Handbook for Developing Watershed Plans to Restore and Protect Our Waters

Appendix A: Resources

March 2008

Appendices

Highlights

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Appendix A: Resources

General Watershed Planning Information

The Indiana Watershed Planning Guide
This guide was developed by the Indiana Department of Environmental Management to assist local groups in developing successful watershed plans and to establish a common approach for watershed planning throughout Indiana. It helps users answer the following watershed planning questions: Where are we now? Where do we want to be? How are we going to get there? How will we know when we've arrived? The guide is available at
www.in.gov/idem/catalog/documents/water/iwpg.pdf.

Michigan's Developing a Watershed Management Plan for Water Quality:
An Introductory Guide
This guide was developed to help local units of government, nonprofit organizations, and citizens develop watershed management plans. It outlines a process for gathering people, information, and resources to protect and improve Michigan's water resources. The guide is available for download at **www.deq.state.mi.us/documents/deq-swq-nps-Watershe.pdf**.

Ohio EPA's A Guide to Developing Local Watershed Action Plans in Ohio
This guide helps users develop local watershed plans. It provides background information about watershed planning, including the watershed approach, what a watershed plan is and why it is important to develop one, why the plan needs to be locally based, who should participate in planning, when to prepare the plan, and limitations to the approach. The guide also provides guidelines to help users get started with the planning process, inventory the watershed, define the problem, develop solutions and set goals, and implement the action plan. The guide is available for download at **www.epa.state.oh.us/dsw/nps/wsguide.pdf**.

Pennsylvania's Watershed Stewardship—A Planning and Resource Guide
This guide, developed by the Pennsylvania Department of Environmental Protection, consists of six toolboxes designed to give grassroots watershed groups and local governments guidance and a framework for developing comprehensive watershed plans that address local goals, are compatible with regional and state-scale planning efforts, and are based on the most current information available. The guide focuses on six components—watershed organization development and sustainability, securing financial and human resources, watershed assessments, developing the watershed management plan, implementation, and monitoring for success. The guide is available on CD or hard copy by contacting the Watershed Protection Division at 717-772 5807 or **emcdonald@state.pa.us**. The guide may also be downloaded at
http://164.156.71.80/WXLogin.aspx?dp=%2fWXOD.aspx%3ffs%3d2087d8407c0e000080 00047a0000047a%26ft%3d1%26watershedmgmtNav%3d%7c37942%7c.

The California Watershed Assessment Manual
The *California Watershed Assessment Manual* (CWAM) provides guidance for conducting a watershed assessment in California. It is intended to support the planning and technical needs primarily of watershed groups, but also local and state agencies, academic scientists, consultants, and individuals involved in developing and conducting a watershed assessment. The manual includes guidance on planning and operational principles and steps that are useful for assessment processes anywhere in the state. The topics addressed cover the primary natural and human processes in rural watersheds of northern and central California. The optimal organizational and geographic scale for use of the manual is watershed groups conducting

assessments in 10,000-acre to 1 million-acre watersheds. The guide is available for download at 🔖 **http://cwam.ucdavis.edu**.

The Watershed Project Management Guide

This book presents a four-phase approach to watershed management that is based on a collaborative process that responds to common needs and goals. Chapters in the book focus on watershed importance, the watershed management process, partnership development and operation, the assessment and problem identification phase, plan development, the watershed management plan, implementation, evaluation, monitoring, models, and social building capacity. The book is available for purchase at 🔖 **www.enviroscapes.com/ watershed_management.htm**.

The Clean Water Act: An Owner's Manual

This manual was written by River Network to make the Clean Water Act comprehensible and usable for every American working to protect or restore a watershed. *An Owner's Manual* provides citizen activists with clear descriptions of the provisions of the act that enhance citizen involvement. The document is available for purchase at 🔖 **www.rivernetwork.org/ marketplace/product_details.php?item_id=55334**.

