



Smart Management for  
Small Water Systems

# Financial Resiliency for Small Water Systems

Ankeny, IA  
October 25, 2018



UNC  
ENVIRONMENTAL  
FINANCE CENTER



NADO  
NATIONAL ASSOCIATION OF DEVELOPMENT ORGANIZATIONS  
RESEARCH FOUNDATION



Government Finance  
Officers Association

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# CEU Certificates

**If you need a CEU certificate, you will need to confirm the following on the roster today before you leave:**

- Is your name spelled correctly?
- Did you provide an email address UNIQUE TO YOU? A unique email address is required to receive your certificate.
- Did you mark the checkbox that you need a certificate?

Within 30 days of the training, you will receive an email with instructions to print your certificate. Emails from EFCN may be blocked or go to your Junk mail. To avoid this issue, add [Smallsystem@syr.edu](mailto:Smallsystem@syr.edu) to your email Contacts or check your Junk mail frequently.

EFCN will apply to the water operator state licensing agency for CEU preapproval when applicable. You may be awarded CEUs by your agency. It is your responsibility to confirm with the agency that training meets relevancy criteria established for your license type as some agencies may not apply CEUs to your license if the training topic is not relevant to your position.

**EFCN follows the IACET Standard of CEU calculation.**

0.1 CEU = 1 Contact Hour or 1 Professional Development Hour

**Questions?** Please contact [Smallsystem@syr.edu](mailto:Smallsystem@syr.edu)



# Environmental Finance Center Network (EFCN)

The Environmental Finance Center Network (EFCN) is a university-based organization creating innovative solutions to the difficult how-to-pay issues of environmental protection and improvement. The EFCN works with the public and private sectors to promote sustainable environmental solutions while bolstering efforts to manage costs.

# Small Systems Program Team

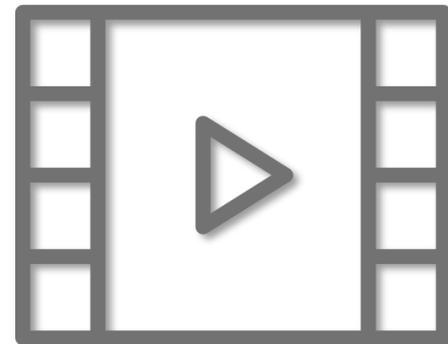
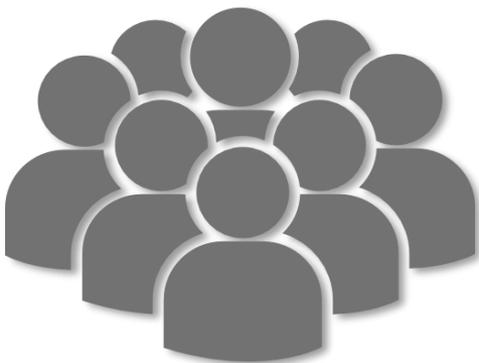
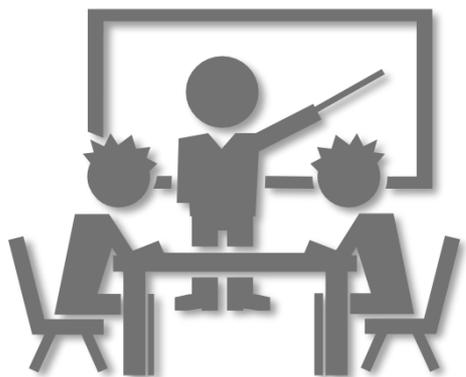
- Environmental Finance Center at The University of North Carolina at Chapel Hill
- Southwest Environmental Finance Center at the University of New Mexico
- Syracuse University Environmental Finance Center
- Environmental Finance Center at Wichita State University
- EFC West
- Environmental Finance Center at the University of Maryland
- New England Environmental Finance Center at the University of Southern Maine
- Great Lakes Environmental Infrastructure Center
- Government Finance Officers Association (GFOA)
- National Association of Development Organizations (NADO)





