

*A Guide to **ASSET MANAGEMENT** for Small Water Systems*

This Asset Management Guide provides a brief overview of asset management for small water and wastewater systems and a list of recommended resources for implementing an asset management program.

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A Guide to Asset Management for Small Water Systems

August 2005

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Future Updates

National Environmental Services Center (NESC) plans to update this guide periodically and would welcome information on new asset management resources as they become available. If you know of additional asset management resources that could be useful to small systems, please contact NESC:

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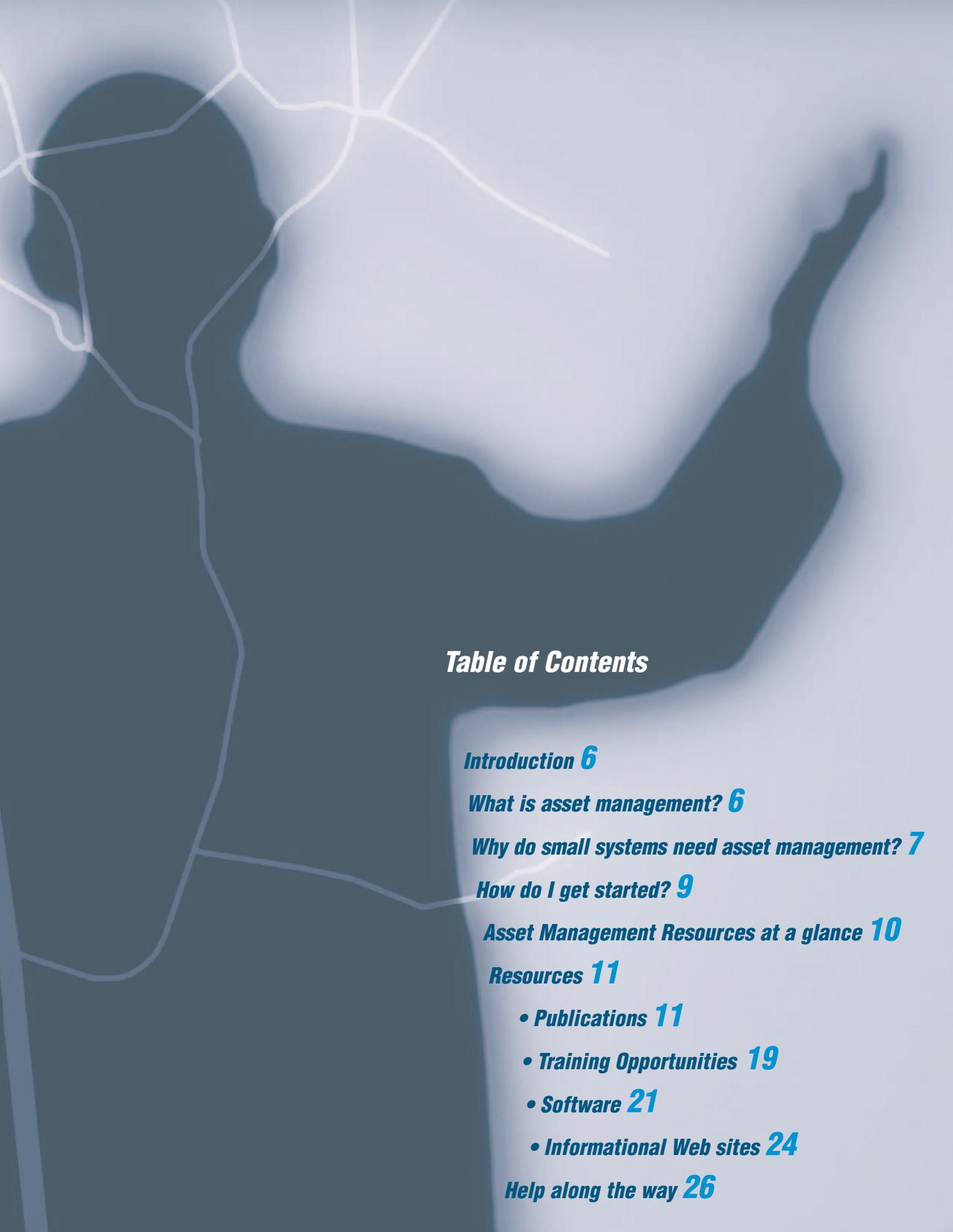


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Introduction

To many of those working for or with small water and wastewater systems, asset management may seem like a complicated and time-consuming endeavor. Often these systems have limited time, a tight budget, and few personnel; they may even see asset management as unnecessary. However, it is important that even small systems have an asset management program in place. With a little guidance, small systems can develop simple and effective asset management plans. The purpose of this guide is to provide information and to recommend resources to small water and wastewater system personnel who wish to implement asset management programs and to those who may assist with this implementation.

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“Asset Management is...a systematic process of creating and managing the infrastructure assets necessary to ensure ongoing, cost-effective delivery of services to customers.”¹

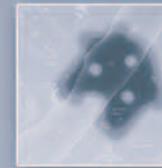
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What is asset management?

Asset management is a way for systems to save money, secure funding, and protect their assets while still providing quality service to their customers. Asset management differs from standard system operation practices in a fundamental way. Standard practice focuses on minimizing costs to the system. Asset management focuses on maximizing value to the ratepayers. In addition, asset management focuses on being proactive rather than reactive. Asset management planning requires systems to reduce the risk of system and service failure by incorporating regular maintenance, renewal and replacement of assets into their plans.

Asset management directly benefits the public by ensuring that crucial assets are replaced or repaired at the most effective time. Successfully implemented asset management programs will benefit small systems and, more importantly, will protect public health and the environment.

