

# Drinking Water Resource Directory

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## Background and Purpose

This document is intended to help local and regional planning agencies, and their constituent water utilities, integrate drinking water infrastructure planning and investments into plans for sustainable development. Resources listed here provide guidance on making land use decisions that protect water resources, setting adequate and sustainable drinking water rates, controlling water loss, funding water infrastructure projects, and managing water utilities.

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# Land Use for Clean Water

Keywords: land use planning, smart growth, infrastructure investments, development, growth management

Title	Link	Author	Date	Type	Description
Smart Growth for Coastal and Waterfront Communities	<a href="http://coastalsmartgrowth.noaa.gov/smartgrowth_fullreport.pdf">http://coastalsmartgrowth.noaa.gov/smartgrowth_fullreport.pdf</a>	US EPA; Smart Growth Network	2009	Practice guide	Provides an overview of smart growth principles to create coastal and waterfront-specific strategies for development. Offers examples, tools, and techniques for applying smart growth approaches in communities on the water.
Your Water. Your Decision: How Today's Land-Use Decisions Can Protect Tomorrow's Water Supply.	<a href="http://www.sourcewatercollaborative.org/downloads/PlannerGuide_23members.pdf">http://www.sourcewatercollaborative.org/downloads/PlannerGuide_23members.pdf</a>	Source Water Collaborative	2009	Fact sheet	Written for planners, this short guide identifies opportunities to put drinking water into the planning process, listing tips for each major stage of the process from long-range visioning to public investment.
Do You Want Utilities With That? Avoiding the Unintended Economic Consequences of Poorly Planned Growth on the Provision of Water and Sewer Service	<a href="http://cepm.louisville.edu/Pubs_WPapers/practiceguides/PG14%20-%20with%20pictures.pdf">http://cepm.louisville.edu/Pubs_WPapers/practiceguides/PG14%20-%20with%20pictures.pdf</a>	Center for Environmental Policy and Management/EC4	2006	Practice guide	Considers the economic costs of poorly planned growth on the provision of linear utilities (including electricity, natural gas, telephone, cable and drainage), but focuses on water and sewer service because they are most likely to be key to project approval.
Growing Toward More Efficient Water Use: Linking Development, Infrastructure, and Drinking Water Policies	<a href="http://www.epa.gov/smartgrowth/pdf/growing_water_use_efficiency.pdf">http://www.epa.gov/smartgrowth/pdf/growing_water_use_efficiency.pdf</a>	US EPA	2006	Practice guide	Focuses on the relationships among development patterns, water use, and the cost of water delivery, and includes policy options for states, localities, and utilities that directly reduce the cost and demand for water while indirectly promoting smarter growth.
Protecting Water Resources with Higher-Density Development	<a href="http://www.epa.gov/smartgrowth/pdf/protect_water_higher_density.pdf">http://www.epa.gov/smartgrowth/pdf/protect_water_higher_density.pdf</a>	US EPA	2006	Practice guide	Helps communities better understand the impacts of higher and lower density development on water resources. The findings indicate that low-density development may not always be the preferred strategy for protecting water resources.
Talking to Your Decision Makers: A Best Practices Guide	<a href="http://www.epa.gov/ogwdw/smallsystems/pdfs/guide_smallsys_decision_makers_08-25-06.pdf">http://www.epa.gov/ogwdw/smallsystems/pdfs/guide_smallsys_decision_makers_08-25-06.pdf</a>	US EPA	2006	Practice guide	Tips for working successfully with decision makers in your community to meet your water system's needs.
Growth and Water Resources	<a href="http://www.epa.gov/smartgrowth/pdf/growthwater.pdf">http://www.epa.gov/smartgrowth/pdf/growthwater.pdf</a>	US EPA	2005	Fact sheet	Explains how land use affects water resources and offers resources and tools for communities.
Protecting Water Resources with Smart Growth	<a href="http://www.epa.gov/smartgrowth/pdf/waterresources_with_sg.pdf">http://www.epa.gov/smartgrowth/pdf/waterresources_with_sg.pdf</a>	US EPA	2004	Practice guide	Intended for audiences already familiar with smart growth concepts who seek specific ideas on how techniques for smarter growth can be used to protect water resources. Suggests 75 policies that communities can use to grow in the way that they want while protecting their water quality.

