Water Finance 101

Glenn Barnes
Environmental Finance Center
University of North Carolina at Chapel Hill
919-962-2789
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

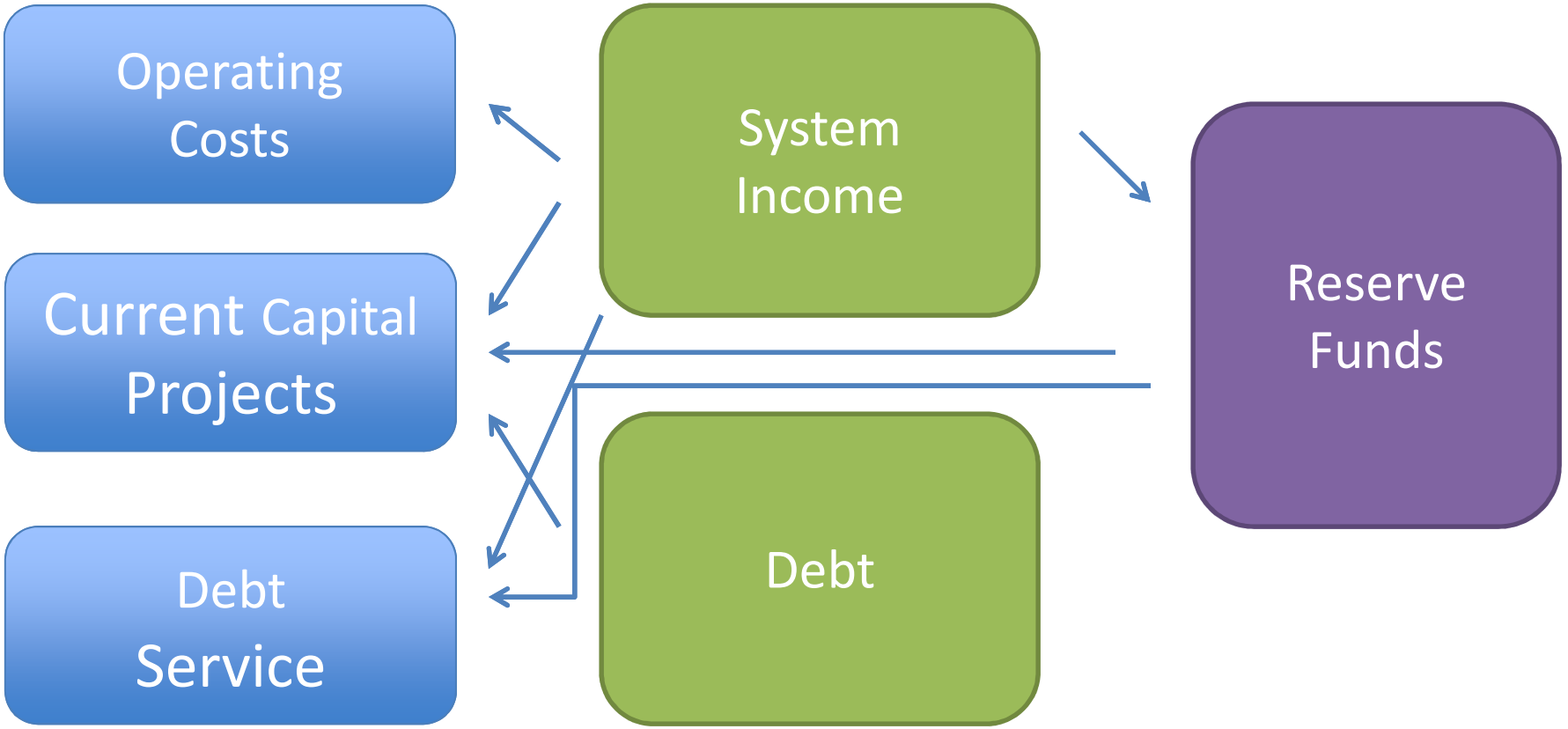
Sometimes Those Purposes Conflict

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, 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?