The Urban Subwatershed Restoration Manual Series

This series from the Center for Watershed Protection includes 11 manuals on techniques for restoring small urban watersheds. The entire series of manuals was written to organize the enormous amount of information needed to restore small urban watersheds in a format that watershed groups, municipal staff, environmental consultants, and other users can access easily. The manuals are organized by the following topics: an integrated approach to restore small urban watersheds, methods for developing restoration plans for small urban watersheds, stormwater retrofit practices, stream repair and restoration practices, riparian management practices, discharge prevention techniques, pervious area management practices, pollution source control practices, municipal practices and programs, a user's manual for Unified Stream Assessment (USA), and a user's manual for Unified Subwatershed and Site Reconnaissance (USSR). The manuals are available from the Center for Watershed Protection at 🔖 **www.cwp.org/USRM_verify.htm**.

Colorado Nonpoint Source Forum

The Colorado Nonpoint Source Forum, which is held each year, provides tools for watershed planning. The 2004 Forum was a day-long presentation about the nuts and bolts of preparing a watershed plan. A discussion of the nine critical elements of watershed-based nonpoint source pollution control plans was also provided. Additional information about the 2004 Colorado Nonpoint Source Forum is available at 🔖 **www.ourwater.org/econnection/ connection15/npsforum.html**. Information about the Colorado Nonpoint Source Program is available at 🔖 **www.npscolorado.com**.

Comprehensive Conservation and Management Plans

EPA's National Estuary Program (NEP) was established to improve the quality of estuaries of national importance. Clean Water Act section 320 directs EPA to develop plans for attaining or maintaining water quality in an estuary. This includes protection of public water supplies; protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife; allowance of recreational activities, in and on water; and required control of point and nonpoint sources of pollution to supplement existing controls of pollution. Each NEP establishes a Comprehensive Conservation and Management Plan (CCMP) to meet the goals of

section 320. Program-specific CCMPs are available at ✎ **www.epa.gov/owow/estuaries/ccmp/ index.htm**. Additional information about the NEP is available at ✎ **www.epa.gov/nep**.

Community-Based Watershed Management: Lessons from the National Estuary Program
This document (EPA 842-B-05-003) describes the highly successful approaches to watershed management implemented by NEPs throughout the United States. The principles and lessons learned contained in the document are relevant not only to the NEPs, but also to other watershed organizations that are working to implement watershed protection and restoration efforts. To obtain a copy, contact the National Service Center for Environmental Publications (NSCEP) at 800-490-9198 or ✎ **www.epa.gov/ncepihom**.

A Guide for Local Governments: Wetlands and Watershed Management
This guidebook (by Dr. Jon Kusler, Institute for Wetland Science and Public Policy of the Association of State Wetland Managers) was written to help local governments integrate water resources management and wetland ecosystem protection efforts. The guidebook was written for engineers, biologists, botanists, planners, not-for-profit staff, legislators, and others. It makes recommendations for integrating wetlands into broad watershed management efforts and more specific water programs, including floodplain management, stormwater management, source water protection, point source pollution control, and nonpoint source pollution control programs. Case study examples are provided from throughout the nation. The guidebook is available for download at ✎ **www.aswm.org/propub/pubs/aswm/wetlandswatershed.pdf**.

Planning As Process: A Community Guide to Watershed Planning
Some of the most successful efforts at solving environmental problems have happened through local watershed planning projects. Because most environmental problems originate as local land use issues, it makes sense that local efforts should be the primary means of determining ways to control land use-generated pollution. This guide, developed by the Washington State Department of Ecology, adapts those efforts and presents a watershed planning process that has been used throughout Washington State by local entities that have successfully battled water quality problems. However, the guide can be applied to most environmental problems that require local involvement. Developing a general process that can be converted into the various applications is the idea behind this guide, which is available for download at ✎ **www.ecy.wa.gov/pubs/9901.pdf**.

Protecting the Source: Land Conservation and the Future of America's Drinking Water
The Trust for Public Land and the American Water Works Association prepared this report in 2004. The report identifies five best practices for city planners, government officials, and water suppliers involved in developing and implementing a source protection plan. The practices are (1) understanding the watershed, (2) using maps and models to prioritize protection, (3) building strong partnerships and working watershed-wide, (4) creating a comprehensive source protection plan, and (5) developing and implementing a "funding quilt." The best practices outlined in this document offer a guide to success for local communities. This report is available at ✎ **www.tpl.org/tier3_cd.cfm?content_item_id=14288&folder_id=175**.

