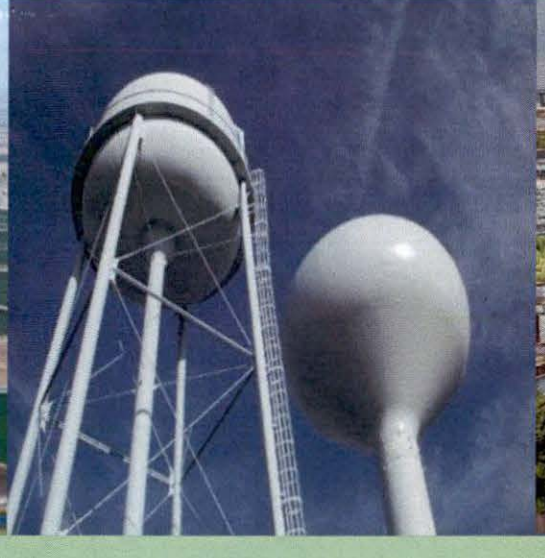
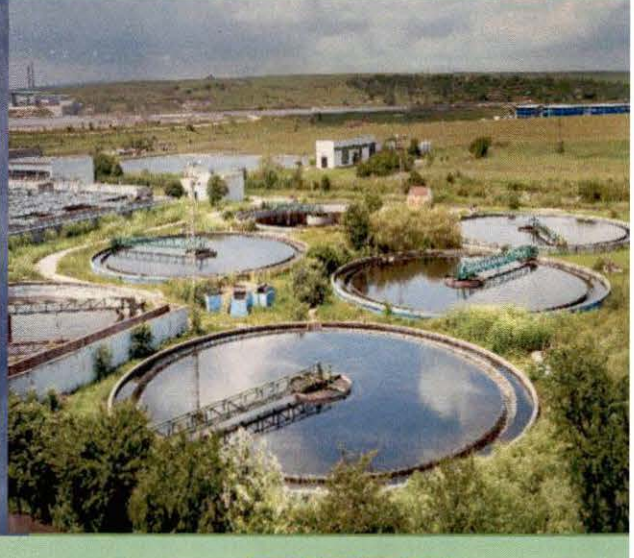
Sustainable Management of Rural and Small Systems Workshop

Kentucky Water Resources Research Institute

KRADD Conference Center
Hazard, KY – September 14, 2017

UK UNIVERSITY OF KENTUCKY

Welcome and Introductions

Moderator: Lindell Ormsbee

- Welcome
- WVU – University of Kentucky vision for assisting small communities
- Introduction of Team Members
- Participant Introductions – Name, Community, Role
- Workshop Materials
- Meeting Logistics

Management Process

- Phase I
  - Regional workshops
    - Explain 10 basic management areas
    - Perform general utility assessments
    - Identify possible goals and strategies
- Phase II
  - Individual utility workshops
    - Involve operators, managers, and decision makers
    - Develop feasible goals and strategies
  - Provide technical resources to help support implementation

Workshop Participants

- This workshop will focus on management issues but will likely involve a range of participants:
  - Operators
  - Managers
  - Decision makers
    - City Officials
      - Mayors
      - City council members
      - Utility board members
    - County Officials
      - Judges
      - Members of the fiscal court

USDA Workshop-in-a-Box Objectives

- Learn about key utility management areas
- Complete a self-assessment to understand your respective community systems, needs, wants, requirements, and options
- Discuss tools, tips, and measures for performance improvement
- Exchange information and experiences with participants from other local utilities
- Initiate developing an action plan for your respective communities
- Identify possible resources for technical support

Schedule of Activities

Key Management Areas

Self Assessment Exercise

Lunch, Invited Presentations, Networking

Improving Outcomes

Practices, Tools, and Measures

Creating an Action Plan Exercise

Next Steps

Feedback Session

Overview of the Ten Key Management Areas

Outcomes that well-managed utilities strive for

Common Challenges for Utility Managers

- Aging infrastructure
- Rate issues
  - Prioritize demands for utility expenditures
  - Long-term rate adequacy strategy
- Customer satisfaction and confidence with services and rates

Common Challenges for Utility Managers

- Operational issues
  - Labor and material costs
  - Regulatory compliance and new requirements
- Workforce complexities
  - Attracting and keeping reliable and competent staff
  - Succession planning
- Knowledgeable and engaged board members

The Well-Managed Utility

- Ten Management Areas framed as outcomes
- Building blocks for utility performance improvement: where to focus and what to strive for
- Most water and wastewater utilities pay attention to these areas and likely perform well in at least some of them
- Fit into, draw on, and support asset management, long-term business planning, continual improvement management systems

The Ten Key Management Areas

- Product Quality
- Customer Satisfaction
- Infrastructure Stability
- Community Sustainability & Economic Development
- Stakeholder Understanding and Support
- Employee and Leadership Development
- Operational Optimization – Energy and Water Efficiency
- Operational Resiliency
- Water Resource Adequacy
- Financial Viability

Product Quality

- Clean and safe water
- Produce potable water, treated effluent, and process residuals/recovered resources:
  - Full compliance with regulatory and reliability requirements
  - Consistent with customer, public health, and ecological needs
  - Consistent with local economic development and business needs and opportunities

Customer Satisfaction

- Know what your customers expect in service, water quality, and rates
- Set goals to meet these expectations
- Help your customers understand the value of water
- Develop a way to gather feedback from your customers, review the feedback, and then act on it

Employee & Leadership Development

- Enable a workforce that is competent, motivated, adaptive, and safe working
- Ensure employee institutional knowledge is retained and improved on over time
- Create opportunities for professional and leadership development

Operational Optimization

- Ensure ongoing, timely, cost-effective, and reliable performance improvements in all facets of operations (i.e., continual improvement culture)
- Minimize resource use, loss, and impacts from day-to-day operations (e.g., energy and chemical use, water loss)
- Maintain awareness of information and operational technology developments to anticipate and support timely adoption of improvements

Financial Viability

- Ensure revenues adequate to recover costs, fund timely maintenance, repair, and replacement of assets, and provide for reserves
- Establish predictable rates, consistent with community expectations and acceptability – discuss rate requirements with customers, board members, and other key stakeholders

Infrastructure Stability

- Understand **costs** and **condition** for each system component
- Understand operational performance factors (e.g., pressure)
- Plan for system component repair and replacement over the long-term at the lowest possible cost
- Coordinate asset repair, rehabilitation, and replacement within the community to minimize disruptions and other negative consequences

Operational Resiliency

- Identify threats to the system (legal, financial, non-compliance, environmental, safety, security, and natural disaster) – conduct all hazards vulnerability assessment
- Establish acceptable **risk levels that support** system reliability goals
- Identify how you will manage risks and plan response actions – prepare all-hazards emergency response plan

Community Sustainability & Economic Development

- Be active in your community
  - Be aware of, or participate in, discussions of community and economic development
  - Get to know local business needs and be aware of opportunities for new residential or business customers
- Align Utility Goals: to be attentive to the impacts utility decisions will have on current and future community and watershed health
- Align Utility Goals: to promote community economic vitality and overall improvement

Water Resource Adequacy

- Ensure water availability consistent with current and future customer needs:
  - Long-term resource supply and demand analysis
  - Conservation
  - Public education
- Understand the system role in water availability
- Manage operations to provide for long-term aquifer and surface water sustainability and replenishment

Stakeholder Understanding & Support

- Create understanding and support from oversight bodies, community and watershed interests, and regulatory bodies:
  - Service levels
  - Rate structures
  - Operating budgets
  - Capital improvement programs
  - Risk management decisions
- Actively engage with the community and customers:
  - Understand needs and interests
  - Promote the value of clean and safe water

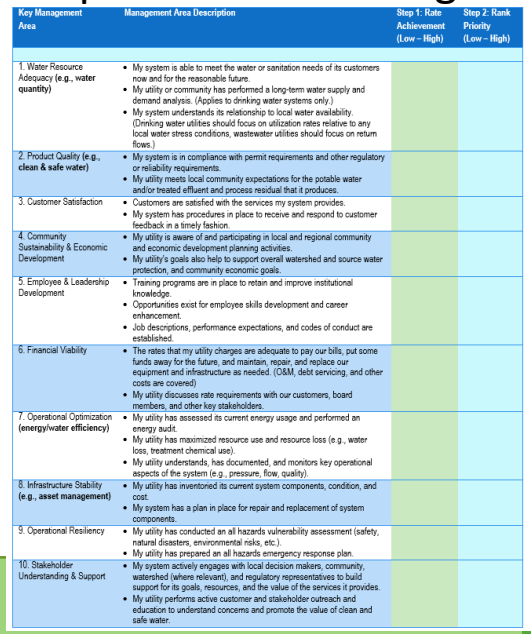
The Self-Assessment Exercise

Time to go to work!

Getting Started (Tab 4)

- Step 1: RATE your system's level of achievement (practice and performance) for each management area
- Step 2: RANK the importance of each area
- Step 3: PLOT the results
- Step 4: Improve by exploring

Steps 1&2: Tab 4 – Page 3



Key Management Area	Management Area Description	Step 1: Rate Achievement (Low – High)	Step 2: Rank Priority (Low – High)
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3. Customer Satisfaction	• Customers are satisfied with the services my system provides. • My system has procedures in place to receive and respond to customer feedback in a timely fashion.		
4. Community Sustainability & Economic Development	• My utility is aware of and participating in local and regional community and economic development planning activities. • My utility's goals also help to support overall watershed and source water protection, and community economic goals.		
5. Employee & Leadership Development	• Training programs are in place to retain and improve institutional knowledge. • Opportunities exist for employee skills development and career enhancement. • Job descriptions, performance expectations, and codes of conduct are established.		
6. Financial Viability	• The rates that my utility charges are adequate to pay our bills, put some funds away for the future, and maintain, repair, and replace our equipment and infrastructure as needed. (O&M, debt servicing, and other costs are covered) • My utility discusses rate requirements with our customers, board members, and other key stakeholders.		
7. Operational Optimization (energy/water efficiency)	• My utility has assessed its current energy usage and performed an energy audit. • My utility has maximized resource use and resource loss (e.g., water loss, treatment chemical use). • My utility understands, has documented, and monitors key operational aspects of the system (e.g., pressure, flow, quality).		
8. Infrastructure Stability (e.g., asset management)	• My utility has inventoried its current system components, condition, and cost. • My system has a plan in place for repair and replacement of system components.		
9. Operational Resiliency	• My utility has conducted an all hazards vulnerability assessment (safety, natural disasters, environmental risks, etc.). • My utility has prepared an all hazards emergency response plan.		
10. Stakeholder Understanding & Support	• My system actively engages with local decision makers, community, watershed (where relevant), and regulatory representatives to build support for its goals, resources, and the value of the services it provides. • My utility performs active customer and stakeholder outreach and education to understand concerns and promote the value of clean and safe water.		

Steps 3&4: Tab 4 – Page 5

STEPS 1 & 2: Rating Achievement and Ranking Priority

Self-Assessment Demonstration

- Use the table on Page 3 of Tab 4 to rate your utility's **achievement (first blank column)** rate in the 10 key management areas: L –low, M – medium, H-high.
- Use the table on Page 3 of Tab 4 to rate the **priority (second blank column)** of each the 10 key management areas for your utility: L –low, M – medium, H-high.

Key Management Area	Management Area Description	Step 1: Rate Achievement (Low – High)	Step 2: Rank Priority (Low – High)
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STEPS 1 & 2: Rating Achievement and Ranking Priority

Self-Assessment Demonstration

Take each management area one at time:

1) Review the definition of the management area.
2) Rate the achievement level of the area.
3) Rate the priority level of the area.

Key Management Area	Management Area Description	Step 1: Rate Achievement (Low–High)	Step 2: Rank Priority (Low–High)
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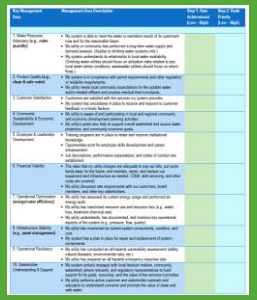
2. Product Quality (e.g., clean & safe water)	• My system is in compliance with permit requirements and other regulatory or reliability requirements. • My utility meets local community expectations for the potable water and/or treated effluent and process residual that it produces.	Medium	High
3. Customer Satisfaction	• Customers are satisfied with the services my system provides. • My system has procedures in place to receive and respond to customer feedback in a timely fashion.	High	Medium
4. Community Sustainability & Economic Development	• My utility is aware of and participating in local and regional community and economic development planning activities. • My utility's goals also help to support overall watershed and source water protection, and community economic goals.	Low	Low
5. Employee & Leadership Development	• Training programs are in place to retain and improve institutional knowledge. • Opportunities exist for employee skills development and career enhancement. • Job descriptions, performance expectations, and codes of conduct are established.	High	Medium
6. Financial Viability	• The rates that my utility charges are adequate to pay our bills, put some funds away for the future, and maintain, repair, and replace our equipment and infrastructure as needed. (O&M, debt servicing, and other costs are covered) • My utility discusses rate requirements with our customers, board members, and other key stakeholders.	Low	High

STEP 1: **Rating** Achievement

Scale from LOW to HIGH achievement



- Select **Low** if your system has no workable practices in place for addressing this area – very low capacity and performance.
- Select **Medium** if your system has some workable practices in place with moderate achievement, but could improve – some capacity in place.
- Select **High** if your system has effective, standardized, and accepted practices in place. It either usually or consistently achieves goals – capacity is high and in need of very little or no further development.

1. Water Resource Adequacy **(e.g., water quantity)**	• My system is able to meet the water or sanitation needs of its customers now and for the reasonable future. • My utility or community has performed a long-term water supply and demand analysis. (Applies to drinking water systems only.) • My system understands its relationship to local water availability. (Drinking water utilities should focus on utilization rates relative to any local water stress conditions, wastewater utilities should focus on return flows.)
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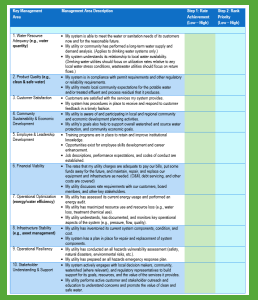
7. Operational Optimization **(energy/water efficiency)**	• My utility has assessed its current energy usage and performed an energy audit. • My utility has maximized resource use and resource loss (e.g., water loss, treatment chemical use). • My utility understands, has documented, and monitors key operational aspects of the system (e.g., pressure, flow, quality).

STEP 2: **Ranking** Priority

Scale from LOW to HIGH priority



- Review each of the five prioritization elements:
  1. Crisis situations / urgency (near term or long term)
  2. Current or expected challenges
  3. Consequence severity (non-compliance, costs, health, safety)
  4. Customer impacts (water quality, reliability of service)
  5. Community priorities (economic development, quality of life)
- Select **High** if concerns for most elements (4-5) or a strong concern in several
- Select **Medium** if concerns for some elements (2-3) or a strong concern for one
- Select **Low** if concerns for few or none of the elements (0-1) and no strong concerns

STEPS 1 & 2: Rating Achievement and Ranking Priority

Self-Assessment Demonstration

Take each management area one at time:

1) Review the definition of the management area.
2) Rate the achievement level of the area.
3) Rate the priority level of the area.