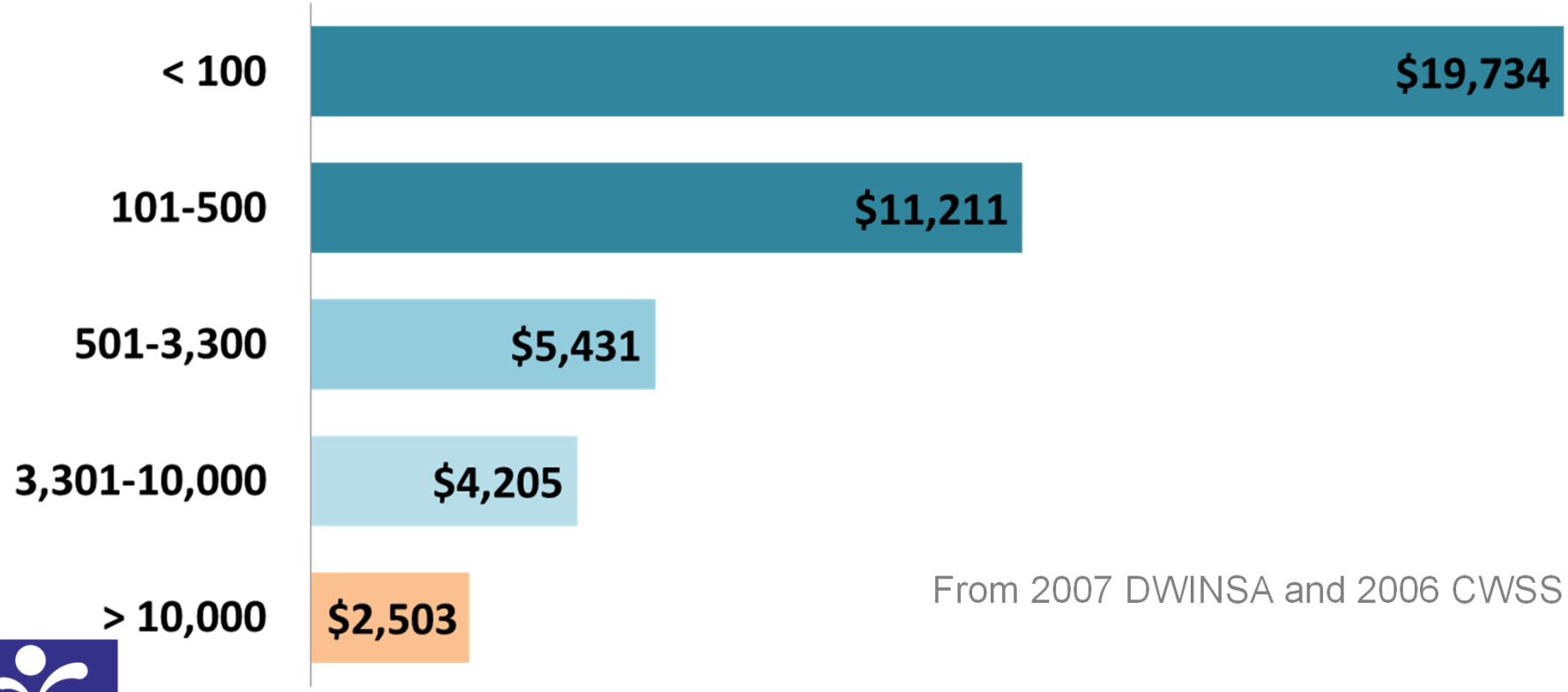
- It depends

- 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?

Why does system size matter?

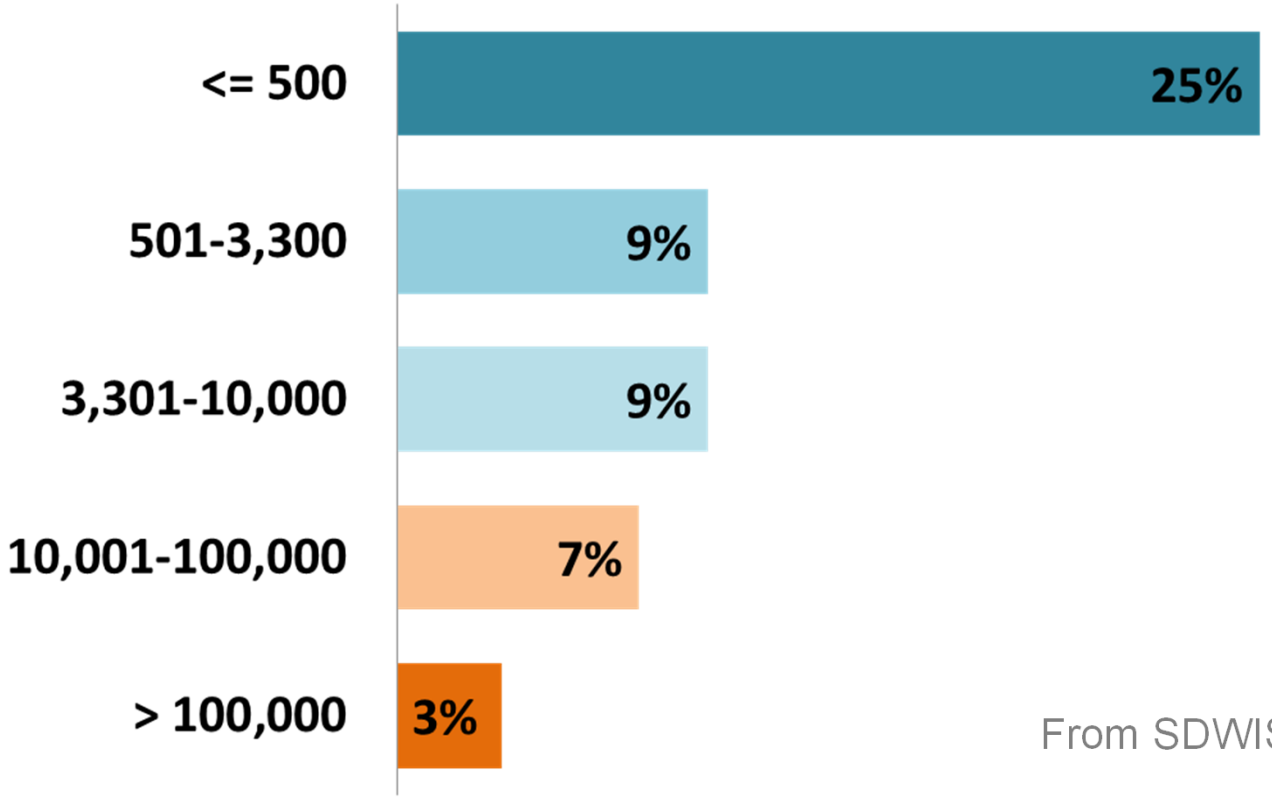
What's the issue with small systems?

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



From 2007 DWINSA and 2006 CWSS

And Small Systems Have Far Higher Numbers of Annual Health Violations



From SDWIS 2011 Q3 Data

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