Building TMF Capacity for Small Water Systems

Available Workshops

Building TMF Capacity for Small Public Water Systems Program Round 9

EFCN environmental finance center network

NADO National Association of Development Organizations Research Foundation

GFOA Government Finance Officers Association

Workshops by Title

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Mapping and Data Collection

Protecting Your Drinking Water Using the Multiple Barrier Approach

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Introduction to Surface Water Treatment

Water Treatment Systems

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Water Distribution Systems

Basic Water Math

Safe Drinking Water Act (SDWA) Regulations

Water Operator Certification Review

Most courses are day-long workshops that are designed to last six hours. However, in light of the increasing demand for live virtual and webinar-style training, most courses can be adapted for online delivery in segments of 1-2 hours. Please discuss your preferences for virtual or in-person training with Environmental Finance Center Network staff.

Introductory Asset Management: Optimizing Asset Life for Sustained Operations

M- Managerial

With limited revenues, aging infrastructure, and regulatory obligations to meet, a comprehensive approach to managing your system is vital. You may have problems related to unknown meter, valve, or hydrant locations. You may not be sure of which asset(s) to replace given limited funds. Asset Management can help you solve these problems, and more.

In this workshop, you will learn how asset management can benefit your system. Don't know where to begin? We will provide you with the tools you need to get started and will walk you through the process.

You will learn how to:

- Identify the 5 core components of asset management
- Develop an inventory of utility components
- Identify critical assets for sustained operations
- Make decisions about how to operate, maintain, repair, and replace those assets
- Set goals for level of service at a sustainable cost

Intermediate Asset Management: Beyond the Basics

M- Managerial

Have you attended an introductory asset management workshop in the past? Have you read about asset management? Do you know the basics but not what to do next? If so, this workshop is for you. We will examine the next steps you can take in your asset management journey.

While all attendees are welcome, this workshop is most suited for attendees who have some understanding of the basics of asset management.

We will discuss:

- Techniques, tools, and examples for developing and updating asset inventories and building maps
- Setting and measuring level of service goals
- Using data to assess probability of failure and consequence of failure
- Prioritizing projects based on risk analysis
- How risk analysis can be used to make decisions on asset maintenance and repair/replacement/rehabilitation options
- Funding and creating a Capital Improvement Plan

Advanced Asset Management: Completing and Implementing Your Plan

M- Managerial

Has your system started, completed, or hired an expert to help with an asset management plan? If any of these situations apply to you, you might be asking: What's the next step? What kinds of benefits will I be able to achieve? This workshop is an opportunity for water systems that have progressed in asset management to share with each other and learn about how an asset management plan can be put into practice. The format of this workshop will be highly interactive and discussion-based.

All attendees are welcome, but content will be most relevant for systems that have developed an asset management plan (either all or in part) or are implementing portions of asset management.

Financial Management for Small Water Systems: Planning for the Next 5 Years and Beyond

M- Managerial

You work hard to provide safe, quality drinking water to your customers at fair rates. But how are your finances? This training will teach you about utility finance, how to track and benchmark financial performance, plan for future capital costs, and revenues and rate design. You will learn about these topics through examples from real small systems. This workshop will provide you with the tools to improve the fiscal health of your utility without compromising service or deferring maintenance.

You will learn how to:

- Design appropriate rate structures
- Track and benchmark financial performance
- Plan for future capital costs
- Identify external funding sources (loans and grants)

Drought: Is Your Water Utility Prepared?

M- Managerial

With limited financial and technical resources, small water systems are particularly vulnerable to drought conditions. As longer and more frequent droughts become the norm, your system needs to be prepared.

We will discuss how weather conditions may impact your utility, and specific strategies you can use to mitigate the impacts of drought. We will also discuss funding opportunities and

other resources.

You will learn how to:

- Protect your revenues during periods of water conservation
- Manage water loss and conduct a water audit
- Improve communication with your customers
- Work with other utilities to identify and solve drought-related challenges

Building Resilience by Planning for an Uncertain Future

M- Managerial

Now more than ever, water utilities must learn to be agile when faced with multiple, often urgent, challenges. In this workshop, we will discuss potential extreme disruptions in your region. We will also give you tools to identify risks and manage and plan for impacts.

In this workshop, you will learn:

- How extreme weather can pose a risk to your system
- How to build and assess impact scenarios to identify vulnerability
- How to engage your community in resiliency planning

Strategic Planning Tools for Small Water Systems

M- Managerial

Strategic plans are vital to the long-term sustainability and success of any organization. All water systems should develop strategic plans that identify their goals, define their importance, and incorporate opportunities to maintain and improve performance in the face of an uncertain future.

