



Smart Management for
Small Water Systems

Water System Rates & Finance Workshop



UNC
ENVIRONMENTAL
FINANCE CENTER

This program is made possible under a
cooperative agreement with EPA.



Housekeeping



About the 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.

The Smart Management for Small Water Systems Program

This program is offered free of charge to all who are interested. The Project Team will conduct activities in every state, territory, and the Navajo Nation. All small drinking water systems are eligible to receive free training and technical assistance.

What We Offer

Individualized technical assistance, workshops, small group support, webinars, eLearning, online tools & resources



Areas of Expertise

- Asset Management
- Fiscal Planning and Rate Setting
- Energy Use and Efficiency
- Financial Regulatory Compliance
- Communications and Decision-making
- Multi-funding Coordination
- Water Loss Reduction
- Partnering with Other Water Systems
- Managing Small Systems in Drought



Project Team

- Environmental Finance Center at University of North Carolina at Chapel Hill
- Southwest Environmental Finance Center
- Syracuse University Environmental Finance Center
- Environmental Finance Center at Wichita State University
- EFC West
- Environmental Finance Center at University of Maryland, College Park
- New England Environmental Finance Center at University of Southern Maine
- American Water Works Association





Quick Introductions

1. Name?
2. Organization?
3. Responsibility?
4. Details on your water system—who you serve, infrastructure, etc.
5. What is your biggest issue?



Workshop Objectives

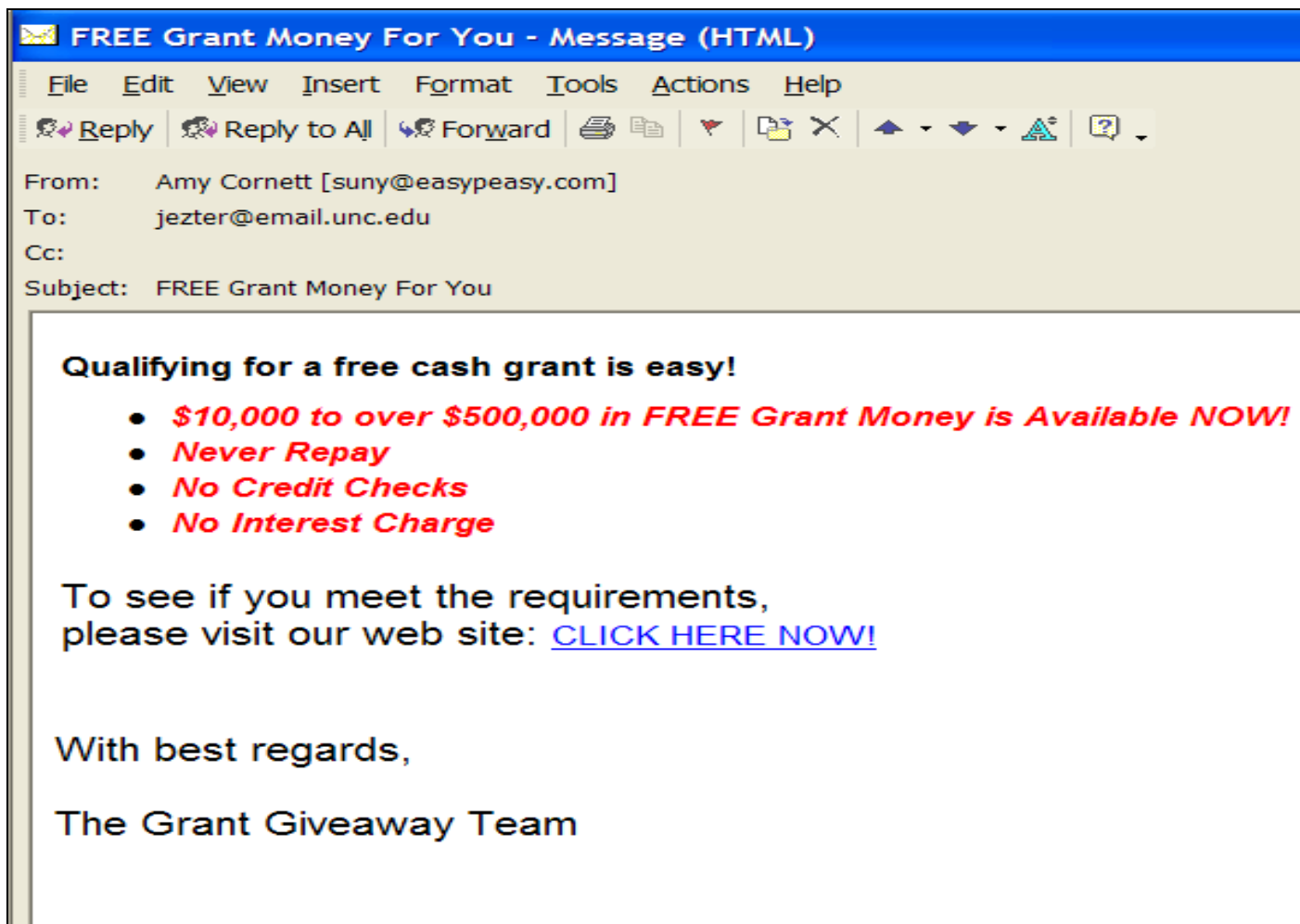
- Understand your system's current financial condition
- Learn how to plan for and finance your water system now and into the future
- Provide forum for sharing finance and management perspectives, ideas, and experiences



