



Smart Management for  
Small Water Systems

# Financial Resiliency for Small Water Systems

Concord, NH  
October 3, 2018



UNC  
ENVIRONMENTAL  
FINANCE CENTER



NADO  
NATIONAL ASSOCIATION OF DEVELOPMENT ORGANIZATIONS  
RESEARCH FOUNDATION



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*This project has been funded wholly or in part by the United States Environmental Protection Agency under assistance agreement A18-0408-001 to the University of North Carolina at Chapel Hill. The contents of this document do not necessarily reflect the views and policies of the Environmental Protection Agency, nor does the EPA endorse trade names or recommend the use of commercial products mentioned in this document.*



# Housekeeping



# 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 [wwwhipps@syr.edu](mailto:wwwhipps@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 [wwwhipps@syr.edu](mailto:wwwhipps@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.

# The Small Systems Program Team

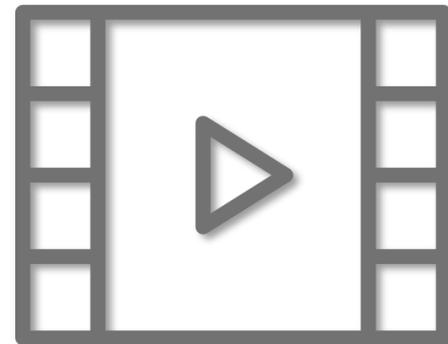
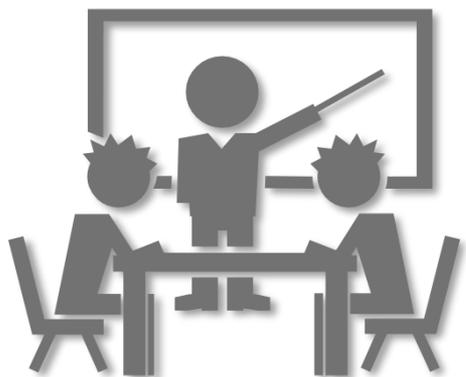
- Environmental Finance Center at The University of North Carolina at Chapel Hill
- Southwest Environmental Finance Center at the University of New Mexico
- Syracuse University Environmental Finance Center
- Environmental Finance Center at Wichita State University
- EFC West
- Environmental Finance Center 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



# Quick Introductions

1. Name?
2. Organization?
3. Responsibility?
4. Details on your water system
5. What are you most proud of at your water system?
6. What is your biggest issue?