In this workshop, you will learn to:

- Identify and address strengths, weaknesses, threats, and opportunities for your system
- Use simple tools to help you plan for your goals, and mitigate your weaknesses and threats
- Develop a process to support and grow your team

Effective Communication and Decision-Making Strategies for Small Water Systems

M- Managerial

Successful employees need strong communication skills to influence attitudes and get things done. Regardless of your position, leadership occurs at every level of a water system.

You will learn how to:

- Communicate with the public, your board, elected officials, regulatory, and funding agencies
- Build support for decisions involving rates, budgets, and capital improvements
- Be a compelling communicator to raise awareness, and change attitudes and behaviors
- Create a motivated, adaptive, and safe workplace
- Reduce conflict, and improve staff collaboration and participation in decision-making

Understanding the Root Cause of a Problem

M- Managerial

Some problems have one answer while others have multiple solutions and potential fixes. How do we know we are making the right choice? Understanding the root cause of a problem is the crucial first step in addressing the issue appropriately.

You will learn how to:

- Develop strategic plan structures and approaches
- Use tools to identify potential weaknesses and strengths goals
- See problems through the lens of multiple perspectives
- Use a systemic decision-making approach to analyzing problems and their causes
- Flip the problem into an opportunity for better community buy-in

The Power of Partnership: Sharing Resources with Neighboring Systems

M- Managerial

Running a small system can be challenging. Along with meeting regulatory obligations and satisfying customer expectations, you may have issues with aging infrastructure, lack of personnel, and limited financial resources. Furthermore, small systems often cost more to operate per capita than large systems because of economies of scale. This can further complicate operations.

One strategy to address these challenges is to work with other utilities. In this workshop, we will discuss various approaches to collaboration.

We will discuss:

- Informal information sharing
- Sharing personnel
- Leveraging shared purchasing power
- Mutual aid agreements
- We will also introduce asset management and funding options to help you address your needs.

Workforce Planning: How to Attract and Retain Talent at Your Water System

M- Managerial

Small water systems can struggle to recruit and retain experienced staff. What will happen when your utility's operator or manager retires? Who knows what they know? Who will replace them? This workshop will focus on succession planning, recruitment, and staff retention strategies. Workforce planning strategies can help ensure that you attract and retain a strong team. These strategies can also provide a basis for better utility management and planning.

You will learn how to:

- Analyze gaps in your current workforce
- Maintain a workplace culture that attracts qualified applicants and partners
- Retain excellent talent long-term
- Recruit and work with younger generations
- Prepare for retirements with succession planning tips

Managing Your Water System Into the Future

M- Managerial

From financial expertise to effective communication skills, utility managers and staff require a variety of soft and hard skills to manage their water system successfully now and into the future.

In this workshop, you will learn to:

- Recruit, retain, and develop the right people to run your system
- Ensure you get the longest life out of your infrastructure and have a plan to replace it
- Have the money you need for operations and capital
- Communicate these plans and financial needs to decision makers and the public

Understanding and Applying Effective Utility

Management Principles to Your Utility

M- Managerial

Using the Effective Utility Management (EUM) framework, this training shows participants how to use the Ten Attributes of an Effectively Managed Utility" and the "Five Keys to Management Success" to identify both areas of strength and opportunities for improvement AND how to get started in making meaningful changes in everyday operations. Training includes: learning how to conduct an EUM self-assessment; how to use the results to identify priority areas to improve and the resources to help you; a progressive and interactive exercise in strategic planning; and interactive discussions on using measurement and benchmarking, implementing best practices in knowledge management, and addressing leadership challenges and issues. EUM is vitally important for all utility managers who want to get started on the path to developing an effectively managed and sustainable utility.

Learning Objectives:

- How EUM can fit into your utility's management practices.
- How to use a tool based on the Ten Attributes to assess strengths and identify areas for improvement.
- About the relationship between EUM and the best practices of continual improvement including Deming's Plan-Do-Check-Act.
- How to link your EUM priorities to strategic goals and objectives.
- How to develop and use performance measures to track and report your progress.
- How utility managers are tackling the leadership challenges of the day in the water sector.

Who Attends:

- Utility leaders including executives, directors, general managers, assistants, and deputies
- Utility managers across the major functions of a utility -- Admin/HR, operations, customer service, finance, and engineering/planning
- Utility governance - board members, commissioners, etc.
- State primacy agency staff who work with utility managers on capacity development

Green Asset Management: Incorporating Green and Natural Assets

M- Managerial

Protecting the drinking water source is an integral part of ensuring public health protection, but it is often difficult to achieve because it is not considered part of the overall operation and management of the water system or because it is a voluntary program. It is important to fully consider the potential threats to the source water both now and into the future because the cost of preventing contamination is far less than the cost (both initial and on-going) of treating the source once it is contaminated. Furthermore, there are non-monetary and co-benefits to source water protection.