Source Protection Handbook: Using Land Conservation to Protect Drinking Water Supplies
This handbook, prepared by Trust for Public Land and American Water Works Association in 2005, provides information about implementing the policy recommendations in Protecting the Source (2004; see above). The handbook provides resources to help a community make the case for land conservation and implement land conservation measures. The handbook has a land conservation "how-to" section, which includes lessons learned and best practices for protecting

drinking water sources, as well as nine case studies. The goal of this handbook is to strengthen the ability of water suppliers, local governments, and communities to develop protection strategies that address the threats posed by development to drinking water sources. It was produced with funding from EPA's Office of Ground Water and Drinking Water and is available at ↳ **www.tpl.org/tier3_cd.cfm?content_item_id=18298&folder_id=175**.

Path to Protection: Ten Strategies for Successful Source Water Protection
This booklet was prepared by the Trust for Public Land in 2005. It summarizes findings based on the experiences of five source water demonstration projects and proposes 10 strategies that will help put more state and local governments on the path to protection. The pilot projects were implemented around the country by five national nonprofit organizations and were funded by EPA's Office of Groundwater and Drinking Water. The purpose of the projects was to build on state Source Water Assessment Programs to move communities from planning to implementing protection for drinking water sources. The Trust for Public Land led a joint review of the five demonstration projects to glean lessons learned and identify best practices. The booklet is available at ↳ **www.tpl.org/tier3_cd.cfm?content_item_id=19077&folder_id=175**.

NRCS Watershed Resources
The Natural Resources Conservation Service provides a wide range of watershed-related guidance documents, manuals, handbooks, reports, and technical notes. They include planning tools, stream and wetlands restoration documents, information on nutrient and pest management, and information on conservation buffers. All are available at ↳ **www.nrcs.usda.gov/technical/water.html**.

County Water Quality Issue Brief: Using GIS Tools To Link Land Use Decisions to Water Resource Protection
This issue brief provides a list of commonly used GIS tools available to help county leaders link land use decisions to water resource protection. In addition, five county case studies are profiled and a new tools assessment section evaluates some commonly available tools. The document is available for download at ↳ **www.naco.org/Template.cfm?Section=New_Technical_Assistance&template=/ContentManagement/ContentDisplay.cfm&ContentID=23928**.

Smart Watershed Benchmarking Tool
Using lessons learned from around the country, the Center for Watershed Protection developed this self-assessment tool to help local program managers make better decisions on watershed restoration priorities to maximize the performance of staff and financial resources. Local watershed groups can also use this tool by determining how their community compares to others and work with their local governments to encourage adoption of practices that would improve scores. The document is available for download at ↳ **http://cwp.org.master.com/texis/master/search/+/form/Smart_Watershed.html**.

Water Quality Trading Toolkit for Permit Writers
The *Water Quality Trading Toolkit for Permit Writers* is EPA's first "how-to" manual on designing and implementing water quality trading programs. The Toolkit helps National Pollutant Discharge Elimination System (NPDES) permitting authorities incorporate trading provisions into permits. It discusses in detail the fundamental concepts of designing and implementing trading programs, which include the relevant geographic scope, effluent limitations, and other factors involved in defining a credit. The Toolkit also includes five basic trading scenarios that walk the permit writers through the components of a permit where trading

provisions can be incorporated. To download the Toolkit, ✏ go to **www.epa.gov/owow/watershed/trading/WQTToolkit.html**.

Integrating Water and Waste Programs to Restore Watersheds: A Guide for Federal and State Project Managers
This manual is targeted primarily to federal and state project managers in water and waste programs who are working on assessment or cleanup projects in watersheds contaminated by hazardous materials or waste. The manual is also a helpful reference document for stakeholders involved in watershed cleanup efforts. The goal of the manual is to enhance coordination across EPA and state waste and water programs by identifying opportunities for streamlining requirements, leveraging resources, and implementing restoration activities more efficiently. This manual provides valuable guidance and information to enable effective use of water and waste program authorities and resources to restore and protect watersheds. The manual is available at ✏ **www.epa.gov/superfund/resources/integrating.htm**.

Water Quality Trading Assessment Handbook
Water quality trading has gained increasing attention as an innovative approach for achieving water quality goals at lower cost. This handbook is intended to help you determine when and where trading is the right tool and if training will work in your watershed. It provides an analytical framework to assess the conditions and water quality problem(s) in a watershed and determine whether trading could be effectively used to meet the water quality standards. The framework is illustrated through the use of example trades in a hypothetical river basin which will familiarize the reader with the requisites and potential benefits of specific trading scenarios. To download the handbook, ✏ go to **www.epa.gov/owow/watershed/trading/handbook**.