# Workshop Objectives

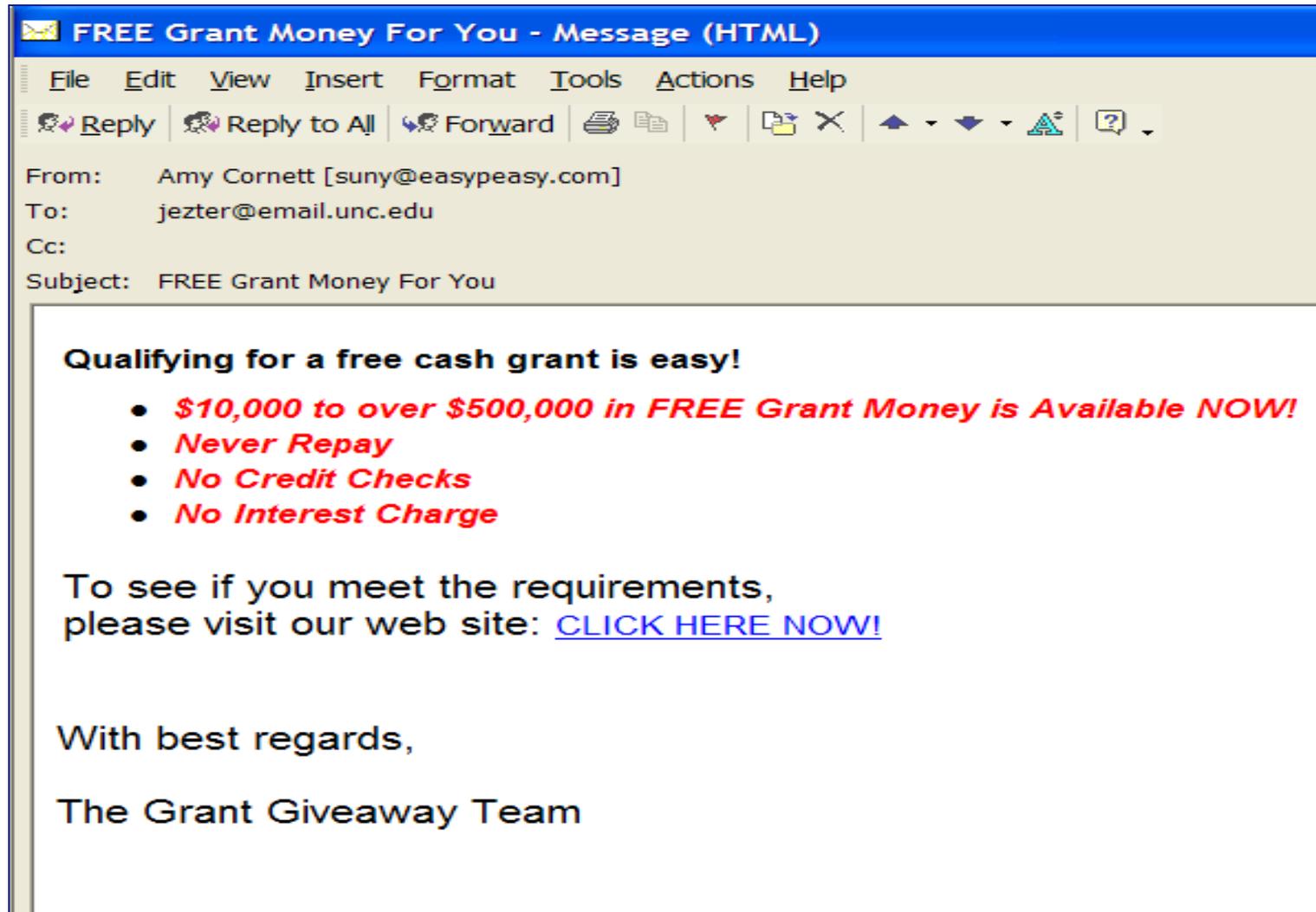
- Have the right staff to achieve system goals
- Learn how to plan for and finance your water system now and into the future
- Provide forum for sharing finance and management perspectives, ideas, and experiences



# Agenda

- Infrastructure Funding Programs
- Water Finance 101
- Workforce Development
- Long Term System Planning
- Revenues and Rate Design

# Topics Not Covered



The image shows a screenshot of an email client window. The title bar reads "FREE Grant Money For You - Message (HTML)". The menu bar includes "File", "Edit", "View", "Insert", "Format", "Tools", "Actions", and "Help". The toolbar contains icons for "Reply", "Reply to All", "Forward", "Print", "Delete", "Move", "Copy", "Paste", "Undo", "Redo", and "Help". The email header information is as follows:

From: Amy Cornett [suny@easypeasy.com]  
To: jezter@email.unc.edu  
Cc:  
Subject: FREE Grant Money For You

The main body of the email contains the following text:

**Qualifying for a free cash grant is easy!**

- ***\$10,000 to over \$500,000 in FREE Grant Money is Available NOW!***
- ***Never Repay***
- ***No Credit Checks***
- ***No Interest Charge***

To see if you meet the requirements,  
please visit our web site: [CLICK HERE NOW!](#)

With best regards,

The Grant Giveaway Team



# Nigeria's anti-corruption unit finds \$43 million cash in Lagos apartment

By **Yemisi Adegoke, CNN**

Updated 10:03 AM ET, Fri April 14, 2017



Source: CNN

Watch: Millions seized from Nigerian apartment 01:14

## Story highlights

Nigeria's anti-corruption agency discovered \$43 million in cash at a Lagos apartment

This is the latest in a string of busts thanks to a new whistleblowing policy

**Lagos (CNN)** — The Nigerian anti-corruption unit discovered more than \$43 million in US dollars at an upscale apartment in Lagos.