Smart Growth for Clean Water: Helping Communities Address the Water Quality Impacts of Sprawl	<a href="http://www.resourcesaver.com/file/toolmanager/CustomO93C337F42157.pdf">http://www.resourcesaver.com/file/toolmanager/CustomO93C337F42157.pdf</a>	National Association of Local Government Environmental Professionals; Trust for Public Land; ERG	2003	Report	Shares ideas for using smart growth to advance clean water goals based on the experiences of communities across the nation. Includes background on the impacts of sprawl on water quality; information on the clean water benefits of smart growth approaches; identification of smart growth for clean water tools; findings on the barriers to smart growth for clean water and recommended solutions for overcoming these barriers, case study profiles of innovative projects and programs across the country, a "Top 10" list of actions that local governments can take to promote smart growth for clean water; and links to further resources and information for communities that seek to put these tools to use.
Fixing It First: Targeting Infrastructure Investments to Improve State Economies and Invigorate Existing Communities	<a href="http://www.nga.org/files/live/sites/NGA/files/pdf/0408FIXINGFIRST.pdf">http://www.nga.org/files/live/sites/NGA/files/pdf/0408FIXINGFIRST.pdf</a>	NGA Center for Best Practices	Undated	Issue brief	Reviews the differing "fix-it-first" strategies of seven states and reveals that they pursue fix-it-first to achieve three primary goals, including spending funds more efficiently, increasing economic competitiveness, and enhancing quality of life.

## Rate Setting

Keywords: drinking water rates, water pricing

Title	Link	Author	Date	Type	Description
How to Avoid a Rate Structure Public Relations Nightmare	<a href="http://editiondigital.net/display_article.php?id=964284">http://editiondigital.net/display_article.php?id=964284</a>	Journal AWWA	2012	Article	This article asks "Can water rates make sense to customers, reflect the real water needs of customers, and become a logical extension of what both the water utility and the customer needs— revenue stability, conservation, and fairness?" Answer? "Yes, yes, and yes."
Benchmarking Utilities' Rates and Finances for Decision and Policy Makers	<a href="http://www.efc.unc.edu/publications/2011/IWA_LESAM_Dashboards.pdf">http://www.efc.unc.edu/publications/2011/IWA_LESAM_Dashboards.pdf</a>	Environmental Finance Center, UNC	2011	Report	Describes the Rates Dashboard, an interactive, visual benchmarking tool developed to assist water and wastewater utility managers and decision-makers to compare rates across a given region while simultaneously considering utility financial, customer affordability and socioeconomic indicators, without having to navigate through the underlying data.
Formulate Great Rates: The Guide to Conducting a Rate Study for a Water System	<a href="http://www.rcap.org/rateguide">www.rcap.org/rateguide</a>	Rural Community Assistance Partnership	2011	Guide	A guide to developing a fair and equitable rate structure in a small drinking water or wastewater system.
The Business of Water: It Is Time to Embrace a New Model for Water Services	<a href="http://www.thehorinkogroup.org/pubs/BNAWater.pdf">http://www.thehorinkogroup.org/pubs/BNAWater.pdf</a>	Bureau of National Affairs	2011	Article	Suggests that water utilities must become more businesslike in how they value their water and their very sophisticated and capital-intensive services. They will have to manage water demand as much