Smart Management for  
Small Water Systems

# Smart Management for Small Water Systems Program



# Areas of Expertise



Asset Management



Rate Setting and Fiscal Planning



Leadership Through Decision-making and Communication



Water Loss Reduction



Energy Management Planning



Accessing Infrastructure Financing Programs



Workforce Development



Water Conservation Finance and Management



Collaborating with Other Water Systems



Resiliency Planning



Managing Drought



# Workshop Objectives

- Understand how your system is doing financially
- Learn how to plan for and finance your water system now and into the future
- Provide forum for sharing finance and management perspectives, ideas, and experiences



# Agenda

- Infrastructure Funding Programs
- Water Finance 101
- Assessing Financial Condition
- Long Term System Planning
- Revenues and Rate Design



# Infrastructure Funding Programs



40 Years



Building Better Neighborhood



The image shows a browser window with the URL [efcnetwork.org](http://efcnetwork.org) in the address bar. Below the address bar is a subscription form with the text "Enter your email to subscribe..." and a "Sign Me Up" button. The EFCN logo is on the left, with the tagline "Innovative Finance Solutions for Environmental Services". The navigation menu includes: HOME, ABOUT, WORKSHOPS & WEBINARS, ASSISTANCE, RESOURCES, BLOG, and ARCHIVES. A dropdown menu is open under the RESOURCES tab, listing: Resource Library, E-Learning Modules, Funding Sources by State (highlighted with a yellow box and an arrow), and Map of Water and Wastewater Rates Dashboards. The main content area features a blue background with orange icons of a person thinking and a person sitting at a desk. Text on the page includes "Get Free Help" and "Small water systems can request free technical assistance from our experts on finance and management challenges."

## Navigating to Funding Tables

Step 1: [efcnetwork.org](http://efcnetwork.org)

Step 2: Select "Funding Sources by State or Territory" under the Resources Tab

# Funding Sources by State

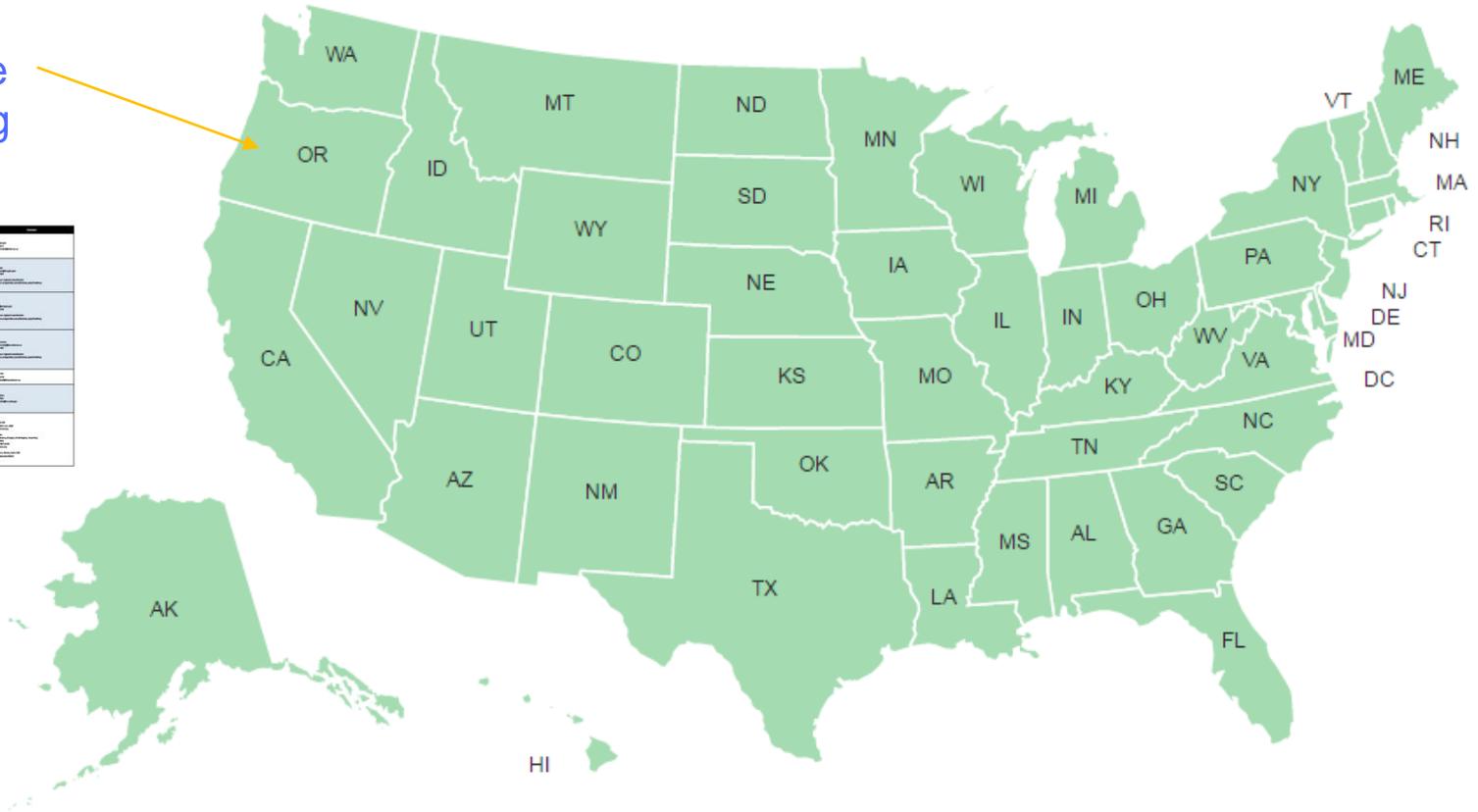
*Note: Some states may have additional resources listed below the map.*