A User's Guide to Watershed Planning in Maryland
This guide presents a common watershed planning framework for Maryland communities, assembles planning resources into one place, integrates regulatory drivers, and presents the methods necessary for completing a local watershed plan. Local government staff are the primary audience for this guide. It incorporates a review of more than 47 local watershed planning surveys; a review of existing watershed management planning guides; and research on Maryland GIS mapping, monitoring, modeling, and financial resources available to watershed planners. The methods in the guide are organized into four broad categories: desktop analysis, field assessment, stakeholder involvement, and management methods. ✏ The guide can be downloaded at **www.dnr.state.md.us/watersheds/pubs/userguide.html**.

The Community Watershed Assessment Handbook
This handbook is a simple watershed assessment tool that is intended to direct community groups and local governments in conducting a comprehensive environmental assessment. The purpose of the handbook is to outline a basic process for assessing your community's current and anticipated future watershed conditions. In addition, the handbook offers guidance for using the resulting assessment information as a foundation for future watershed management planning. Local governments and community organizations interested in addressing watershed-wide water quality, water supply and habitat concerns will find this handbook particularly useful. ✏ Call (800)-YOUR-BAY for a copy.

National Association of Counties (NACO) Water Program
NACo's water program is designed to help counties improve water quality and water resource management. With support from EPA and the National Oceanic and Atmospheric

Administration, NACo offers a range of services to help county officials protect water resources on the local level. NACo's water program offers financial and technical assistance to counties on stormwater, wastewater, watershed Planning and TMDLs, GIS Decision Support System Tools, wetlands, coastal habitat, and community-based wetland and habitat restoration grant programs. For more information on NACo's water quality services, ↳ visit their Web site at **www.naco.org** and click on Training and Technical Assistance, and then scroll down to Water Resource Management.

Example Watershed Plans

Mill Creek Subwatershed Management Plan, Michigan:
↳ **www.hrwc.org/program/mid.htm#plan**

White Oak Creek Watershed Action Plan, Ohio:
↳ **http://brownswcd.org/action_plan.htm**

Upper Neuse Watershed Management Plan, North Carolina:
↳ **www.unrba.org/projact.htm**

Mill Creek Watershed Implementation Plan, Lancaster County, Pennsylvania:
↳ **www.depweb.state.pa.us/watershedmgmt/lib/watershedmgmt/nonpoint_source/ implementation/mill_creek_plan.pdf**

Beaver and Little Creek TMDL Implementation Plans, Washington County and City of Bristol, Virginia:
↳ **www.deq.virginia.gov/export/sites/default/tmdl/implans/bvrltlip.pdf**

Clean Water Act Information

Section 319 Nonpoint Source Management Program
Congress amended the Clean Water Act in 1987 to establish the section 319 Nonpoint Source Management Program. Under section 319, states, territories, and American Indian tribes receive grant money to support a wide variety of activities, including technical assistance, financial assistance, education, training, technology transfer, demonstration projects, and monitoring to assess the success of specific nonpoint source management projects. Go to ↳ **www.epa.gov/owow/nps/cwact.html**.

Nonpoint Source Program and Grants Guidelines for States and Territories
EPA has developed guidelines for state implementation of nonpoint source management programs under section 319 and for awarding of section 319 grants to states to implement those programs. The guidelines are available, under "EPA Guidance," at ↳ **www.epa.gov/owow/ nps/cwact.html**.

National Pollutant Discharge Elimination System
All facilities that discharge *pollutants* from any *point source* into *waters of the United States* are required to obtain an NPDES permit. These facilities include sewage treatment plants, industrial wastewater facilities, large concentrated animal feeding operations, stormwater runoff from certain urban areas, and other facilities that discharge pollutants from a point source into surface waters regulated under the Clean Water Act. More information on the NPDES permitting program can be found at ↳ **http://cfpub.epa.gov/npdes/home.cfm?program_id=45**.