The anti-graft agency said in a statement it raided the apartment Tuesday after a tipoff about a "haggard"

## Top stories



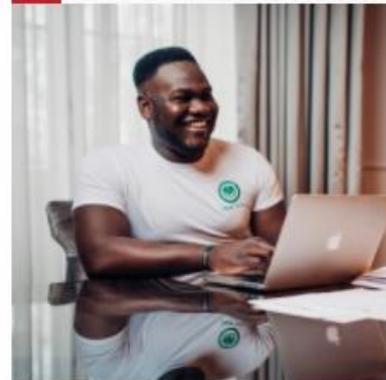
MLB team spent \$900M, still doesn't have a ring



Conservatives accuse the Pope of spreading heresy

Ad

WorldRemit



## How to keep close to home

"I still love Nigeria and stay in touch with friends and family there." - Akin.



# Infrastructure Funding Programs



40 Years



Building Better Neighborhood





# 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.



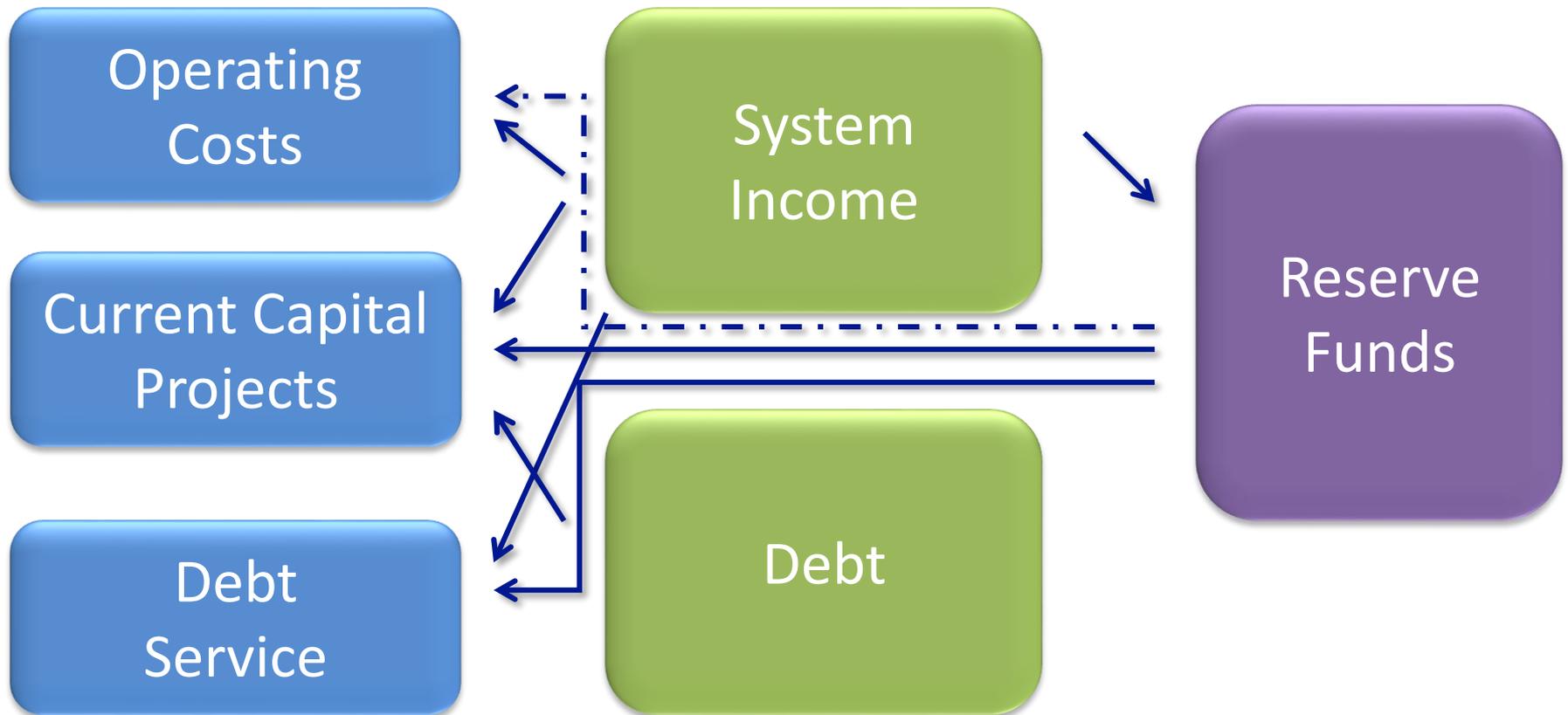
Dr. John L. Leal



# 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



# 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?

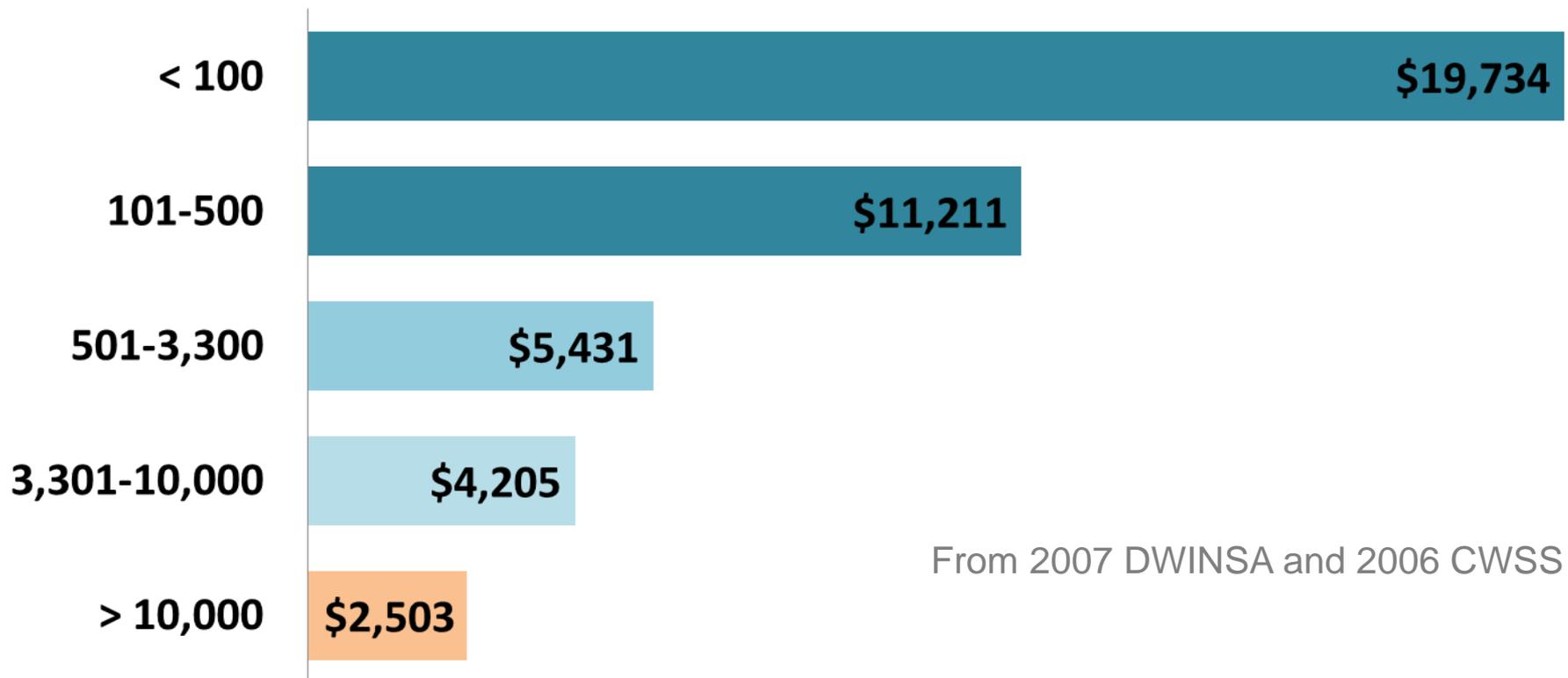
- It depends
- Enough to pay for your most expensive piece of equipment?
- Enough to cover your costs if you had no revenue for two months?
- Enough to cover the projects in your capital improvement plan?



