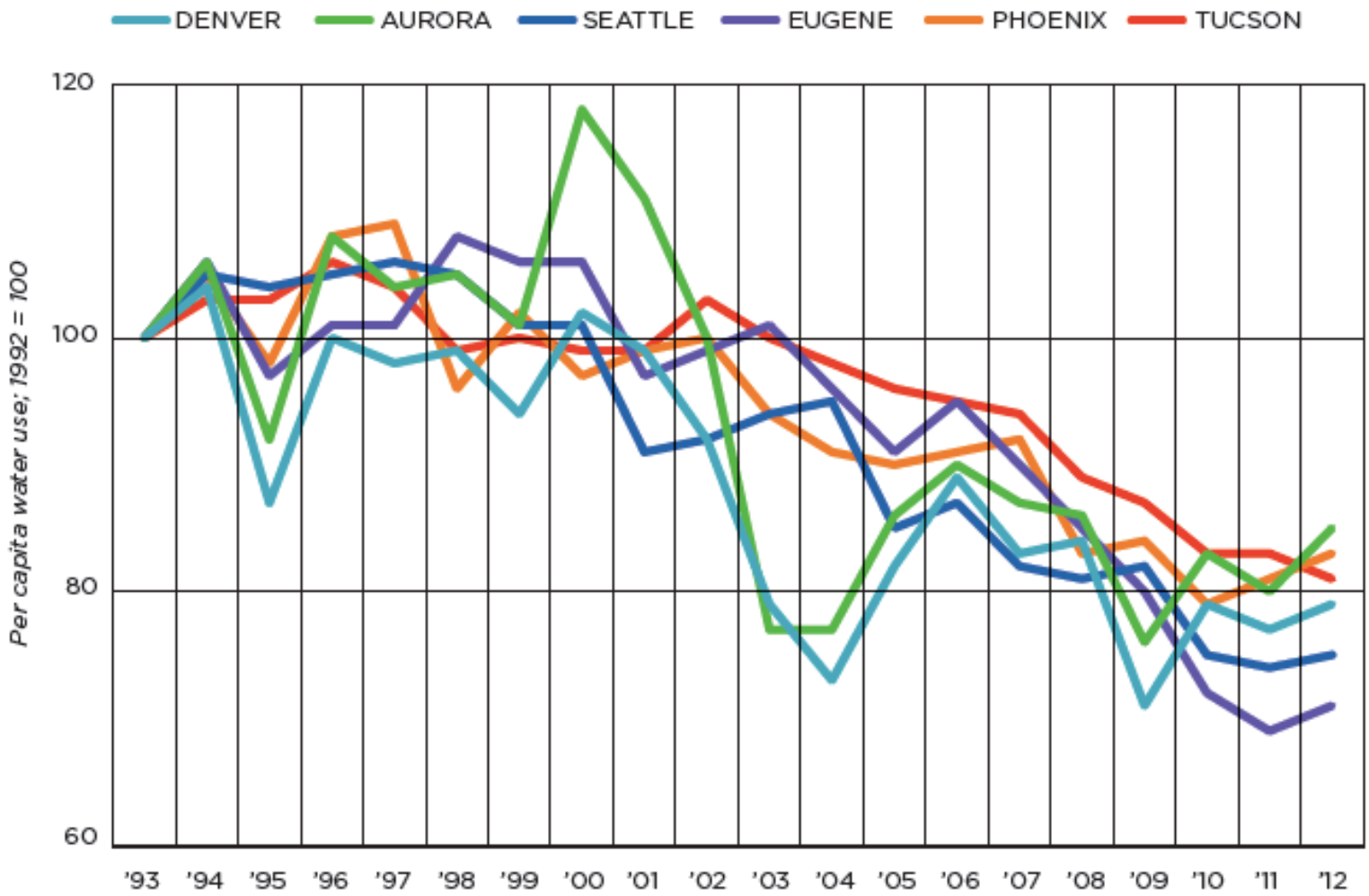
- Valuable program that is totally voluntary, but now is in jeopardy
- Never authorized by Congress, so technically it does not exist in the federal budget documents
- Funding is discretionary in EPA Administrator's budget
- President now proposing the program be zero funded and will likely be cancelled
- Even the long-time Energy Star label is at risk



Residential End Use Studies



Water usage in western U.S. cities (Frost, 2013)



SOURCES: Denver Water, Aurora Water, Seattle Public Utilities, Eugene Water and Electric Board, Phoenix Water Service, Tucson Water