Key Management Area	Management Area Description	Step 1: Rate Achievement (Low–High)	Step 2: Rank Priority (Low–High)
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2. Product Quality (**e.g., clean & safe water**)	• My system is in compliance with permit requirements and other regulatory or reliability requirements. • My utility meets local community expectations for the potable water and/or treated effluent and process residual that it produces.	Medium	High
3. Customer Satisfaction	• Customers are satisfied with the services my system provides. • My system has procedures in place to receive and respond to customer feedback in a timely fashion.	High	Medium
4. Community Sustainability & Economic Development	• My utility is aware of and participating in local and regional community and economic development planning activities. • My utility's goals also help to support overall watershed and source water protection, and community economic goals.	Low	Low
5. Employee & Leadership Development	• Training programs are in place to retain and improve institutional knowledge. • Opportunities exist for employee skills development and career enhancement. • Job descriptions, performance expectations, and codes of conduct are established.	High	Medium
6. Financial Viability	• The rates that my utility charges are adequate to pay our bills, put some funds away for the future, and maintain, repair, and replace our equipment and infrastructure as needed. (O&M, debt servicing, and other costs are covered) • My utility discusses rate requirements with our customers, board members, and other key stakeholders.	Low	High

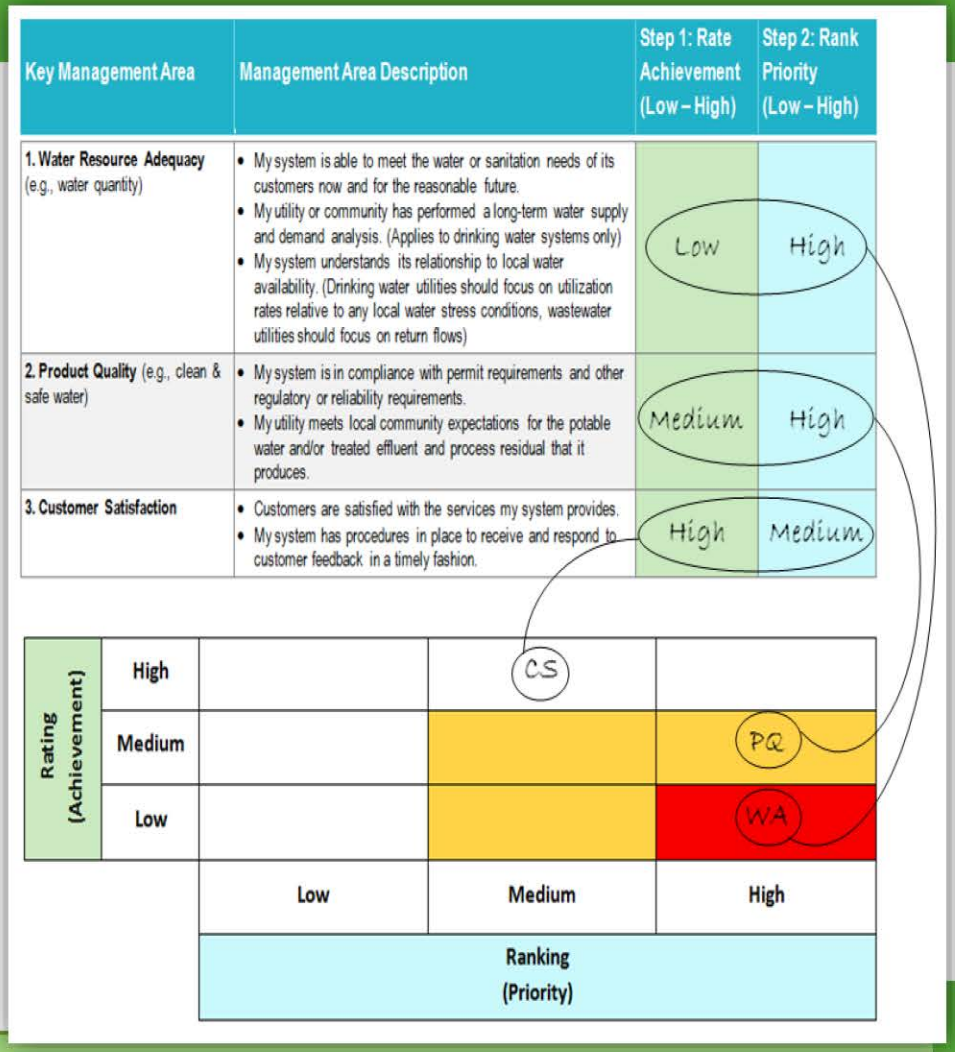
Complete by 10:10

STEP 3: Plotting Results

Self-Assessment Demonstration

WA	Water Resource Adequacy
PQ	Product Quality
CS	Customer Satisfaction
CE	Community Sustainability & Economic Development
ED	Employee & Leadership Development

FV	Financial Viability
OO	Operational Optimization
IS	Infrastructure Stability
OR	Operational Resiliency
SS	Stakeholder Understanding & Support



STEPS 3 & 4: Plotting Results and Focusing Attention

Self-Assessment Demonstration

- Use the table on Page 5 of Tab 4 to write the two letters corresponding to each management area in the appropriate box that corresponds to intersection of the two ratings (i.e. the achievement rating and the priority rating).
- Example: Consumer Satisfaction (CS):
  - High – H – Achievement
  - Medium – M - Priority

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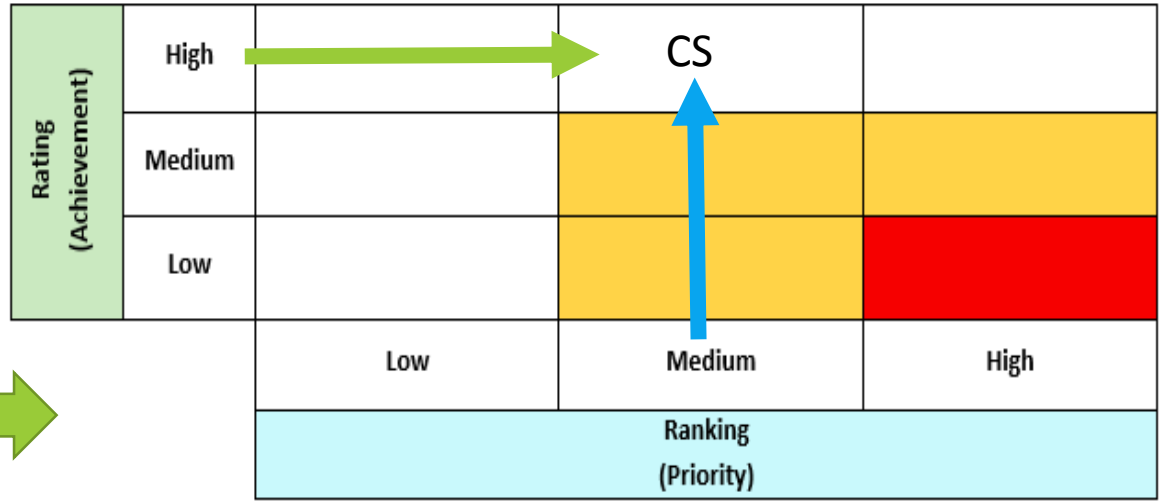


STEPS 3: Plotting Results
Self-Assessment Demonstration

WA	Water Resource Adequacy	FV	Financial Viability
PQ	Product Quality	OO	Operational Optimization
CS	Customer Satisfaction	IS	Infrastructure Stability
CE	Community Sustainability & Economic Development	OR	Operational Resiliency
ED	Employee & Leadership Development	SS	Stakeholder Understanding & Support

Rating (Achievement)				
	High		CS, ED	
	Medium	OO		PQ
	Low	CE		WA, FV
		Low	Medium	High
		Ranking (Priority)		

Step 4: Self-Assessment Discussion Questions

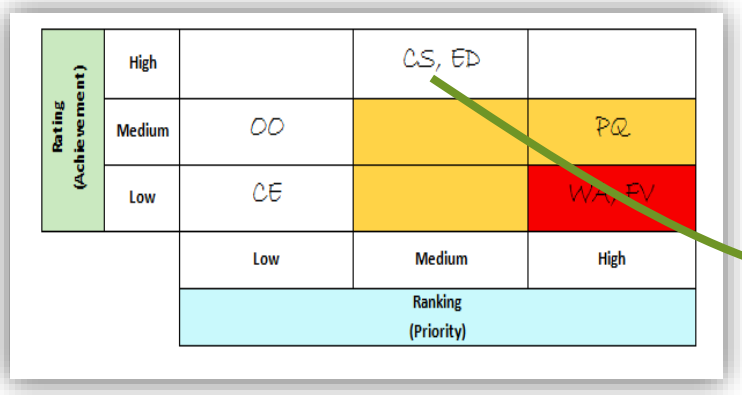
- What are your areas of focus (the orange and red areas)?
- Why are they an area of focus?
- Are your areas of focus different or similar to the other utilities at your table?
- What lessons can you learn from the other utilities at your table that you could use to improve your performance?
- How might your perspective on these priorities change if you are an:
  - Operator
  - Board Member
  - Judge Executive

Break 10:45; Tables Report Out 10:55 – 11:25

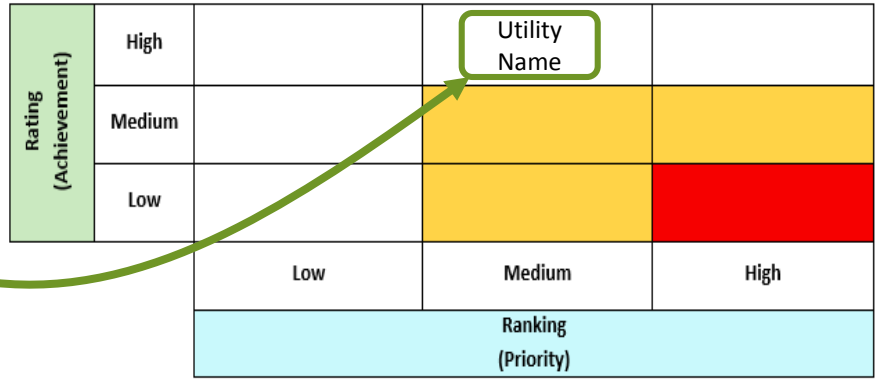
Plotting Results On the Wall

- Using the provided stickers for your utility, place a sticker on each of the 10 Key Management Boards located around the room in each of the same boxes that you recorded on your own plot.

Your Utility Plot



One of 10 boards located around the room (e.g. **Consumer Service**)



Plot Results on the Wall: 11:45

Lunch

Guest Speakers

Improving Outcomes

Creating a Plan, Taking Action, Measuring Results

Tips from Previous Improving Outcomes Exercises

- Key management areas selected and discussed at previous workshops:
  - Stakeholder Understanding and Support
  - Infrastructure Stability
  - Financial Viability
  - Employee and Leadership Development
  - Operational Resiliency

Start at 12:55

Stakeholder Understanding and Support

- Examples of High Achievement:
  - Capital improvement plan or other document that summarizes utility priorities and can be shared with utility board
  - Establish standard operating procedures for utility staff that address communication
- Possible Changes Needed:
  - Educate stakeholders about utility needs
  - Create ongoing opportunities for stakeholders and utility to interact (e.g., tours of facility)

Infrastructure Stability

- Examples of High Achievement:
  - Capital improvement plan
  - Inventory of system components, location, installation date, and condition
  - Understanding of system operating parameters (e.g., pressure)
- Possible Changes Needed:
  - Making time to support an incremental approach (e.g., maintenance and repair driven)
  - Ability to do smaller projects and upgrades annually

Financial Viability

- Examples of High Achievement:
  - Funds set aside for reserves
  - Asset management plans, short and long term plans, and quarterly budget reviews
  - Utility board is knowledgeable about financial issues and system maintenance and repairs
- Possible Changes Needed:
  - Good practices in place for rates and shut-offs
  - Better communication between elected officials, utility staff and consumer
  - Independent rate study
  - Document priorities for system improvements

Employee and Leadership Development

- Examples of High Achievement:
  - Written job descriptions
  - Clear performance expectations
  - Staff are cross-trained
- Possible Changes Needed:
  - Develop neighboring system relationships for staff to learn from each other
  - Create merit-based initiatives to reward high performance (e.g., additional leave days, recognition, monetary awards)

Operational Resiliency

- Examples of High Achievement:
  - Emergency response plans, operations plans, shut-off checklists for equipment
  - Drill emergency response plan
  - Certify staff and board members
- Possible Changes Needed:
  - Ensure staff and board know where all emergency documentation is kept
  - Have contractor support lined up in case of emergency

Table Activity

- Using the **Improving Outcomes Worksheet** provided at your table (also a copy in Tab 6) each **table** should complete an improvement worksheet for **one** of the low achievement/high priority management areas identified by one of your table members. The worksheet has four questions to answer.
- After picking a management area, share perspectives on:
  - What will constitute **'high achievement'** in this management area and what are the causes of your achievement gaps?
  - What changes will the utility need to make to **improve performance** and who will need to be involved for these changes to take place?
  - How could you **track** your **performance progress?**
  - What will be the **biggest challenges** to performance improvement?