Agenda

- Water Finance 101
- Assessing Financial Condition
- Capital Planning
- Revenues

Topics Not Covered



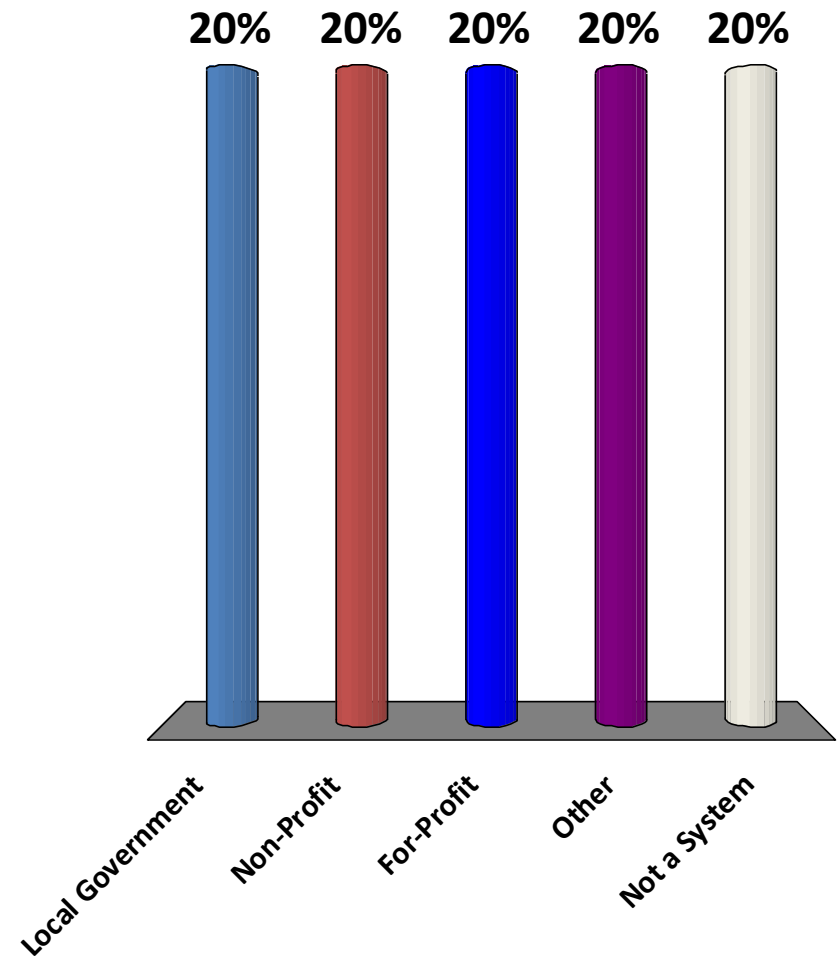


A few questions for you before we continue...



What type of system are you?