¹Wallent, Kym. “Engaging Stakeholders in Asset Management: An SA [South Australia] Water Perspective.” Presentation given at the IWA (International Water Association) and WSAA (Water Services Association of Australia) International Asset Management Workshop, San Francisco, CA. July 28, 2004.



Why do small systems need asset management?

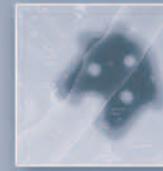
Large systems and small systems, despite their differences, have certain things in common. Both have limited budgets, both have assets that eventually will need to be repaired or replaced, and both strive to ensure public health and environmental quality. For systems of all sizes, asset management is an integral part of meeting the needs of the system and of the public.

Unlike large systems, small systems do not enjoy the benefits of economies of scale. They have fewer ratepayers to fund the system and they have fewer technical and financial experts on staff to assure that they can meet their future needs dependably. For these reasons, asset management is even more important to small systems.

Reasons to implement an asset management program:

- An asset management plan will decrease the frequency of unplanned incidents by ensuring preventative practices such as regular maintenance. Systems with asset management plans strive to replace or repair critical system components before they break down and cause service interruptions.
- Systems with asset management plans may be more likely to get government funding because they can provide clear evidence that they need funding; can manage construction projects well; and will be good stewards of facilities built with those funds. Like bankers, funding agencies want to invest their grant and loan funds as well as they can. Furthermore, future government regulations may make it difficult or impossible for systems without asset management plans to get funding.
- Asset management relates to and facilitates compliance with other regulatory requirements or recommended practices such as Governmental Accounting Standards Board Statement 34 (GASB 34); capacity, management, operation, and maintenance regulations (CMOM); strategic planning; capital improvement planning; environmental management systems (EMS); and ecologically sustainable development. In addition, asset management enables systems to comply with Government Finance Officers Association (GFOA) recommended practices, which include conducting an asset inventory at least every five years. GFOA recommended practices are measures of good management practices and good public stewardship.

- Systems with asset management plans have a clear, concise, number-based way to communicate their system's needs to ratepayers and to local governing bodies. Systems with asset management plans invariably receive more support from local politicians and ratepayers when rates need to be increased because they can justify the need for these increases.
- An asset management plan will help to demonstrate to the public that system personnel are responsible; compliant with federal and state regulations; expert system managers; and willing to share facts with the public.
- An asset management plan may enable systems to be sustainable without outside funding.
- Asset management plans encourage systems to consider options that will improve efficiency and reliability and that will save money.
- An asset management plan allows for better planning, decision-making and budgeting because all of the system information is organized, complete, and readily available.
- Current capital spending may not cover replacement of entire systems. There will be a wave of funding needs in the future as many pipes and other system components will be replaced at one time (due to many systems being built around the same time). Asset management plans will help aging systems prioritize replacement and maintenance.
- Through asset management, systems will find an additional use for things they are or should be doing anyway, such as conducting asset inventories. Asset management combines these standard practices into a more cohesive, comprehensive program that will enable systems to more effectively make the best use of the system and the public assets.
- By reducing the risk of system failure through good asset management, a system's public image, public relations, and credibility will be enhanced.



How do I get started?

Smaller systems cannot afford complex asset management programs like those of larger systems. Fortunately, smaller systems don't need complex asset management programs. For example, small systems do not need elaborate computer software programs or Geographical Information Systems (GIS) to establish good asset management procedures and practices. Having these things may enhance and expedite asset management, but the lack of them is not prohibitive to establishing good asset management habits.

A good way for a small system to implement asset management is to start with a basic program covering its oldest and most critical components first, and then build upon this plan as needed over time.

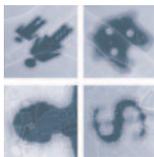
The basic steps of asset management:²

1. Find out what you have – take inventory and document the age, condition, and other descriptive information of each asset, starting with the most critical and oldest first.
2. Analyze this data and prioritize your assets and your needs.
3. Identify which assets are critical to system performance, how likely those assets are to fail, and what impacts could be expected by the system if they were to fail.
4. Develop a plan that takes into account service goals; budget; results of risk assessment; maintenance needs; and repair and replacement needs.
5. Implement the plan.
6. Review, revise, and update the plan as necessary.

Although many organizations and experts may suggest one specific kind of asset management plan, there is no one plan that is right for every system. Several factors -- including system size, age, and availability of funding -- will determine what kind of plan is needed. The most important of these factors by far is size. Small systems do not *need* to have an elaborate asset management plan because they do not have an elaborate system of assets. What small systems do need is a practical, workable guide to making the best use of their equipment. A good asset management plan will enable a small system to see the 'whole picture' from installation to maintenance to replacement with an eye towards planning for each of these phases along the life of each asset.

To implement an asset management plan, first review the resources available and then customize a program that incorporates the six basic steps listed above in a way that will fit your system's needs. Many organizations and service providers with asset management experience are available to provide help along the way.

²Adapted from the U.S. Environmental Protection Agency (EPA) manual "Asset Management: A Handbook for Small Water Systems"



Publications

Asset Management: A Handbook for Small Water Systems
U.S. Environmental Protection Agency

Taking Stock of Your Water System: A Simple Asset Inventory for Very Small Drinking Water Systems
U.S. Environmental Protection Agency

Fact Sheet: Asset Management for Sewer Collection Systems
U.S. Environmental Protection Agency

International Infrastructure Management Manual
Institute of Public Works Engineering Australia; The National Asset Management Steering Group

Managing Public Infrastructure Assets
National Association of Clean Water Agencies

Implementing Small Wastewater System Asset Management: A Practical Guide
The Maryland Center for Environmental Training

Getting the Most out of Your Infrastructure Assets
American Public Works Association

Infrastructure Asset Management – Need Study Guide Vol. I
American Public Works Association

Infrastructure Asset Management Manual, Vol. II
American Public Works Association

