



Smart Management for  
Small Water Systems

# Water System Management and Finance for Board Members

Rutland, VT  
October 5, 2017



UNC  
ENVIRONMENTAL  
FINANCE CENTER



American Water Works  
Association

*This program is made possible under a cooperative agreement with the US 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 Program 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, blogs



# The Small Systems Program Team

- Environmental Finance Center at The University of North Carolina at Chapel Hill
- Environmental Finance Center at Wichita State University
- EFC West
- New England Environmental Finance Center at the University of Southern Maine
- Southwest Environmental Finance Center at the University of New Mexico
- Syracuse University Environmental Finance Center
- Environmental Finance Center at the University of Maryland
- American Water Works Association (AWWA)



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WICHITA STATE  
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HUGO WALL SCHOOL  
OF PUBLIC AFFAIRS

*Environmental Finance Center*



EFCWest

Environmental Finance Center West



New England  
Environmental  
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*Syracuse University*



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# 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?



# Quick Introductions

- Why did you run for your board position? What motivates you to serve?



# Workshop Objectives

- Understand your responsibilities
- Learn management best practices
- Provide forum for sharing finance and management perspectives, ideas, and experiences





# Agenda

- What is a water system?
- Roles and responsibilities of board and staff
- Effective communication



# What Is A Water System?

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Environmental Finance Center

The University of North Carolina at Chapel Hill

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# Session Objectives

- What your water system does
- Your water system as a financial entity
- Regulatory framework



# 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.



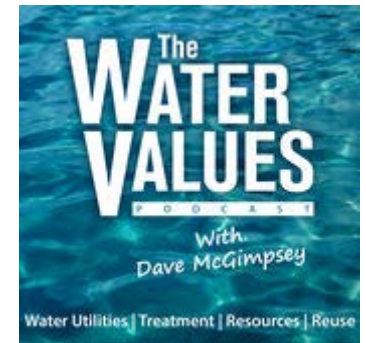
# Water Systems are Important

- Customers rely on dependable, safe water 24/7
- Important to public health
- Water sustains the environment
- Quality of life
- Community has put trust in the system—you have a responsibility
- Need to hire right staff
- Remember! You as a board member play an important role in this critical service