Start at 1:10

Table Activity

Using IMPROVING OUTCOMES WORKSHEET

IMPROVING OUTCOMES WORKSHEET

Key Management Area: _____ Table Number: _____

What will constitute 'high achievement' in this management area and what are the causes of your achievement gaps?	
What changes will the utility need to make to improve performance and who will need to be involved for these changes to take place?	
How could you track your performance progress?	
What will be the biggest challenges to performance improvement	

Tab 6 in your notebook

Tables Report Out 1:45 To 2:15; Break 2:15-2:30

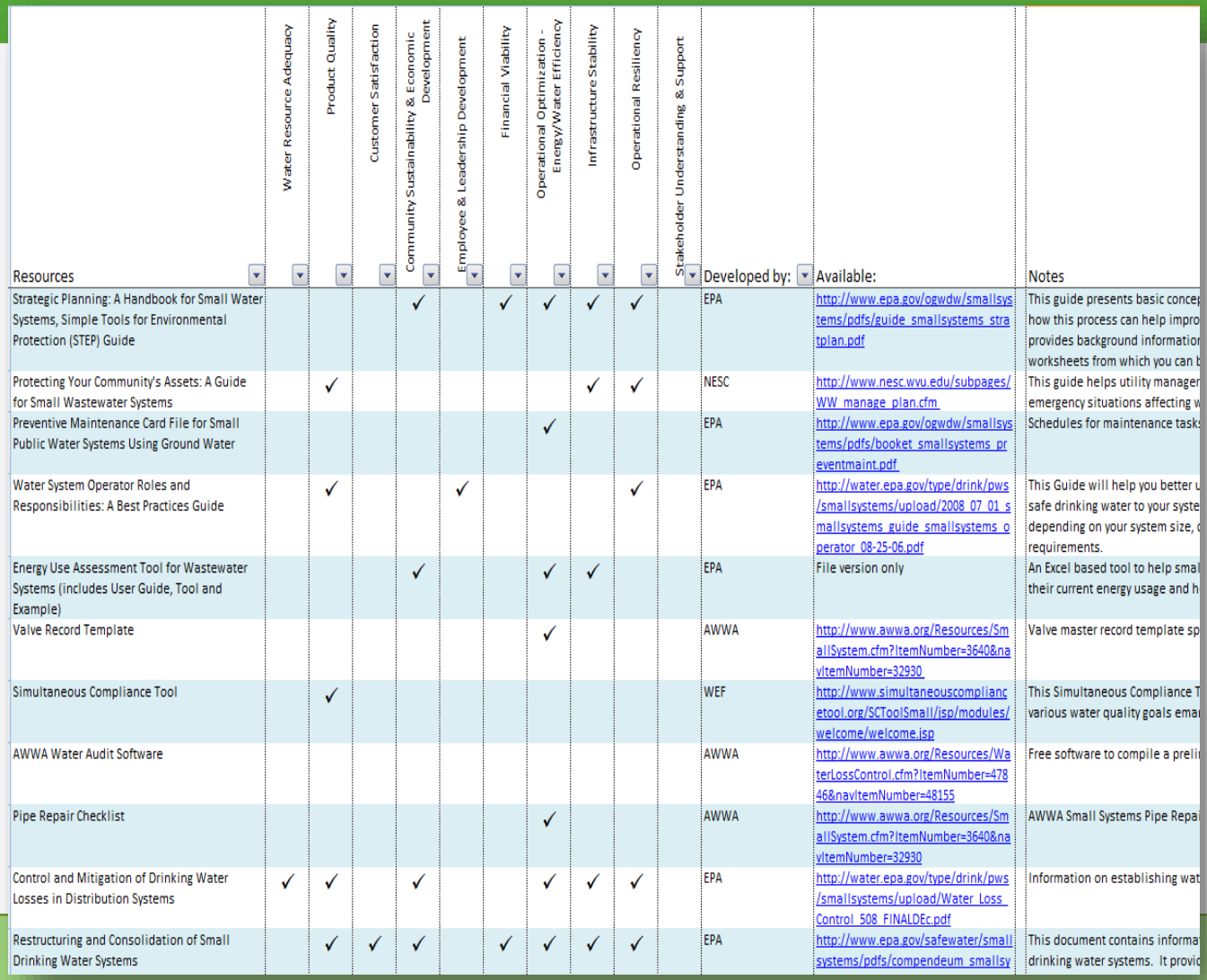
Tools, Guides, and Other Resources

Resources Available for Your Use

Improving Outcomes: Additional Resources

- Extensive Compilation of Tools and Resources
  - Excel Print Out in Your Packet (Tab 8 – Appendix III)
  - Electronically Available on EPA and USDA's websites
- Organized by Key Management Areas
- Covers Resources from NRWA, USDA, EPA, RCAP, AWWA, WEF and others
- Supplemental to Locally Available Technical Assistance and Resources
- UK and WVU Resources (Tab 9)

Tools and Resources Demonstration



Resources	Water Resource Adequacy	Product Quality	Customer Satisfaction	Community Sustainability & Economic Development	Employee & Leadership Development	Financial Viability	Operational Optimization - Energy/Water Efficiency	Infrastructure Stability	Operational Resiliency	Stakeholder Understanding & Support	Developed by:	Available:	Notes
Strategic Planning: A Handbook for Small Water Systems, Simple Tools for Environmental Protection (STEP) Guide				✓		✓	✓	✓	✓		EPA	http://www.epa.gov/ogwdw/smallsystems/pdfs/guide_smallsystems_stratplan.pdf	This guide presents basic concep how this process can help impro provides background informatio worksheets from which you can b
Protecting Your Community's Assets: A Guide for Small Wastewater Systems		✓						✓	✓		NESC	http://www.nesc.wvu.edu/subpages/WW_manage_plan.cfm	This guide helps utility manager emergency situations affecting w
Preventive Maintenance Card File for Small Public Water Systems Using Ground Water							✓				EPA	http://www.epa.gov/ogwdw/smallsystems/pdfs/booket_smallsystems_preventmaint.pdf	Schedules for maintenance tasks
Water System Operator Roles and Responsibilities: A Best Practices Guide		✓			✓				✓		EPA	http://water.epa.gov/type/drink/pws/smallsystems/upload/2008_07_01_smallsystems_guide_smallsystems_operator_08-25-06.pdf	This Guide will help you better u safe drinking water to your syste depending on your system size, c requirements.
Energy Use Assessment Tool for Wastewater Systems (includes User Guide, Tool and Example)				✓			✓	✓			EPA	File version only	An Excel based tool to help smal their current energy usage and h
Valve Record Template							✓				AWWA	http://www.awwa.org/Resources/SmallSystem.cfm?ItemNumber=3640&navItemNumber=32930	Valve master record template sp
Simultaneous Compliance Tool		✓									WEF	http://www.simultaneouscompliancetool.org/SCToolSmall/jsp/modules/welcome/welcome.jsp	This Simultaneous Compliance T various water quality goals emai
AWWA Water Audit Software											AWWA	http://www.awwa.org/Resources/WaterLossControl.cfm?ItemNumber=47846&navItemNumber=48155	Free software to compile a preli
Pipe Repair Checklist							✓				AWWA	http://www.awwa.org/Resources/SmallSystem.cfm?ItemNumber=3640&navItemNumber=32930	AWWA Small Systems Pipe Repai
Control and Mitigation of Drinking Water Losses in Distribution Systems	✓	✓		✓			✓	✓	✓		EPA	http://water.epa.gov/type/drink/pws/smallsystems/upload/Water_Loss_Control_508_FINALDEc.pdf	Information on establishing wat
Restructuring and Consolidation of Small Drinking Water Systems		✓	✓	✓		✓	✓	✓	✓		EPA	http://www.epa.gov/safewater/smallsystems/pdfs/compendeum_smallsy	This document contains informa drinking water systems. It provic

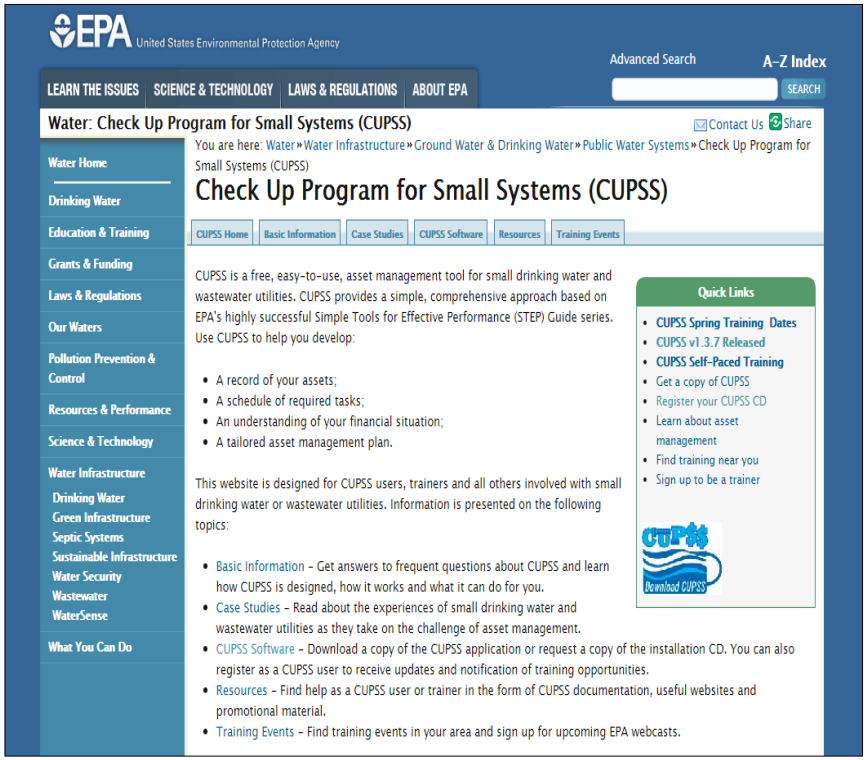
Resource Highlights

- Three (Typically High Priority) Management Areas
  - Operational Optimization – Water/Energy Efficiency
  - Financial Viability
  - Stakeholder Understanding and Support
- Areas Typically of High Interest to Utility Managers and The Backbone of A Sustainably Managed System

Operational Optimization
Water/Energy Efficiency

EPA: Check Up Program for Small System (CUPSS)

- Free Asset Management Tool for Small Drinking Water and Wastewater Utilities
- Tips on How to Develop a Record of Your Assets, an Understanding of Your Financial Situation, and a Tailored Asset Management Plan



Operational Optimization
Water/Energy Efficiency

EPA: Energy Use Tool for Water and Wastewater Systems

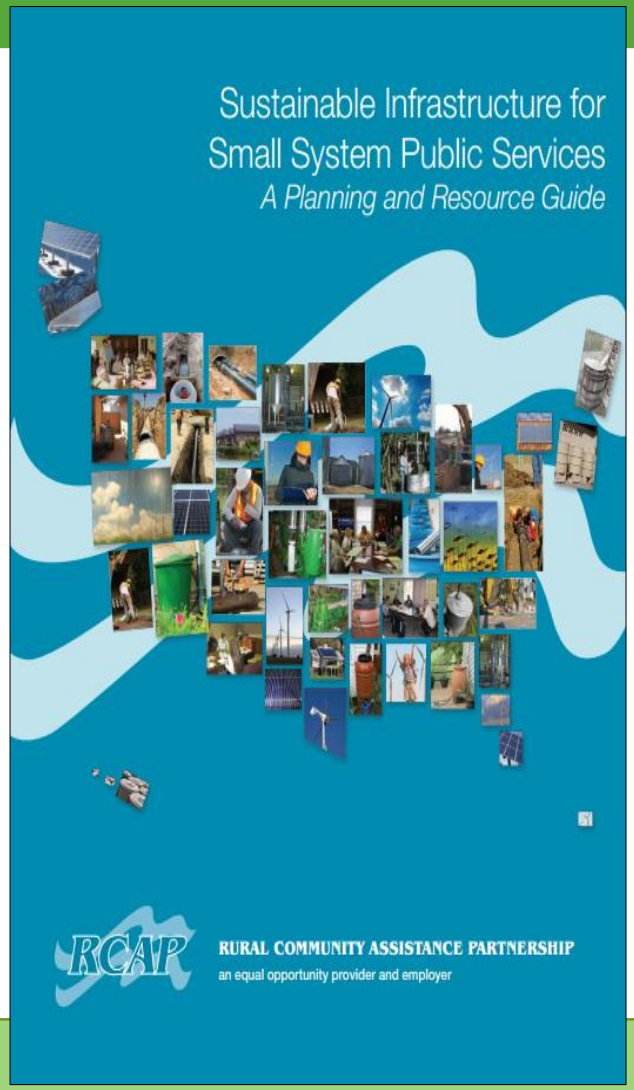
- Interactive, Excel-based tool
- Detailed Analysis of All Energy Types
- Provides Summary Report: Statement of Energy Performance

Operational Optimization

Water/Energy Efficiency

RCAP: Sustainable Infrastructure for Small System Public Services: A Planning and Resource Guide

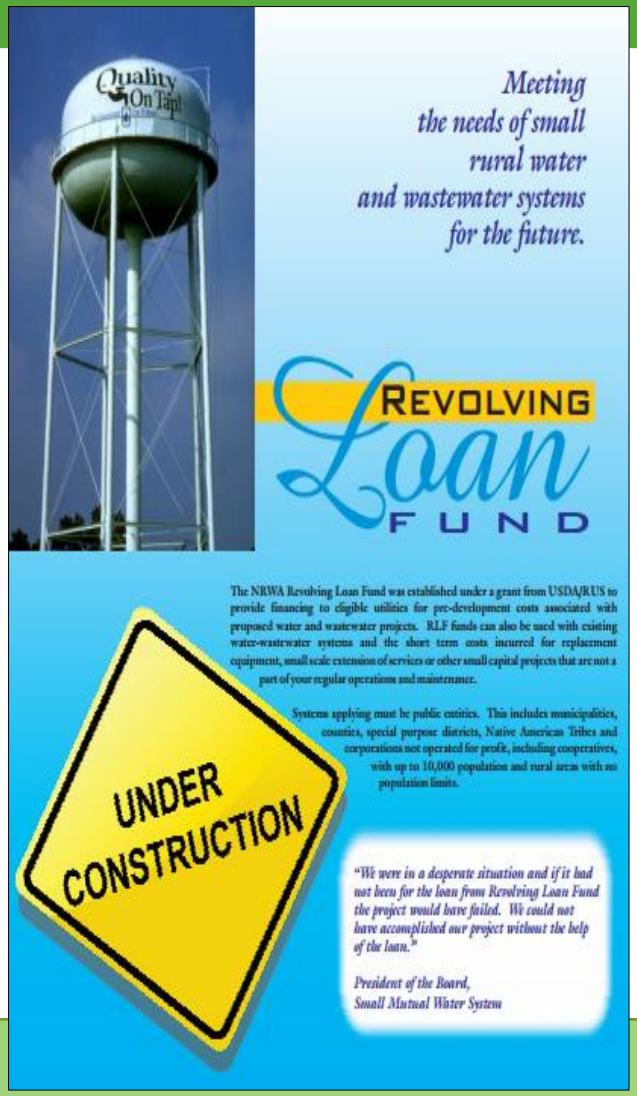
- Water Conservation
- Energy Efficiency
- Renewable Energy



Financial Viability

NRWA: Revolving Loan Fund

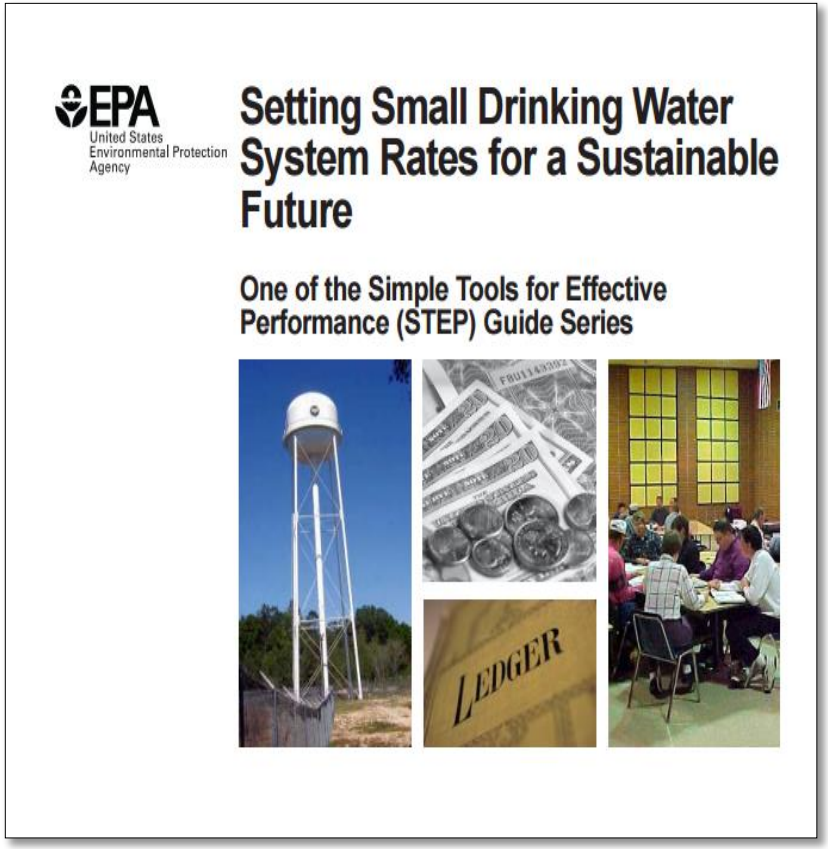
- Established Under Grant from USDA/RUS
- Financing for Pre-Development Costs
- Also Available for Equipment Replacement and Service Extension