					as water supply, and price resources effectively while accounting for the poor and needy within their service areas.
Water Pricing and Rates Dashboards	<a href="http://louisville.edu/cepm/publications/practice-guides-1/PG23%20-%20Water%20Pricing%20and%20Rates%20Dashboards.pdf/at_download/file">http://louisville.edu/cepm/publications/practice-guides-1/PG23%20-%20Water%20Pricing%20and%20Rates%20Dashboards.pdf/at_download/file</a>	Environmental Finance Center, University of Louisville	2009	Practice guide	Introduces rate setting by utilities and describes the rate setting dashboard developed by University of North Carolina Environmental Finance Center (see above).
Setting Small Drinking Water System Rates for a Sustainable Future	<a href="http://water.epa.gov/infrastructure/sustain/upload/2009_05_26_waterinfrastructures_final_ratesetting_guide.pdf">http://water.epa.gov/infrastructure/sustain/upload/2009_05_26_waterinfrastructures_final_ratesetting_guide.pdf</a>	US EPA	2006	Practice guide	Designed to help owners, operators, and managers of community water systems serving 3,300 or fewer persons understand the full costs of providing a safe and adequate supply of drinking water to their customers and how to set water rates that reflect those costs.
Case Studies of Sustainable Water and Wastewater Pricing	<a href="http://water.epa.gov/infrastructure/sustain/upload/guide_smallsystems_fullcost_pricing_case_studies.pdf">http://water.epa.gov/infrastructure/sustain/upload/guide_smallsystems_fullcost_pricing_case_studies.pdf</a>	US EPA	2005	Case study	Profiles case studies from around the country with differing experiences in sustainable infrastructure pricing. Designed to give water and wastewater utility staff, state regulators, and providers of technical and financial assistance new perspective on how to develop and implement sustainable pricing practices.
The Painful Art of Setting Water and Sewer Rates	<a href="http://www.efc.unc.edu/publications/2005/PainfulArtOfSettingRates.pdf">http://www.efc.unc.edu/publications/2005/PainfulArtOfSettingRates.pdf</a>	Popular Government	2005	Report	Describes the big picture context of the environment in which rates are set, with practical examples for utility managers and public administrators on how to design rate structures for different scenarios.
Running Your System Like a Good Business	<a href="http://www.nesc.wvu.edu/ndwc/articles/OT/SU04/GoodBusiness.pdf">http://www.nesc.wvu.edu/ndwc/articles/OT/SU04/GoodBusiness.pdf</a>	On Tap	2004	Article	Explains the
Small Utilities Rates and Finances Spreadsheet (and Instructions)	<a href="http://www.awwa.org/files/Resources/SURF.xls">http://www.awwa.org/files/Resources/SURF.xls</a>	American Water Works Association	2003	Tool	A self-guided, interactive financial spreadsheet application designed to assist small systems set rates.
Rates Dashboards	<a href="http://www.efc.unc.edu/RatesDashboards/index.html">http://www.efc.unc.edu/RatesDashboards/index.html</a>	Environmental Finance Center, UNC Chapel Hill	Ongoing	Online tool	Free, interactive rates dashboards designed to assist utility managers and local officials analyze residential water and wastewater rates against multiple characteristics, including utility finances, system characteristics, customer base socioeconomic conditions, geography, and history.
Consolidated Water Rates: Issues and Practices in Single-Tariff Pricing	<a href="http://www.epa.gov/safewater/utilities/stptitle.pdf">http://www.epa.gov/safewater/utilities/stptitle.pdf</a>	US EPA; National Association of Regulatory Utility Commissioners	1999	Report	Consolidated rates or single-tariff pricing is the use of a unified rate structure for multiple water (or other) utility systems that are owned and operated by a single utility, but that may or may not be contiguous or physically interconnected. This report provides an overview of consolidated ratemaking and an appreciation of the complex trade-offs involved in its implementation.

Rate Options to Address Affordability Concerns for Consideration by the District of Columbia Water and Sewer Authority	<a href="http://water.epa.gov/infrastructure/sustain/upload/2009_05_26_waterinfrastructure_pricings_AffordOptions.pdf">http://water.epa.gov/infrastructure/sustain/upload/2009_05_26_waterinfrastructure_pricings_AffordOptions.pdf</a>	US EPA	1998	Case study	Prepared for the District of Columbia Water and Sewer Authority to help it set wastewater rates that are affordable to low income residents, this paper presents information about water utility affordability programs in use around the United States, as well as factors to consider in adopting one or more measures to reduce the potential burden of wastewater rates.
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## Conservation

Keywords: water loss control, water efficiency, leak detection, water audit, water reclamation

