Produced by the Alliance for the Chesapeake Bay with support from the Chesapeake Bay Program
February 2002

Watershed Management Plans

Local Links to Restoring the Chesapeake Bay

What's Inside:

Introduction: Local Plans and the Big Picture

Does your local watershed management plan include actions that will protect, conserve, or restore stream corridors, streamside forest buffers, and wetlands? Does your plan call for steps to protect lands valued for their natural habitat or watershed protection characteristics?

Whether you've already developed a local watershed management plan or are just beginning to craft a blueprint for local watershed protection, this guide will help you choose effective planning and evaluation tools and discover programmatic connections that will help you achieve local watershed objectives.

If your answer is "yes," then your watershed management plan is well on its way to protecting more than your local watershed — it will also help revive the Chesapeake Bay, an estuary fed by more than 100,000 miles of streams throughout New York, Pennsylvania, Maryland, Virginia, Delaware, and the District of Columbia. Your watershed is one small but highly critical component of this vast network of streams and rivers called the Chesapeake Bay watershed. How well smaller watersheds are managed for water resource and habitat protection will greatly impact how quickly the Chesapeake Bay will recover from decades of sediment, nutrient, and toxic pollution.

Watershed Management
n. 1) a process aimed at protecting and restoring the habitat and water resources of a watershed, incorporating the needs of multiple stakeholders

Watershed Management Plan
n. 1) a detailed vision and strategy, usually at the small watershed scale, that coordinates and initiates programs, tools, and resources to achieve locally-adopted watershed management goals

Every plan will be different because every watershed differs in its scale, priorities, availability of resources, opportunities, and barriers to implementation. What's important is that watershed planners keep the "big picture" of the Chesapeake Bay watershed in mind as they shape local efforts in watershed protection.

The Chesapeake Bay Agreement of 2000 recognizes the role of locally-driven watershed protection plans. "Only when this is accomplished," says the Agreement, "can the health of the Bay be fully restored."

Chesapeake 2000 Agreement...

"In managing the Bay ecosystem as a whole, we recognize the need to focus on the individuality of each river, stream and creek, and to secure their protection in concert with the communities and individuals that reside within these small watersheds."

The Process Behind Watershed Management Planning

Watershed management planning is a long-term process that can be particularly challenging to volunteer-based watershed organizations or community groups. The process of building and carrying out a meaningful plan requires a mix of skills in strategic planning, facilitation, networking, technical knowledge, and program evaluation. It's a tall order, and many community-based watershed efforts are looking for guidance on how to structure their programs for maximum effect and efficiency.

There are a numerous guides to watershed management planning that can help watershed managers decide how to go about pulling the pieces together. Some simply provide a framework for action, while others provide detailed information on various aspects of watershed management, including assessment, monitoring, strategic planning, implementation, and evaluation.

Generally speaking, these tools marry strategic planning with the science behind watershed management. Regardless of focus, there are common threads of advice espoused by experienced watershed practioners who point to the following elements as key ingredients to the success of any watershed management planning effort:

1) *clearly defined visions, goals, and action items;*
2) *strong leadership willing to champion the planning process;*
3) *involvement of a diversity of interests;*
4) *collaborative decision-making (joint goals and priorities for partnership initiatives);*
5) *decision-making based on sound science and accurate information;*
6) *strong communication and outreach;*
7) *short-term doable action items and long term objectives/goals; and*
8) *evaluation and periodic revision of a watershed management plan.*

The following page provides a sampling of watershed management planning tools that have been successfully used by watershed managers across the country. It's a good idea to familiarize yourself with these resources before beginning the process of watershed management planning. A day or two spent reviewing these resources will give you ideas on how to best design an approach that will work for your local watershed.

Cardinal Rules for Developing Action Steps

Essential aspects of any effective watershed management plan are clearly defined management options or implementation strategies. Experienced watershed managers offer the following tips in creating action steps that stand the best chance of actual implementation:

- Don't plan for too large a scale. Large watershed plans lose focus and are often too general in their recommendations to be carried out. If working in a large geographic area, consider creating subwatersheds or zones for specific action steps.
- Be specific. Determine the who, what, when, and how for every action recommended.
- A general rule is that the plan should include a focused set of actions that can be done well, rather than a long laundry list of items which is likely to be abandoned because there are too many items and too few people to implement them.
- Involve a wide range of stakeholders in dividing responsibilities. This will ensure broader, local ownership of your plan and add to its longevity.
- The implementation mechanisms should incorporate a periodic re-evaluation to ensure the plan is "living" and flexible to the changes in the watershed.
- Base your plan on sound science.

Community Watershed Forums — A Planner's Guide

Funded by the Chesapeake Bay Program, this guide is more than a how-to document on planning a community forum. It reviews many of the principles noted here for effective watershed management planning and takes you through a process for holding a watershed forum. When properly planned, watershed forums can add tremendous local involvement to a local watershed planning process. Four case studies are noted for the practical lessons learned in conducting a watershed workshop. For a .pdf version of this tool, check out *www.acb-online.org.*

The Chesapeake Bay Program now has a **Community Watershed Clearinghouse** that can help you find technical and financial assistance in implementing watershed management activities. View these resources online at *www.chesapeakebay.net.*

Tools to Get Started in Watershed Management Planning

Putting Together a Watershed Management Plan: A Guide for Watershed Partnerships

(*Know Your Watershed, Conservation Technology Information Center*)

This guide is one of a series of publications developed and distributed by CTIC pertaining to water quality, agricultural, and natural resource management and watershed management. The guide is a 15-page, concise overview of watershed management planning as categorized in the following three stages:

1) Identifying challenges and objectives
   - identify concerns
   - seek and analyze data
   - prioritize challenges/opportunities
   - determine critical areas
   - document challenges and opportunities
   - establish objectives
2) Developing the plan
   - selecting management alternatives
   - developing the action plan
   - determining how to measure progress
3) Implementing and evaluating the plan
   - funding your actions
   - prioritize actions
   - measure and report progress
   - review the plan
   - celebrate success

Publications in this series can be obtained by calling 765-494-9555; $2.00 fee for postage and handling. Website: http://kyw.ctic.purdue.edu/kyw/kyw.html.