Financial Viability

EPA: Setting Small Drinking Water System Rates for a Sustainable Future

- Determining Revenue Needs
- Setting Rate Design
- Approaching Rate Implementation



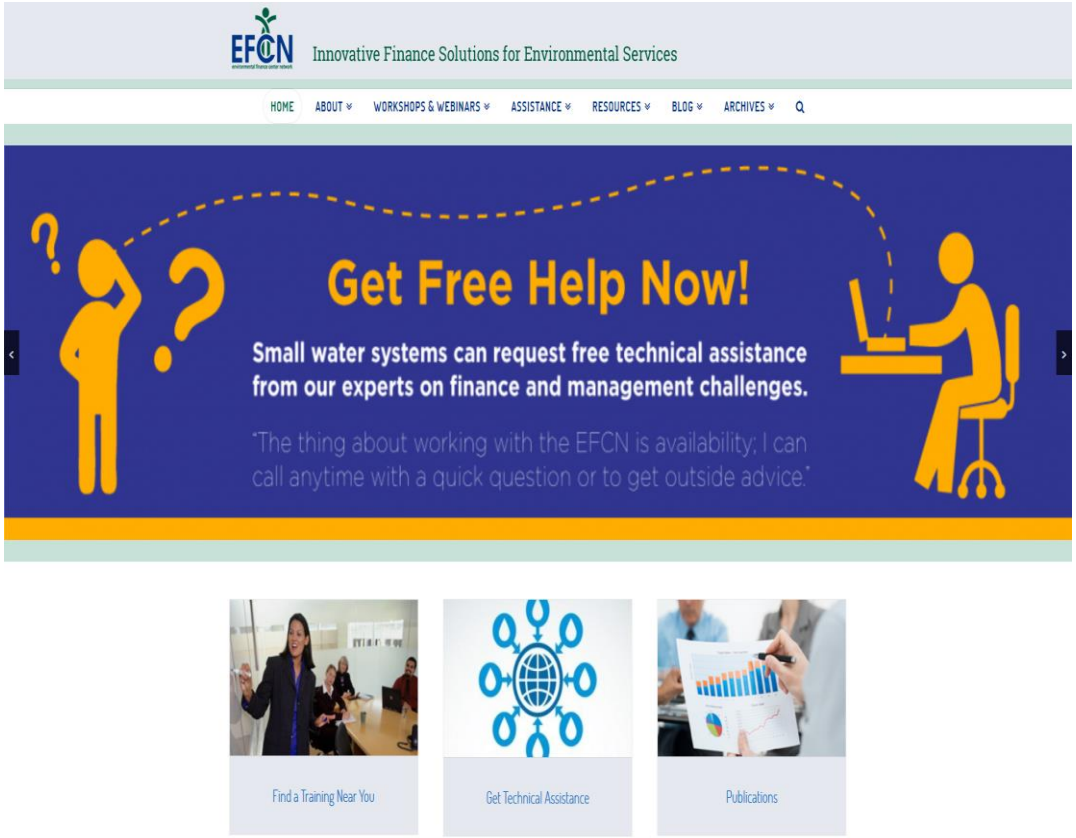
Financial Viability

RCAP: The Basics of Financial Management for Small-community Utilities

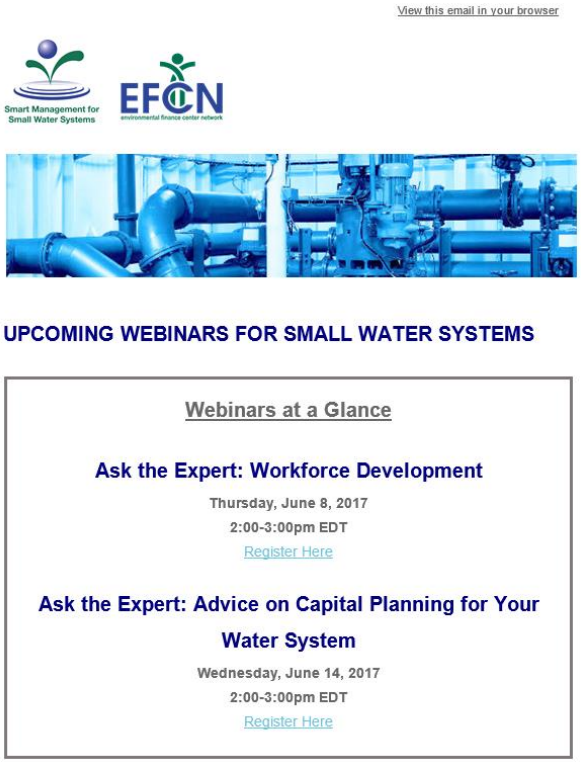
- Understanding Financial Statements
- Using Financial Ratios

Financial Viability: Environmental Finance Center Network

Website: http://efcnetwork.org/



Free Webinars:



Smart Management for Small Water Systems Project

Website: http://efcnetwork.org/small-systems-project

The Smart Management for Small Water Systems Project seeks to address major issues facing the nation's smallest drinking water systems (those serving 10,000 or fewer people). Our team of experts works with water systems across the country, US territories, and the Navajo Nation to address these issues, which range from asset management and rate setting to water loss detection and conservation, through training and technical assistance.

Small water systems can take advantage of training and resources through a variety of offerings including:

- In-Person Workshops
- One-on-one technical assistance
- Small Group sessions
- Funder forums
- Webinars
- eLearning Modules
- Water Rates Dashboards
- Blog Posts

American Water Works Association

The Smart Management for Small Water Systems project is a collaborative effort between the members of the Environmental Finance Center Network and its partner, the American Water Works Association. This project is made possible through a cooperative agreement with the U.S. Environmental Protection Agency.

Smart Management for Small Water Systems

Contacts:

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Glennbarnes@sog.unc.edu
919-962-2789

Heather Himmelberger
Director
Southwest Environmental Finance Center
Heatherh@unm.edu
505-277-0113

Topics:

- Asset Management
- Energy Management
- Fiscal Planning & Rate Setting
- Funding Coordination
- Managerial & Financial Leadership
- Water Loss Reduction
- Water System Collaboration
- Climate Resiliency

Stakeholder Understanding and Support

NRWA: Quality on Tap!

- Nationwide, Grassroots Campaign for Public Awareness
- Hands On Guide to Engagement and Communication for Better Community Support

Quality On Tap!

"Quality On Tap – Our Commitment, Our Profession" is a nationwide, grassroots public relations and awareness campaign designed especially for the drinking water industry. QOT is intended to promote a positive image to the public, focusing on the safety of drinking water and the expertise of the technical professional who ensure water quality.

Quality On Tap! Our Commitment Our Profession

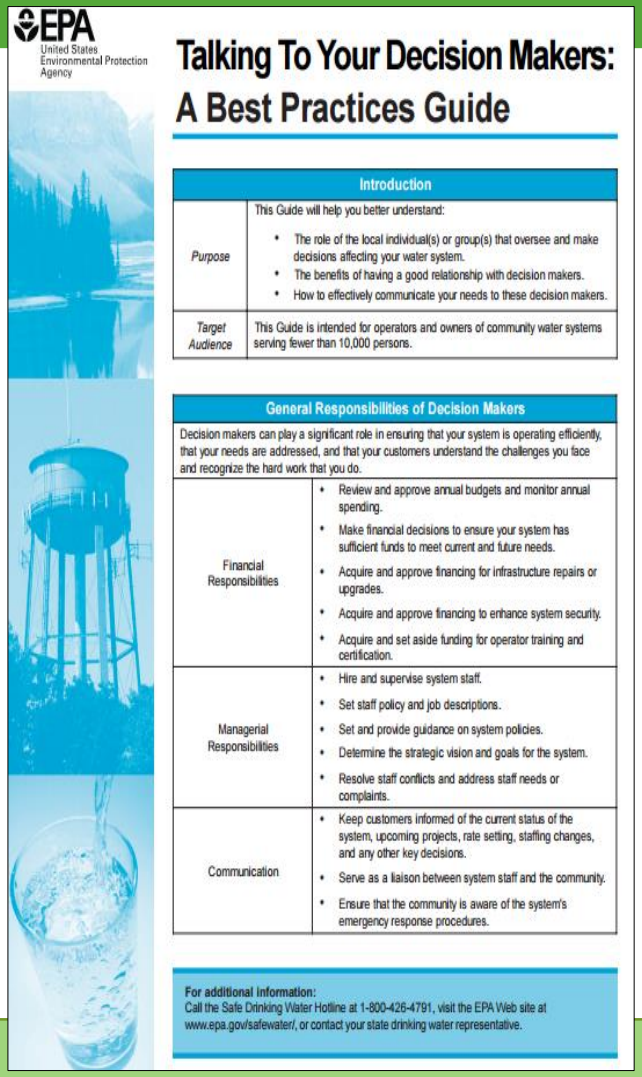
Americans often take for granted that they have the highest quality, most affordable, water piped directly to their homes and businesses. This level of quality is accomplished because of dedicated professionals that take pride in their hard work, their education, and their service to the community.

Quality On Tap! was created in 1996 as the first practical, hands-on guide to better public relations for water utilities. It contains the tools small water systems need to do the most important job of all – spreading the truth to the public of the quality of work they do and the quality water they produce. As communities nationwide use the QOT logo and materials to promote their own quality water, they are also promoting the quality water of each system that participates in this nationwide campaign.

Stakeholder Understanding and Support

EPA: Talking to Your Decision Makers – A Best Practices Guide

- Role of Community Decision Makers in Small Systems
- Tips on How to Communicate Needs to Decision Makers



EPA
United States Environmental Protection Agency

Talking To Your Decision Makers: A Best Practices Guide

Introduction	
Purpose	This Guide will help you better understand: • The role of the local individual(s) or group(s) that oversee and make decisions affecting your water system. • The benefits of having a good relationship with decision makers. • How to effectively communicate your needs to these decision makers.
Target Audience	This Guide is intended for operators and owners of community water systems serving fewer than 10,000 persons.

General Responsibilities of Decision Makers

Decision makers can play a significant role in ensuring that your system is operating efficiently, that your needs are addressed, and that your customers understand the challenges you face and recognize the hard work that you do.

Financial Responsibilities	• Review and approve annual budgets and monitor annual spending. • Make financial decisions to ensure your system has sufficient funds to meet current and future needs. • Acquire and approve financing for infrastructure repairs or upgrades. • Acquire and approve financing to enhance system security. • Acquire and set aside funding for operator training and certification.
Managerial Responsibilities	• Hire and supervise system staff. • Set staff policy and job descriptions. • Set and provide guidance on system policies. • Determine the strategic vision and goals for the system. • Resolve staff conflicts and address staff needs or complaints.
Communication	• Keep customers informed of the current status of the system, upcoming projects, rate setting, staffing changes, and any other key decisions. • Serve as a liaison between system staff and the community. • Ensure that the community is aware of the system's emergency response procedures.

For additional information:
Call the Safe Drinking Water Hotline at 1-800-426-4791, visit the EPA Web site at www.epa.gov/safewater/, or contact your state drinking water representative.

Stakeholder Understanding and Support

RCAP: The Big Guide for Small Systems: A Resource for Board Members

- Water and Wastewater Treatment Basics
- Regulatory Responsibilities
- Board Business
- Financial Duties and Responsibilities

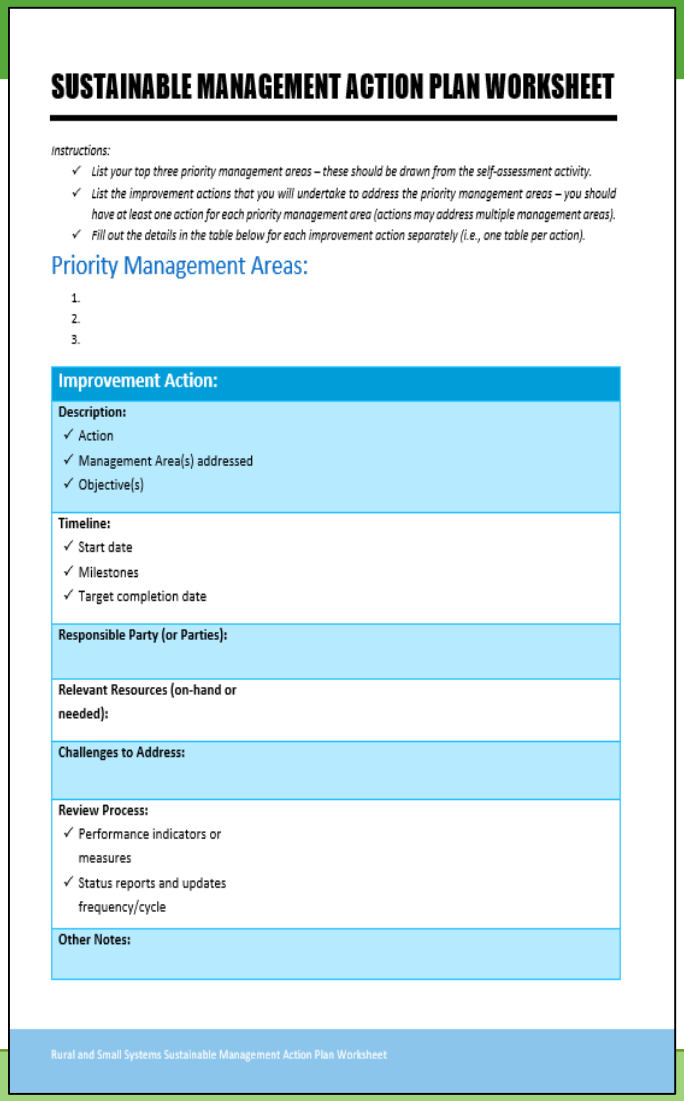
Key Organizations in Kentucky

- KY Water Resources Research Institute (KWRRI)
- KY Division of Water
- KY Division of Compliance Assistances
- Kentucky Rural Water Association (KRWA)
- KY Rural Community Assistance Partnership (RCAP)
- KY Infrastructure Authority (KIA)
- KY Public Service Commission (PSC)
- KY Water and Wastewater Operators Association (KWWOA)
- KY/TN AWWA/WEF
- KY Area Development Districts (ADDs)
- KY Cooperative Extension Service
- KY Center of Applied Energy Research (CAER)

Creating an Action Plan

Where do we go from here?

Action Plan Worksheet



SUSTAINABLE MANAGEMENT ACTION PLAN WORKSHEET

Instructions:

- ✓ *List your top three priority management areas – these should be drawn from the self-assessment activity.*
- ✓ *List the improvement actions that you will undertake to address the priority management areas – you should have at least one action for each priority management area (actions may address multiple management areas).*
- ✓ *Fill out the details in the table below for each improvement action separately (i.e., one table per action).*

Priority Management Areas:

1.
2.
3.