Title	Link	Author	Date	Type	Description
Reuse of Treated Wastewater for Urban Greening and Agriculture	<a href="http://www.switchtraining.eu/fileadmin/template/projects/switch_training/files/Case_studies/Case_study_Lima_preview.pdf">http://www.switchtraining.eu/fileadmin/template/projects/switch_training/files/Case_studies/Case_study_Lima_preview.pdf</a>	ICLEI	2011	Case study	A case study from Lima, Peru demonstrating wastewater reuse.
Control and Mitigation of Drinking Water Losses in Distribution Systems	<a href="http://water.epa.gov/type/drink/pws/smallsystems/upload/Water_Loss_Control_508_FINALDec.pdf">http://water.epa.gov/type/drink/pws/smallsystems/upload/Water_Loss_Control_508_FINALDec.pdf</a>	US EPA	2010	Practice guide	Helps operators of public water systems develop an effective water loss control program, which can help identify and reduce water losses; reduce the need to expend resources on costly repairs, upgrades, or expansions; and protect public health through reduction in potential entry points of disease-causing pathogens.
Water Audit Software	<a href="http://www.awwa.org/Resources/WaterLossControl.cfm?ItemNumber=48511">http://www.awwa.org/Resources/WaterLossControl.cfm?ItemNumber=48511</a>	American Water Works Association	2010	Interactive tool	Free software to compile a preliminary water audit.
Water Loss Audit Manual for Texas Utilities	<a href="http://rio.twdb.state.tx.us/publications/brochures/conservation/doc/WaterLossManual_2008.pdf">http://rio.twdb.state.tx.us/publications/brochures/conservation/doc/WaterLossManual_2008.pdf</a>	Texas Water Development Board	2008	Practice guide	To assist water utilities in undertaking a water audit, this manual provides guidance on the data and information that should be gathered to assemble a realistic assessment of water loss.
Prospects for Managed Underground Storage of Recoverable Water	<a href="http://dels.nas.edu/resources/statistic-assets/materials-based-on-reports/reports-in-brief/managed_underground_storage_final.pdf">http://dels.nas.edu/resources/statistic-assets/materials-based-on-reports/reports-in-brief/managed_underground_storage_final.pdf</a>	The National Academies	2007	Fact sheet	Introduces managed underground storage, an approach to sustainable water management. Proposes that this approach is a valuable tool in a water manager's portfolio, although it poses its own unique challenges that need to be addressed through research and regulatory measures.
Cases in Conservation: How Efficiency Programs Help Water Utilities Save Water and Avoid Costs	<a href="http://www.epa.gov/WaterSense/docs/utilityconservation_508.pdf">http://www.epa.gov/WaterSense/docs/utilityconservation_508.pdf</a>	US EPA	2002	Case study	Includes case studies of water utilities that are saving substantial amounts of water through strategic water-efficiency programs, including water loss management, wastewater reclamation and reuse, adoption of conservation water rates, changes to more efficient water-using equipment, and behavioral changes.

Leak Detection and Water Loss Control	<a href="http://www.nesc.wvu.edu/ndw/pdf/OT/TB/TB_LeakDetection.pdf">http://www.nesc.wvu.edu/ndw/pdf/OT/TB/TB_LeakDetection.pdf</a>	National Drinking Water Clearinghouse	2001	Fact sheet	Summarizes the benefits of leak detection and repair, the causes of leaks, and leak detection and repair strategies.
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## Funding and Finance

Keywords: water system financing, revenue gap, State Revolving Fund

Title	Link	Author	Date	Type	Description
Restoring Flows: Financing the Next Generation of Water Systems	<a href="https://ws.onehub.com/files/ukn6jzar">https://ws.onehub.com/files/ukn6jzar</a>	Ceres; American Rivers	2012	Report	Examines barriers to creating more sustainable water systems, as well as how philanthropic investment can help remove them.
Water Utility Challenges in Meeting Revenue Gaps	<a href="http://www.drinkingwaterresearch-digital.com/drinkingwaterresearch/20110709#pg18">http://www.drinkingwaterresearch-digital.com/drinkingwaterresearch/20110709#pg18</a>	Water Research Foundation	2011	Article	Addresses the challenges faced by utilities that accompany reduced water use and reduced revenue, as discussed at a workshop for utility representatives held by the Water Research Foundation in May 2011. Presents strategies for bridging revenue gaps and ways to implement them.
Guidebook of Financial Tools: Paying for Environmental Systems	<a href="http://www.epa.gov/envirofinance/">http://www.epa.gov/envirofinance/</a> (scroll down and click on Guidebook link)	US EPA	2008	Guidebook	Good overview of various financial options available to fund environmental improvement programs.
Drinking Water and Wastewater Infrastructure: An Analysis of Capital Funding and Funding Gaps	<a href="http://www.arc.gov/research/researchreportdetails.asp?REPORT_ID=21">http://www.arc.gov/research/researchreportdetails.asp?REPORT_ID=21</a>	Appalachian Regional Commission	2005	Report	Analyzes the conditions of water and wastewater services in the Appalachian Region and attempts to assess the financial requirements and strategies available to improve the quality of drinking water and wastewater services in the region, particularly in the areas that face chronic economic distress and clear deficiencies in these services.
The Clean Water and Drinking Water Gap Analysis	<a href="http://water.epa.gov/aboutow/ogwdw/upload/2005_02_03_gapreport.pdf">http://water.epa.gov/aboutow/ogwdw/upload/2005_02_03_gapreport.pdf</a>	US EPA	2002	Report	Presents findings from EPA's study to identify whether there is a quantifiable gap between projected clean water and drinking water investment needs over the twenty-year period from 2000 to 2019 and current levels of spending. The analysis found that a significant funding gap could develop if the nation's clean water and drinking water systems maintain current spending and operations practices.
Potential Roles for Clean Water State Revolving Fund Programs in Smart Growth Initiatives	<a href="http://www.epa.gov/owm/cwfinance/cwsrf/smartgro.pdf">http://www.epa.gov/owm/cwfinance/cwsrf/smartgro.pdf</a>	US EPA	2000	Practice guide	Describes options for states to use their Clean Water State Revolving Funds to support more environmentally sound growth and development.