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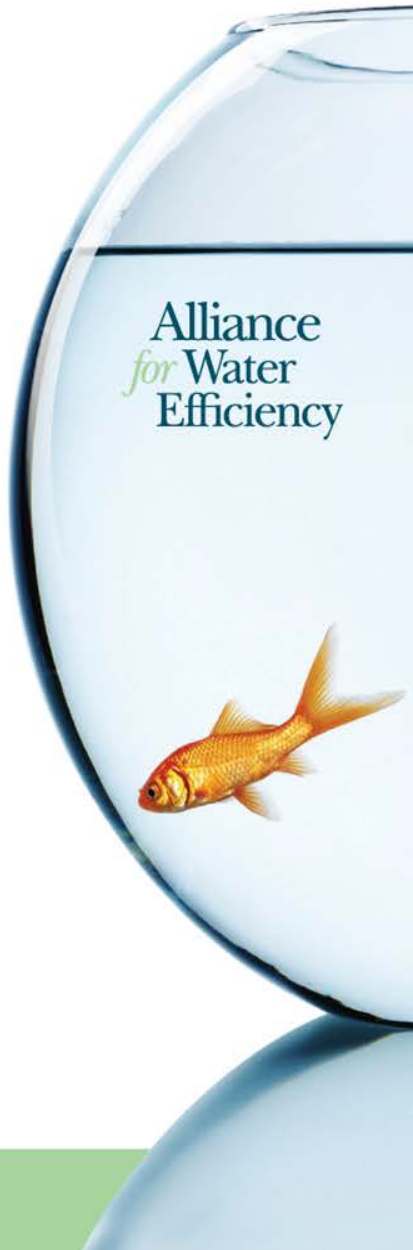
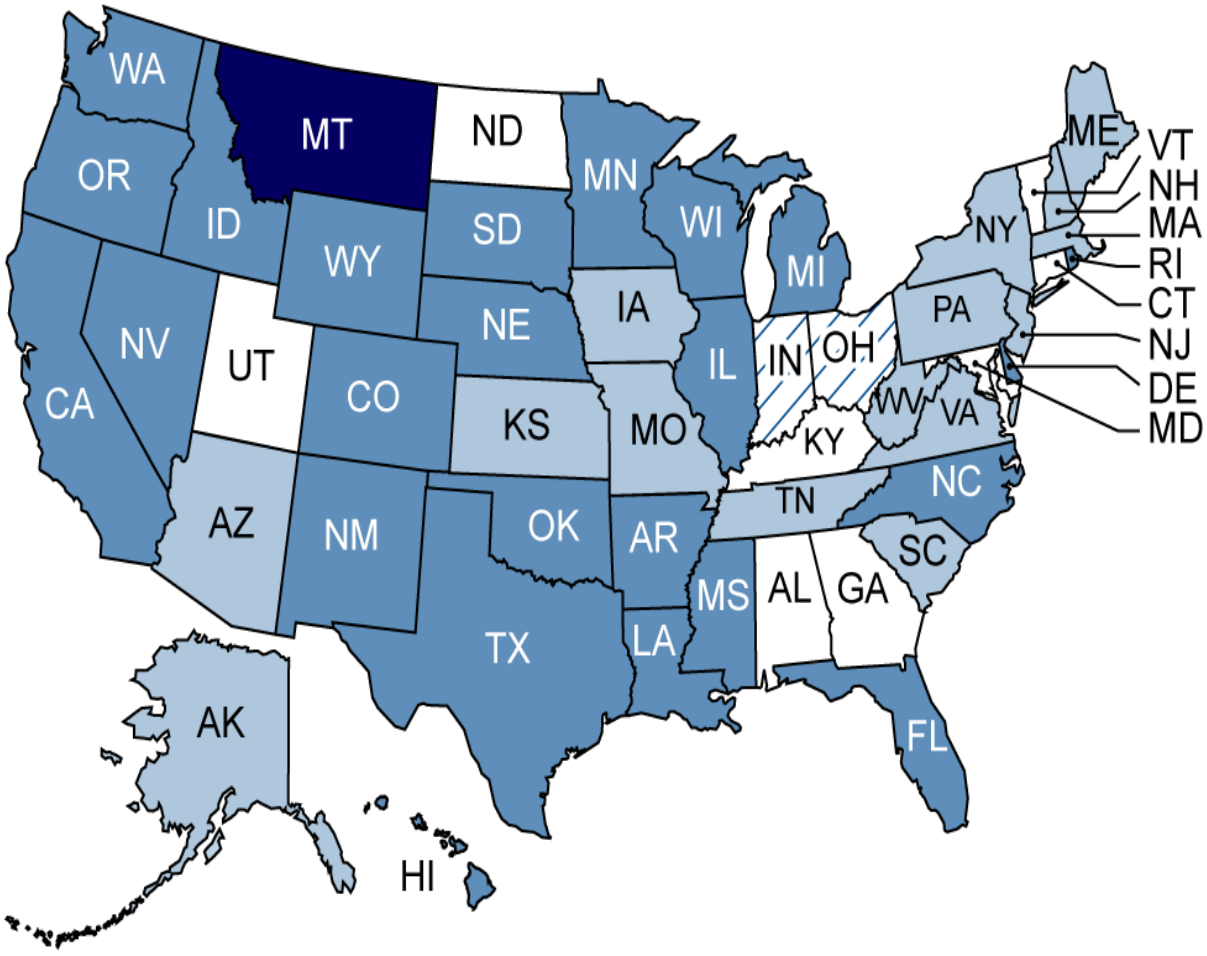


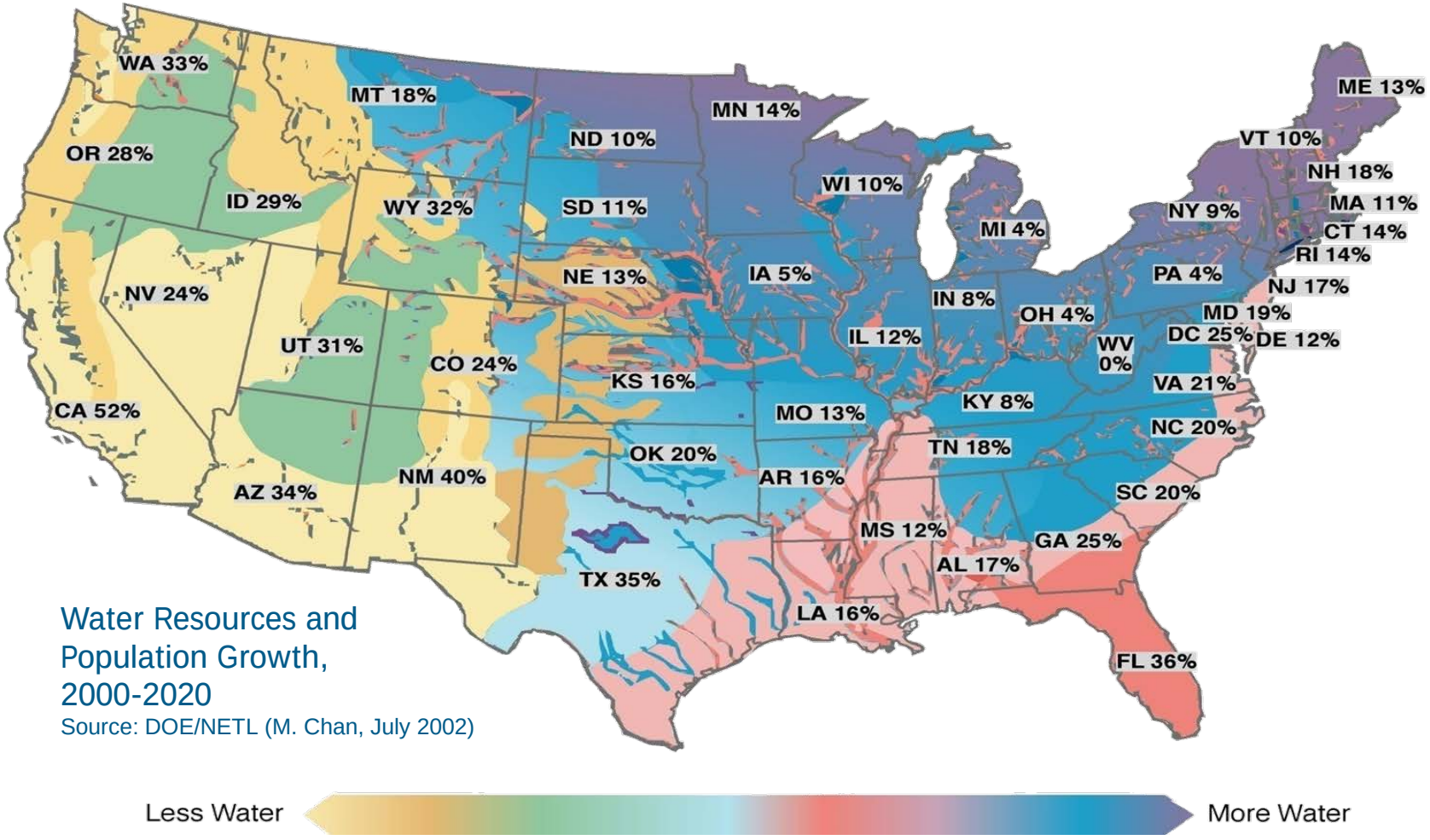
40 of the 50 States



Shortage category	Number of states in each category 2013
Statewide	1
Regional	24
Local	15
None	8
No response or uncertain	2

Sources: GAO analysis of state water managers' responses to GAO survey; Map Resources (map).