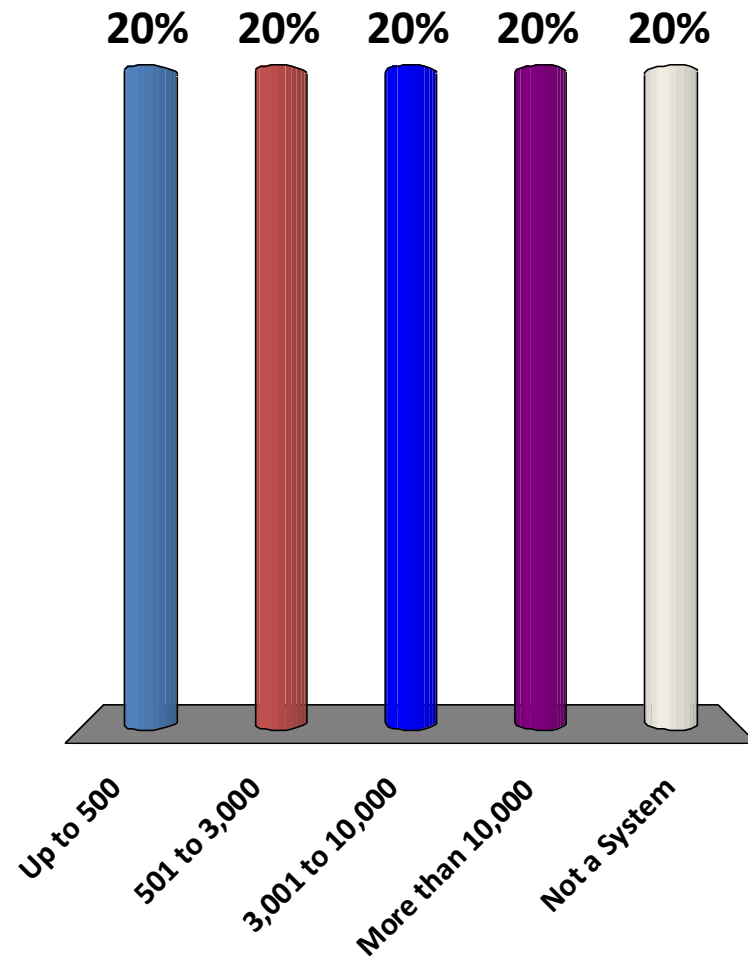
- A. Local Government
- B. Non-Profit
- C. For-Profit
- D. Other
- E. Not a System





How many people do you serve?

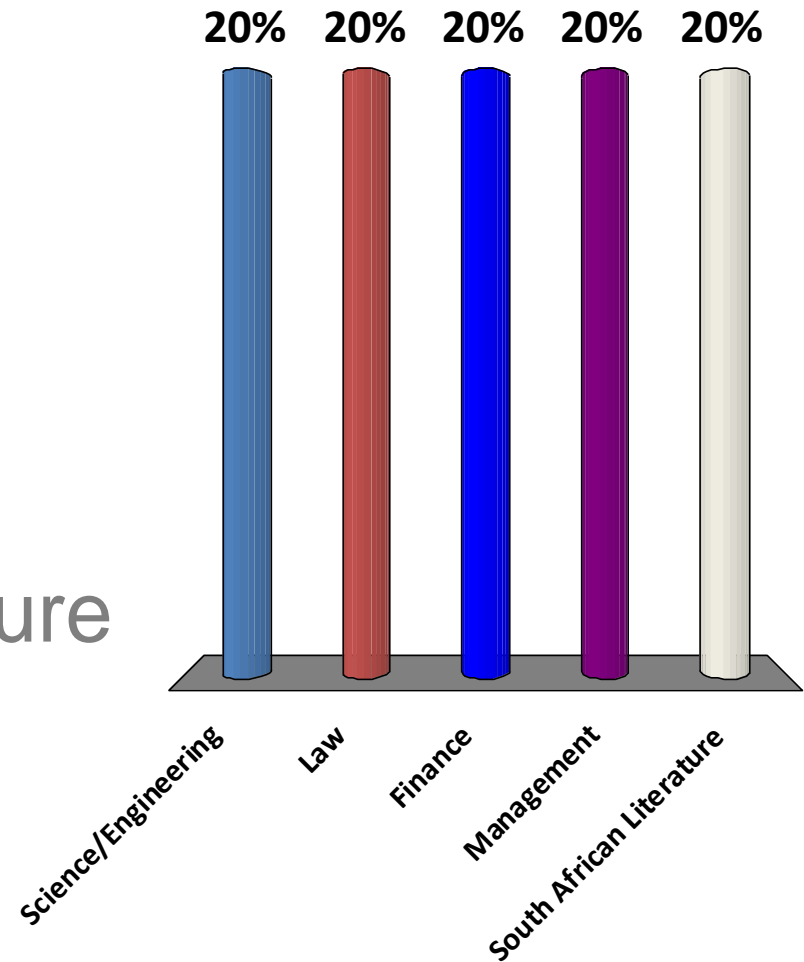
- A. Up to 500
- B. 501 to 3,000
- C. 3,001 to 10,000
- D. More than 10,000
- E. Not a System





What is your background?