Other Federal Watershed Management Resources

Digest of Federal Resource Laws
The U.S. Fish and Wildlife Service publishes an online digest of federal resource laws of interest to water quality managers. The digest provides a comprehensive list and descriptions of all federal laws under which agencies like the Fish and Wildlife Service functions, including administrative laws, treaties, executive orders, interstate compacts, and memoranda of agreement. For more information, go to ☞ **www.fws.gov/laws/lawsdigest.htm**.

Multi-State River Compacts
Beginning with the Colorado River Compact of 1922, Congress approved about two dozen water allocation compacts in an attempt to equitably allocate and manage the waters of interstate rivers. The allocation formulas and management objectives in the river compacts vary, but for the most part they seek to protect existing uses and water rights. River compacts can provide a good framework for coordinating multiple watershed plans in large river basins. For more information on river compacts, visit ☞ **www.fws.gov/laws/lawsdigest/ interstatecompacts.htm**.

Stream Corridor Restoration: Principles, Processes, and Practices
Stream corridors are increasingly recognized as critical ecosystems that support interdependent uses and values. A group of 15 federal agencies in the United States partnered in the development of a comprehensive stream restoration guide that contains extensive information on assessment, restoration practices, monitoring, and other issues. For more information, go to ☞ **www.nrcs.usda.gov/technical/stream_restoration/**.

Public Outreach and Stakeholder Involvement

Community Culture and the Environment: A Guide to Understanding a Sense of Place
This guide addresses the social and cultural aspects of community-based environmental protection. To obtain a copy, contact the National Service Center for Environmental Publications (NSCEP) at 800-490-9198 or ☞ **www.epa.gov/ncepihom**. The guide is also available at ☞ **www.epa.gov/CARE/library/community_culture.pdf**.

Getting In Step: Engaging and Involving Stakeholders in Your Watershed
This guide provide tips and tools to identify stakeholders, make decisions using consensus, build a stakeholder group, maintain momentum in the watershed planning process, and resolve conflict. The guide is available only in pdf format at ☞ **www.epa.gov/owow/watershed/ outreach/documents/stakeholderguide.pdf**.

Getting In Step: A Guide for Conducting Watershed Outreach Campaigns
This guide provides detailed information on developing and conducting effective watershed outreach campaigns. You can download a pdf version at ☞ **www.epa.gov/owow/watershed/ outreach/documents/getnstep.pdf**.

Know Your Watershed
The Center for Technology Information Center (CTIC) has developed a series of documents to help you to know your watershed. This information clearinghouse for watershed coordinators helps ensure measurable progress toward local goals. The clearinghouse is available at ☞ **www2.ctic.purdue.edu/kyw**.

Model Ordinance Language

Stormwater Manager's Resource Center
Located at the Center for Watershed Protection, this center provides technical assistance for stormwater management. The Center for Watershed Protection also provides a checklist to evaluate community needs and model ordinances. Go to ✋ **www.stormwatercenter.net**.

EPA's Web site for stormwater control operation and maintenance
This site provides model ordinance language, example ordinances, and supporting materials. Go to ✋ **www.epa.gov/owow/nps/ordinance/stormwater.htm**.

The Metropolitan North Georgia Water Planning District
The District provides a model stormwater management ordinance. Go to ✋ **www.northgeorgiawater.com/html/86.htm**.

Almanac of Enforceable State Laws to Control Nonpoint Source Water Pollution
This report provides a state-by-state summary, including Puerto Rico and the District of Columbia, of enforcement-based laws that are potentially applicable to nonpoint source water pollution. Go to ✋ **www.elistore.org/reports_detail.asp?ID=432**.

Putting the Water Quality Plan into Action: Tools for Local Governments
The Southeast Michigan Council of Governments provides specific actions local communities can implement to protect their water resources, including ordinances. Go to ✋ **www.semcog.org**.

Evaluation Tools

Logic Model Development Guide: Using Logic Models to Bring Together Planning, Evaluation, and Action
This guide provides a step-by-step approach for using logic models to effectively evaluate programs. It's available in pdf on the Web site at ✋ **http://wkkf.org/Default.aspx?LanguageID=0**.

Logic Model Worksheets
The University of Wisconsin Cooperative Extension has done quite a bit of research on logic models and provides online courses and worksheets that you can download at ✋ **www.uwex.edu/ces/pdande/evaluation/evallogicmodel.html**.