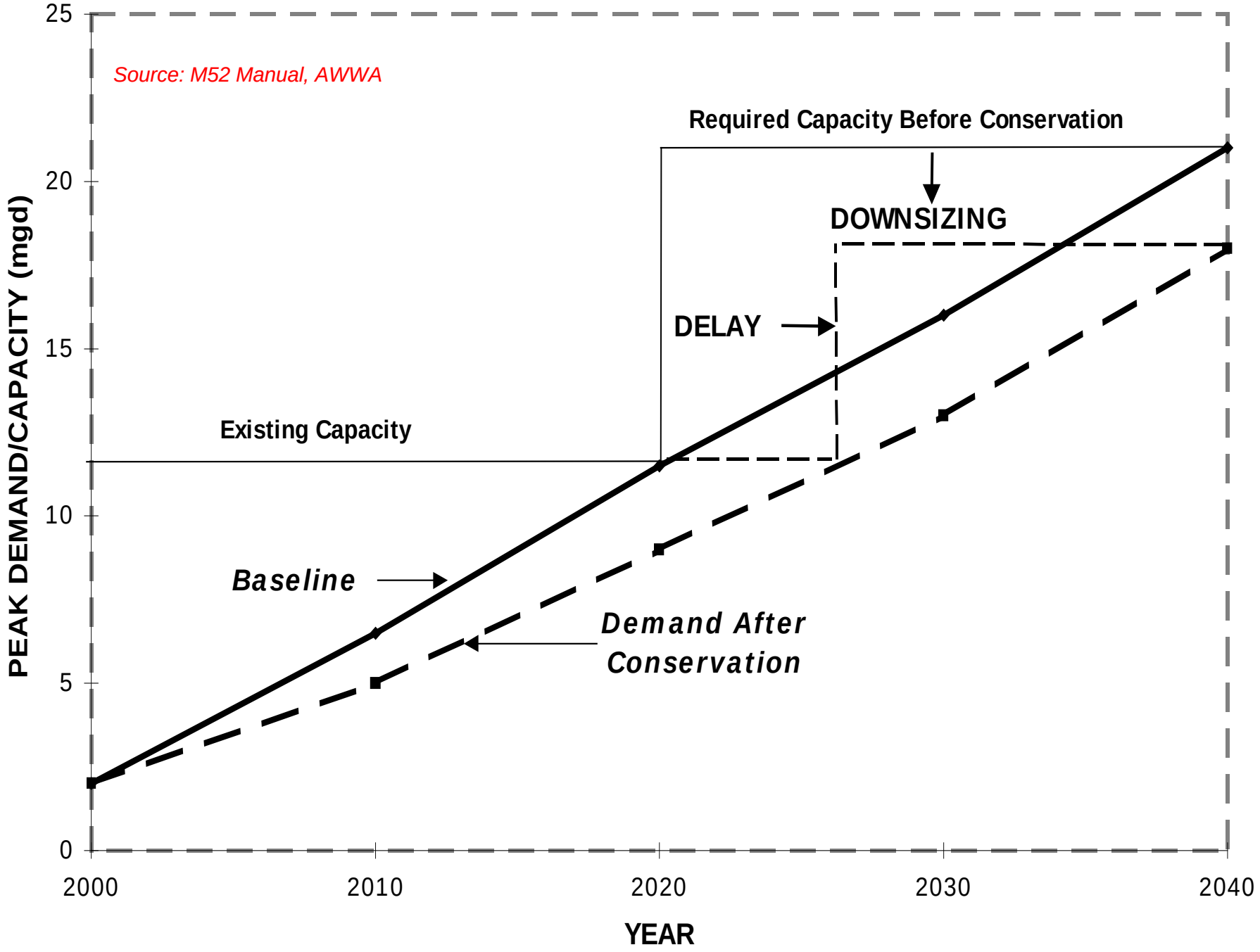
Effects of Growth



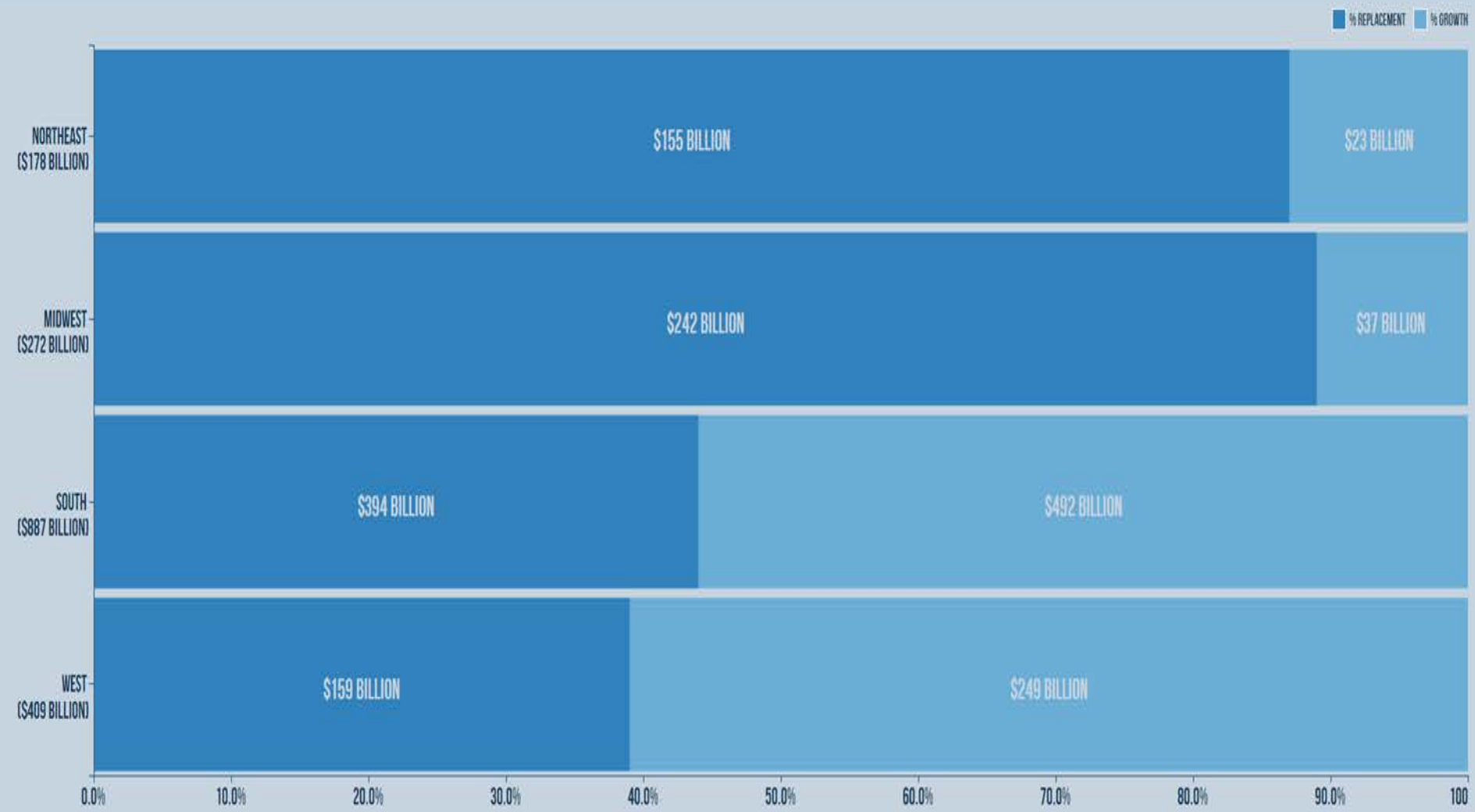
Water Resources and Population Growth, 2000-2020