- A. Science/Engineering
- B. Law
- C. Finance
- D. Management
- E. South African Literature





Water Finance 101

Glenn Barnes

Environmental Finance Center

The University of North Carolina at Chapel Hill

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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

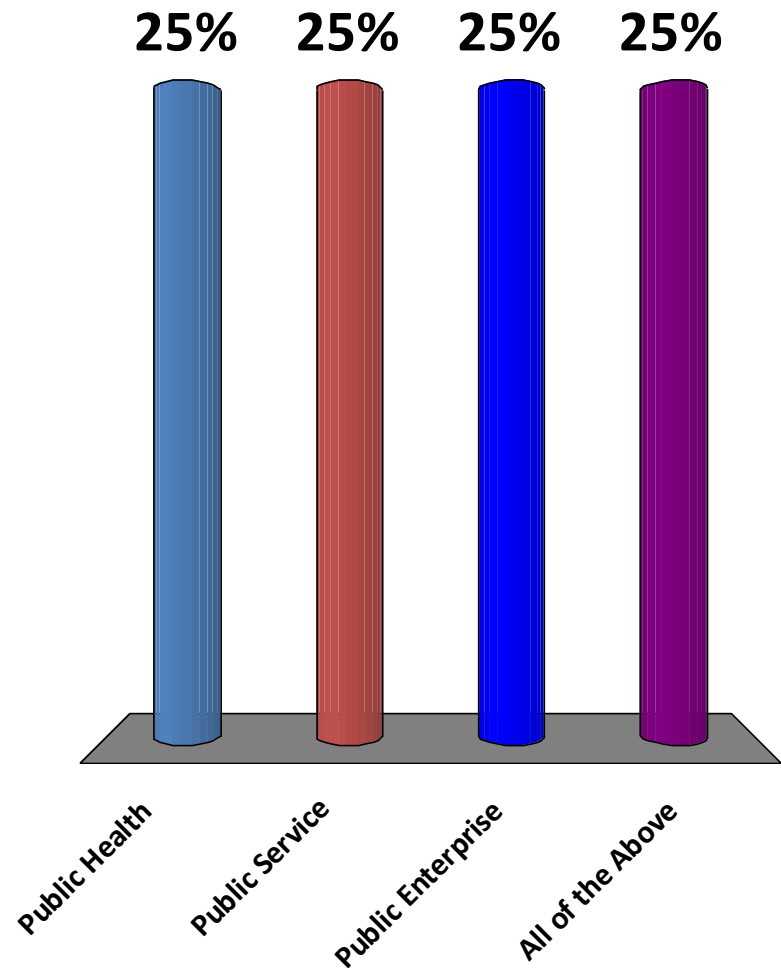
Sometimes Those Purposes Conflict

- 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.