# 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>

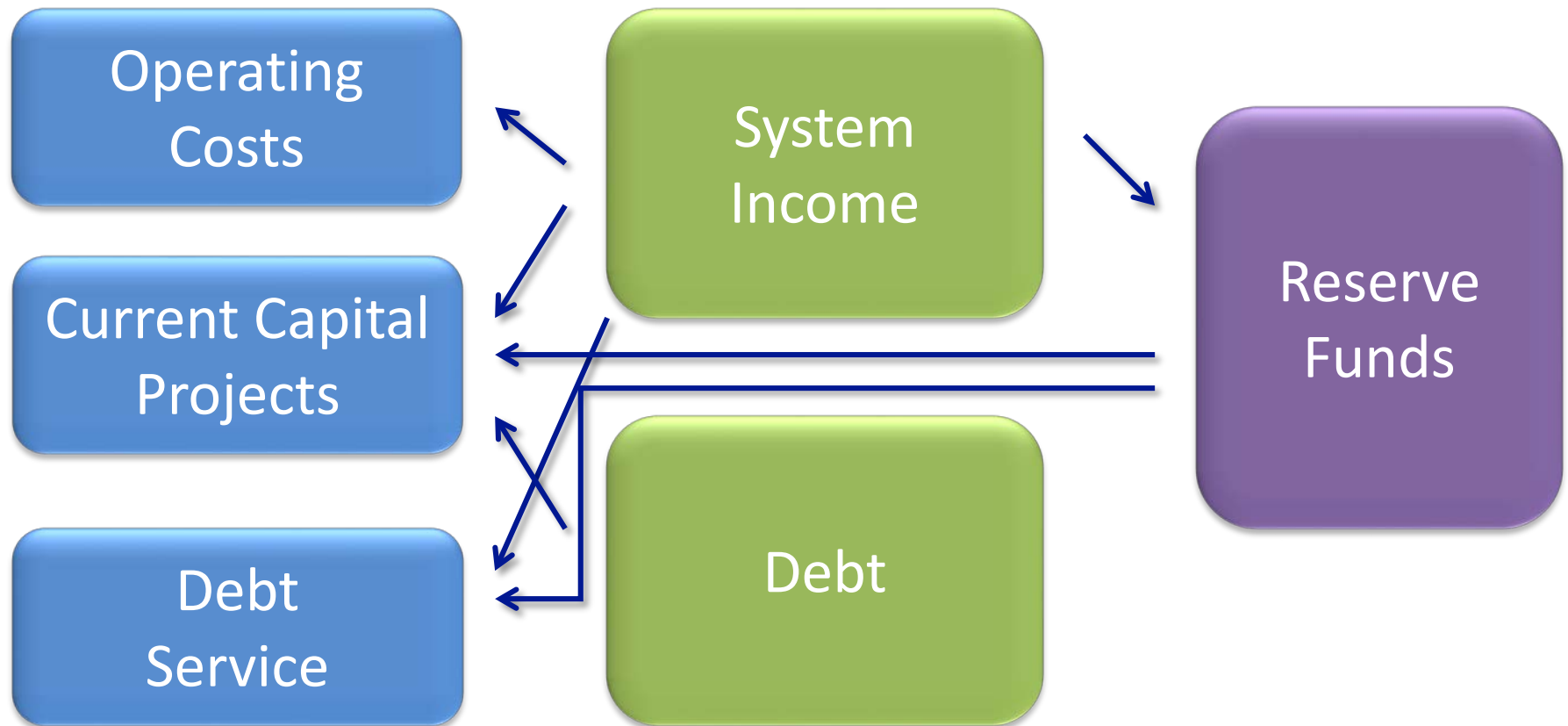




# Water Systems as Financial Entities



# 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?



# Quick Overview of the Regulatory Framework



How are you regulated as a drinking water system?





# Public Drinking Water System

## A Definition

- A public water system (PWS) is a system for the provision to the public of water for human consumption through pipes or other constructed conveyances, if such system has at least fifteen service connections or regularly serves at least twenty-five individuals
- USEPA Website  
<http://water.epa.gov/infrastructure/drinkingwater/pws/pwsdef2.cfm>

# EPA, and Your Primacy Agency



# Regulatory Framework



- You are responsible for public health
  - Safe Drinking Water Act
  - Revised Total Coliform Rule (TCR)
  - Groundwater Rule
- These are legally enforceable standards

# Regulatory Framework



- Vermont Water Supply Rule
  - Regulates all aspects of PWSs, including source development, infrastructure construction, and operations
  - State administers the federal regulations that apply to all public water systems in the country, instead of USEPA (“primacy”)

<http://dec.vermont.gov/sites/dec/files/documents/vtwsr2010.pdf>



# Drinking Water & Groundwater Protection Division



- Working with drinking water systems to maintain safe drinking water
- Sanitary surveys of public drinking water systems
- Administers rules regarding water supply sampling
- Protecting groundwater and surface water sources
- Permitting for water system source development, construction, and operations; operator certification and well driller licensing



Regulations go beyond just the environment and public health

# Regulatory Framework

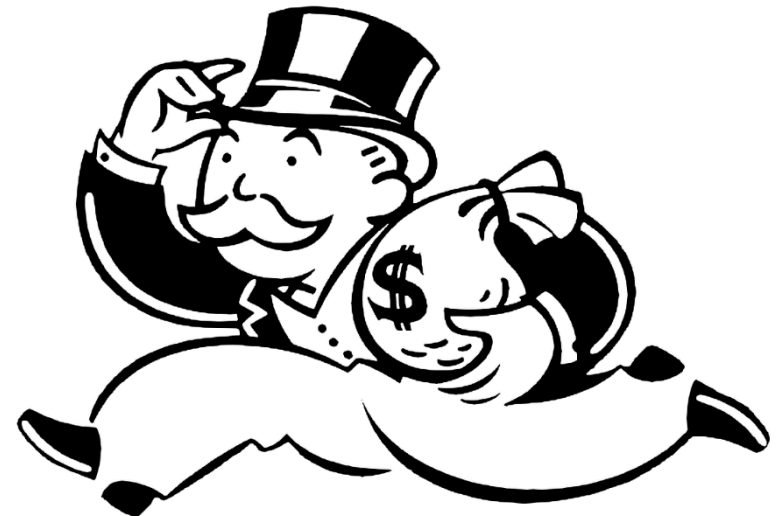
- You hire people—  
labor laws
- You use equipment—  
occupational safety  
laws





# Regulatory Framework

- You are governmental—  
information  
transparency
- You are a monopoly







# Regulatory Framework

- How many of you like being regulated?
- Water systems are regulators, too!
  - You cut off customers who don't pay
  - You prevent people from tapping their well into the system



# Regulatory Framework

- Regulations are ultimately linked to public health
- You are in charge of the essential product to life—you have an amazing responsibility



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