Source: DOE/NETL (M. Chan, July 2002)

Less Water — More Water


Source: M52 Manual, AWWA
Required Capacity Before Conservation
DOWNSIZING
DELAY
Existing Capacity
Baseline
Demand After Conservation
PEAK DEMAND/CAPACITY (mgd)
25
20
15
10
5
0
2000
2010
2020
2030
2040
YEAR

INVESTMENT NEEDS FOR U.S. WATER MAINS BY REGION



Source: American Water Works Association, "Buried No Longer" (2012)

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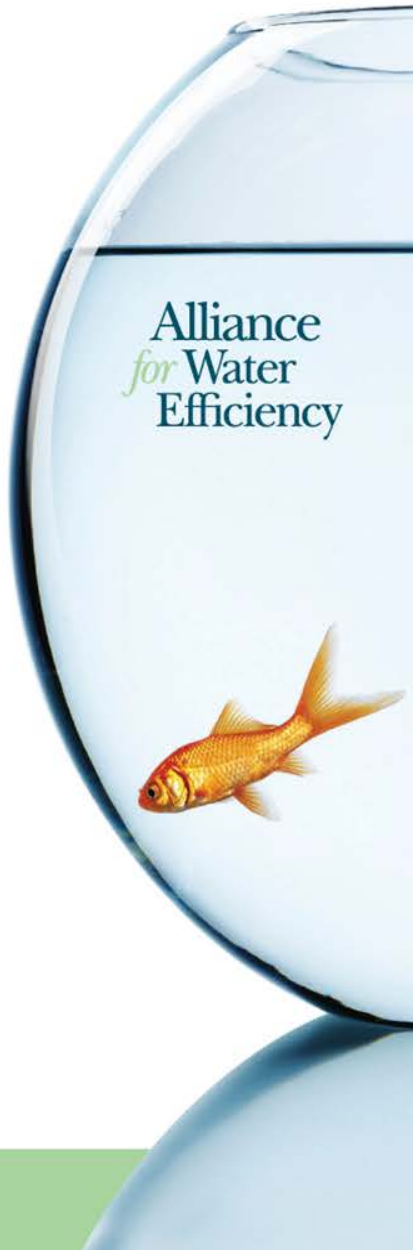
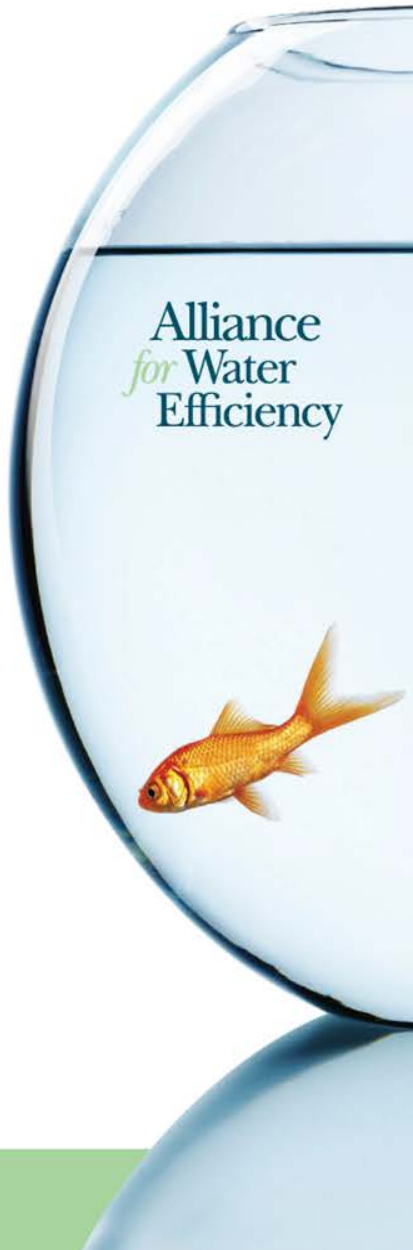


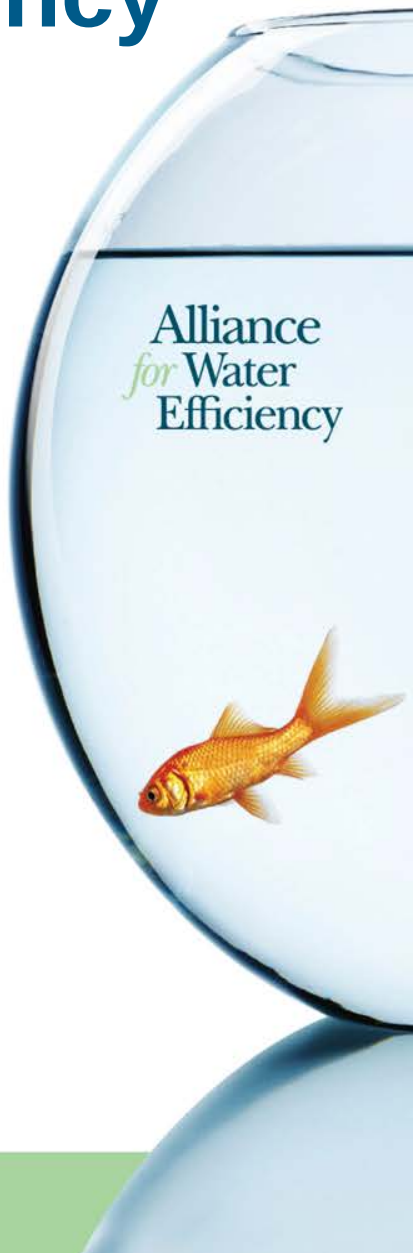
The Facts

- 30-60% of urban water consumption, on average, is outdoor irrigation for lawns and urban landscapes
- As much as 80% of residential drinking water consumption in some drier areas of the country
- Irrigation is a significant user of water in domestic and commercial properties and is typically unmanaged for efficiency
- Culprit is automatic irrigation systems that are not changed from their factory default settings and/or are leaking