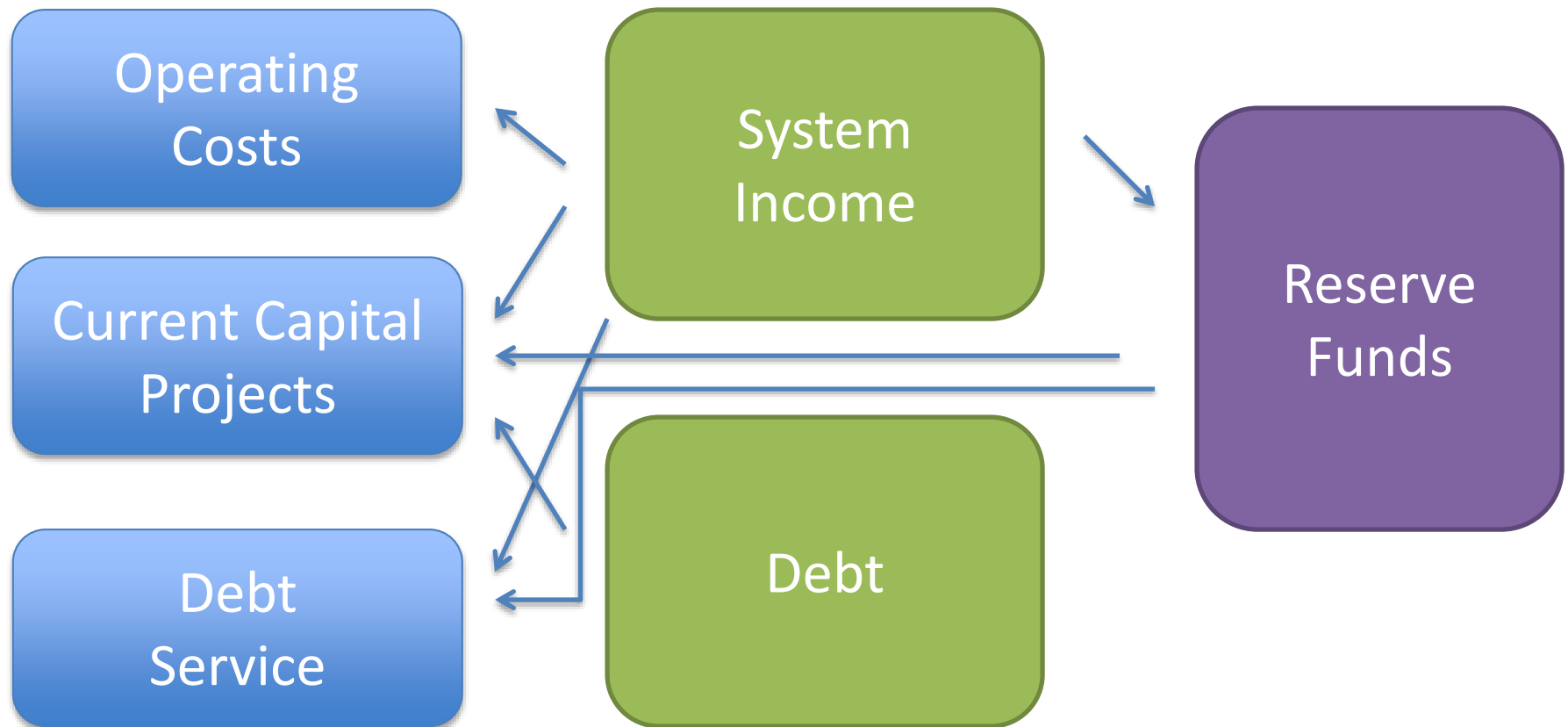
What motivates you the most?

- A. Public Health
- B. Public Service
- C. Public Enterprise
- D. All of the Above





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



Two Types of Revenues

- **System Income**—Money from rates, tap fees, impact fees, grants, 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?



Financial Facts About Public Water Systems



In the United States, there are

147,413

“public” drinking
water systems

Source: EPA SDWIS Database as of July



Confusing Terminology

- “Public” water systems are publically regulated regardless of whether they are owned by a public or private entity



EPA Divides Public Water Systems Into Three Types

- Community Water Systems (**CWS**)
- Non-Transient, Non-Community Water Systems (**NTNC**)
- Transient, Non-Community Water Systems (**TNC**)