# Source Protection

Keywords: drinking water protection, water quality, Class V wells

Your Water. Your Decision: A quick guide for community leaders committed to safe drinking water	<a href="http://www.sourcewatercollaborative.org/downloads/OfficialsGuide_23member.pdf">http://www.sourcewatercollaborative.org/downloads/OfficialsGuide_23member.pdf</a>	Source Water Collaborative	2009	Fact sheet	Short guide for local elected leaders describing how decisions in three key areas (development patterns, pricing options, and stewardship) affect drinking water quality.
Solving Environmental Problems Through Collaboration: A Case Study of the New York City Watershed Partnership	<a href="http://nepis.epa.gov/Adobe/PDF/P1009QLD.pdf">http://nepis.epa.gov/Adobe/PDF/P1009QLD.pdf</a>	US EPA	2006	Case study	Summary of the partnership, which works closely with government and non-governmental partners to protect the drinking water supply of 9 million people while promoting economic viability and preserving the social character of the communities in the upstate watershed.
The Class V Underground Injection Control Study: Aquifer Recharge and Aquifer Storage and Recovery Wells	<a href="http://water.epa.gov/infrastructure/sustain/upload/2001_01_11_uic_class5_study_uic-class5_classvstudy_volume21-aquiferrecharge.pdf">http://water.epa.gov/infrastructure/sustain/upload/2001_01_11_uic_class5_study_uic-class5_classvstudy_volume21-aquiferrecharge.pdf</a>	US EPA	1999	Report	Reports results of a study conducted to evaluate the risk that Class V wells pose to underground sources of drinking water and to determine whether additional federal regulation is warranted. This volume of the final report covers two Class V well categories: aquifer recharge and aquifer storage and recovery wells.
Drinking Water Database	<a href="http://water.epa.gov/scitech/datait/databases/drink/index.cfm">http://water.epa.gov/scitech/datait/databases/drink/index.cfm</a>	US EPA	Ongoing	Website	Links to several databases, including the Safe Drinking Water Information System, maintained by EPA to manage environmental problems.
Ground Water and Drinking Water	<a href="http://www.epa.gov/safewater/protect.html">www.epa.gov/safewater/protect.html</a>	US EPA	Ongoing	Website	Information on source water assessments, protection efforts, partnerships, outreach, and other tools to protect sources of drinking water.
Source Water Collaborative	<a href="http://www.sourcewatercollaborative.org/about/">http://www.sourcewatercollaborative.org/about/</a>	Source Water Collaborative	Ongoing	Website	Resources and tools designed specifically for helping communities protect drinking water.
Source Water Protection Cost/ Benefit Tool	<a href="http://www.swptool.org/">http://www.swptool.org/</a>	Water Research Foundation	Ongoing	Online tool	Designed to assist users in evaluating the triple bottom-line costs and benefits of different source water protection options.
Technitrain Program	<a href="http://www.rcap.org/technitrain">http://www.rcap.org/technitrain</a>	USDA	Ongoing	Training	Helps protect public health and foster economic development rural communities 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 projects, and improves operation and maintenance of existing water and waste-disposal facilities.
Your Guide. Your Water. Your Decision.	<a href="http://www.yourwateryourdecision.org/">http://www.yourwateryourdecision.org/</a>	Source Water Collaborative	Ongoing	Online tool	Allows users to create a custom “Your Water. Your Decision” guide for local policymakers.