Asset management provides the best framework to manage "gray" infrastructure (pipes, pumps, tanks, wells, hydrants, etc.), but it can also be used to manage green infrastructure (forests, riparian areas, green roofs, rain gardens etc.). Green assets are often used to protect source water. Blending green infrastructure into asset management will give utilities the opportunity to view green and gray projects on equal footing and within the overall context of the water system.

This training follows the same five core components of traditional asset management: Level of Service, Current State of the Assets, Criticality, Life Cycle Costing, and Long-Term Funding. Participants will learn how to fit their current or future green infrastructure into these core components.

We will discuss:

- The 5 core components of asset management
- How to define a green asset
- Techniques, tools, and examples for developing a blended green/gray asset inventory
- Setting and measuring level of service goals
- Creative and unconventional funding sources available for green and gray infrastructure

Access to Funding Sources

M/F- Managerial, Financial

There are several federal and state programs that provide funding for water infrastructure projects. In this workshop, you will learn about specific financing programs from representatives from the relevant programs in your state. The workshop also includes information on best management practices to strengthen your utility's funding application. Discover how asset management, rate setting, and financial benchmarks can strengthen your proposal.

Finding Lost Revenue: Completing a Water Audit

M/F- Managerial, Financial

This workshop will show you how to identify non-revenue water categories and how to take the first step of developing a water loss control program.

You will learn how to:

- Understand the water balance
- Complete a water audit
- How to Identify data sources, collect, and evaluate the data
- Improve data quality through collaboration

- Identify and understand data errors
- Use the results of your audit and identify available tools to maximize revenue

Are your Rates too High? Looking at Water Rate Affordability

M/F- Managerial, Financial

Concerns over affordability often stymie a needed rate increase. In many cases, the utility has not performed the relevant analyses to determine how extensive affordability concerns really are. This training will demonstrate how the "Water and Wastewater Residential Rates Affordability Assessment Tool" as well as other resources can be used to assess the level of affordability in the community, using parameters beyond the Median Household Income (MHI). The training will also include information and resources on how to design an assistance program for those customers who cannot afford their water bills. The programs highlighted will include options related to rates, as well as water efficiency.

Setting the Right Rates for Your Water System

F- Financial

This intermediate level workshop will help you ensure the financial stability of your water system while providing safe, quality drinking water at fair rates. We will focus on how systems can select rate setting objectives and match those with appropriate rate structures.

You will learn how to:

- Develop rate setting objectives
- Determine the cost of providing water service
- Anticipate changes in revenues year-to-year by changes in demand
- Measure the affordability of rates for all of your customers
- Create rate structures that promote water conservation or promote water use

This workshop is designed for any community water system that charges customers for water consumption. Drinking water system managers, clerks, treasurers, board members, and others who budget and/or set rates are encouraged to attend.

Controlling Energy Costs at Your Water System: How to Save Thousands

F- Financial

Energy is the largest controllable cost of providing water services. Energy can be as high as 40 percent of operating costs, and those costs will likely increase 20% over the next 15 years. Now is the time to look at your energy use and take action.

You will learn how to:

- Conduct an energy audit and establish a baseline
- Establish energy efficiency projects at your system
- Calculate project payback and current performance
- Identify financing opportunities for your energy projects

Financial Recovery from COVID-19 for Small Water Systems

F- Financial

Changes due to COVID-19 conditions have affected water systems' finances. Questions remain about how to manage those financial implications immediately as well as recovering from them in the years to come. Join this 2.0-hour webinar to learn about the financial impact trends on small water systems and next steps for recovery. The Environmental Finance Center Network will answer your questions and share some resources and information to help you through these transitions.

Mapping and Data Collection

T- Technical

System maps with accurate, up to date, and comprehensive asset data help to maximize the efficiency of utility operations, aid knowledge transfer, and foster data driven decision making. Implementing a system mapping program (or improving your existing program) can benefit your entire utility by making inventory tracking, operations, maintenance, capital improvement planning, water loss control efforts, and other activities more economical.
In this workshop we will examine different digital mapping platforms and data collection options, and review case studies to demonstrate the positive impact that a mapping program can have on your utility.