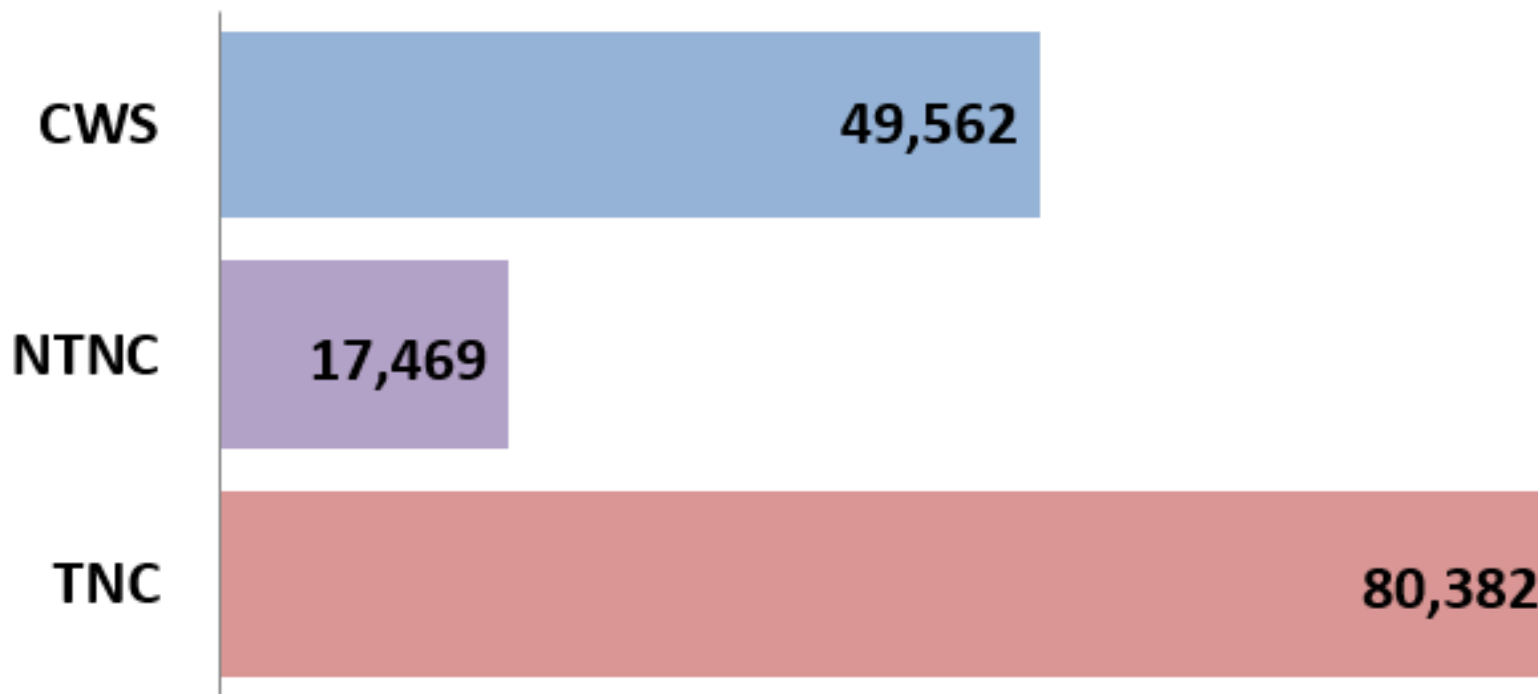


Which Type They Are Depends on Who They Serve

- **CWS** serve the same 25+ people/15+ connections regularly where they live
- **NTNC** serve the same 25+ people regularly outside of the home
- **TNC** serve 25+ people regularly but not the same people