The Pipeline Assessment and Certification Program (PACP) Reference Manual
The National Association of Sewer Service Companies

The Manual of Practices
The National Association of Sewer Service Companies

The Sewerage Rehabilitation Manual
The National Association of Sewer Service Companies

The Manual of Sewer Condition Classification (Version 3&4)
The National Association of Sewer Service Companies

The Manual of Sewer Condition Classification (MSCC) Drain Repair Book
The National Association of Sewer Service Companies

Training Opportunities

The National Environmental Services Center
U.S. EPA Advanced Asset Management Training Workshops
Missouri Department of Natural Resources
The Maryland Center for Environmental Training

Software

Total Electronic Asset Management System
The Maryland Center for Environmental Training; Delaware Technical Community College

CAPFinance
Environmental Finance Center at Boise State University

Rate Checkup
Environmental Finance Center at Boise State University

Show-me Ratemaker
Missouri Department of Natural Resources

Informational Web sites

Missouri Department of Natural Resources:
Steps to Asset Management Planning
www.dnr.state.mo.us/oac/pub1317.pdf

Asset management general information
www.dnr.state.mo.us/oac/lgov.htm

Additional asset management resources
www.dnr.mo.gov/oac/pub149.pdf (page 28)

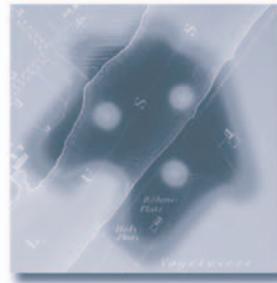
Help Along the Way

The National Environmental Services Center
www.nesc.wvu.edu

The National Rural Water Association and State Affiliates
www.nrwa.org/sa.htm

Environmental Finance Centers
www.epa.gov/efinpage/efcreg.htm

Rural Community Assistance Partnership
www.rcap.org

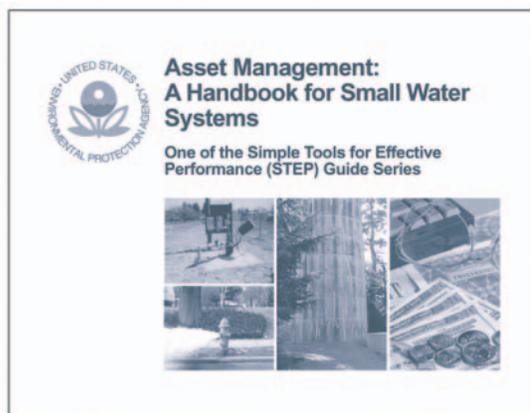


Asset Management Resources

There are a number of resources available to small systems that want to implement asset management programs. These range from informational Web sites to software programs to training opportunities. A summary of resources is listed on page 10. Resource descriptions and ordering information are listed below.

Publications

Note: All prices listed below were current as of August 2005. They may be subject to change.



Asset Management: A Handbook for Small Water Systems (2003)

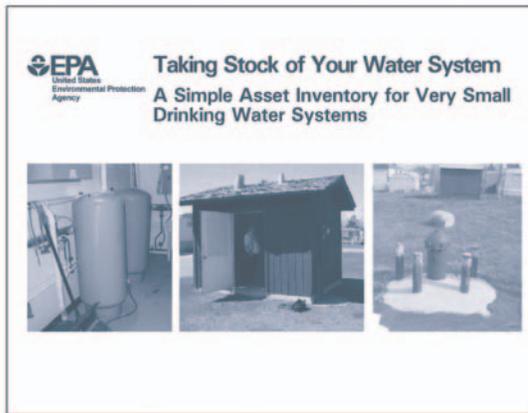
This 48 page handbook is one of a series of STEP (Simple Tools for Effective Performance) guides provided by the EPA. It is specifically designed to help owners and operators of small water systems and is ideal for small systems that have lit-

tle experience with asset management. The handbook defines asset management and explains how asset management can help small water systems. It also describes how asset management overlaps GASB 34 compliance and strategic planning. Five simple asset management steps are listed and described in detail. Worksheets that can be used to complete these steps are included, as are detailed instructions, examples, and blank worksheets. The appendices list a number of useful resources, including sources of financial assistance; information on GASB 34; asset management resources; Safe Drinking Water Act primacy agencies; and tribal contacts.

Asset Management: A Handbook for Small Water Systems can be downloaded for free at the following Web site:

www.epa.gov/safewater/smallsys/pdfs/guide_smallsystems_asset_mgmnt.pdf

Copies can also be obtained by calling the Safe Drinking Water Hotline at (800) 426-4791. (Product No. EPA 816-R-03-016)



Taking Stock of Your Water System: A Simple Asset Inventory for Very Small Drinking Water Systems (2004)

This handbook, provided by the EPA Office of Water, was developed for very small systems such as manufactured home communities and homeowners' associations. It is designed to simplify the process of determining the condition and

remaining useful life of system assets and can be used in conjunction with EPA's *Asset Management: A Handbook for Small Water Systems*.

A prominent feature of this handbook is its series of worksheets. Completed example worksheets are provided as are useful details for non-experts, such as where to find model numbers and descriptions of different kinds of equipment. A prioritization table and budgeting table are also included, with advice on how to carry out the completed plan and how to fund needed changes and replacements.

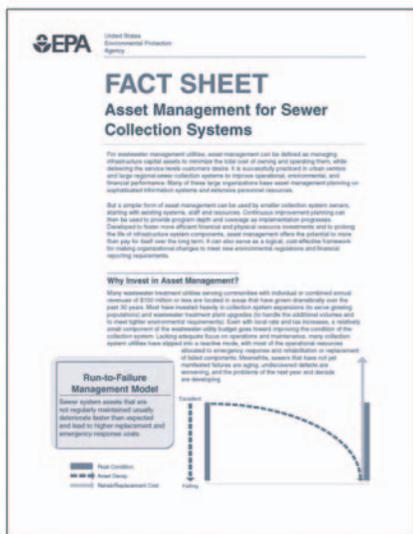
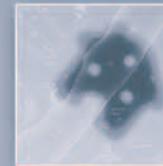
Resources listed in the appendices include Safe Drinking Water Act primacy agencies and tribal contacts; sources of financial assistance to drinking water systems; and sources for more information on asset management.