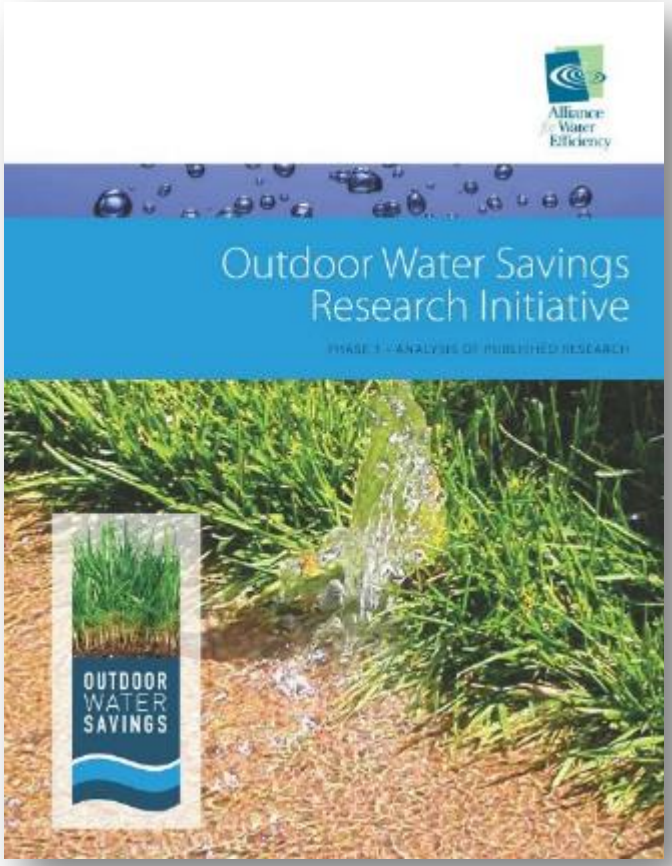
Let’s Focus on Outdoor Efficiency

- We have made great strides in indoor water efficiency
- Outdoor water use still poorly understood & ripe for innovation & improvement at the consumer, landscape contractor & landscape designer levels
- Smart management means reducing wasted water on all landscape types by improving irrigation efficiency of all in-ground systems
- Manage to the actual ET water requirement of the landscape



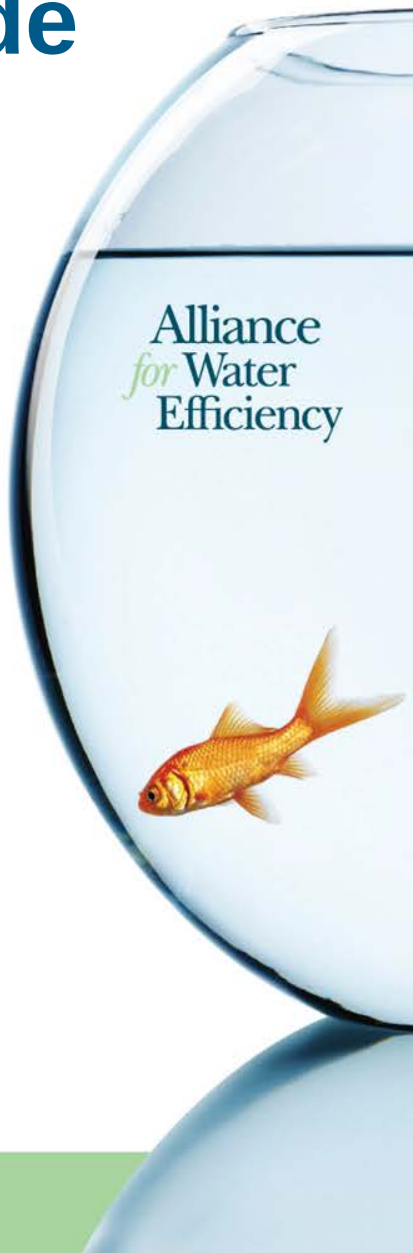
Conducting the Needed Research

- Phase 1: Research compiled to date and identified gaps
- Phase 2: Conducting new studies to produce actionable information on water savings
- 2017 Studies:
  - ✓ Landscape Transformation
  - ✓ Impact of Drought Restrictions
  - ✓ Peak Reduction Study



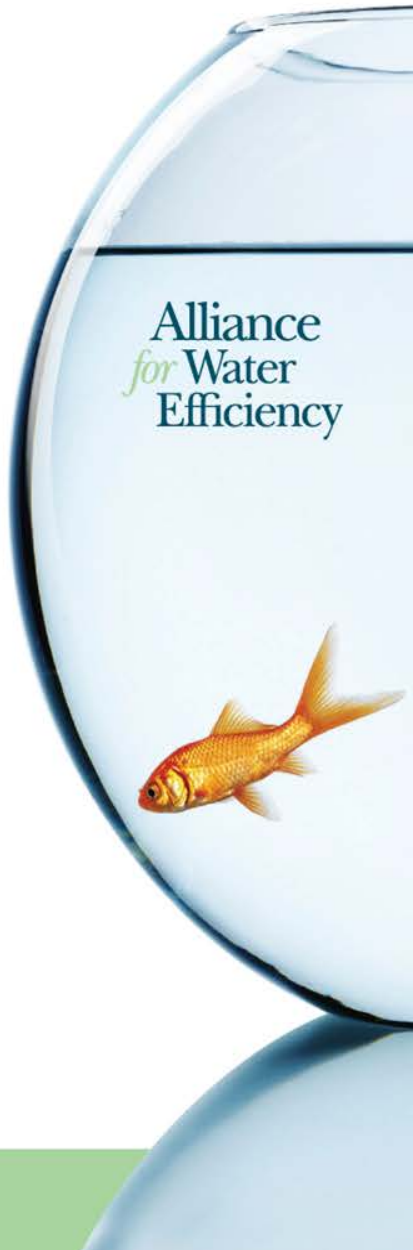
Turning Lemons into Lemonade

- Irrigation systems require professional design and correct installation
- Irrigation system owners can be educated to show they can save money with better system management
- Contractors that promote their skills at wise water management will ultimately be the most successful financially
- Communities can turn “green” into “gold” by working with waterwise irrigation contractors and their customers



Consumer Messages

1. Install a rain sensor
2. Repair any leaks in your irrigation system
3. Upgrade the spray heads to more efficient ones
4. Manage your irrigation controller settings
5. Consider installing a smart controller -- they save water!
6. Plant smart landscapes with climate appropriate plant material – that saves water too!



A BROKEN SPRINKLER HEAD CAN WASTE 384 OF THESE BOTTLES IN TEN MINUTES.