Why does system size matter?

What's the issue with small systems?

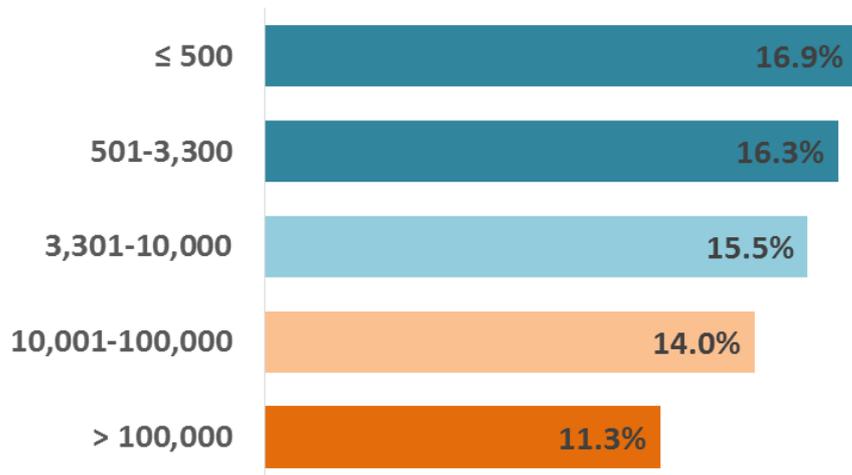
# The Infrastructure Needs Per Residential Connection are Much Greater for Small Systems



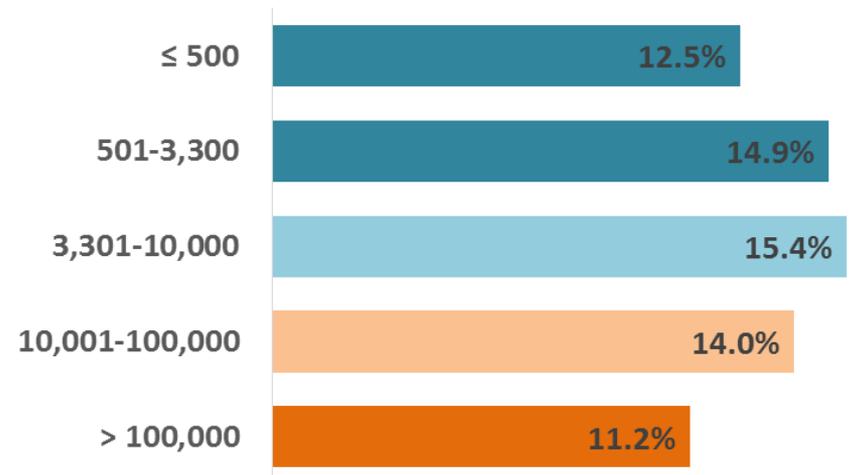
From 2007 DWINSA and 2006 CWSS

# 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