This 42 page handbook (Product No. EPA 816-K-03-002) is free and can be downloaded at the following Web site:

www.epa.gov/safewater/smallsys/pdfs/final_asset_inventory_for_small_systems.pdf

Copies can also be obtained by contacting:

U.S. Environmental Protection Agency
Office of Water Resource Center
Mail Code RC-4100T
1200 Pennsylvania Ave NW
Washington, DC 20460
Telephone: (202) 566-1729 (24-hour voicemail)
Fax: (202) 566-1736
E-mail: center.water-resource@epa.gov



Fact Sheet: Asset Management for Sewer Collection Systems (2002)

This 16 page fact sheet was developed by the EPA to help small wastewater systems implement a simple asset management plan that can be expanded gradually over time. The guide defines asset management and explains why wastewater systems, regardless of their size, should invest in asset management. The guide explains how asset management relates to and can be integrated with CMOM regulation compliance; GASB 34 requirements (with a detailed description of what GASB 34 is and how it differs from traditional account-

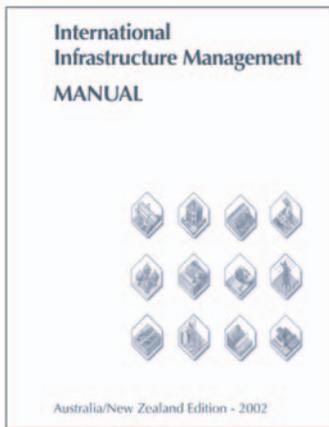
ing approaches used by collection systems); and environmental management systems (EMS). The basic components of an asset management program are thoroughly explained.

Fact Sheet: Asset Management for Sewer Collection Systems can be obtained at no cost at the following Web site:

www.epa.gov/npdes/pubs/assetmanagement.pdf

Copies can also be obtained through the EPA Resource Center (Product No. 833-F-02-001):

U.S. Environmental Protection Agency
Office of Water Resource Center
Mail Code RC-4100T
1200 Pennsylvania Ave NW
Washington, DC 20460
Telephone: (202) 566-1729 (24-hour voicemail)
Fax: (202) 566-1736
E-mail: center.water-resource@epa.gov



International Infrastructure Management Manual (2002)

This manual provides information on developing an asset management plan and linking that plan to other plans and requirements; case studies and implementation tools are also included. Although the manual is geared towards systems in Australia and New Zealand, it has been used in the United States and has garnered enough interest that a U.S. version is now being developed.

The manual is divided into five sections:

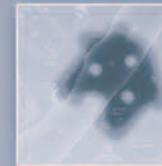
1. Introduction
2. Implementing Asset Management
3. Implementation Techniques
4. Asset Management Information Systems
5. Country Specific Information

The manual costs approximately \$US 231.00 (\$US 248.00 if ordered from New Zealand). To order the manual, contact one of the following organizations:

Institute of Public Works Engineering Australia
12/447 Kent St.
Sydney, NSW 2000
Phone: (02) 8267 3001
E-mail: national@ipwea.org.au
Web site: www.ipwea.org.au/members/documents/#10

The National Asset Management Steering Group
P.O. Box 118
Thames, New Zealand
Phone: +64 7 868 3930
Web site: www.nams.org.nz/

For information about the forthcoming U.S. version, visit Metcalf & Eddy at the following Web site: www.m-e.aecom.com/MarketsAndServices/38/71/index.jsp or call (781) 246-5200.



For information about the United Kingdom version, contact the Institute of Asset Management:

Institute of Asset Management
221 St. John Street
Clerkenwell, London
United Kingdom
EC1V 4LY

Phone: +44 (0)845 456 0565

Web site: www.iam-uk.org/default.asp?section=sales



Managing Public Infrastructure Assets: To minimize cost and maximize performance

This manual, provided by the National Association of Clean Water Agencies (NACWA), is intended primarily for utility executives, utility managers, members of utility governing boards and commissions, elected officials, and the general public. Although it is mostly aimed at larger systems, it contains a wealth of useful information, guidelines, and tips of which communities of any size can take advantage. The components and steps of an asset management plan are listed and explained in detail, as are the steps that should be completed before asset management begins. One chapter is devoted to the relationship between asset management and GASB 34 compliance. Another chapter discusses computer software and the integration of computer databases; however, it is important to note that most small systems will use a simpler data management system than those described in this manual. Additional features include a glossary and a list of NACWA member agencies and a variety of tables, charts, and other visual representations of asset management concepts.

To order this handbook (212 pages, price: \$45), contact the NACWA or visit the following website:

www.nacwa.org/pubs/index.cfm

Other contact information:

National Association of Clean Water Agencies
1816 Jefferson Place, NW
Washington, DC 20036-2505
Phone: (202) 833-2672
Fax: (202) 833-4657

Implementing Small Wastewater System Asset Management: A Practical Guide

This guide, developed by the Maryland Center for Environmental Training, is based on information found in the National Association of Clean Water Agencies (NACWA) handbook *Managing Public Infrastructure Assets* (see above). It lists ten key steps of asset management implementation for small water systems. Detailed information is included for each step, including the purpose of the step, the requirements for completion of the step, and a recommended approach that is broken up into individual tasks.