Most Water Systems are Transient Non-Community Systems



Source: EPA SDWIS Database as of July 1, 2016



EPA Also Divides Systems into Five Categories Based on Number People Served

Small Systems

- Very Small: Up to 500
- Small: 501 to 3,300
- Medium: 3,300 to 10,000

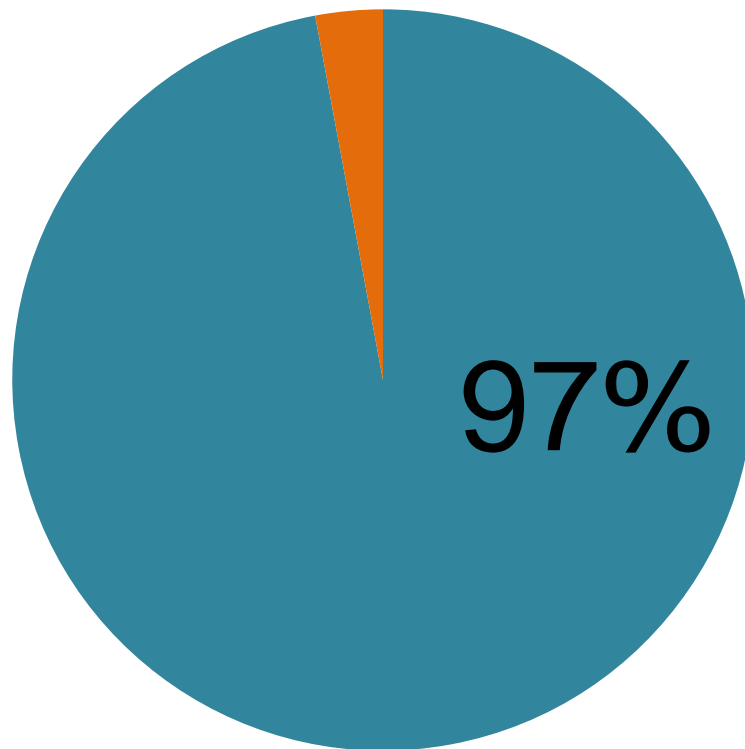
Large Systems

- Large: 10,001 to 100,000
- Very Large: More than 100,000



Most Water Systems are Small

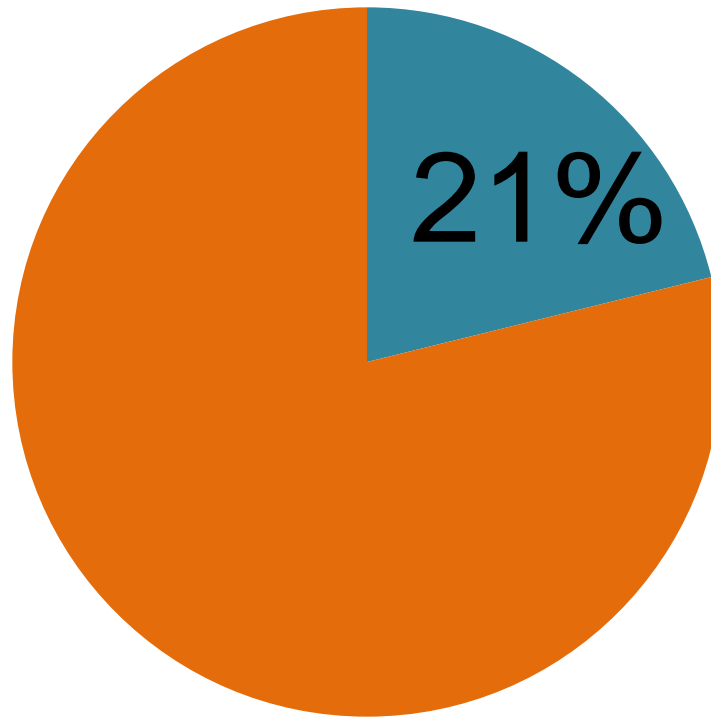
They serve 10,000 or fewer customers



Source: EPA SDWIS Database as of July 1, 2016



Collectively, Though, **Large Systems** Serve Far More Total People



Source: EPA SDWIS Database as of July 1, 2016



Almost all Non-Community Systems are Small

- More than 99% of **NTNC** and **TNC** serve 10,000 or fewer people
- At least 85% serve 500 or fewer people