Click on the map below to view funding sources for each state:

Click on an individual state to view funding table.



State	Funding Source	Link
AK	...	...
AL	...	...
AR	...	...
AZ	...	...
CA	...	...
CO	...	...
CT	...	...
DC	...	...
DE	...	...
FL	...	...
GA	...	...
IA	...	...
IL	...	...
IN	...	...
KS	...	...
KY	...	...
LA	...	...
MA	...	...
MD	...	...
ME	...	...
MI	...	...
MN	...	...
MO	...	...
MS	...	...
MT	...	...
NC	...	...
ND	...	...
NH	...	...
NJ	...	...
NM	...	...
NV	...	...
NY	...	...
OH	...	...
OK	...	...
OR	...	...
PA	...	...
RI	...	...
SC	...	...
SD	...	...
TN	...	...
TX	...	...
UT	...	...
VA	...	...
VT	...	...
WA	...	...
WI	...	...
WV	...	...
WY	...	...





<https://ofmpub.epa.gov/apex/wfc/f?p=165:1:.....>



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# Water Finance 101

Glenn Barnes

Environmental Finance Center

The University of North Carolina at Chapel Hill

919-962-2789

[glennbarnes@sog.unc.edu](mailto:glennbarnes@sog.unc.edu)



# Session Objectives

- Learn how to think about your water system as a financial entity
- Understand some basic financial facts about water systems across the country



# Let's Start With the Basics

- What does your water system do?



# Water Systems Serve Multiple Purposes Sometimes Those Purposes Conflict

- 1) System serves an important **environmental and health purpose** -- protecting community's water resources and supplying community with highest quality drinking water.