Learn more at **neverwaste.org.**

Alliance for Water Efficiency

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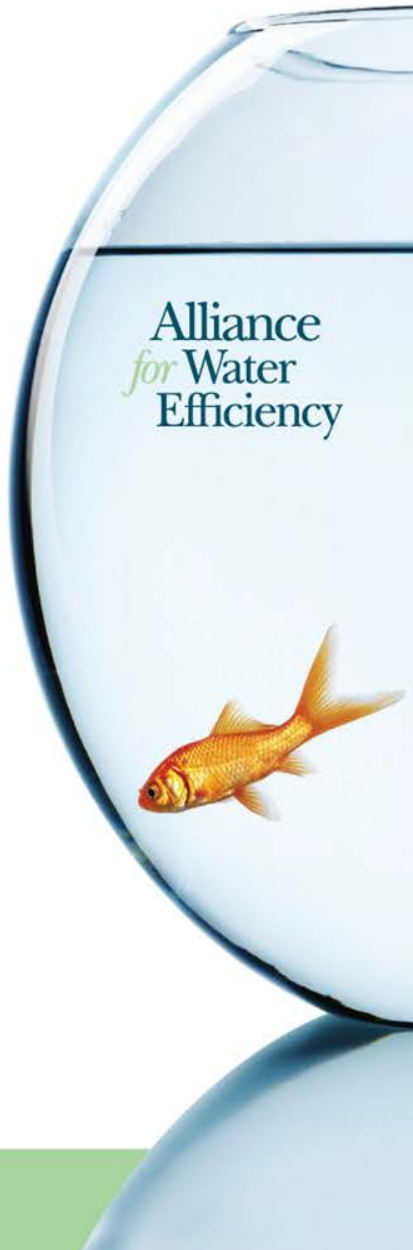
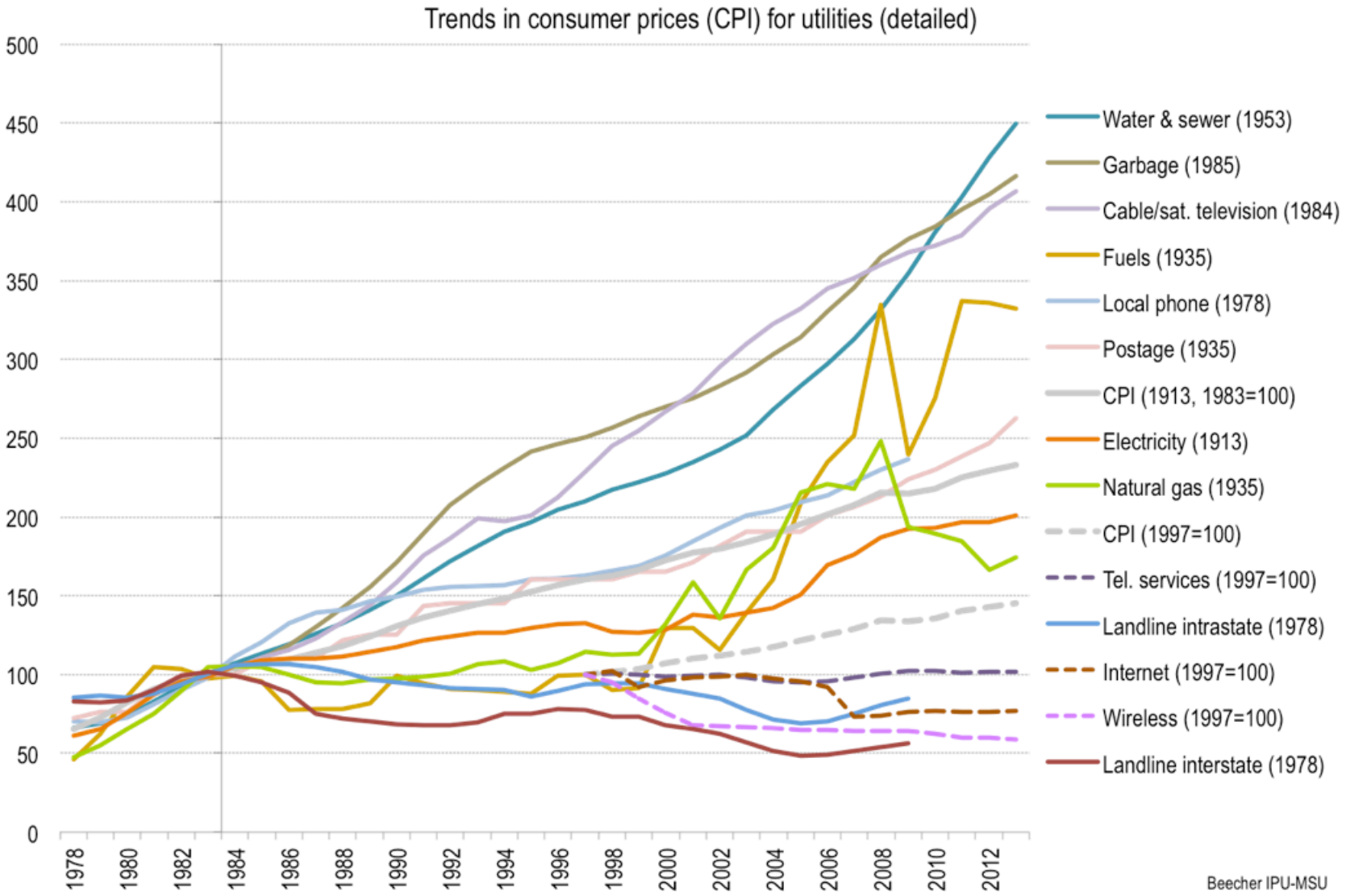


CPI trends for utilities (U.S.)



CONSERVATION DRIVING UP WATER RATES

Environmental concerns challenge bottom line at Louisville Water Co.

SUNDAY EXCLUSIVE

By James Bruggers
jbruggers@courier-journal.com
The Courier-Journal

Louisville Water Co. officials never talk about conservation — not that it has mattered. Water use has declined on its own.

While that may sound like a good, green development for a city seeking a more sustainable future, there's a downside to the declining consumption: It's helping to drive up customers' rates — raising them more than 80 percent since 1999.

As Louisville's economy has shifted from a water-needy industrial base to a service-based one, and as water efficiency increasingly has become a national priority, the declining consumption has helped raise rates even faster than the rate of inflation.

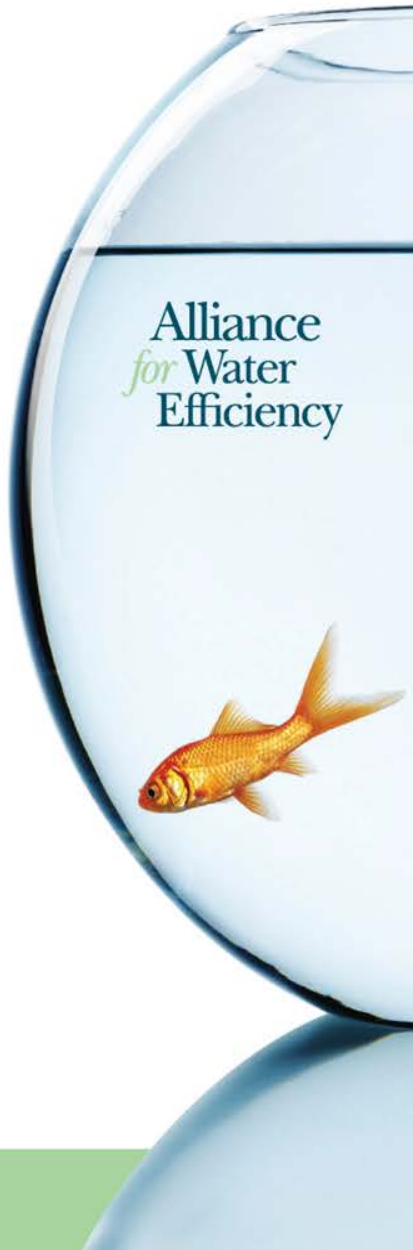
ONLINE

Watch a video of environmental reporter James Bruggers discussing Louisville's changing water picture at **www.courier-journal.com/green.**