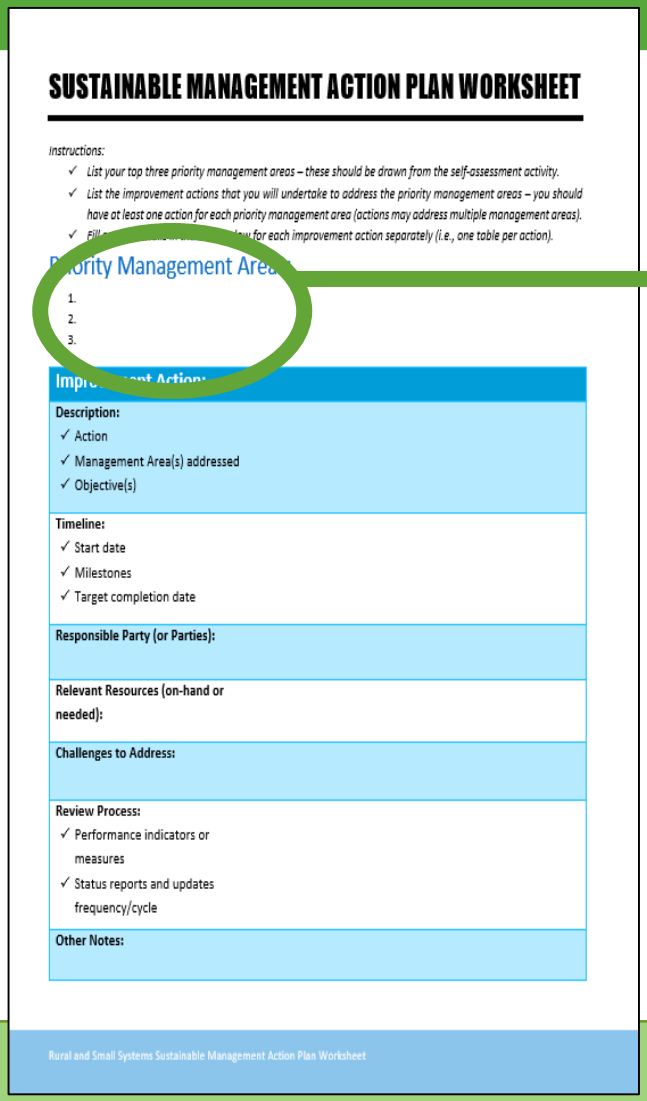
Improvement Action:
Description: ✓ Action ✓ Management Area(s) addressed ✓ Objective(s)
Timeline: ✓ Start date ✓ Milestones ✓ Target completion date
Responsible Party (or Parties):
Relevant Resources (on-hand or needed):
Challenges to Address:
Review Process: ✓ Performance indicators or measures ✓ Status reports and updates frequency/cycle
Other Notes:

Rural and Small Systems Sustainable Management Action Plan Worksheet

Tab 5 in your notebook

Start at 3:10

Action Plan Worksheet



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- ✓ *Fill [illegible] for each improvement action separately (i.e., one table per action).*

Priority Management Area

1.
2.
3.

Improvement Action:
Description: ✓ Action ✓ Management Area(s) addressed ✓ Objective(s)
Timeline: ✓ Start date ✓ Milestones ✓ Target completion date
Responsible Party (or Parties):
Relevant Resources (on-hand or needed):
Challenges to Address:
Review Process: ✓ Performance indicators or measures ✓ Status reports and updates frequency/cycle
Other Notes:

Rural and Small Systems Sustainable Management Action Plan Worksheet

Step 1: Have each **person** fill out their top three priority management areas from the Self Assessment exercise and then pick **one** to work on.

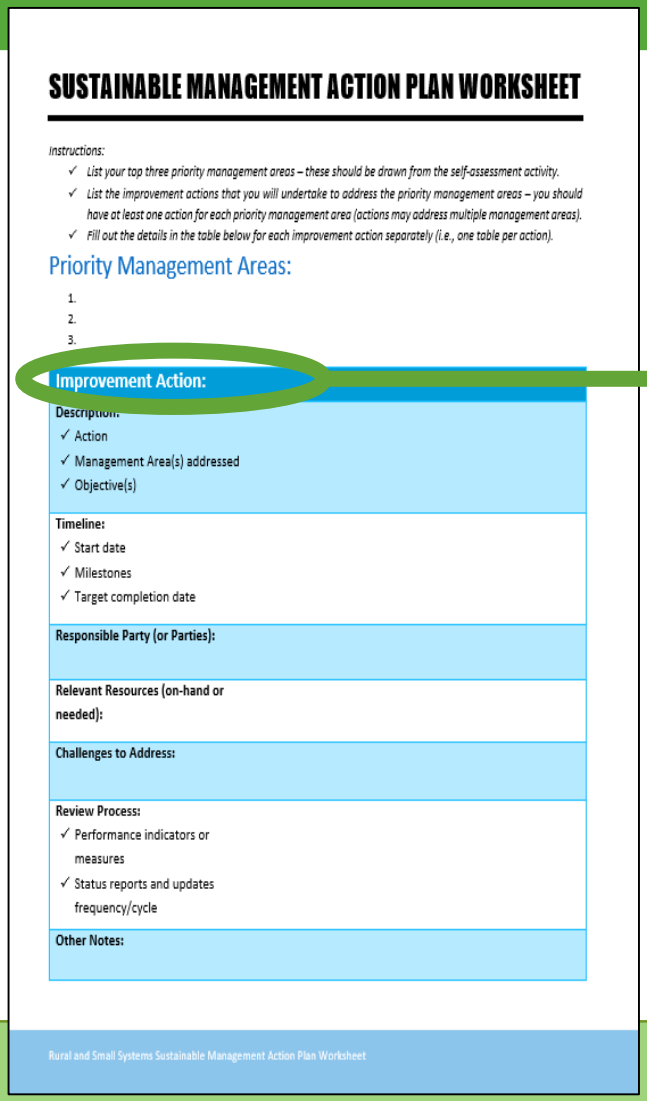
For Example…

Priority Management Areas:

1. Water Resource Adequacy
2. Product Quality
3. Financial Viability

Select One

Action Plan Worksheet



SUSTAINABLE MANAGEMENT ACTION PLAN WORKSHEET

Instructions:

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- ✓ *Fill out the details in the table below for each improvement action separately (i.e., one table per action).*

Priority Management Areas:

1.
2.
3.

Improvement Action:
Description: ✓ Action ✓ Management Area(s) addressed ✓ Objective(s)
Timeline: ✓ Start date ✓ Milestones ✓ Target completion date
Responsible Party (or Parties):
Relevant Resources (on-hand or needed):
Challenges to Address:
Review Process: ✓ Performance indicators or measures ✓ Status reports and updates frequency/cycle
Other Notes:

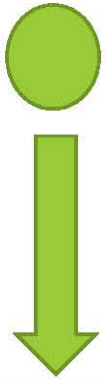
Rural and Small Systems Sustainable Management Action Plan Worksheet

Step 2: Choose an action that you could take to make improvements in your selected Priority Management Area.

For Example…

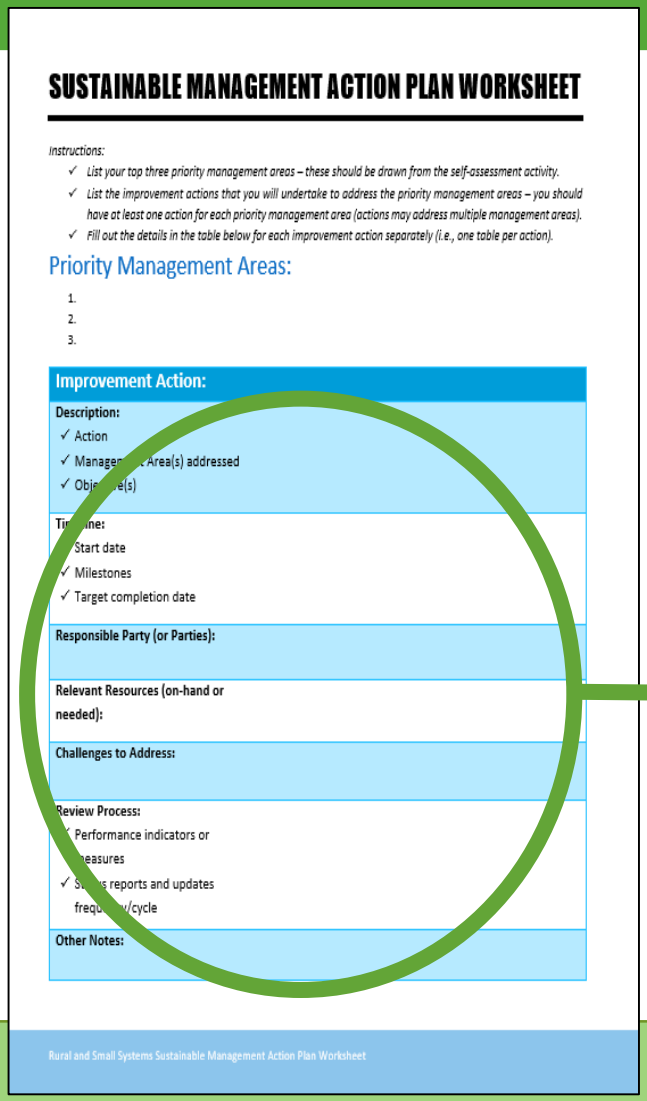
Priority Management Areas:

1. Water Resource Adequacy
2. Product Quality
3. Financial Viability



Improvement Action: Improve practices for reducing the number of outstanding bills

Action Plan Worksheet



SUSTAINABLE MANAGEMENT ACTION PLAN WORKSHEET

Instructions:

- ✓ *List your top three priority management areas – these should be drawn from the self-assessment activity.*
- ✓ *List the improvement actions that you will undertake to address the priority management areas – you should have at least one action for each priority management area (actions may address multiple management areas).*
- ✓ *Fill out the details in the table below for each improvement action separately (i.e., one table per action).*

Priority Management Areas:

1.
2.
3.

Improvement Action:
Description: ✓ Action ✓ Manage[illegible] Area(s) addressed ✓ Obje[illegible]e(s)
Ti[illegible]ne: ✓ Start date ✓ Milestones ✓ Target completion date
Responsible Party (or Parties):
Relevant Resources (on-hand or needed):
Challenges to Address:
Review Process: ✓ Performance indicators or [illegible]easures ✓ S[illegible]s reports and updates frequ[illegible]w/cycle
Other Notes:

Rural and Small Systems Sustainable Management Action Plan Worksheet

Step 3: Complete the fields below to describe what is needed to complete your “Improvement Action”

For Example…

Description: ✓ Action ✓ Management Area(s) addressed ✓ Objective(s)	✓ Limit the carry-forward balance to a fixed amount and increase service deposits to discourage customers who move frequently or avoid paying their bills. ✓ Financial Viability ✓ Reduce the amount of money lost to unpaid bills
Timeline: ✓ Start date ✓ Milestones ✓ Target completion date	✓ June 2013: Start -Draft new carry-forward balance allowance and new service deposit requirements for new customers ✓ July 2013: Propose and approve new balance and deposit requirements at board meeting August 2013: Notify customers of new requirements ✓ September 2013: Completion – Implement new balance and deposit requirements

For Example…

Responsible Party (or Parties):	✓ Bill Smith ✓ Jane Anderson
Relevant Resources (on-hand or needed):	✓ Example ordinance text created by other utilities to support the desired policy change
Challenges to Address:	✓ Public pressure on board members to reject rate increases
Review Process: ✓ Performance indicators or measures ✓ Status reports and updates frequency/cycle	✓ Milestone dates met ✓ Weekly progress checks with utility director relative to identified milestones
Other Notes:	✓ Conduct calls with each board member to explain the need for the policy change and answer their questions

Share Success Stories 3:50- to 4:10

Next Steps

Where do we go from here?

Next Steps for Your Utility

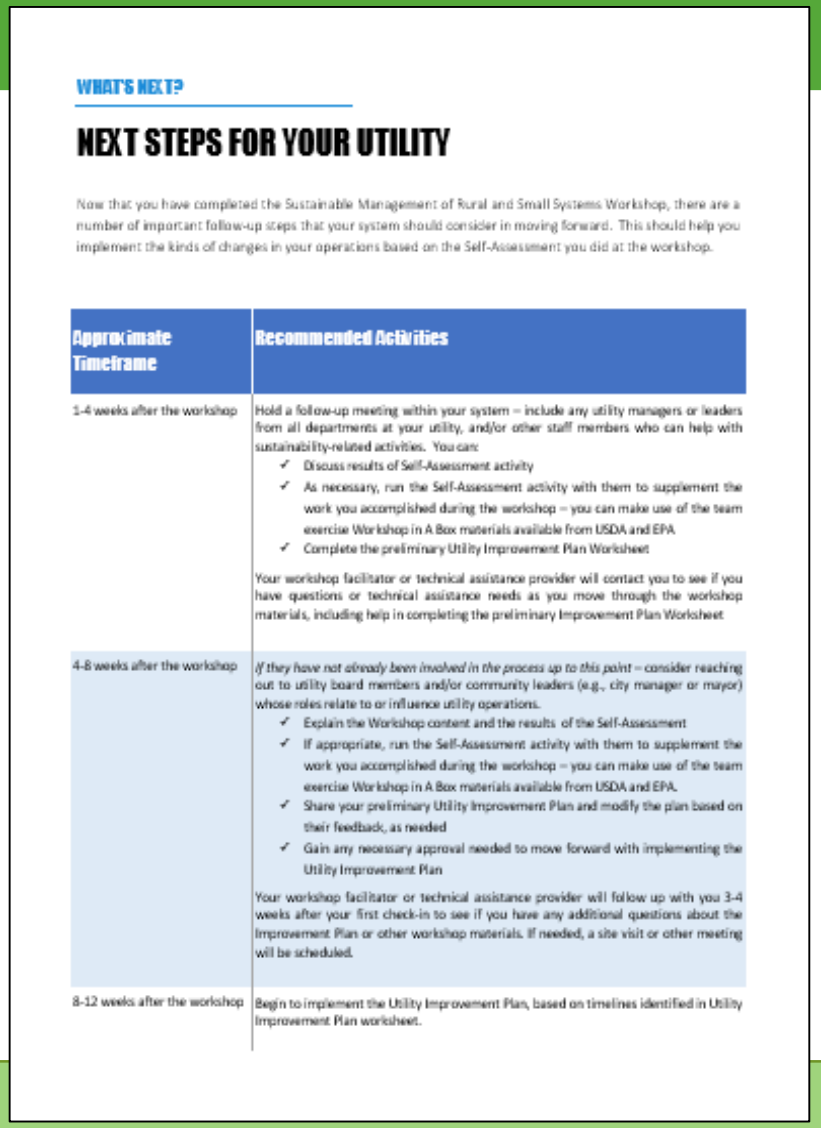
- Next Steps for Judge Executive/Mayor/Board Member.
- Next Steps For Utility Manager/Superintendent.
- Next Steps For Operator.