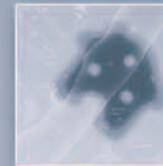
To receive a copy of this guide, contact the Maryland Center for Environmental Training:

The Maryland Center for Environmental, Health and Safety Training
College of Southern Maryland
Corporate and Community Training Institute
P.O. Box 910
8730 Mitchell Road
La Plata, MD 20646-0910
Phone: (301) 934-7500
Fax: (301) 934-7685
E-mail: info@mcet.org
Web site: www.mcet.org



Getting the Most out of Your Infrastructure Assets: A guide to using infrastructure asset management systems (2002)

This 60 page book is developed by the American Public Works Association (APWA) and geared towards public works managers, public officials, and other individuals who are involved in the management of public works assets. It is a general guide that focuses not only on water and wastewater systems but on streets, parks, public buildings, and other civil infrastructures. Nonetheless, it is a useful resource for those wanting to learn more about asset management concepts and the basics of an asset management plan. The guide provides general information about asset management such as how asset value is measured and the overall purpose and mission of asset management. The components of an infrastructure asset management system are thoroughly explained, with special emphasis on some of the more crucial components and recommended techniques for

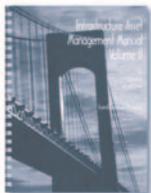


completing each step. This book also includes a discussion of GASB 34 and concludes with an overview of current issues in asset management. Incorporated throughout this handbook are tables and other visuals that sum up concepts and examples that illustrate possible scenarios. Price \$50.00. Appendices include a glossary, a further reading list, and a list of software vendors. Ordering information below.



***Infrastructure Asset Management – Need Study Guide
Vol. I (2000)***

In this 177 page guide, APWA provides practical suggestions for complying with GASB 34 and explains how to start a comprehensive infrastructure asset management system need study. Ordering information below.



Infrastructure Asset Management Manual Vol. II (2000)

This 274 page APWA manual is designed to help government agencies of all sizes make more informed, cost effective decisions about the infrastructure components they manage. It suggests practical tools and procedures for developing proactive maintenance plans. Ordering information below.

Infrastructure Asset Management Vol.I and Vol.II are available in both book and CD-ROM formats. Volume I book price is \$135.00. Volume II book price is \$185.00. CD-ROM price is \$280.00.

Contact Information:

Kansas City, Missouri office:
2345 Grand Boulevard, Suite 500
Kansas City, MO 64108-2641
Phone: (816) 472-6100
Fax: (816) 472-1610
Toll Free: (800) 848-APWA

Washington, DC office:
1401 K Street, NW, 11th Floor
Washington, DC 20005
Phone: (202) 408-9541
Fax: (202) 408-9542
Web site: www.apwa.net/bookstore/searchres.asp

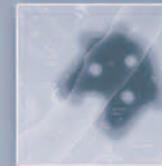
The National Association of Sewer Service Companies (NASSCO) Resources

NASSCO is an organization that specializes in pipeline rehabilitation. It is a resource for specification guidelines, industry practices, inspector training, and technology information. Services offered by NASSCO include advocacy, a resource library, and training (with some services offered to members only). Many of the organization's publications would be useful to those implementing asset management programs because pipeline rehabilitation and replacement will be a large part of asset management in the future.

- ***The Pipeline Assessment and Certification Program (PACP) Reference Manual*** provides standard procedures for pipe evaluation. This manual could prove useful to a system that needs to assess the age or condition of its pipes. PACP manual is available only in conjunction with a training course. (See www.nassco.org for more information.)
- ***The Manual of Practices*** provides information about CCTV inspection, testing methods, asset management and modeling.
Price: Members \$25.00, Nonmembers \$75.00
- ***The Sewerage Rehabilitation Manual*** includes sections on rehabilitation planning, cost effective analysis, and sewer renovation.
Price: Members \$195.00, Nonmembers \$225.00
- ***The Manual of Sewer Condition Classification (MSCC)*** (version 3 & 4) outlines a set of nationally agreed codes covering the internal condition of a sewer.
Price: Members \$50.00, Nonmembers \$75.00
- ***The Manual of Sewer Condition Classification (MSCC) Drain Repair Book*** covers "best practices" for the inspection, condition assessment and repair of drains.
Price: Members \$40.00, Nonmembers \$60.00

The above publications can be obtained by contacting NASSCO or by visiting the Web site:

1314 Bedford Ave., Suite 201
Baltimore, MD 21208
Phone: (410) 486-3500
Fax: (410) 486-6838
Web site: www.nassco.org



Training Opportunities

The National Environmental Services Center (NESC)

NESC offers the Environmental Training Institute for Small Communities (ETI) at West Virginia University in Morgantown. Recently, the ETI has featured presentations and workshops on asset management, rate analysis and similar issues targeted to smaller systems. NESC also partners with other organizations to bring this kind of training to locations around the country.

For more information, call NESC at (800) 624-8301 and ask to speak with a training specialist or visit the Web site: www.nesc.wvu.edu/netcsc/netcsc_index.htm

EPA Advanced Asset Management Training Workshops

The EPA Office of Water, in conjunction with Parsons/GHD Asset Management Center, offers Advanced Asset Management courses. These workshops are designed to assist water and wastewater CEOs, senior level personnel, federal employees, state agency personnel, and water and wastewater service providers in meeting their training needs. Participants gain an understanding of the tools and techniques that will enable systems to transition to asset-centric management. The website below includes several resources, including the training agenda, training slides, and handouts.

For more information, visit the Web site: www.epa.gov/owm/assets_management.htm or call Steve Allbee at (202) 564-0581 for upcoming dates and information on hosting, co-sponsoring or serving as a partner organization for a training session.

Missouri Department of Natural Resources (DNR)

The Missouri DNR currently offers asset management workshops. Target audience members are local government officials, decision-makers, management staff, operators with management duties, public works department staff, consulting engineers, and technical and financial assistance providers. Workshops last one day and are inexpensive. Continuing education credits are available for some participants.