Source: EPA SDWIS Database as of July 1, 2016



Community Water Systems have the most **Large** and **Very Large** Systems



Source: EPA SDWIS Database as of July 1, 2016

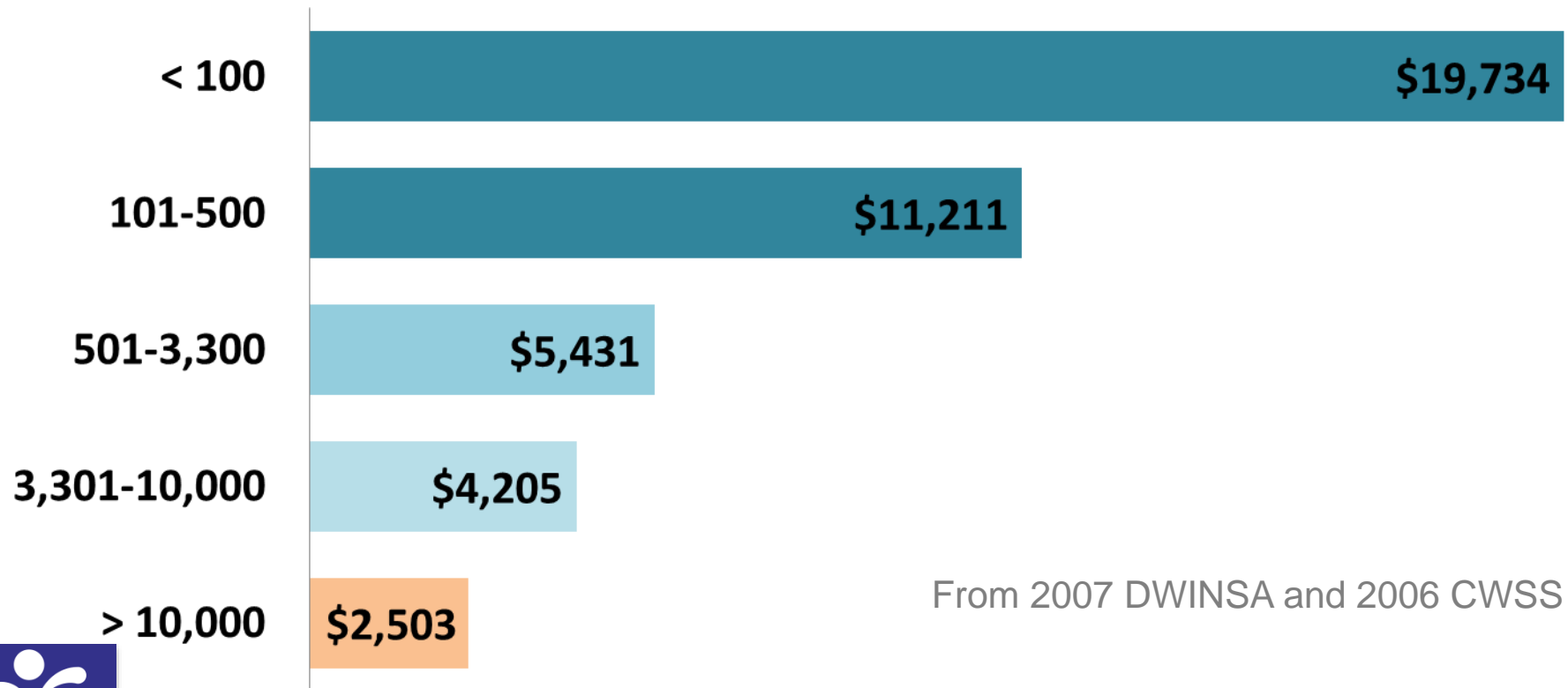


Why does system size matter?

What's the issue with small systems?



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

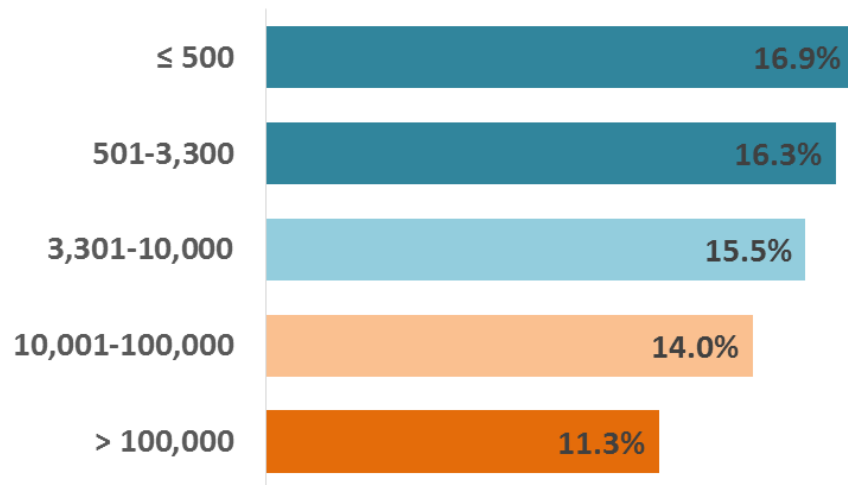


From 2007 DWINSA and 2006 CWSS

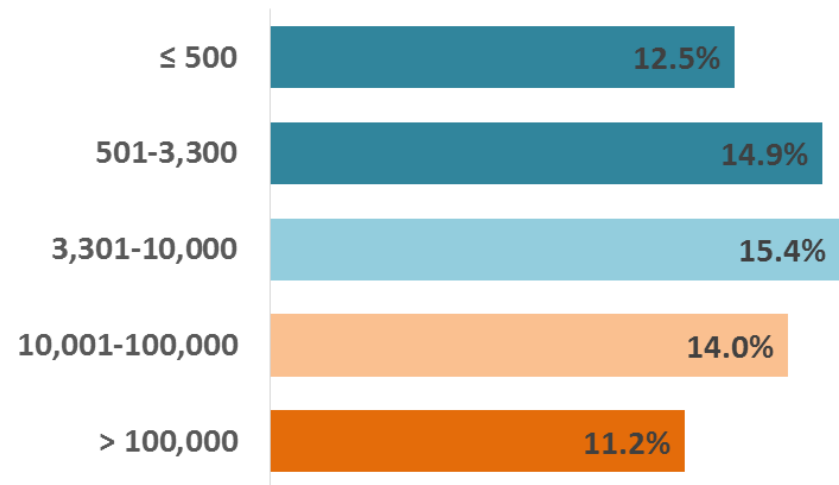


And Small Systems have higher numbers of annual health violations

Community Water Systems



All Systems





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



Is My System Financially Healthy?

BREAK

CITY OF WOODBINE, GEORGIA
STATEMENT OF NET ASSETS
PROPRIETARY FUNDS
DECEMBER 31, 2010

Enterprises Funds
Water and Sewer

ASSETS	
Current Assets	
Cash	\$ 28
Receivables, net	4
Total current assets	32
Noncurrent Assets	
Investments	
Land, net of collection	
Less accumulated depreciation	
Total noncurrent assets	
Total Assets	\$ 4
LIABILITIES	
Current Liabilities	
Bonds payable	4
Total current liabilities	4
Noncurrent liabilities	
Bonds, notes and other payable	
Total noncurrent liabilities	
Total Liabilities	
Unrestricted	
Total net assets	3.12
Total Liabilities and Net Assets	\$ 4.05

The accompanying notes are an integral part of these financial statements.

15