# Water System Partnerships

Keywords: partnerships, consolidation, mutual aid

Title	Link	Author	Date	Type	Description
Gaining Operational and Managerial Efficiencies Through Water System Partnerships	<a href="http://water.epa.gov/type/drink/pws/smallsystems/upload/2009_10_21_smallsystems_pdfs_casestudies_smallsystems_gainingoperational.pdf">http://water.epa.gov/type/drink/pws/smallsystems/upload/2009_10_21_smallsystems_pdfs_casestudies_smallsystems_gainingoperational.pdf</a>	US EPA	2009	Case study	Provides examples of the many ways water systems can form partnerships, and of the managerial and operational efficiencies and other important benefits that system partnerships can provide.
Restructuring and Consolidation of Small Drinking Water Systems: A Compendium of State Authorities, Statutes, and Regulations	<a href="http://water.epa.gov/type/drink/pws/smallsystems/upload/Restructuring-and-Consolidation-of-Small-Drinking-Water-Systems.pdf">http://water.epa.gov/type/drink/pws/smallsystems/upload/Restructuring-and-Consolidation-of-Small-Drinking-Water-Systems.pdf</a>	US EPA	2007	Practice guide	Contains information on restructuring and consolidation authorities for public drinking water systems and 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.
Utilities Helping Utilities: An Action Plan For Mutual Aid And Assistance Networks For Water And Wastewater Utilities	<a href="http://www.awwa.org/files/Advocacy/Govtaff/Documents/Utilities_Helping_Utilities.pdf#Whitepaper">http://www.awwa.org/files/Advocacy/Govtaff/Documents/Utilities_Helping_Utilities.pdf#Whitepaper</a>	American Water Works Association	2006	White paper	Provides guidance on creating and implementing a mutual aid and assistance program within any of the states and territories that have not yet created such a program.
System Partnership Solutions to Improve Public Health Protection	<a href="http://water.epa.gov/type/drink/pws/smallsystems/upload/publichealthstudyv1.pdf">http://water.epa.gov/type/drink/pws/smallsystems/upload/publichealthstudyv1.pdf</a>	US EPA	2002	Case study	Case studies of small water systems that have engaged in some level of system partnership to overcome technical, financial, and managerial challenges and to build capacity to provide safe and affordable drinking water.

# Water Utility Management Issues

Keywords: financial management, emergency planning, risk assessment, asset management, effective utility management, strategic planning

Title	Link	Author	Date	Type	Description
<b>Asset Management</b>					
Asset Management: A Best Practices Guide	<a href="http://water.epa.gov/type/watersheds/wastewater/upload/guide_smallsystems_assetmanagement_bestpractices.pdf">http://water.epa.gov/type/watersheds/wastewater/upload/guide_smallsystems_assetmanagement_bestpractices.pdf</a>	US EPA	2008	Practice guide	Short primer covering what asset management means, the benefits of asset management, best practices in asset management, and how to implement an asset management program.
A.M. KAN Work! Manual	Available to purchase: <a href="http://nmefc.nmt.edu/documents/OrderForm.pdf">http://nmefc.nmt.edu/documents/OrderForm.pdf</a>	New Mexico Environmental Finance	2012	Manual	This interactive guide to asset management and energy efficiency is intended to guide small to medium sized water and wastewater systems through the process of asset management. The manual



		Center			contains useful tools for assessing the current status of a system's operations and for developing strategic plans for sustainable water and wastewater services. Available for purchase.
Asset Management IQ	<a href="http://nmefc.nmt.edu/amiq/">http://nmefc.nmt.edu/amiq/</a>	New Mexico Environmental Finance Center	Ongoing	Tool	Interactive tool for assessing your knowledge of asset management and your progress in the asset management process.
EPA's Asset Management Resources	<a href="http://water.epa.gov/infrastructure/sustain/am_resources.cfm">http://water.epa.gov/infrastructure/sustain/am_resources.cfm</a>	US EPA	Ongoing	Website	Comprehensive resources on asset management from EPA.