Next Steps for Utility Leadership

- Next Steps for Judge Executive/Mayor/Board Member
  - Share what you have learned with other board members or utility manager/operators
  - Consider hosting an free onsite training workshop for your on local board/utility.
    - Utility leadership
    - Board members
    - Utility managers
    - Utility operators

Next Steps for Utility Manager

- Host free onsite utility workshop.
- Begin to implement your own workplan.



WHAT'S NEXT?

NEXT STEPS FOR YOUR UTILITY

Now that you have completed the Sustainable Management of Rural and Small Systems Workshop, there are a number of important follow-up steps that your system should consider in moving forward. This should help you implement the kinds of changes in your operations based on the Self-Assessment you did at the workshop.

Approximate Timeframe	Recommended Activities
1-4 weeks after the workshop	Hold a follow-up meeting within your system – include any utility managers or leaders from all departments at your utility, and/or other staff members who can help with sustainability-related activities. You can: ✓ Discuss results of Self-Assessment activity ✓ As necessary, run the Self-Assessment activity with them to supplement the work you accomplished during the workshop – you can make use of the team exercise Workshop in A Box materials available from USDA and EPA ✓ Complete the preliminary Utility Improvement Plan Worksheet Your workshop facilitator or technical assistance provider will contact you to see if you have questions or technical assistance needs as you move through the workshop materials, including help in completing the preliminary Improvement Plan Worksheet
4-8 weeks after the workshop	*If they have not already been involved in the process up to this point* – consider reaching out to utility board members and/or community leaders (e.g., city manager or mayor) whose roles relate to or influence utility operations. ✓ Explain the Workshop content and the results of the Self-Assessment ✓ If appropriate, run the Self-Assessment activity with them to supplement the work you accomplished during the workshop – you can make use of the team exercise Workshop in A Box materials available from USDA and EPA. ✓ Share your preliminary Utility Improvement Plan and modify the plan based on their feedback, as needed ✓ Gain any necessary approval needed to move forward with implementing the Utility Improvement Plan Your workshop facilitator or technical assistance provider will follow up with you 3-4 weeks after your first check-in to see if you have any additional questions about the Improvement Plan or other workshop materials. If needed, a site visit or other meeting will be scheduled.
8-12 weeks after the workshop	Begin to implement the Utility Improvement Plan, based on timelines identified in Utility Improvement Plan worksheet.

Tab 7 in your notebook

Next Steps for Utility Operator

- Next Steps for Operator
  - Share what you have learned with your utility's other operators/manager.
  - Approach leadership about hosting a free onsite training workshop for your on local board/utility.
  - Apply the assessment process you just went through to address your own operational issues.
    - Identify your operational issues
    - Assess the issues (priority and performance)
    - Identify key area(s) to focus on
    - Develop and implement an action plan

Feedback Session

Please complete your evaluation forms.

Thank you!



Closing Comments

Thanks for coming!



RESOURCES GUIDE FOR RURAL AND SMALL SYSTEMS

As a companion resource to the *Rural and Small Systems Guidebook to Sustainable Utility Management*, this list of resources offers additional information and guidance specific to small systems on the ten key management areas. Resources are identified in the table by the key management areas that they address (abbreviations in the table are identified in the key below). The majority of the resources listed are available free of charge.

WA	Water Resource Adequacy	FV	Financial Viability
PQ	Product Quality	OO	Operational Optimization
CS	Customer Satisfaction	IS	Infrastructure Stability
CE	Community Sustainability & Economic Development	OR	Operational Resiliency
ED	Employee & Leadership Development	SS	Stakeholder Understanding & Support

	WA	PQ	CS	CE	ED	FV	OO	IS	OR	SS
A Drop of Knowledge The Non-operator's Guide to Drinking Water Systems http://www.rcap.org/sites/default/files/rcap-files/publications/RCAP-Non-operator%27s%20Guide%20to%20DRINKING%20WATER%20Systems.pdf *Explains in simple, everyday language the technical aspects of drinking water utilities from source to tap. Helpful as an orientation and background guide for new small utility board members and small community decision makers.*										✓
ArcGIS for Water Utilities http://solutions.arcgis.com/utilities/ *An industry specific configuration of ArcGIS designed to meet common needs of water, wastewater and stormwater utilities and is delivered as module of ArcGIS for Local Government. ArcGIS for Water Utilities is a free download that you can deploy on top of either the entire ArcGIS System or the individual components of the ArcGIS System that your organization licenses.*								✓		
ArcGIS for Water Utilities – Water Conservation Dashboard http://solutions.arcgis.com/utilities/water/help/water-conservation-dashboard/ *Allows operations managers to view the progress and results of green infrastructure verifications, watering violations, and service shutdown information. Helps managers to understand and ensure the completion of water conservation field operations.*	✓						✓			

	WA	PQ	CS	CE	ED	FV	OO	IS	OR	SS
ARRA Registering and Reporting Guidefor Water/Wastewater Systems with Loans/Grants from the U.S. Department of Agriculture-Rural Utilities Service **http://www.rcap.org/sites/default/files/rcap-files/publications/RCAP%20ARRA%20Registering%20and%20Reporting%20Guide.pdf** *Walks communities that received loans of American Recovery and Reinvestment Act (ARRA) funds through USDA Rural Utilities Service (RUS) (for water and wastewater projects) through the special reporting processes that must be followed for ARRA funds.*						✓				
Asset Management: A Handbook for Small Water Systems **http://epa.gov/safewater/smallsystems/pdfs/guide_smallsystems_asset_mgmnt.pdf** *Presents basic concepts of asset management and provides the tools to develop an asset management plan. It is designed for owners and operators of small community water systems (CWSs). CWSs include all systems (both publicly and privately owned) with at least 25 year-round residential customers or 15 year-round service connections.*						✓	✓	✓		
AWWA Water Audit Software **http://www.awwa.org/resources-tools/water-knowledge/water-loss-control.aspx** *Free software to compile a preliminary audit.*										
The Basics of Financial Management for Small-community Utilities **http://www.rcap.org/finmgmtguide** *A basic guide that is ideal for a board member of a drinking water or wastewater utility who needs to understand the financial aspects of a utility's operations.*					✓	✓				
The Big Guide for Small Systems: A Resource for Board Members **http://www.rcap.org/boardguide** *A comprehensive desk reference that is ideal as an orientation and background for new members on a utility's board of directors. Designed for members of the board of a drinking water and/or wastewater system in a small community. In various parts of the guide, sample documents are provided that utilities can take and adapt for use in their own situations.*			✓		✓					✓
Board Member Training **http://msucares.com/water/waterboard/waterindex.html** *Trains board members in the areas of laws and regulations, duties and responsibilities, ethics, operation and maintenance, management and finance, rate setting, and public relations and customer service.*										✓
Capital Improvement Plan (CIP) Tool for Water and Wastewater Utilities **http://www.efc.sog.unc.edu/reslib/item/user-friendly-capital-improvement-plan-cip-tool-water-wastewater-utilities** *CIP tool with example data and tools to create easy-to-understand predictions on: financial reserves, rate increases, and capital investment.*								✓		

	WA	PQ	CS	CE	ED	FV	OO	IS	OR	SS
Care and Conserve Sewer Line Repairs http://www.cleanwateratlanta.org/environmentaleducation/CareConserve.htm *Sample program for low income assistance.*						✓				
Check Up Program for Small Systems http://epa.gov/safewater/cupss/ *Provides a simple, comprehensive approach based on EPA's highly successful Simple Tools for Effective Performance (STEP) Guide series. Use CUPSS to help you develop: a record of your assets, a schedule of required tasks, an understanding of your financial situation, and a tailored asset management plan.*						✓	✓	✓		
Circuit Rider Program http://nrwa.org/initiatives/training-and-technical-assistance/ *Provides technical assistance for the operations of rural water systems. Rural Utilities Service through contracting, has assisted rural water systems with day-to-day operational, financial, and management problems. The assistance may be requested by officials of rural water systems or RUS. The program compliments the loan supervision responsibilities for RUS. The National Rural Water Association has entered into a contract with RUS to provide this service. National Rural Water Association - State Affiliates do the work in their states.*					✓	✓		✓	✓	
Control and Mitigation of Drinking Water Losses in Distribution Systems http://water.epa.gov/type/drink/pws/smallsystems/upload/Water_Loss_Control_508_FINALDEc.pdf *Information on establishing water loss control programs.*	✓	✓		✓			✓	✓	✓	
Drinking Water Security for Small Systems Serving 3,300 or Fewer Persons http://water.epa.gov/infrastructure/watersecurity/upload/2005_12_12_smallsystems_very_small_systems_guide.pdf *Presents basic information and steps you can take to improve security and emergency preparedness at your water system.*									✓	
EFC Financial Dashboard http://www.efc.sog.unc.edu/project/utility-financial-sustainability-and-rates-dashboards *Free, interactive rates dashboards that are designed to assist utility managers and local officials analyze water and wastewater rates against multiple characteristics.*						✓	✓	✓		
eLearning – Leadership & Management Courses http://www.awwa.org/conferences-education/distance-learning/elearning.aspx *AWWA's online courses on leadership and management.*					✓					
eLearning – "Water Basics for Decision Makers" http://www.awwa.org/store/productdetail.aspx?productid=6655 *Document for decision makers in water or wastewater utilities, or for those who regularly interact with professionals but don't clearly understand how water is distributed and treated.*										✓

	WA	PQ	CS	CE	ED	FV	OO	IS	OR	SS
Energy Audit Webcast http://www.rcap.org/energyauditswebinar *The Association of State Drinking Water Administrators (ASDWA) and RCAP partnered to host an energy audit webinar for state drinking water program staff. The webinar covers a "how-to" plan for conducting energy audits for small water utilities and outlined a national training effort to bring an energy audit approach to all RCAP offices including undertaking a pilot initiative involving selected small water systems.*							✓			
ENERGY STAR for Wastewater Plants and Drinking Water Systems and Portfolio Manager Tool http://www.energystar.gov/index.cfm?c=evaluate_performance.bus_portfoliomanager *An interactive energy management tool that allows you to track and assess energy and water consumption across your entire portfolio of buildings in a secure online environment.*							✓			
Energy Use Assessment Tool for Water and Wastewater Systems (includes User Guide, Tool and Example) http://water.epa.gov/infrastructure/sustain/energy_use.cfm *An Excel-based tool to help small and medium sized water and wastewater utilities assess their current energy usage and help identify possible ways to use energy more efficiently.*				✓			✓	✓		
Financial Management Courses http://www.newwa.org/NetCode/courseDescList.aspx *Search under course category "Management."*						✓				
Financial Planning: A Guide for Water and Wastewater Systems http://www.nmenv.state.nm.us/dwb/Documents/Public%20Info/RCAC%20Financial%20guide_final_6.pdf *Guidebook that walks a utility through the annual budgeting process, the rate setting process, and creating a 6-year financial plan.*						✓				
Formulate Great Rates: The Guide to Conducting a Rate Study for a Water System http://www.rcap.org/rateguide *A guide to developing a fair and equitable rate structure in a small drinking water or wastewater system.*		✓	✓			✓				
Getting in Step: A Guide for Conducting Watershed Outreach Campaigns http://water.epa.gov/type/watersheds/outreach/upload/gettinginstepedition3.pdf *Provides some of the tools needed to develop and implement an effective watershed outreach plan. For a watershed practitioner trained in the sciences, this manual will help you address public perceptions, promote management activities, and inform or motivate stakeholders.*										✓

	WA	PQ	CS	CE	ED	FV	OO	IS	OR	SS
Getting Your Project to Flow Smoothly: A Guide to Developing Water and Wastewater Infrastructure http://www.rcap.org/sites/default/files/rcap-files/publications/RCAP%20Getting%20Your%20Project%20to%20Flow%20Smoothly.PDF *A comprehensive guide on all the steps a project owner (governing body of a utility) should go through in planning, designing and constructing infrastructure.*	✓			✓		✓	✓	✓		✓
Local Safe Disposal Programs: Ex. Safe Medicine Disposal for Maine http://www.safemeddisposal.com/ *The Safe Medicine Disposal for ME program provides Maine's residents with a safe disposal option for unused and unwanted medicine. Free medicine mail-back envelopes are available at participating sites.*										✓
Mutual Aid Networks http://www.epa.gov/mutualaid or www.nationalwarn.org *Describes how small systems can participate in WARN to share resources with neighboring utilities during an emergency.*									✓	
National Rural Water Association Job Network http://nrwa-jobs.jobtarget.com/c/search_results.cfm?site_id=678 *Helps to connect the most skilled professionals in the fields of drinking water, wastewater, source water protection, utility management & engineering to potential employers.*										
National Rural Water Association Technical Training and Assistance Program http://nrwa.org/initiatives/training-and-technical-assistance/ *Click on your state for contact information to obtain services under the Technical Assistance and Training Program. National Rural Water Association provides training and on-site technical assistance to waste water systems in the contiguous 48 states, Alaska, Puerto Rico, and Hawaii. The training is provided to help reduce exposure to waste related health and safety hazards and enhance the sustainability of wastewater systems in rural and small communities.*		✓					✓			
National Rural Water Association Website www.nrwa.org *Website of the National Rural Water Association, the largest water and waste water utility membership association.*										
Only Tap Water Delivers Campaign http://www.awwa.org/resources-tools/public-affairs/communications-tools/only-tap-water-delivers.aspx *A public outreach campaign that is available to AWWA utility members free of charge. The materials are available in a CD toolkit, and can be adapted to meet local needs.*										✓
Pipe Repair Checklist http://www.awwa.org/Portals/0/files/resources/water%20knowledge/rc%20small%20systems/piperepairchecklist.pdf *AWWA small systems pipe repair checklist.*							✓			

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Preventive Maintenance Card File for Small Public Water Systems Using Ground Water http://www.epa.gov/ogwdw/smallsystems/pdfs/booket_smallsystems_preventmaint.pdf *Schedules for maintenance tasks and checklists and logs for easily recording your findings.*							✓			
Protecting Your Community's Assets: A Guide for Small Wastewater Systems http://www.nesc.wvu.edu/subpages/WW_manage_plan.cfm *Helps utility managers, operators, and local officials improve security and plan for emergency situations affecting wastewater treatment systems.*		✓						✓	✓	
Public Communications Toolkit http://www.awwa.org/resources-tools/public-affairs/communications-tools/public-communications-toolkit.aspx *Website with and online toolkit of various resources for water professionals related to public communication.*										✓
Public Education and Outreach on Stormwater Impacts http://water.epa.gov/polwaste/npdes/swbmp/Public-Education-and-Outreach-on-Stormwater-Impacts.cfm *EPA's website for local officials and communities to conduct education and outreach about stormwater, what it is, who contributes to it, and best practices related to stormwater.*										✓
Quality On Tap! Public Relations Campaign http://nrwa.org/initiatives/quality-on-tap/ *A nationwide, grassroots public relations and awareness campaign designed especially for the drinking water industry. Quality On Tap is the first practical "hands-on" guide to better public relations for small water utilities. It contains the tools small water systems need to do the most important job of all - spreading the truth to the public of the quality of work they do and the quality water they produce.*										✓
Record Keeping Rules: A Quick Reference Guide http://www.epa.gov/ogwdw/smallsystems/pdfs/guide_smallsystems_records_08-25-06.pdf *A rule-by-rule summary of requirements for keeping monitoring, public notice, and other records, as well as helpful tips on record maintenance and security.*		✓					✓			
Recruiting and Training Veterans Brochure: For Careers in the Water Sector http://www.workforwater.org/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=2147483686 *The Department of Veterans Affairs and Department of Labor administer programs to assist Veterans in their transition to civilian careers and oversee funding to pay for education and job training. The Environmental Protection Agency, American Water Works Association and Water Environment Federation are working with these agencies to promote water sector careers nationally.*					✓					