Seeking Signs of Success: A Guided Approach to More Effective Watershed Programs
This guide includes a step-by-step process and worksheets to conduct meaningful evaluations of watershed programs. Available for $19.95 at ✋ **www.rivercare.org**.

Establishing Watershed Benchmarks—Tools for Gauging Progress
(River Network. Volume 8, Number 3)
This issue of River Voices focuses on establishing watershed benchmarks, including watershed health, organizational health, and watershed activities. Available for $2 at ✋ **www.rivernetwork.org**.

Monitoring Program Design and Implementation

Monitoring Guidance for Determining the Effectiveness of Nonpoint Source Controls
This EPA manual gives an overview of nonpoint source pollution and covers the development of a monitoring plan, data analysis, quality assurance/quality control, and biological monitoring. To obtain a copy, contact the National Service Center for Environmental Publications (NSCEP) at 800-490-9198 or **www.epa.gov/ncepi**.

EPA's Monitoring and Assessment Web Site
This site includes a wealth of information on assessment and reporting guidelines, databases and mapping capabilities, biological assessment, and volunteer monitoring. Go to **www.epa.gov/owow/monitoring**.

Elements of a State Water Monitoring and Assessment Program
This guidance recommends 10 basic elements of a holistic, comprehensive monitoring program that serves all water quality management needs and addresses all waterbody types. It describes a process in which states develop a monitoring program strategy to implement these basic components over a period of up to 10 years. Go to **www.epa.gov/owow/monitoring/elements**.

DQOs, MQOs, and Performance Characteristics

The Methods and Data Comparability Board
This board, a work group of the National Water Quality Monitoring Council, has developed data and method quality objectives tools. Go to **http://wi.water.usgs.gov/methods/tools/dqomqo/index.htm**.

Consolidated Assessment and Listing Methodology (CALM), Appendix C
Appendix C provides information on statistical considerations for data quality objectives and data quality assessments in water quality attainment studies. Go to **www.epa.gov/owow/monitoring/calm/calm_appc.pdf**.

Quality Assurance Project Plans
Quality assurance project plans document the planning, implementation, and assessment procedures for a particular project, as well as any specific quality assurance and quality control activities. They integrate all the technical and quality aspects of the project to provide a "blueprint" for obtaining the type and quality of environmental data and information needed for a specific decision or use. For more information, go to **http://epa.gov/quality/qapps.html.**

Sampling Design

Biological Criteria: Technical Guidance for Survey Design and Statistical Evaluation of Biosurvey Data
This guidance provides methods to help managers interpret and gauge the confidence with which biological criteria can be used to make resource management decisions. Go to **www.epa.gov/bioiweb1/html/biolstat.html**.

Sampling and Analysis Plans (SAPs)
For more information on SAPs, check out the U.S. Army Corps of Engineers' publication titled *Engineering and Design—Requirements for the Preparation of Sampling and Analysis Plans* (specifically chapter 3, Sampling and Analysis Plan: Format and Contents, and Appendix J,

Sampling and Analysis Plan Review Checklist). Go to ꙮ **www.usace.army.mil/publications/ eng-manuals/em200-1-3**.

Visual Stream Assessment Tools

Izaak Walton League Save Our Streams Program
The Save Our Streams (SOS) program is a national watershed education and outreach tool to provide innovative educational programs for groups and individuals. SOS has educated and motivated citizens to clean up stream corridors, monitor stream health, restore degraded streambanks, and protect dwindling wetland acreage through biological and other assessments, education, and training. Go to ꙮ **www.iwla.org/sos**.

Rapid Stream Assessment Technique (RSTAT)
RSAT is a methodology for visually evaluating a stream to assess the stream quality and to identify potential pollutant sources. RSAT was developed for Montgomery County, Maryland, to provide a simple, rapid, reconnaissance-level assessment of stream quality conditions. Go to ꙮ **www.stormwatercenter.net/monitoring%20and%20assessment/rsat/ smrc%20rsat.pdf**.

Stream Visual Assessment Protocol (SVAP)
SVAP is designed as an introductory, screening-level assessment method for people unfamiliar with stream assessments. The SVAP measures a maximum of 15 elements and is based on visual inspection of the physical and biological characteristics of instream and riparian environments. To download a copy of an SVAP document, go to ꙮ **www.nrcs.usda.gov/ technical/ECS/aquatic/svapfnl.pdf**.