### ***Financial Management***

Water System Financial Dashboards	<a href="http://efc.boisestate.edu/Tools/Dashboard/tabid/154/Default.aspx">http://efc.boisestate.edu/Tools/Dashboard/tabid/154/Default.aspx</a>	Environmental Finance Center, Boise State University	Ongoing	Tool	Interactive tools for determining current system performance, areas that need improvement, and the future outlook for the system. Users create an account and then input their system data to display the specifics for their water system.
The Basics of Financial Management for Small-community Utilities	<a href="http://www.rcap.org/finmgmtguide">http://www.rcap.org/finmgmtguide</a>	Rural Community Assistance Partnership	2011	Guide	A primer to help water utility board members understand the financial aspects of a utility's operations.

### ***Emergency Management***

Coordination of the Water Sector and Emergency Services Sectors: An Important Step to Better Response	<a href="http://water.epa.gov/infrastructure/watersecurity/emmerplan/upload/epa817k12001.pdf">http://water.epa.gov/infrastructure/watersecurity/emmerplan/upload/epa817k12001.pdf</a>	US EPA	2012	Guide	Describes the mutually beneficial relationship of the water sector and emergency services sector and provides examples on how to improve coordination between water utilities and local emergency management agencies.
Vulnerability Self-Assessment Tool (VSAT)	<a href="http://water.epa.gov/infrastructure/watersecurity/techtools/vsat.cfm">http://water.epa.gov/infrastructure/watersecurity/techtools/vsat.cfm</a>	US EPA	2010	Tool	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.
Key Features of an Active and Effective Protective Program	<a href="http://water.epa.gov/infrastructure/watersecurity/features/">http://water.epa.gov/infrastructure/watersecurity/features/</a>	US EPA	2007	Website	Website, brochure, and booklet developed to assist owners and operators of drinking water and wastewater utilities in preventing, detecting, responding to, and recovering from adverse effects of all hazards, including terrorist attacks and natural disasters.

### ***Effective Utility Management***

Effective Utility Management: A Primer for Water and Wastewater Utilities	<a href="http://water.epa.gov/infrastructure/sustain/upload/2009_05_26_waterinfrastructures_tools_si_waterutility_primerforeffectiveutilities.pdf">http://water.epa.gov/infrastructure/sustain/upload/2009_05_26_waterinfrastructures_tools_si_waterutility_primerforeffectiveutilities.pdf</a>	US EPA	2008	Guide	Presents a framework for water and wastewater utility management that is intended to help utility managers identify and address their most pressing needs through a customized, incremental approach that is relevant to the day-to-day challenges utilities face.
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Water Sector Collaboration on Effective Utility Management: Fact Sheet	<a href="http://water.epa.gov/infrastructure/sustain/upload/2009_05_26_waterinfrastructures_fs_si_waterutility_collaborationeffectivemanagement.pdf">http://water.epa.gov/infrastructure/sustain/upload/2009_05_26_waterinfrastructures_fs_si_waterutility_collaborationeffectivemanagement.pdf</a>	US EPA	2007	Fact sheet	Indicates where effectively managed utilities focus and what they strive to achieve.
Taking Stock of Your Water System: A Simple Asset Inventory for Very Small Drinking Water Systems	<a href="http://www.epa.gov/ogwdw/smallsystems/pdfs/final_asset_inventory_for_small_systems.pdf">http://www.epa.gov/ogwdw/smallsystems/pdfs/final_asset_inventory_for_small_systems.pdf</a>	US EPA	2004	Brochure	Designed to help very small water systems, such as manufactured home communities and homeowners' associations, assess their condition by preparing a simple asset inventory.
Introduction to Utility Management	Available to purchase: <a href="http://www.acrp.com/acrp_publications.html#utility">http://www.acrp.com/acrp_publications.html#utility</a>	ACR Publications, Inc.	1997	Book	Designed for water and wastewater utilities with populations between 100 and 3,300, this book is based on the philosophy that efficiently operated utilities have a management structure designed around an enterprise model. Describes elements of a well-run utility.