To learn more about the training opportunities offered by the Missouri DNR, contact the agency by mail, phone, or e-mail or visit their Web site (see next page.)

Missouri Department of Natural Resources (continued)

Carl Brown, Government Assistance Unit Chief
Missouri Department of Natural Resources
Outreach and Assistance Center
P.O. Box 176
Jefferson City, MO 65102
(800) 361-4827 or (573) 526-6627
E-mail: carl.brown@dnr.mo.gov
Web site: www.dnr.mo.gov/oac/lgov.htm#asset

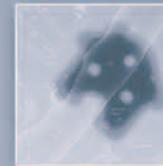
The Maryland Center for Environmental Training (MCET)

The Maryland Center for Environmental Training offers a one-day asset management course for superintendents that focuses on asset management decision-making processes and strategies. Topics include balancing funding needs with funding resources, maintaining cost-effective maintenance levels, and assessing risk/failure levels.

To learn more about this course and other training opportunities, contact MCET or visit their Web site:

The Maryland Center for Environmental, Health and Safety Training
College of Southern Maryland
Corporate and Community Training Institute
P.O. Box 910
8730 Mitchell Road
La Plata, MD 20646-0910
Phone: (301) 934-7500
Fax: (301) 934-7685
E-mail: info@mcet.org
Web site: www.mcet.org

NESC recognizes that training opportunities are also available from private individuals and firms. To learn more about these opportunities, you may want to search the internet (try 'water asset management training' or 'wastewater asset management training' as your search terms) or look for environmental specialists and consulting firms in your local yellow pages.



Software

Total Electronic Asset Management System (TEAMS)

The Maryland Center for Environmental Training (MCET), in partnership with Delaware Technical Community College, has developed the *Total Electronic Asset Management System (TEAMS)* software program for small to medium wastewater treatment plants. Operators can use *TEAMS* to create a customized asset management system. Its open architecture design enables facilities to modify *TEAMS* as needed.

Features of the software include inventory input, creation of condition assessments, creation of criticality assessments, asset valuation (*TEAMS* can value assets in several ways), and preparation of maintenance, repair, and replacement plans. Figures from the database can then be used to assist with various financial decisions including replace versus rehabilitation decisions (using discounted cash flow analysis), timing and allocation of funds, and rate setting and scheduling decisions. *TEAMS* can generate several kinds of reports, including inventories, condition assessments, financial reports, maintenance schedules, capital improvement plans (CIPs), department training, and budgets. The reports can be customized to meet the needs of the system.

TEAMS meets GASB requirements by using a modified approach for accounting.

For more information about *TEAMS*, call Walter Graf at (301) 934-7501 or visit their Web site: www.mcet.org/Technical/environment/assetmgmtold.html.

To receive a copy of the software, e-mail info@mcet.org

Other contact information:

The Maryland Center for Environmental, Health and Safety Training
College of Southern Maryland
Corporate and Community Training Institute
P.O. Box 910
8730 Mitchell Road
La Plata, MD 20646-0910
Phone: (301) 934-7500
Fax: (301) 934-7685
E-mail: info@mcet.org

TEAMS Continued

Delaware Technical and Community College
Environmental Training Center
Bob Norcross, Program Manager
P.O. Box 610
Georgetown, DE 19947
Phone: (302) 855-5900
Fax: (302) 858-5459
Web site: www.dtcc.edu/owens/ccp/Pages/eti1.html

CAPFinance

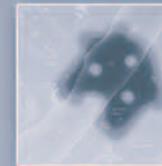
CAPFinance is a software program that can help small water systems inventory their assets, determine budgetary needs, and analyze funding options. This program can help with some of the components of asset management and can be integrated into financial planning processes (like rate setting and capital planning). *CAPFinance* includes several useful features; for example, the preset account categories incorporated into the program can help to remind systems of asset groups they might otherwise overlook. Another useful feature of the software is that it models “what if” scenarios; yet another is that it can project the annual reserve allocations needed to replace an asset or asset group.

CAPFinance can automatically generate reports, charts and graphs and can import from and export to Microsoft Excel.

The website listed below includes free demos of the software and a PowerPoint presentation that explains the software. Offered by the Environmental Finance Center and the Department of Civil Engineering at Boise State University, it can be used by both drinking water systems and wastewater systems. Current price: \$50.

Contact information:

Bill Jarocki at the Environmental Finance Center at Boise State University
1910 University Drive
Boise, ID 83725-1240
General phone: (208) 426-1567
Fax: (208) 426-3967
E-mail: bjarock@boisestate.edu
Phone: (208) 426-4293
Web Site: http://sspa.boisestate.edu/efc/Tools_Services/CAPFinance.htm



Rate Checkup

Rate Checkup is another program developed for water utilities by the Environmental Finance Center at Boise State University. *Rate Checkup* can, among other things, generate rate schedules, prepare budgets and financial forecasts, and develop a base charge and volume rate for each customer group. The program includes a Financial Wizard function that guides users through data entry and through the rate design process. *Rate Checkup* utilizes *CAPFinance*, described above.

For further information about *Rate Checkup* please e-mail Gary Carroll at the Environmental Finance Center at gcarroll@boisestate.edu or call (208) 426-2460.

Other contact information:

Environmental Finance Center at Boise State University

1910 University Drive

Boise, ID 83725-1240

General phone: (208) 426-1567

Fax: (208) 426-3967

Web site: http://sopa.boisestate.edu/efc/Tools_Services/RATECheck/ratecheck.htm

Show-me Ratemaker

The Missouri DNR's *Show-me Ratemaker* programs for water and sewer are Microsoft Excel based applications. They analyze the rates and finances of systems, model rate setting scenarios and help the user set new rates that are adequate and equitable to ratepayers. Importantly, the programs predict financial performance five years into the future. This enables the user to determine if the system's rates are already inadequate, when the system's rates will become inadequate and how financially fit the system will be during the next five years under various rate adjustment scenarios. The programs also generate pie and bar charts that visually show managers and ratepayers the financial condition of the system. These visual aids are important when managers need to convey to ratepayers the need for rate adjustments.