Unified Subwatershed and Site Reconnaissance (USSR)
USSR is designed to assess upland areas for behaviors that can potentially influence water quality and to identify promising restoration project opportunities. Go to ꙮ **www.cwp.org**.

Biological Assessment

Rapid Bioassessment Protocols for Use in Wadeable Streams and Rivers: Periphyton, Benthic Macroinvertebrates, and Fish, 2nd edition
This document describes refined and revised methods for conducting cost-effective biological assessments of streams and small rivers. It focuses on periphyton, benthic macroinvertebrates, and fish assemblages and on assessing the quality of the physical habitat. Go to ꙮ **www.epa.gov/owow/monitoring/rbp**.

Stressor Identification Guidance Document
This guidance leads water resource managers through a rigorous process to identify stressors that cause biological impairment in aquatic ecosystems and to assemble cogent scientific evidence that supports conclusions about potential causes. Go to ꙮ **www.epa.gov/waterscience/ biocriteria/stressors/stressorid.html**.

Summary of Assessment Programs and Biocriteria Development for States, Tribes, Territories, Interstate Commissions: Streams and Wadeable Rivers
This EPA document includes an overview of biological assessment programs and protocols used at the state level. Go to ꙮ **www.epa.gov/bioindicators**.

Modeling Tools

Compendium of Tools for Watershed Assessment and TMDL Development
The Compendium supports the watershed approach by summarizing available techniques and models that assess and predict physical, chemical, and biological conditions in waterbodies. Go to ✎ **www.epa.gov/OWOW/tmdl/comptool.html**; for more technical resources, visit ✎ **www.epa.gov/owow/tmdl/techsupp.html**.

The Council on Regulatory Environmental Modeling
The CREM promotes consistency and consensus within the Agency on mathematical modeling issues, including model guidance, development, and application, and it enhances internal and external communications on modeling activities. CREM is the Agency's central point for addressing modeling issues. It has a comprehensive online database that provides links to model reviews and resources. Go to ✎ **http://cfpub.epa.gov/crem**.

Management Measures

Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters
This 1992 EPA document describes management measures and associated management practices for all six nonpoint source categories. The document includes extensive cost and effectiveness information, as well as examples and detailed descriptions of management practices. EPA has updated and expanded several chapters of the 1992 guidance. Updated sections are available for agriculture, forestry, marinas and recreational boating, and urban areas. All the chapters can be downloaded at ✎ **www.epa.gov/owow/nps/pubs.html**.

International Stormwater Best Management Practices Database
This database is operated by the Urban Water Resources Research Council of the American Society of Civil Engineers under a cooperative agreement with EPA. The database provides technical documents, software, and tools to evaluate the effectiveness of stormwater runoff BMPs. The tools include standardized BMP monitoring and reporting protocols, a stormwater BMP database, BMP performance evaluation protocols, and BMP monitoring guidance. Go to ✎ **www.bmpdatabase.org**.

National Handbook of Conservation Practices
Written in 1977 by the Natural Resources Conservation Service, this handbook is updated annually. It provides details on nationally accepted management practices and is available in hard copy and electronically at ✎ **www.nrcs.usda.gov/technical/standards/nhcp.html**.

National Menu of BMPs for Storm Water Phase II
EPA developed this compliance assistance tool to help small communities develop stormwater management programs and select management practices to control pollutants in runoff. It includes descriptions, cost and effectiveness data, and case study examples for more than 100 management practices. Go to ✎ **http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm**.

Techniques for Tracking, Evaluating, and Reporting the Implementation of Nonpoint Source Control Measures
Three documents provide information on the techniques used to track, evaluate, and report on the implementation of nonpoint source control measures. Each document focuses on a different measure—agriculture, forestry, and urban areas. Go to ✎ **www.epa.gov/owow/nps/pubs.html**.

National Management Measures to Control Nonpoint Source Pollution from Urban Areas
This guidance provides information on polluted runoff sources, impacts, and manage-ment measures for all urban and urbanizing areas, including those covered by the NPDES stormwater program. The introduction includes specific comparisons of the nonpoint source management measures described in this guidance with the six minimum control measures to be addressed for the NPDES Phase II permit program. Go to ✏ **www.epa.gov/owow/nps/ urbanmm/index.html**.