### **Strategic Planning**

Strategic Planning: A Handbook for Small Water Systems, Simple Tools for Environmental Protection (STEP) Guide	<a href="http://www.epa.gov/ogwdw/smallsystems/pdfs/guide_smallsystems_stratplan.pdf">http://www.epa.gov/ogwdw/smallsystems/pdfs/guide_smallsystems_stratplan.pdf</a>	US EPA	2003	Handbook	Presents basic concepts on strategic planning for small water systems and explains how this process can help improve their technical, managerial, and financial capabilities. Includes background information on the process of strategic planning and a series of worksheets to use in developing a strategic plan.
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### **General Management & Planning**

Planning for Sustainability: A Handbook for Water and Wastewater Utilities	<a href="http://water.epa.gov/infrastructure/sustain/upload/EPA-s-Planning-for-Sustainability-Handbook.pdf">http://water.epa.gov/infrastructure/sustain/upload/EPA-s-Planning-for-Sustainability-Handbook.pdf</a>	US EPA	2012	Handbook	Describes a number of steps utilities can undertake to enhance their existing planning processes to ensure that water infrastructure investments are cost-effective over their life cycle, resource efficient, and supportive of other relevant community goals.
A Drop of Knowledge: The Non-operator's Guide to Drinking Water Systems	<a href="http://www.rcap.org/sites/default/files/rcap-files/publications/RCAP-Non-operator%27s%20Guide%20to%20DRINKING%20WATER%20Systems.pdf">http://www.rcap.org/sites/default/files/rcap-files/publications/RCAP-Non-operator%27s%20Guide%20to%20DRINKING%20WATER%20Systems.pdf</a>	Rural Community Assistance Partnership	2011	Guide	Explains in simple, everyday language the technical aspects of drinking water utilities from source to tap. This guide and its companion (below) are the perfect orientation and background guides for new small utility board members and small community decision makers.
Getting Your Project to Flow Smoothly: A Guide to Developing Water and Wastewater Infrastructure	<a href="http://www.rcap.org/sites/default/files/rcap-files/publications/RCAP%20Getting%20Your%20Project%20to%20Flow%20Smoothly.PDF">http://www.rcap.org/sites/default/files/rcap-files/publications/RCAP%20Getting%20Your%20Project%20to%20Flow%20Smoothly.PDF</a>	Rural Community Assistance Partnership	2011	Guide	A comprehensive guide on all the steps that the governing body of a utility should go through in planning, designing and constructing infrastructure.

Making Sense of Sustainability	<a href="http://www.efc.unc.edu/publications/2010/NCC_Spring2010_Sustainability.pdf">http://www.efc.unc.edu/publications/2010/NCC_Spring2010_Sustainability.pdf</a>	North Carolina American Water Works; North Carolina Water Environment Association	2010	Report	Provides an introduction to the role of water and wastewater utilities in the sustainability movement.
Minimum Standards for Water System Management & Planning Documents	<a href="http://nmefc.nmt.edu/documents/MinStdsforWSPlanningDocsFINAL.pdf">http://nmefc.nmt.edu/documents/MinStdsforWSPlanningDocsFINAL.pdf</a>	Environmental Finance Center, New Mexico	2009	Guide	A guide developed to assist: 1) water service providers develop or revise planning documents; 2) water system regulators determine if a water system's planning documents are sufficient to indicate adequate technical, managerial, or financial capacity; 3) water system technical assistance providers in helping water system providers in developing or revision planning documents.
Findings and Recommendations for a Water Utility Sector Management Strategy	<a href="http://water.epa.gov/infrastructure/sustain/upload/2009_05_26_waterinfrastructure_report_si_waterutility_managementstrategy.pdf">http://water.epa.gov/infrastructure/sustain/upload/2009_05_26_waterinfrastructure_report_si_waterutility_managementstrategy.pdf</a>	US EPA	2007	Report	Presents findings and recommendations from the Effective Utility Management Steering Committee toward the development of a water utility sector management strategy that is applicable to water, wastewater, and combined water/ wastewater utilities.
Drinking Water System Management Handbook: Administration of a Drinking Water System through Financial, Technical and Managerial Planning	<a href="http://efc.boisestate.edu/Portals/0/documents/Drinking%20Water%20System%20Management%20Handbook.pdf">http://efc.boisestate.edu/Portals/0/documents/Drinking%20Water%20System%20Management%20Handbook.pdf</a>	Environmental Finance Center, Boise State University	2002	Handbook	Designed for newly appointed water officials, this handbook provides an overview of drinking water concepts and techniques to increase officials' understanding of their new roles and responsibilities. Experienced water officials can use the guide as a review of these concepts.