These programs are available for free download at the following Web site:
www.dnr.mo.gov/oac/lgov.htm#ratestudies

Show-me Ratemaker (continued)

Contact information:

Carl Brown, Government Assistance Unit Chief
Missouri Department of Natural Resources
Outreach and Assistance Center
P.O. Box 176
Jefferson City, MO 65102
(800) 361-4827 or (573) 526-6627
E-mail: carl.brown@dnr.mo.gov

If you would prefer to receive the *Show-me Ratemaker* programs on CD-ROM or if you want to use dozens of other model documents and tools on asset management, water and sewer system management, rate setting, etc., request the *Missouri DNR Environmental Management Suite* (Item # DWCDMG57, free) from the National Environmental Services Center by calling (800) 624-8301.

Informational Web sites

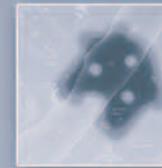
Missouri Department of Natural Resources

The Missouri DNR provides multiple asset management resources on its Web site:

Steps to Asset Management Planning

Asset management plans can range from the very simple to the complex; this guide outlines a simple plan for systems that do not have asset management plans. A list of steps are included to help systems get started, followed by additional steps for basic asset management and intermediate asset management. Additional resources are suggested, including a link to the *Show-me Ratemaker* software. Visit the following Web page to access this guide:

www.dnr.state.mo.us/oac/pub1317.pdf



Asset management general information

This includes a list of the benefits of asset management and descriptions of the training and assistance provided by the Missouri DNR. Information about resources is also included. Visit the following Web page to access this information:

www.dnr.state.mo.us/oac/lgov.htm

Scroll down to the “asset management” section.

Additional asset management resources

This page includes a list of services and products related to asset management. To access this list, go to the following Web page:

www.dnr.mo.gov/oac/pub149.pdf (page 28)

To learn more about the asset management services offered by the Missouri DNR, contact the agency by mail, phone, or e-mail:

Carl Brown, Government Assistance Unit Chief
Missouri Department of Natural Resources
Outreach and Assistance Center
P.O. Box 176
Jefferson City, MO 65102
(800) 361-4827 or (573) 526-6627
E-mail: carl.brown@dnr.mo.gov

NESC recognizes that informational Web site have also been developed by private individuals and firms. For more information about these, search the internet (try ‘asset management,’ ‘infrastructure asset management,’ ‘water asset management,’ or ‘wastewater asset management’ as search terms).

Help along the way

As small systems implement asset management for the first time, they may find that they have many questions that are not addressed in resources they have consulted. The following are organizations that can offer assistance, training and advice via telephone or in person.

The National Environmental Services Center

P.O. Box 6064
West Virginia University
Morgantown, WV 26506-6064
Phone: (800) 624-8301 or (304) 293-4191
Web site: www.nesc.wvu.edu

The National Rural Water Association (NRWA) and State Affiliates

The NRWA is a federation of state associations that provide state-specific programs and services including training and technical assistance. You can link directly to your state's Rural Water Association through the NRWA Web site.

2915 South 13th Street
Duncan, OK 73533
Phone: (580) 252-0629
Fax: (580) 255-4476
Web site: www.nrwa.org/sa.htm

Environmental Finance Centers

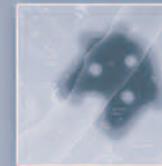
The Environmental Finance Center Network is comprised of nine regional organizations that offer training, technical assistance, and a variety of other resources. Most EPA regions have at least one Environmental Finance Center (see Table on page 27).

Web site: www.epa.gov/efinpage/efcreg.htm

Rural Community Assistance Partnership (RCAP) and Affiliates

The RCAP network includes six regional offices and a national office in Washington, D.C. (see table on page 28). RCAP provides training, technical assistance, and financial resources to small rural communities in all 50 states, Puerto Rico, and the U.S. Virgin Islands.

Web site: www.rcap.org



References

Falvey, Cathleen. "Asset Management: A New Frontier for Utilities." *E-train*, the newsletter of the National Environmental Training Center for Small Communities, (Fall 2004): 1-9.

Fane, S., Willetts, J., Abeysuriya, K., Mitchell, C., Etnier, C., Johnstone, S. "Evaluating Reliability and Life-Cycle Cost for Decentralized Wastewater within the Context of Asset Management." Paper presented at the 1st International Conference on Onsite Wastewater Treatment and Recycling/6th Specialist Conference on Small Water and Wastewater Systems. Fremantle, Australia. February 11-13, 2004.

Himmelberger, Heather. "Advanced Asset Management and Small Communities." *Connections* [Region 2 Environmental Finance Center] 2, no. 3 (2004): 1.

Lemer, Andrew C. *Getting the Most out of Your Infrastructure Assets*. Kansas City, MO. American Public Works Association, 2002.

National Association of Clean Water Agencies [formerly Association of Metropolitan Sewerage Agencies]. *Managing Public Infrastructure Assets*. Washington, D.C. 2002

Schatz, Rod. "Developing Asset Management Tools in Alberta – Lessons Learned." Presentation given at the Urban and Regional Information Systems Association event Web Based Solutions to Infrastructure and Asset Management. Richmond, British Columbia. May 26, 2004.

U.S. Environmental Protection Agency Office of Wastewater Management. "Fact Sheet: Asset Management for Sewer Collection Systems." 2002.

U.S. Environmental Protection Agency Office of Water. *Asset Management: A Handbook for Small Water Systems*. 2003.