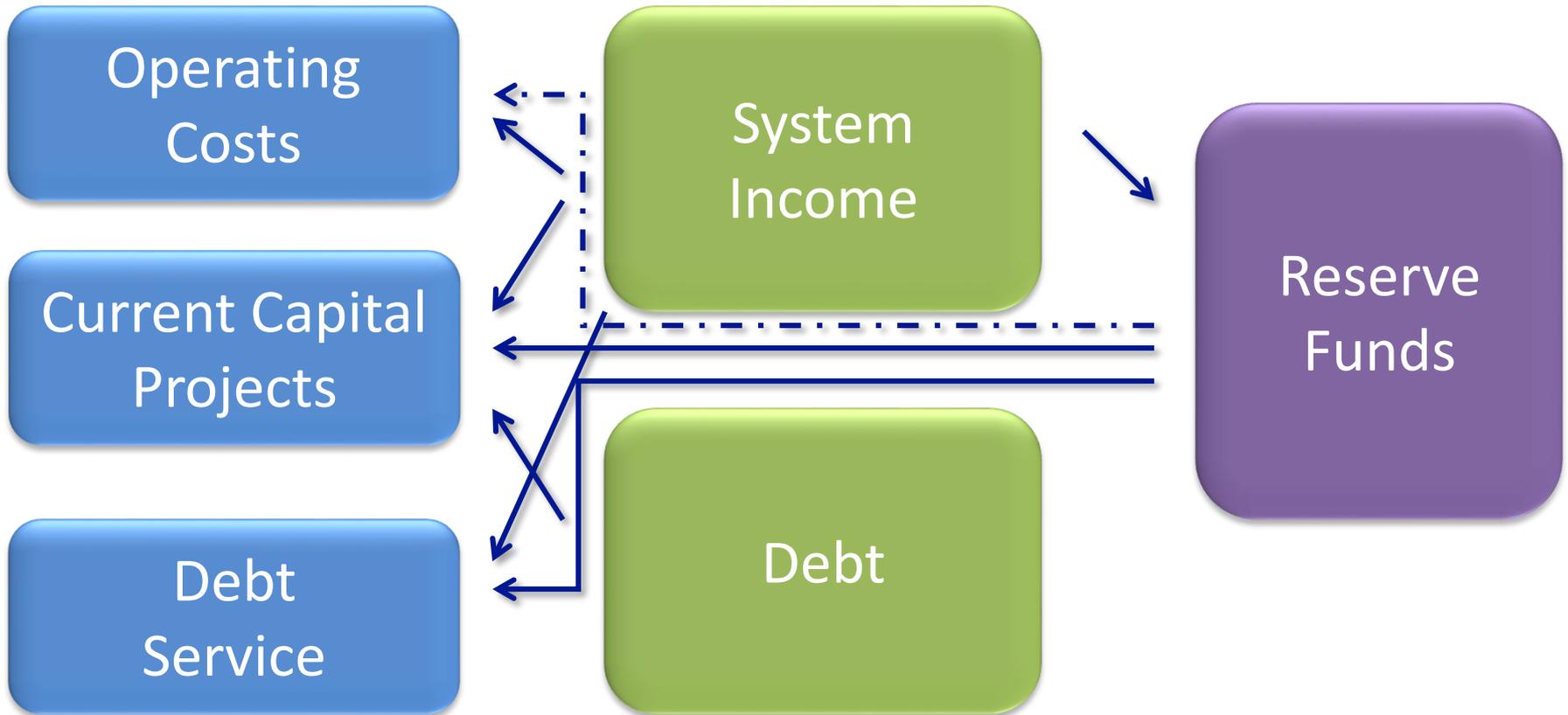
Dr. John L. Leal



# Water Systems Serve Multiple Purposes Sometimes Those Purposes Conflict

- 1) System serves an important **environmental and health purpose** -- protecting community's water resources and supplying community with highest quality drinking water.
- 2) System serves an important **public service** – providing community with basic services that everyone in the community can afford.
- 3) System serves as a well managed **public enterprise** – putting into practice forward-thinking sustainable business practices.

# Water System Finance Diagram





# Three Types of Costs

- **Operating Costs**—what you need to run the system day in and day out
- **Capital Costs**—rehabilitation and replacement of existing infrastructure and new infrastructure
- **Debt Service**—what you owe on loans and bonds



# Let's Make a List of Costs!

Now circle all of the costs that don't change based on the amount of water that you treat and sell

What percentage are circled?