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Restructuring and Consolidation of Small Drinking Water Systems http://www.epa.gov/safewater/smallsystems/pdfs/compendeum_smallsystems_restruct.pdf *Contains information on restructuring and consolidation authorities for public drinking water systems. It provides an individual summary for each state by listing available statutes, regulations, or policies that encourage or require consolidation or restructuring of drinking water systems.*		✓	✓	✓		✓	✓	✓	✓	
Revolving Loan Fund Program http://nrwa.org/initiatives/revolving-loan-fund/ *The NRWA Revolving Loan Fund was established under a grant from USDA/RUS to provide financing to eligible utilities for pre-development costs associated with proposed water and wastewater projects. RLF funds can also be used with existing water/wastewater systems and the short term costs incurred for replacement equipment, small scale extension of services or other small capital projects that are not a part of your regular operations and maintenance.*						✓				
Rural Community Assistance Partnership Website www.rcap.org *Aims to provide technical assistance and training services to rural communities develop and sustain critical infrastructure and promote economic opportunity.*										
Rural Water Supply and Sewer Systems: Background Information http://nationalaglawcenter.org/wp-content/uploads/assets/crs/98-64.pdf *CRS report for congress.*										
Security and Emergency Management System (SEMS) http://semstechnologies.com/RAMCAP.asp *Software to assist small water systems in completing a vulnerability self-assessment.*								✓	✓	
Security and Emergency Response Planning Toolbox for Small Water and Wastewater Systems http://www.rcap.org/toolbox *Consists of five core modules, appendices, and introductory text that relate security and emergency preparedness to best practices of system operation and management.*								✓	✓	
Setting Small Drinking Water Rates for a Sustainable Future http://www.epa.gov/owm/waterinfrastructure/pdfs/final_ratesetting_guide.pdf *A step-by-step rate setting guide for small utilities for assessing annual costs, revenue needs, and reserve requirements and setting appropriate rates.*						✓				✓
Small Drinking Water Systems Handbook A Guide to "Packaged" Filtration and Disinfection Technologies with Remote Monitoring and Control Tools http://nepis.epa.gov/Adobe/PDF/100046K6.pdf *Provides information to the small system operator, manager, and/or owner about different approaches to providing safe and affordable drinking water to your community.*		✓						✓		

	WA	PQ	CS	CE	ED	FV	OO	IS	OR	SS
Small System Guide to Safe Drinking Water Act Regulations http://epa.gov/safewater/smallsystems/pdfs/guide_smallsystems_sdwa.pdf *A resource for understanding current and anticipated drinking water regulations with which utilities need to comply.*		✓								
Source Water Collaborative http://www.sourcewatercollaborative.org/ *A web forum about where America's safe drinking water begins – the lakes, streams, rivers, and aquifers we tap for public water systems. The Collaborative is a web portal of 25 national organizations that have united to protect America's sources of drinking water.*	✓	✓								
Strategic Planning: A Handbook for Small Water Systems, Simple Tools for Environmental Protection (STEP) Guide http://www.epa.gov/ogwdw/smallsystems/pdfs/guide_smallsystems_stratplan.pdf *Presents basic concepts on strategic planning for small water systems and explains how this process can help improve your technical, managerial, and financial capabilities. It provides background information on the process of strategic planning and a series of worksheets to use in developing a written strategic plan.*				✓		✓	✓	✓	✓	
Stakeholder Analysis http://www.sswm.info/category/planning-process-tools/exploring#StakeholderAnalysis *A portion of the Sustainable Sanitation and Water Management online Toolbox.*										✓
Survival Guide: Public Communications for Water Professionals www.wef.org/WorkArea/DownloadAsset.aspx?id=7120 *A guidebook to help utilities learn how to communicate effectively with their community and customers. It provides an overview focused on the learning the basics of public communication and different public communication scenarios.*										✓
Sustainable Infrastructure for Small System Public Services: A Planning and Resource Guide http://www.rcap.org/sites/default/files/rcap-files/publications/RCAP%20Sustainable%20Infrastructure%20Guide.PDF *Provides worksheets, examples, case studies and resources on water conservation, energy efficiency and renewable energy resources for small utilities.*				✓		✓	✓	✓	✓	
Tabletop Exercise Tool for Water Systems http://yosemite.epa.gov/ow/SReg.nsf/description/TTX_Tool *A PC-based tool that contains materials to assist those interested in planning and facilitating tabletop exercises that focus on Water Sector-related issues. The updated TTX Tool contains fifteen scenarios that address an all-hazards approach to emergency preparedness and response, including natural hazards and manmade incidents, as well as introduces users to the potential impacts of climate change.*									✓	

	WA	PQ	CS	CE	ED	FV	OO	IS	OR	SS
Taking Stock of Your Water System: A Simple Asset Inventory for Very Small Drinking Water Systems http://www.epa.gov/ogwdw/smallsystems/pdfs/final_asset_inventory_for_small_systems.pdf *Helps very small water systems, such as manufactured home communities and homeowners' associations, assess their condition by preparing a simple asset inventory.*						✓		✓		
Talking to Your Decision Makers: A Best Practices Guide http://www.epa.gov/ogwdw/smallsystems/pdfs/guide_smallsys_decision_makers_08-25-06.pdf *Tips for working successfully with decision makers in your community to meet your water system's needs.*										✓
Talking to Your Customers About Chronic Contaminants in Drinking Water: A Best Practices Guide http://water.epa.gov/drink/contaminants/upload/2007_11_02_contaminants_fs_containiminants_chronic_talkingtocustomers.pdf *Guidelines for effectively communicating with customers about the dangers of chronic contaminants and how water systems protect against contamination.*			✓	✓						✓
Technitrain Program http://www.rcap.org/technitrain *Helps to protect public health and foster economic development in targeted rural communities throughout the United States and its territories by providing onsite, community-specific technical assistance and training that: identifies and evaluates solutions to water and waste disposal problems, assists communities in preparing funding applications for their water and waste projects, and improves operation and maintenance of existing water and waste-disposal facilities. It is part of RCAP's overall mission of working with small, rural communities to increase local capacity.*				✓	✓	✓				
USDA Rural Utilities Service Borrower's Guide: A How-to for Water and Wastewater Loans from USDA Rural Development http://www.rcap.org/pubs/usdaborrguide *Summarizes the managerial and financial requirements for communities that are receiving U.S. Department of Agriculture Rural Utilities Services (RUS) loan funds for their water or wastewater utility.*						✓				
Vulnerability Self-Assessment Tool (VSAT) http://water.epa.gov/infrastructure/watersecurity/techtools/vsat.cfm *A risk assessment software tool that assists drinking water and wastewater utilities in assessing security threats and natural hazards and updating utility Emergency Response Plans; appropriate for any water system size or type.*								✓	✓	
Water and Environment Programs - Engineering Success Stories http://www.usda.gov/rus/water/ees/englib/success.htm *The information in these stories is provided by Rural Development, Water and Environmental Programs as a service to all those persons looking for alternative, innovative, or just plain successful approaches to rural water and waste problems.*							✓			

	WA	PQ	CS	CE	ED	FV	OO	IS	OR	SS
Water System Operator Roles and Responsibilities: A Best Practices Guide http://water.epa.gov/type/drink/pws/smallsystems/upload/2008_07_01_smallsystems_guide_smallsystems_operator_08-25-06.pdf *Helps to understand: (1) Roles and responsibilities in delivering safe drinking water to system's customers; (2) Additional responsibilities, which can vary depending on size, characteristics, managerial structure, and regulatory requirements.*		✓			✓				✓	
WaterPro Conference Website http://www.waterproconference.org/ *WaterPro is the annual conference of the National Rural Water Association. It takes place in even numbered calendar years. WaterPro is designed to bring together water and wastewater utility systems - large and small, municipal and rural - for sessions in operations, management, boardsmanship and governance.*										
WaterSense http://www.epa.gov/WaterSense/ *EPA's program to promote water efficiency and conservation. Provides information for consumers to identify products and practices that save water. Utilities and local governments can partner with EPA to receive access to a network of partners working on water conservation and promoting the value of water and using it wisely.*			✓							✓
Water System Owner Roles and Responsibilities: A Best Practices Guide http://www.epa.gov/ogwdw/smallsystems/pdfs/guide_smallsystems_owner_08-25-06.pdf *A summary of system owners' key duties in protecting public health, overseeing system operation, and working with local officials.*					✓					✓
Water Quality in Small Community Distribution Systems http://nepis.epa.gov/Exe/ZyPDF.cgi/P1000OY3.PDF?Dockey=P1000OY3.PDF *Assists the operators and managers of small- and medium-sized public water systems. Provides a comprehensive picture of the impact of the water distribution system network on distributed water quality.*		✓						✓	✓	
Water University http://www.wateruniversity.org/ *The intent of Water University and the National Rural Water Association is to provide the highest level of instruction, education, training and discussion to the largest audience possible. To meet that goal, most of the webinar/lecture portions of these courses are presented at low or no cost. In addition to providing information to the entire water industry, Water University provides a method for licensed water professionals to earn their necessary Continuing Education Units through our advanced on-line educated modules. Access to these modules requires enrollment fees, but these fees are still very affordable compared to in-person training.*										

	WA	PQ	CS	CE	ED	FV	OO	IS	OR	SS
Water & Wastewater Pricing **http://water.epa.gov/infrastructure/sustain/Water-and-Wastewater-Pricing-Introduction.cfm** *EPA Website on water and wastewater pricing, explaining the concept of pricing and water conservation, as well as supplying tools, guides, and reports on pricing.*						✓				
Work for Water Website **http://www.workforwater.org/** *Materials to encourage careers in the water sector, where opportunities to protect and preserve water resources are virtually unlimited and the chance to make a difference is unmatched.*					✓					

Print Form

Elected County Officials
Training Incentive Program
Training Approval Request Form

Training Approval Requested By: Lindel Ormsbee

Title: Director **Agency:** KWRRI

Phone: (859) 257-1299 **E-mail:** Lindell.Ormsbee@uky.edu

Requester: Please complete both pages of this form, attach a copy of the detailed agenda that lists the start and end times of all training sessions while also indicating any breaks that may be given and submit to: **Department for Local Government, 1024 Capital Center Drive, Suite 340, Frankfort, KY 40601**
Phone: 800-346-5606 **Fax: 502-573-3712** **E-mail: scott.sharp@ky.gov**

Training Event Information

Training Title: Sustainable Management of Rural and Small Systems Workshop

Training Provider: Kentucky Water Resources Research Institute and National Environmental Services Center WVU

Contact Name: Lindell Ormsbee **Title:** Director

Phone: (859) 257-1299 **E-mail:** Lindell. Ormsbee@uky.edu

Fax: (859) 323-1049 **Website:** www.uky.edu/waterresources/

Training Intended For: ☒ *Fiscal Court* ☐ *County Clerk* ☐ *Sheriff* ☐ *Jailer* ☐ *All*

Registration Fees: ○ *Yes: Dollar Amount:* $ _____ ◉ *No*

Enrollment Limitations: ○ *Yes: Maximum Enrollment:* # 40 ○ *No*

Proof of Attendance: ○ *Individual POA Form* ○ *Sign-In/Out Sheets* ◉ *Individual Certificate*

Training Dates with Locations:

September 14, 2017 KRADD Conference Center, Hazard, KY

Timed agenda in attachment

FOR DLG USE ONLY

Approved By: _____ **Date:** _____ **Hours:** _____

Denied By: _____ **Date:** _____

Elected County Officials Training Incentive Program Training Approval Request Form
Page Two

Training Title: Sustainable Management of Rural and Small Syste **Provider:** KWRRI and NESC

Has this training been specifically designed for Kentucky's elected county officials? ○ *Yes* ◉ *No*

Describe the learning objectives and how the content pertains to improving job knowledge or skills.

The workshop is targeted to participants who are involved in the operation and management of drinking water or wastewater systems that serve 4,000 or fewer customers. Small system managers, operators, and board members are invited to attend along with local decision makers such as mayors, county judge executives, and commissioners. The workshop demonstrates a simple way to assess system strengths and weaknesses and develop a management plan for improving operations. The workshop focuses on 10 key management areas including: 1) water resource adequacy, 2) product quality, 3) customer satisfaction, 4) community sustainability and economic development, 5) employee and leadership development, 6) financial viability, 7) operational optimization, 8) infrastructure stability, 9) operational resiliency, and 10) stakeholder understanding and support. In addition to the general workshop agenda as developed by EPA and USDA, speakers from the Kentucky Division for Compliance Assistance, the Kentucky Rural Community Assistance Partnership, and the Kentucky Infrastructure Authority will make presentations regarding resources and programs available through their agencies.

List Trainers and their Titles/Qualifications (attach short Bio's if necessary):

Lindell Ormbsbee, Professor, Department of Civil Engineering, University of Kentucky
Katherine Garvey, Director, West Virginia University Land Use and Sustainable Development Law Clinic

short bios in attachment

Describe any training materials that will be provided to the trainees:

Each participant will receive a notebook including all slides used in the presentations, worksheets for the various exercises, and contact information for sources of information and assistance.