U.S. Environmental Protection Agency Office of Water. *Taking Stock of Your Water System: A Simple Asset Inventory for Very Small Drinking Water Systems*. 2004.

U.S. General Accounting Office. "Water Infrastructure: Comprehensive Asset Management Has Potential to Help Utilities Better Identify Needs and Plan Future Investments." Report to the Ranking Minority Member, Committee on Environment and Public Works, U.S. Senate. Washington, D.C. The U.S. General Accounting Office, 2004.

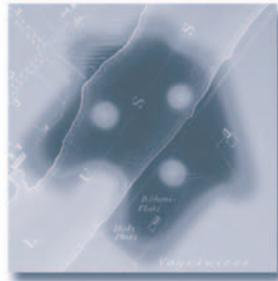
Wallent, Kym. "Engaging Stakeholders in Asset Management: An SA Water Perspective." Presentation given at the International Water Association and Water Services Association of Australia International Asset Management Workshop. San Francisco, CA. July 28, 2004.

Environmental Finance Centers (EFC) Table

REGION	CENTER	CONTACT INFO
1	New England EFC University of Southern Maine Edmund S. Muskie, School of Public Service	49 Exeter St. PO Box 9300 Portland, ME 04104-9300 E-mail: neefc@usm.maine.edu Homepage: http://efc.muskie.usm.maine.edu Phone: (207) 780-4418 Fax: (207) 780-4317
2	EFC Region 2 Syracuse University Maxwell School of Citizenship and Public Affairs	219 Maxwell Hall Syracuse, NY 13244-1090 Homepage: www.maxwell.syr.edu/efc/ Phone: (315) 443-9994 Fax: (315) 443-5330
3	EFC Region 3 The University System of Maryland	4511 Knox Rd., Suite 205 College Park, MD 20740 E-mail: efc1@mac.com Homepage: www.efc.umd.edu Phone: (301) 403-4220 Fax: (301) 403-4255 Satellite office: Jean Holloway 7032 Five Mile Branch Road Newark, MD 21841 Email: jhollowa@umd.edu Phone: (410) 632-1853 Fax: (410) 632-1887
4 (Center 1)	UNC Environmental Finance Center University of North Carolina at Chapel Hill Institute of Government	CB #3330 Knapp-Sanders Building Chapel Hill, NC 27599-3330 Homepage: www.efc.unc.edu Jeff Hughes: (919) 843-4956 Lynn Weller: (919) 966-4199
4 (Center 2)	Southeast Regional EFC University of Louisville Center for Environmental Policy and Management	426 Bloom Street Louisville, KY 40208 Phone: (502) 852-8152 Fax: (502) 852-4558 E-mail: cepmlou@louisville.edu Homepage: http://cepm.louisville.edu/org/SEEFc/seefc.htm
5	Great Lakes EFC Maxine Goodman Levin College of Urban Affairs Cleveland State University	2121 Euclid Ave. Cleveland, OH 44115 Homepage: www.glefc.org/ Phone: (216) 687-2135
6	New Mexico EFC New Mexico Institute of Mining and Technology	901 University Blvd. SE Albuquerque, NM 87106-4339 E-mail: efc@efc.nmt.edu Homepage: http://efc.unm.edu Phone: (505) 272-7280 Fax: (505) 272-7203
9	EFC for Region 9 California State University at Hayward	Alameda Point 851 West Midway Ave. Alameda, CA 94501-5012 E-mail: efc9@greenstart.org Homepage: www.sbeusers.csuhayward.edu/~efc9/ Phone: (510) 749-6867 Fax: (510) 749-6862
10	EFC at Boise State University	1910 University Drive Boise, ID 83725-1240 Homepage: http://sspa.boisestate.edu/efc Phone: (208)426-1567 Fax: (208)426-3967

Rural Community Assistance Partnership (RCAP) and Affiliates Table

REGION	NAME	CONTACT INFO
National Office	Rural Community Assistance Partnership	1522 K Street N.W., Suite 400 Washington, DC 20005 Homepage: www.rcap.org E-mail: info@rcap.org Phone: (888) 321-7227; (202) 408-1273 Fax: (202) 408-8165
West, including Alaska and Hawaii	Rural Community Assistance Corporation	3120 Freeboard Drive, Suite 201 West Sacramento, CA 95691 Homepage: www.rcac.org E-mail: rcacmail@rcac.org Phone: (916) 447-2854 Fax: (916) 447-2878
Midwest	Midwest Assistance Program	PO Box 81 212 Lady Slipper Ave NE New Prague, MN 56071 Homepage: www.map-inc.org E-mail: plmap@bevcomm.net Phone: (952) 758-4334 Fax: (952) 758-4336
South	Community Resource Group	PO Box 1543 Fayetteville, AR 72702 Homepage: www.crg.org Phone: (479) 443-2700 Fax: (479) 443-5036
Great Lakes Region, including Kentucky and West Virginia	Great Lakes RCAP	W.S.O.S. Community Action Commission, Inc. PO Box 590; 219 S. Front Street Fremont, OH 43420 Homepage: www.glracap.org Phone: (800) 775-9767; (419) 334-8911 Fax: (419) 334-5124
Southeast	Southeast Rural Community Assistance Project	145 W. Campbell Ave, S.W. PO Box 2868 Roanoke, VA 24001-2868 Homepage: www.southeastrcap.org E-mail: vwp@sercap.org Phone: (866) 928-3731; (540) 345-1184 Fax: (540) 342-2932
Northeast, Puerto Rico, US Virgin Islands	RCAP Solutions	205 School St. PO Box 159 Gardner, MA 01440 Homepage: www.rcapsolutions.org E-mail: info@rcapsolutions.org Phone: (800) 488-1969; (978) 630-6600



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Morgantown, WV 26506-6064
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