# Two Types of Revenues

- **System Income**—Money from rates, tap fees, system development charges, grants, penalties, other sources
  - Note: To be a true enterprise fund, not taxes!
- **Debt**—Money from bonds and loans



# Many Types of Reserve Funds

- **Capital Reserve Fund**—Infrastructure rehabilitation and replacement
- **Repair Fund**—Known, ongoing maintenance issues
- **Emergency Fund**—Unknown, unanticipated maintenance issues
- **Rainy Day Fund**—Unexpected revenue shortfalls



# How Much Do You Need In Your Reserves?

- It depends
- Enough to pay for your most expensive piece of equipment?
- Enough to cover your costs if you had no revenue for two months?
- Enough to cover the projects in your capital improvement plan?

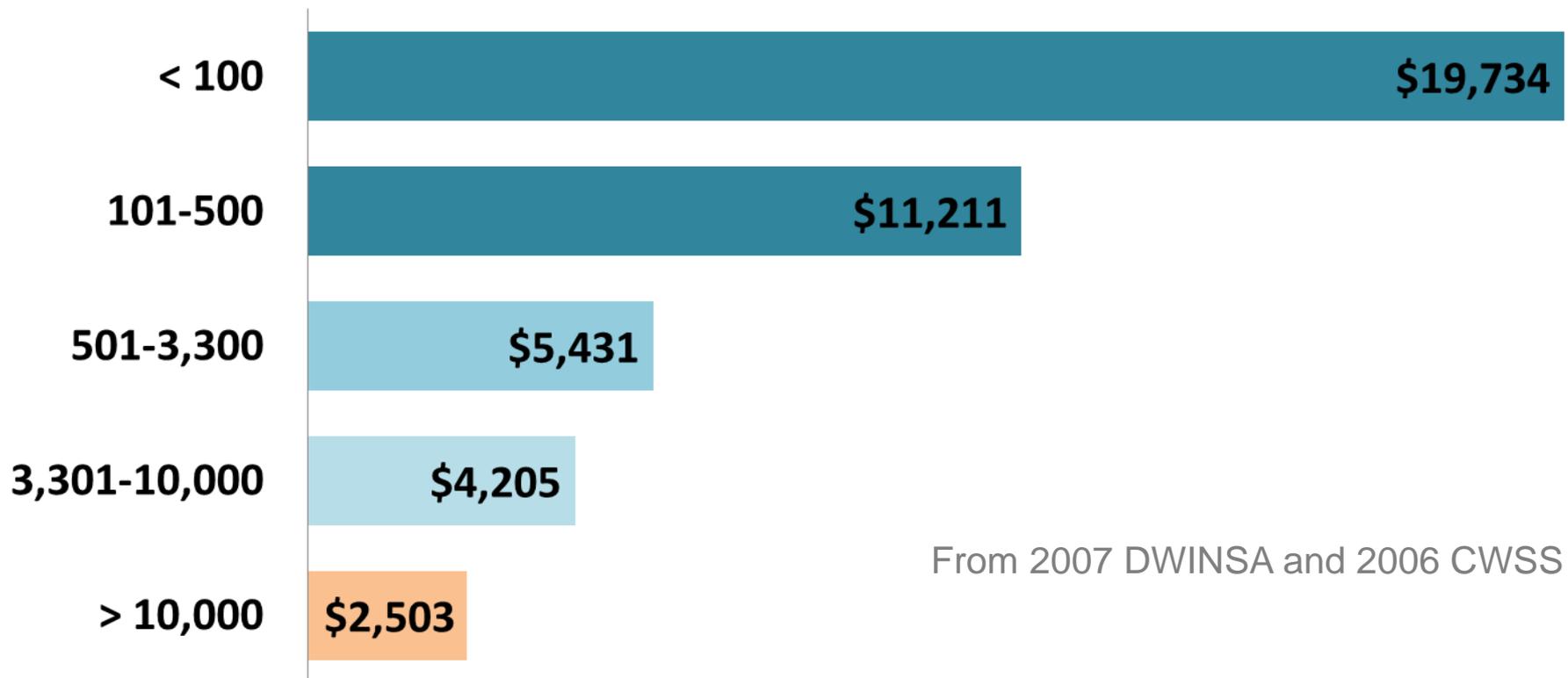


Why does system size matter?