Is this training a requirement for County Officials? (If Yes check applicable officials) ○ *Yes* ◉ *No*

☐ *Fiscal Court* ☐ *County Clerk* ☐ *Sheriff* ☐ *Jailer* ☐ *All*

List corresponding KRS, KAR or other requiring entity:

Approval has been granted by the Kentucky Division of Compliance Assistance for 6.0 hours of CEUs for drinking water and wastewater operators. We have also requested approval from the Public Service Commission for continuing education credit as management training for commissioners of water districts, combined water/gas/sewer districts, or water commissions as referenced in 807 KAR 5:070

Attach detailed agenda to email prior to sending

Print Form Submit by Email

SUSTAINABLE MANAGEMENT OF RURAL AND SMALL SYSTEMS WORKSHOP AGENDA

September 14, 2017

KRADD Conference Center, Hazard, Kentucky

8:30 am – 4:30 pm

FACILITATOR(S): Lindell Ormsbee, Professor, University of Kentucky, Department of Civil Engineering

SPEAKER: Katherine Garvey, Director, WVU Land Use and Sustainable Development Law Clinic

Time	Session
8:30	**Sign-in/Registration (30 minutes)**
9:00	**Introductions and Workshop Objectives (15 minutes) Lindell Ormsbee, Director KWRRI**
9:15	**Session 1: Overview of Key Management Areas – Presentation (30 minutes) [Katherine]** • Presentation of Key Management Areas • Group Discussion: Other Important Management Areas for Sustainability

9:45	**Session 2: Utility 'Self Assessment' Exercise (55 minutes) [Lindell]**
	• Explain "Sustainable Management Self Assessment" (5 minutes)
	• Participants Conduct Self Assessment (20 minutes)
	  ○ Rate utility achievements and rank management priorities
	  ○ Where is your utility strong? Why?
	  ○ Where is there the most room for improvement? Why?
	• Explain Plotting of Results: achievements vs. priorities (5 minutes)
	  ○ Plot Results (20 minutes)
	  ○ What are your areas of focus (high priority and low performance)?
	  ▪ Why are they a priority?
	  ▪ Why is performance low?
	  • Technical capacity?
	  • Financial capacity?
	  • Managerial capacity?
	• What are the commonalities and differences among table participants' achievements, priorities, and challenges? (5 minutes)

10:40 **Break (15 minutes)**

10:55 **Session 3: Plenary Discussion – Self Assessment Results (1 hour)**

- Tables Report Out (30 minutes) **[Katherine]**
- Chris Wells – Overview of RCAP (20 minutes)
- Synthesize Results by Plotting Entire Group (10 minutes) **[Lindell]**

11:55 **Working Lunch (1 hour) Discussion of Group Plotting**

(plus Paulette Akers, KYDOCA; Greg Copley, CAER]

12:55 **Session 4: Improving Outcomes (50 minutes)**

- Tips from previous Improving Outcomes Exercises **[Katherine]**
- Each participant completes an improvement worksheet for one low achievement/high priority management area (30 minutes) **[Lindell]**
- Discussion Questions:
    - What will constitute "high achievement" in this management area?
    - What changes will the utility need to make to improve performance?
    - How could you track your performance progress?
    - What will be the biggest challenges to performance improvement?
- Participants share improvement worksheet results at their tables (10 minutes)

1:45 **Session 5: Plenary Discussion – Practices, Tools, and Measures: Results (30 minutes)**

- Tables Report Out **[Katherine]**
- General Discussion of Findings **[Katherine]**

2:15 **Break (15 minutes)**

2:30 **Session 6: Tools, Guides and Other Resources (40 minutes) [Katherine]**

- Presentation of Additional Tools, Guides and Other Resources
- Jocelyn Gross – Overview of KIA

3:10 **Session 7: Creating an Action Plan (40 minutes) [Lindell]**

- Discuss Utility Management Improvement Plan
- Complete a Sustainable Management Action Plan Worksheet

3:50 **Session 8: Sharing Success Stories (20 minutes)** [Katherine]

4:10 **Session 9: Next Steps (10 minutes) [Lindell]**

4:20 **Session 10: Feedback Session (10 minutes) [Jeanne]**

Participants Complete Workshop Evaluation Form

4:30 **Adjourn**

Lindell Ormsbee, P.E., P.H., Ph.D, D.WRE, F.ASCE
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Director, Kentucky Water Resources Research Institute
Director, Research Translation Core, University of Kentucky Superfund Research Center
Director, Kentucky Center of Excellence for Watershed Management
Associate Director, University of Kentucky Superfund Research Center
Raymond-Blythe Professor of Civil Engineering Raymond-Blythe Professor of Civil Engineering

Education
Ph.D. Purdue University, 1983
M.S. Virginia Polytechnic Institute and State University, 1979
B.S.C.E. University of Kentucky, 1978

Professional Registration
Professional Engineer, State of Kentucky
Professional Hydrologist, American Institute of Hydrology
Diplomate, American Academy of Water Resource Engineers

Professional Employment
2010 - Present: Director, Kentucky Center of Excellence for Watershed Management
2009 - Present: Associate Director, University of Kentucky Superfund Research Center
2005 - Present: Director, Research Translation Core, UK Superfund Research Center
2004 - Present: Director, Kentucky Water 2004 - Present Resources Research Institute
2003 - Present: Raymond Blythe Professor of Civil Engineering
2003 - 2009: Director. Kentucky Research Consortium for Energy and the Environment
2000 - 2006: Director, Eastern Kentucky PRIDE Water Quality Assessment Program
2000 - 2003: Associate Director, Kentucky Water Resources Research Institute
2000 - 2002: Interim Director, Tracy Farmer Center for the Environment
1999 - Present: Kentucky River Basin Coordinator
1998 - 1999: Acting Director, Kentucky Water Resources Research Institute
1997: Visiting Researcher - Kentucky Environmental Protection Agency
1995 - 1998: Associate Director, Kentucky Water Resources Research Institute
1996 - 2003: Professor of Civil Engineering, University of Kentucky
1989 - 1996: Associate Professor of Civil Engineering, University of Kentucky
1983 - 1989: Assistant Professor of Civil Engineering, University of Kentucky
1979 - 1981: Project Engineer, Howard K. Bell Consulting Engineers, Lexington, KY

Research Interest and Expertise

Dr. Ormsbee is the Raymond-Blythe Professor of civil engineering at the University of Kentucky. Since joining the faculty of the University of Kentucky in 1983, Dr. Ormsbee has been actively engaged in research, teaching, and consulting in water resources and environmental engineering and has published more that 250 technical papers and reports on various topics in this field. In addition to serving on numerous international, national, and state committees, Dr. Ormsbee has spoken to hundreds of audiences at various technical conferences and other meetings across the United States as well as overseas.

Dr. Ormsbee currently serves as the director of the Kentucky Water Research Institute, the Kentucky Center of Excellence for Watershed Management as well as the associate director of the UK Superfund Research Center. In the past he has served in several other research administrative capacities including, Director of the Kentucky Research Consortium for Energy and Environment (03-09), Director of the Tracy Farmer Center for the Environment (02-03), Director of the UK-PRIDE Water Quality Assessment Program (00-06), the Chair of the Kentucky Environmental Quality Commission (04-06), and the Chair of the Scientific Advisory Board of the Kentucky Watershed Watch Program (04-09). From 1985 to 1998 he served in various capacities in the Kentucky Section of the American Society of Civil Engineering, culminating as president in 1998. In 2003 he served as Chair of the EWRI-ASCE Council on Emerging and Innovative Technologies and in 2004 he was elected Vice-President of the American Institute of Hydrology. In 2008, Dr. Ormsbee served on a BOSC technical review committee for the EPA Homeland Security Program.

Dr. Ormsbee's current research efforts are directed toward the application of systems analysis methods to complex problems in water resources and environmental systems. Over the last 30 years, Dr. Ormsbee has directly managed (as either a PI or Co-PI) over 21 million dollars in external contracts from such agencies as the National Science Foundation, the U.S. Geological Survey, the U.S. Army Corp of Engineers, the U.S. Department of Energy, the National Institutes of Environmental Health Sciences, the U.S. Environmental Protection Agency, and the US Department of Homeland Security. He has also served on several multidisciplinary research teams that have brought in an additional 29 million dollars in external research funding.

Professional Service Activities

1998 - Present: Director, Watershed Management Program, Kentucky River Authority
1998 - Present: Scientific Advisor, Kentucky River Watershed Watch
2003 - 2007: Chair, Kentucky Environmental Quality Commission
2004 - 2006: Chair, Scientific Advisory Board, Inter-basin Coordinating Committee, Kentucky Watershed Watch
2004 - 2005: Member, Governor's Task Force on Blackwater Issues
2004: Vice President for Academic Affairs, American Institute of Hydrology
2003 - 2004: Chair, EWRI Emerging and Innovative Technologies Council
2002: Chair, Nuclear Subcommittee, Governor's Energy Policy Board
1997-1998: President, Kentucky Section of ASCE
1995: Chair, AWWA International Computer Conference.
1991 - 1992: President, Bluegrass Chapter of Kentucky Section of ASCE

Katherine Garvey, J.D., LL.M.

Contact Information: WVU College of Law, P.O. Box 6130, Morgantown WV 26506-6130; (304) 293-8288; katherine.garvey@mail.wvu.edu

Education / Academic Credentials

Vermont Law School, LL.M. 2010, *cum laude*, Environmental Law
University of Missouri-Kansas City School of Law, J.D. 2004
Webster University, B.S. 2000, Business Management
La Universidad de los Andes, Bogotá, Colombia, 01/98-12/98, Spanish and Economics

Professional / Academic Experience

- Courses Taught: Land Use and Sustainable Development Law Clinic, Environmental Law, Environmental Advocacy & Writing, Introduction to Environmental Law
- Research Interests: Environmental regulation at the local level, source water protection
- Grants: Legal Education to Address Neglected Properties (2014), Hardy County Source Water Protection (2014)

International Experience

- 17th session of the Conference of the Parties to the United Nations Framework Convention on Climate Change, Representative for Vermont Law School.
- World Summit on Sustainable Development 2002, Johannesburg, South Africa, Representative for the National Association of Environmental Law Schools.
- EnviroLaw Solutions Conference 2002, Durban, South Africa.
- Internship at FUNDEA, Caracas Venezuela, worked on conservation contracts, Summer 2003.
- Proficient in Spanish, lived 2.5 years in Latin America. Passed el Examen de Admisión de Estudios Posgraduados (Spanish version of the GRE) with above average score.

Professional Affiliations – Associations – Service & Outreach

- Board Member, Northern Brownfields Assistance Center
- Member, American Bar Association
- Member of the Bar, West Virginia, Vermont and Missouri
- Liaison, New River Clean Water Alliance

Awards and Honors

- Solid Waste Management Award, American Public Works Association (2006) for development of a solid waste management plan and funding for a hazardous waste management and recycling facility

Selected Publications

- *Investing in Green Infrastructure for Source Water Protection*, Chapter 1, World Resources Institute (2014).
- *Legal Consequences of Adopting New Floodplain Maps in New Hampshire*, 43 Envtl. L. Rptr. 10564 (2013).

- *Local Protection of Natural Resources after Jam Golf: Standards and Standard of Review*, 11 Vt. J. Envtl. L. 145 (2009).

Selected Presentations

- *Game Changers: Land Banks and On-Site Citations*, Continuing Legal Education, Charleston WV (May 2015).
- *Client-centered Lawyering in a Rural Communities*,14th Annual Transactional Clinical Conference, Kansas City, MO. (April 2015).
- *Utilizing Resilient Land Use Planning Concepts to Protect Local Source Water*, 2015 Water Resources Conference of the Virginias, Roanoke, WV, October 6, 2015
- *Policy, Law & Biofuels*, Bioproducts Master Teacher Training Workshop, July 11, 2013
- *Fayette County Dilapidated Buildings Strategy Session*, April 29th, 2015
- *An Introduction to Legal Issues Affecting Neglected Properties*, Community Leadership Academy, Morgantown, WV, October 27, 2015
- *Morgantown Utility Board's Source Water Protection Plan*, Initial Meeting, January 21, 2015
- *Navigating the Ordinance and Enforcement Maze*, Property Rescue Initiative Information Workshop, Montgomery, WV, October 9, 2015
- *The View from 10,000 Feet Up- Voluntary Initiatives and Government Regulations*, Spring 2013 Mountain State Land Use Academy, Pipestem WV May 5, 2013
- *Mapping and Legal Implications of Future Flooding in the Lamprey River Watershed of New Hampshire Due to Changes in Land Use and Climate*, The Coastal Society Conference, Miami FL, Jun 2012).

Courses Taught

Environmental Law, Introduction to Environmental Law, Environmental Communication, Introduction to Business Law, Land Use Clinic, Land Use and Sustainable Development Law Clinic, Torts, Legal Writing I

Grants

- Property Rescue Initiative, Technical Assistance to Address Legal Issues related to Dilapidated Properties December 2015
- Benedum Foundation, West Virginia Legal Education to Address Abandoned and Neglected Properties, July 2014
- Hardy County and the Potomac Valley Conservation District, Hardy County Source Water Protection and Ordinance Review, April 2015.

Kentucky Division of Compliance Assistance
Certification and Licensing Branch
Operator Certification Program
300 Fair Oaks Ln.
Frankfort, KY 40601

Continuing Education Activity Report

Division of Compliance Assistance's Assigned Course Number: 16937

Course Title: Sustainable Management of Rural and Small Systems

Course Location: KRADD Conference Center Date(s): September 14, 2017

Course Sponsor's Name and Phone Number: Kentucky Water Resources Research Institute - UK,

Agency Interest Number for Course Sponsor: 133858

Participants' Information (Operator certificates contain identification information requested below.):

Agency Interest Number	Operator's Name (as shown on certification)	* Operator's Certification Number(s) (where credit is to be applied)		Continuing Education Credit Earned (to be completed by sponsor)
		DW (Distribution, Treatment, and Bottled Water)	WW (Collection and Treatment)	** Continuing Education Hours Earned
12688	Jamie Bowling	17062		6
26133	Gary Paul Daniel	15207		6
28658	James Hopkins	12801 17167		6
29549	Christopher C. Caudill	12618 12696	19060 16880	6
30136	Randy Daniel	15217		6
30159	Arnold Barker	15199		6
49338	Vernon Anderton	29677		6
50689	Keith Pelphrey	15208		6
51270	Thomas Eddie Baker	17276 13762		6

* Provide certification numbers for Drinking Water Treatment, Drinking Water Distribution, Bottled Water, Wastewater Treatment or Collection System.
** Calculate Continuing Education Hours as approved by the Division of Compliance Assistance.

As sponsor of the training completed by the operators listed above, I certify it was conducted and participants performed according to conditions approved by the Kentucky Certification Boards. I understand that submission of false information could result in expiration of an operator's certification due to noncredit and might be cause for non-approval of subsequent training requests. Further, falsification of a cabinet document could result in legal penalties per KRS 223.991 and/or 224.99-010.

Sponsor Contact Name (printed): Lindell Ormsbee

Sponsor Contact Person's Signature and Date: 9/14/17

DUPLICATE AS NEEDED

Kentucky
UNBRIDLED SPIRIT

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		DW (Distribution, Treatment, and Bottled Water)	WW (Collection and Treatment)	** Continuing Education Hours Earned
99901	Bobby Spears	19503		6
102090	Benny Jacobs	18284		6
104923	Dana L. Campbell	19231		6
106936	Ruth A. Watts	26427		6
117456	Jeff Kestner	25526		6
118080	Avery Shrum	25724		6
120954	Jerry Hall	28624		6
129715	James Dixon	29096 29642		6
131978	Dustin Ashley		29471	6

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Sponsor Contact Name (printed): Lindell Ormsbee

Sponsor Contact Person's Signature and Date: 9/14/17

DUPLICATE AS NEEDED

Kentucky UNBRIDLED SPIRIT

Name	Organization	Title
Vernon Anderton	Perry Co. Water & Sewer	Superintendent
Bobby Spears	Paintsville Utilities	Superintendent
Jerry Hall	Knott Co. Water & Sewer Dist.	Plant Supervisor
James Dixon	City of Cumberland	Water Supervisor
Bobby Brown	Perry Co. San. Dist. #1	Committee Chairman
Jared Salmons	Knott Co. Water & Sewer Dist.	District Manager
Tom Burns	Village of Buckhorn Water	City Councilman
Jeff Dobson	Knott County Magistrate	Magistrate
Wayne Fleming	Letcher County Fiscal Court	Magistrate
Woody Holbrook	Letcher County Fiscal Court	Magistrate

	List of commissioners/superintendents
	List of county officials