Onsite and Clustered (Decentralized or Distributed) Wastewater Management
EPA has developed several tools designed to help local communities manage decentralized (distributed) wastewater treatment systems. These include a handbook for developing or improving existing management programs, a set of guidelines that describe five generalized management models, a design guide, technology fact sheets, case studies of successful pro-grams, a homeowners' guide, and more. To access these tools, visit
✏ **http://cfpub.epa.gov/owm/septic/index.cfm**.

BMP Costing Information

A list of currently available cost references is provided below. Most of these references are available for free download, but some might be available only at a university library or by purchase. You should look for local costs before using these references because construction costs and designs vary between states.

USEPA BMP Fact Sheets
This comprehensive list of BMP fact sheets contains information on construction and main-tenance costs, as well as other monetary considerations. Information is provided on both structural and nonstructural BMPs. Go to ✏ **http://cfpub.epa.gov/npdes/stormwater/ menuofbmps/index.cfm**.

Environmental Quality Incentives Program
Some state NRCS offices publish cost information on agricultural practices to support the Environmental Quality Incentives Program (EQIP). For an example of this cost information, go to the "cost lists" section of the following Web site: ✏ **www.nc.nrcs.usda.gov/programs/ EQIP/2005Signup.html**.

Rouge River National Wet Weather Demonstration Project
This demonstration project has produced cost-estimating criteria for both structural and nonstructural management practices. The project continues to publish information on recent BMP projects. The most recent cost-estimating criteria are at ✏ **www.rougeriver.com/pdfs/ stormwater/sr25.pdf**.

International Stormwater BMP Database
The American Society of Civil Engineers and EPA have developed a stormwater BMP data-base that contains site-specific BMP information from across the country. Depending on the location and type of BMP, the database might provide BMP cost information. It's available at ✏ **www.bmpdatabase.org**.

Low Impact Development Center
Among many LID resources, the Low Impact Development Center offers a series of fact sheets with BMP construction and maintenance cost information at
✏ **www.lid-stormwater.net/intro/sitemap.htm**.

RS Means Construction Cost Data

RS Means publishes construction cost data and updates this information annually. RS Means publications usually can be found at university libraries. In addition to construction cost, the RS Means publications contain indices for converting prices between cities and states. Go to ✆ **www.rsmeans.com**.

Performance and Whole Life Costs of Best Management Practices and Sustainable Urban Drainage Systems

This 2005 publication provides an extensive review of BMP costing techniques for selected controls, as well as a spreadsheet model to estimate costs. Reviewers include Black & Veatch Corporation; Center for Research in Water Resources, University of Texas; Glenrose Engineering; Urban Water Technology Center, University of Abertay; HR Wallingford Ltd.; and Black & Veatch Consulting Ltd. The document is available from the Water Environment Research Foundation (WERF) at ✆ **www.werf.org**.

Funding Resources

List of Watershed Funding Resources

This EPA Web site provides tools, databases, and information about sources of funding that serve to protect watersheds. Go to ✆ **www.epa.gov/owow/funding.html**.

List of NPS Funding Opportunities

This EPA site provides links to various federal, state, and private funding sources available to address nonpoint source issues. Go to ✆ **www.epa.gov/owow/nps/funding.html**.

Catalog of Federal Funding Opportunities

This interactive EPA Web site helps match project needs with funding sources. It also provides administrative guidelines and applicability for each source. Go to ✆ **www.epa.gov/watershedfunding**.

Grassroots Fundraising Journal

The Grassroots Fundraising Journal helps nonprofit organizations learn how to raise more money to support their goals. It offers practical how-to instructions on implementing fundraising strategies such as direct mail, special events, major gift campaigns, and phone-a-thons. It also has tools to help you build a board of directors that is willing to raise money, choose a database to track donors, manage your time effectively, and ultimately develop a successful fundraising program. Go to ✆ **www.grassrootsfundraising.org/index.html**.

A Guidebook of Financial Tools

EPA's Environmental Financial Advisory Board and the Agency's network of university-based Environmental Finance Centers developed this guidebook as a working tool to enable practitioners in the public and private sectors to find appropriate methods to pay for environmental protection efforts. Go to ✆ **www.epa.gov/efinpage/guidebook/guidebooktp.htm**.