See WATER, Page A10

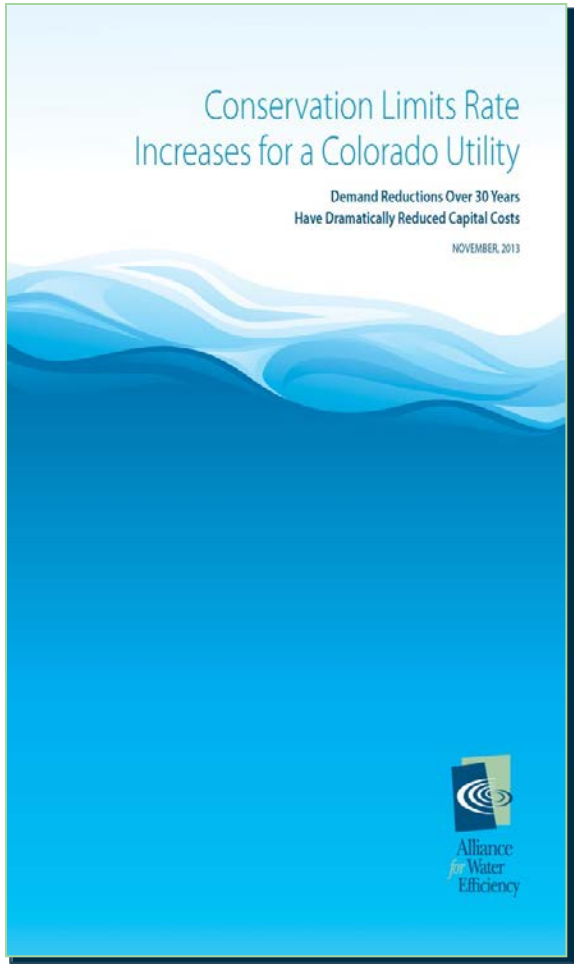
Real Drivers for Rising Tariffs

- Reduced demand from efficient fixture replacement under the plumbing and appliance codes
- Reduced demand from active conservation programs
- Reduced demand from the recession: industrial shift layoffs, home foreclosures
- Reduced peak demand because of weather
- Need to maintain/renovate infrastructure
- Inflation
- Rise in fixed costs



Westminster's Story

- Citizens complained about being asked to conserve when tariffs would just go up anyway
- Westminster reviewed marginal costs for future infrastructure if conservation had not been done
- Since 1980 conservation has saved 91% in tariffs compared to without conservation
- Report posted at **financingsustainablewater.org**



FINANCING SUSTAINABLE WATER

Rates. Revenue. Resources.

A project of the Alliance for Water Efficiency

Rates. Revenue. Resources.

Financing Sustainable Water is an initiative of the Alliance for Water Efficiency. It was created to provide practical information to guide utilities from development through implementation of rate structures that balance revenue management, resource efficiency and fiscal sustainability. This website will be updated frequently with new content and we encourage visitors to return often for additional information and resources. The Alliance serves as a North American advocate for water efficient products and programs, and provides information and assistance on water conservation efforts. Learn More

WATER MANAGERS

Find guidance on sustainable financial management

ELECTED OFFICIALS

Support your utility through smart management practices

CONCERNED CITIZENS

Learn how you can help create a sustainable water future

MEDIA

Get facts on today's water challenges and solutions

RATES HANDBOOK
Building Better Rates for an Uncertain World

RATE MODEL
Sales Forecasting and Rate Model

RECENT NEWS

- Welcome to Financing...

FEATURED RESOURCES

- Case Study: Cobb County
  Public Engagement Success
- Report: Westminster, CO
  Conservation Lowers Rates

homewaterworks

A project of the Alliance for Water Efficiency

Calculator | Water Conservation Tips | Indoor Water Use | Landscape & Irrigation | Water & Energy | About Us | Blog

Explore Water Conservation With Our Water Use Calculator

Want to conserve water? Not sure where to start? Our Water Calculator quickly estimates how much water your household uses and compares it to a similar average and a highly efficient home.

The Water Calculator also shows you where to begin your home water conservation efforts. Throughout Home Water Works, you'll find useful tips and resources for saving water and money without sacrificing comfort or convenience.

Get the bottle that will **CHANGE THE WAY** you think about **WATER.**

Join our Never Waste Campaign. Click Here ▶

Does Your Landscape Have a Drinking Problem?

Read about **outdoor water conservation** for helpful information on how to keep your landscape looking beautiful while staying water efficient.

Quick & Easy Tips For Saving Water at Home and Work

Looking for quick and easy ways to save water? Read our **water conservation and saving tips** to see how easy it can be to conserve water at home and in the workplace!

How much water do you use?

Let's Get Started!

Click an area on the home to input how much water you use, and learn how you can conserve water there. Answer for yourself only, and assume you are in your home for a 24-hour cycle.

My Daily Usage
Roll over for results

Carbon Footprint:

(lbs. CO_2 /year)

Percent Complete

Areas to Complete
Roll over for number of questions

How much water do you use?

Using water in the bathroom

Click on one of the question marks to see if this is where your water is going.

BACK

How much water do you use in the bathroom?

The typical person in my household takes _____ showers per week at home.

4

Next Question

My Daily Usage
Roll over for results

Carbon Footprint:

(lbs. CO2 /year)

Percent Complete

Areas to Complete
Roll over for number of questions

How much water do you use?

Choose another area

Click an area on the home to input how much water you use, and learn how you can conserve water there.

My Results | Where I Use Water | Energy In My Water | How Do I Compare? | My Answers | My Water Efficiency Plan

Category	My House	Average House	Water-Wise House
Toilet use	14590	21170	12210
Clothes washer use	8860	18350	8860
Shower use	8810	14450	8810
Faucet use	10500	12540	10500
Leaks	8240	10300	8240
Other/Miscellaneous use	3490	3490	1000
Bathtub use	5980	1490	5400
Dishwasher use	1330	1250	1330
INDOOR WATER USE	61790	83040	45340
HOT WATER USE	18410	24750	13510

Facebook Twitter Learn about how the Water Calculator works here.

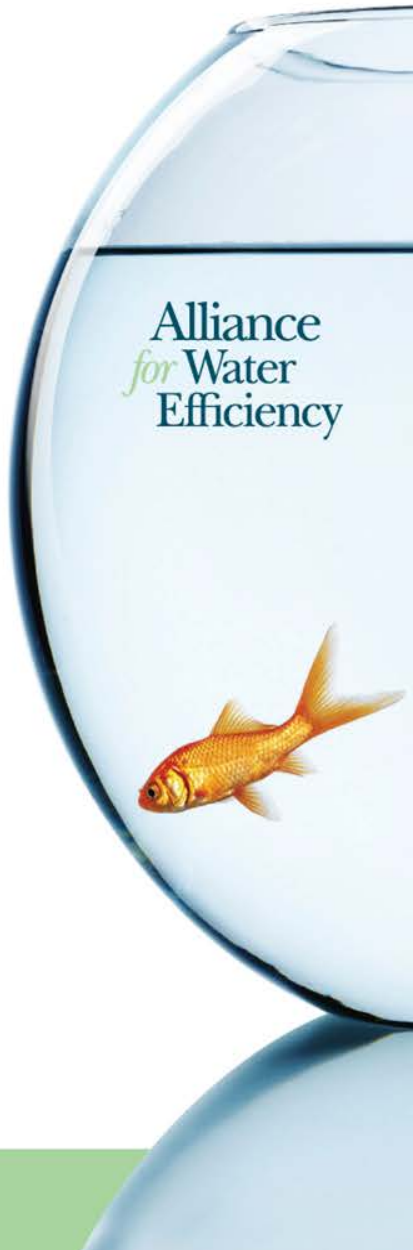
Carbon Footprint:

(lbs. CO2 /year)

Show Results

What Can Districts Do?