In this workshop you will learn about:

- Collecting asset inventory, operations, and event data for risk assessment and other types of analysis
- Techniques and tools for developing and building digital maps that will tell you much more than simply where things are
- The benefits of tracking your O&M activities using mapping platforms
- How mapping can be leveraged to:

- develop an asset valuation for your system
- develop Capital Improvement Plan
- improve the efficiency of fieldwork activities
- support your water loss control activities and
- track a variety of other critical system information

Protecting Your Drinking Water Using the Multiple Barrier Approach

T- Technical

This training teaches water system personnel how to evaluate, identify, and correct sanitary defects at their water system using the multiple barrier approach (MBA). Topics cover all eight elements of a Ground Water Rule sanitary survey and how they work together to provide protective barriers against waterborne disease. The training demonstrates why deficiencies identified in a sanitary survey are of concern and illustrates their potential to impact the system through the introduction of microbial contamination. The training is conducted at a water system over a period of two days. The first day is spent in the classroom where lectures, pictures, and videos teach participants what may constitute a deficiency and how to identify them. The morning of the second day is spent identifying potential deficiencies at actual water system facilities, while the afternoon is spent working in small groups to create a corrective action plan to address the deficiencies found.

Chlorine Disinfection Workshop

T- Technical

This day-long workshop provides attendees with a better understanding of the chlorine disinfection process along with operations and maintenance (O&M) best practices. Topics include chlorine disinfection basics, chlorine safety, system O&M, chlorine residual monitoring, and disinfection math. In addition, chlorine disinfection is discussed as it relates to the Safe Drinking Water Act, sanitary surveys, and operator certification. The training includes hands-on activities with chlorine test kits and chemical feed pumps to enable water system personnel to become more comfortable with monitoring and controlling the disinfection process. This workshop can also be provided virtually where videos are used to demonstrate how to assemble a chemical feed pump and how to measure chlorine residual.

Introduction to Surface Water Treatment

T- Technical

This day-long training covers the wide range of different treatment processes that can be used to meet SDWA requirements for utilizing a surface water source. Topics covered include surface water sources, the conventional surface water treatment process as well as direct, pressure, slow sand, diatomaceous earth, cartridge/bag, and membrane filtration. Treatment process control procedures are discussed along with SDWA surface water regulatory and reporting requirements. This training has been previously paired with a field trip to a surface water treatment plant to observe the components and processes in action.

Water Treatment Systems

T- Technical

This day-long training provides water utility personnel with an overview of the various drinking water treatment processes and can include surface water treatment, disinfection, fluoridation, ion exchange, absorption, adsorption, reverse osmosis, corrosion control, green sand filtration, ferric addition, and pH adjustment. Water treatment math is included throughout the training where focus is paid to using it to manage treatment processes and optimize treatment system operations. This training can also be provided virtually.

Water Distribution Systems

T- Technical

This day-long training assists water utility personnel in understanding the components, installation, and O&M best practices associated with distribution systems. Topics can include piping, valving, hydrants, service connects, storage tanks, water quality monitoring, flushing, valve exercising, water main disinfection, and cross connection control. Water math is included throughout the training to illustrate distribution system O&M concepts with an emphasis on using math to evaluate distribution system health. This training can also be provided virtually.

Basic Water Math

T- Technical

The EFCN offers a wide variety of training on water math topics that are tailored to meet the needs of each individual participant and can include breakout sessions for those that need a review of math fundamentals, and those interested in doing math associated with distribution systems or treatment processes and other more complex operations. Each training focuses on the daily use of math at each participant's water system/s to help better manage day-to-day

operations and make informed choices that could affect system performance. Training can be either a half or a full day and can be provided virtually.

Safe Drinking Water Act (SDWA) Regulations

T- Technical

Day-long training can be provided to assist water utility personnel in understanding and complying with Safe Drinking Water Act requirements. Topic options include the Revised Total Coliform Rule, Phase II/V Rules, Surface Water Treatment Rules, Disinfectant/Disinfection Byproducts Rules, Ground Water Rule, Lead & Copper Rule, Public Notification Rule, and Consumer Confidence Reports. The training provides an overview of the selected rule, specifics on its requirements, and helps systems understand how to comply with regulations under the SDWA. The Environmental Finance Center Network will work with you to select one or more rules relevant to training needs in your region.

Water Operator Certification Review

T- Technical

A full day of training designed for operators of public water systems preparing for all levels of the drinking water operator certification exam under the Association of Boards of Certification. Topics provide an overview of material that may show up on the exam and can include drinking water regulations, equipment O&M, water treatment, laboratory procedures, water quality, safety, and water math. In addition, study skills and test taking skills can be reviewed and a practice exam can be provided. This review can also be provided virtually.