What's the issue with  
small systems?



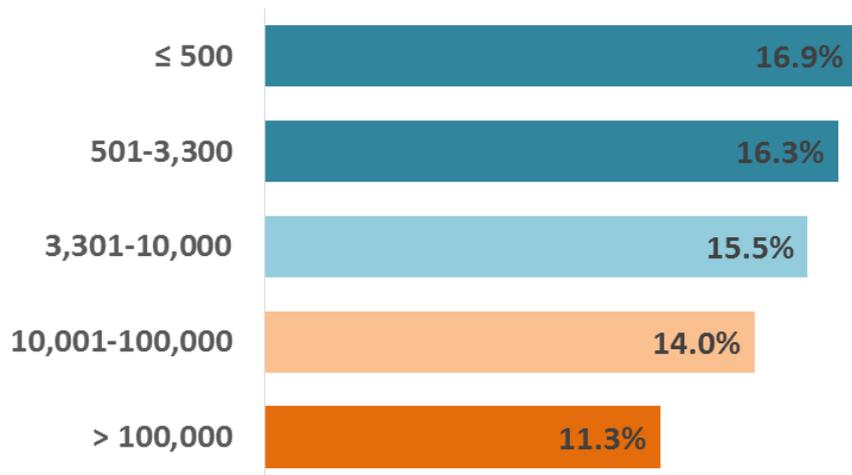
# The Infrastructure Needs Per Residential Connection are Much Greater for Small Systems



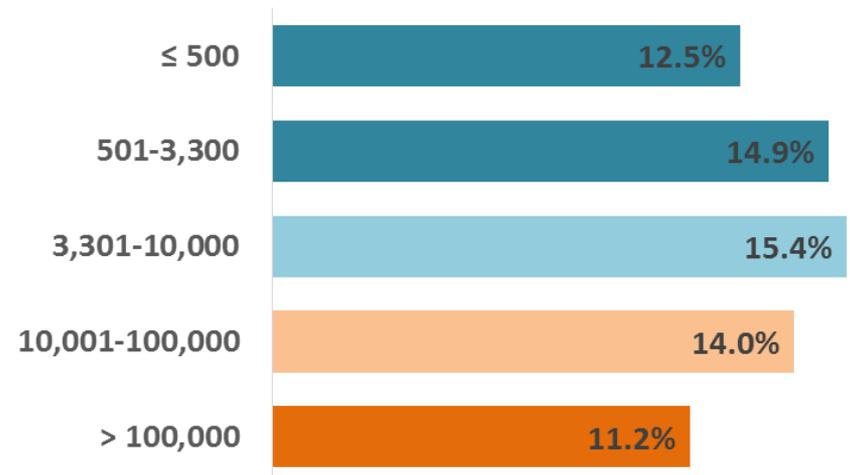
From 2007 DWINSA and 2006 CWSS

# And Small Systems have higher numbers of annual health violations

## Community Water Systems



## All Systems



From SDWIS Data, July 1<sup>st</sup> 2015- June 30<sup>th</sup> 2016



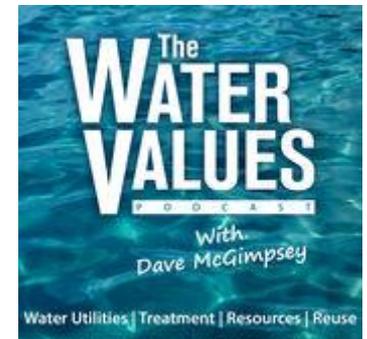
## In Other Words...

- Water systems require a large amount of very expensive infrastructure and skilled staff
- And that infrastructure, skilled staff, and other fixed costs don't go away when customers use less water individually or collectively
- From an expert...

# Let's hear from an expert



Dave McGimpsey interviews George Hawkins, CEO of DC Water, on the Water Values Podcast (Change Leadership episode)



<http://www.podcasts.com/the-water-values-podcast-44/episode/change-leadership-with-dc-water-ceo-george-hawkins>