- Focus on outdoor water use
- Make your local water utility an important partner – help them develop outdoor programs that work
- Help sell outdoor water efficiency to local residents
- Partner with the business community to showcase their water efficiency successes
- Work with the media to reduce harmful negative messaging about rates



Join the AWE Mailing List

The Alliance for Water Efficiency maintains a mailing list to keep in contact with its members and all those interested in the latest happenings in water conservation. To receive updates on all AWE activities, the efforts of like-minded organizations, and up-to-date news on all things related to water efficiency, click here to sign up for the mailing list.

CLICK To Join Our E-Mail List HERE

Senate Joins the House in Authorizing a WaterSense® Program at U.S. EPA

The U.S. Senate has joined the House in approving a WaterSense program at the Environmental Protection Agency. Senate approval of a broad, bipartisan energy efficiency bill included an amendment creating a WaterSense program sponsored by Sen. Tom Udall, D-NM, and five other senators. Learn more here.

PERC Releases Phase 2.1 of Report

Plumbing Efficiency Research Coalition

The Plumbing Efficiency Research Coalition (PERC) is pleased to announce the publication of the Phase 2.1 supplemental report on the drainline transport of solid waste in building drains. The *Drainline Transport of Solid Waste in Buildings – Phase 2.0* was originally released in September of 2015. The PERC 2.1 findings appear as a new appendix to the PERC 2.0 report, and the combined reports are available for download free of charge on the PERC website. Learn more here.

Residential End Uses of Water Study (2016, 1999)

Water Research

The Residential End Uses of Water, Version 2 is the much-

Calendar of Events

5/20/2016	River Rally 2016
5/25/2016	AWE and EPA WaterSense Webinar
6/1/2016	IWA Efficient2017 Call for Abstracts Deadline
6/14/2016	Water Summit 2016
6/19/2016	AWWA Communication, Educ., & Legislation Committee Meeting

How Much Water Do You Use?

Click Here to Learn More

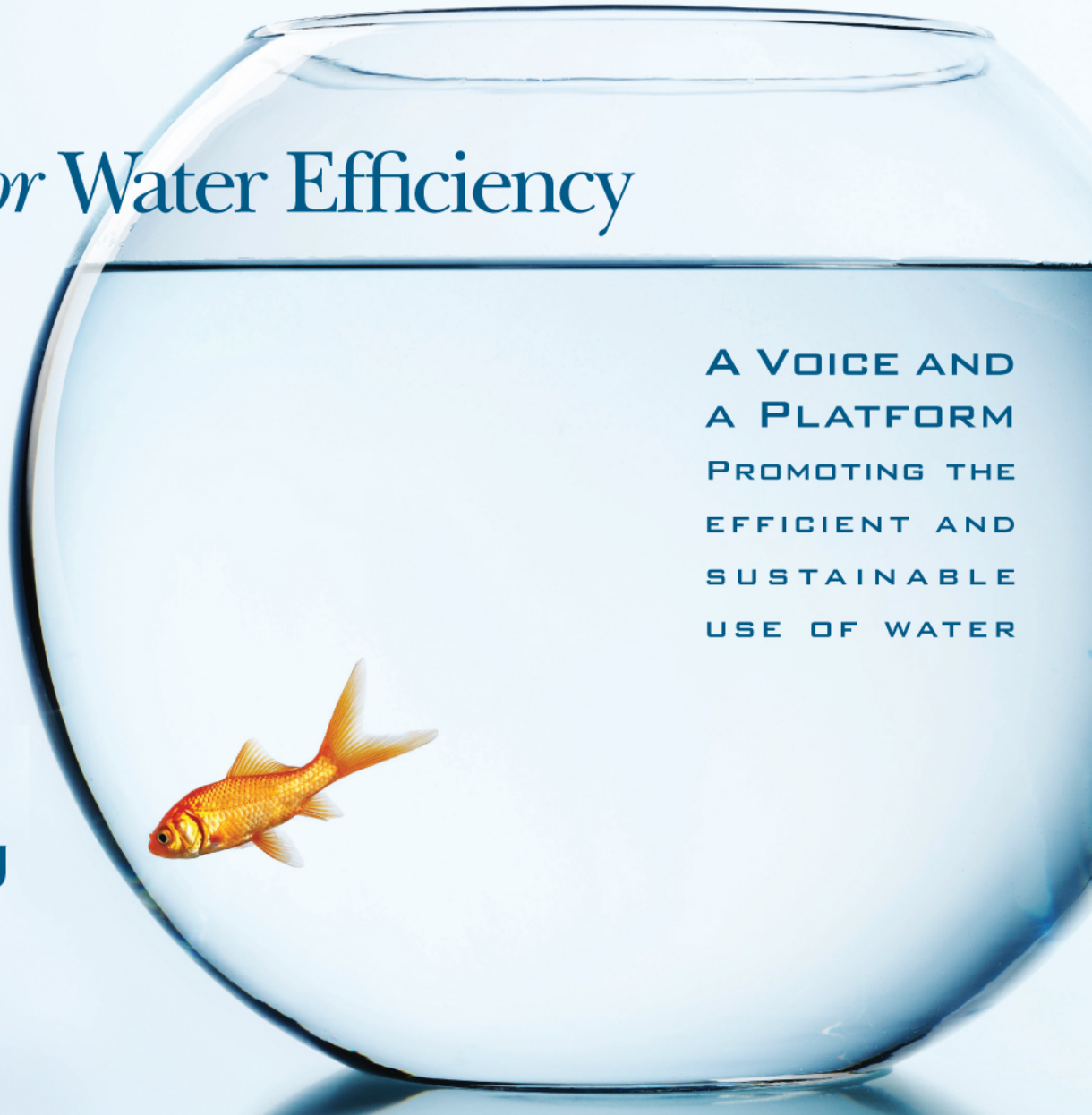
Important Information

- Water Efficiency Watch Newsletter - May 2016
- AWE Business Guide
- AWE Webinar Page
- Jobs, Internships, and RFP/RFQ Board
- AWE Water Star Award
- AWE Reports
- Related Publications
- Water: What You Pay For
- AWE Water Conservation Tracking Tool
- Financing Sustainable Water
- Home-Water-Works Water Calculator

Alliance *for* Water Efficiency

Join Us!!!

A Voice and a Platform
Promoting the efficient and sustainable use of water



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