Rapid Watershed Planning Handbook: A Comprehensive Guide for Managing Urbanizing Watersheds

(*Center for Watershed Protection, Reprinted 1999*)

This watershed planning approach is primarily geared for watersheds that are expected to experience growth pressures. It does not work well for watersheds that are expected to remain in a rural or undeveloped condition. A handbook is divided into four parts:

- Chapter 1 describes basic concepts of watershed protection.
- Chapter 2 outlines eight major watershed management tools and a range of techniques to implement the tools. Because of the fundamental importance of impervious cover, this chapter highlights land use planning techniques that can shift the amount and location of impervious cover among different subwatersheds.
- Chapter 3 presents an eight-step process of putting a plan together for a watershed and its subwatersheds.
- Chapter 4 presents a series of templates to meet different local water resource goals.

The Center for Watershed Protection also offers *The Do-It-Yourself Watershed Planning Kit*, which includes the "Eight Tools of Watershed Protection" and "Impacts of Urbanization" slideshows on CD-ROM, a watershed mapping exercise, resource protection templates, case studies, and guidance on what local resources to use. For more information check out the CWP website: www.cwp.org.

Coordinated Resource Management (CRM)

Coordinated resource management planning is a process that is being used by conservation districts and associated watershed groups in the Bay watershed to address natural resource management in a given planning area. Developed by the Society for Range Management, the CRM process has been adapted for use in various states and localities across the country. When applied to local watersheds, this process results in improved resource management and is highly effective in minimizing conflict among land users, landowners, governmental agencies, and interest groups. CRM is designed to be a flexible process used to enhance natural resource management. While the emphasis is on natural resource management, the process relies heavily on community support and considers a broad spectrum of issues and concerns, including cultural, land use, and human/social issues or concerns. *Coordinated Resource Management Guidelines* are available from the Society for Range management for $18; telephone 303-986-3309; Website www.srm.org.

Green Communities *(US Environmental Protection Agency)*

Though not a watershed-based planning program per se, the Green Communities program can be a way to involve local governments in planning for a sustainable future, which includes the protection of a watershed's natural resources. A *Green Communities Assistance Kit* provides the tools for 1) developing a community profile, 2) trends analysis, 3) vision statement, 4) action plans, and 5) implementing action plans.

A *Green Communities Toolkit* is available online at www.epa.gov/region03/greenkit.

Watershed Assessment & Evaluation Tools: Building Benchmarks for Success

Measuring watershed health isn't always easy. Measurable improvements often take years, even decades, to demonstrate. But there are many ways to determine whether management activities are moving your watershed in the right direction.

In addition to the traditional measures of success (chemical, physical, or biological improvements), there are a variety of non-traditional, social or organizational measures of success that can be used to demonstrate progress. New measures of success might involve evaluating changes in landowner actions or attitudes, increases in riparian property values, improvements in wastewater treatment, or creation of new organizations such as local land trusts.

To know whether you've made progress, you must understand where you started. That's why an up-front assessment of your watershed is the first step to building benchmarks for evaluating the successful implementation of a watershed management plan.

River Network, a national organization with experience in local watershed protection, encourages watershed organizations to establish benchmarks that fall under three general categories: 1) organizational benchmarks, 2) activity benchmarks, and 3) watershed benchmarks. These measures can be used to gauge progress year to year and over the long haul. Regular evaluation exercises keep volunteers, donors, and the general public informed and enthused about local watershed protection efforts, even when progress is slow or undetectable in terms of improved watershed health.

With regard to all three categories, the following tools provide excellent guidance on building benchmarks for success up front in the planning process.

- ***Seeking Signs of Success: A Guided Approach to More Effective Watershed Programs***
  (Conservation Resource Alliance; www.rivercare.org)
  This guide is chock-full of worksheets that will help you 1) bring sharper focus to your program efforts, 2) use your human, natural and financial resources more wisely, 3) bring greater accountability in your program to its funders, employees, and volunteers; and 4) increase your program's visiblity. The guide is designed to mesh your ongoing planning and implementation activities with the process of building and carrying out a meaningful evaluation.

- ***Establishing Watershed Benchmarks — Tools for gauging progress***
  (River Network; Volume 8, Number 3 - Fall 1997 of *River Voices*)
  This issues of River Voices does a nice job of broadly reviewing the importance of establishing watershed benchmarks. Articles offer specific benchmarks for measuring organizational health, watershed health, and watershed activities. Available for $3.00 by mailing request to Publications, River Network, 520 SW 6th Avenue, Suite 1130, Portland, OR 97204-1511 or by emailing (credit card required) to jhamilla@rivernetwork.org; phone 503-241-3506, ext. 21. Website: www.rivernetwork.org

- ***Community Environmental Assessment Handbook***
  (Chesapeake Bay Program)
  This new handbook is particularly useful for establishing a baseline of watershed conditions by people who don't have a strong technical background in natural resource management. It offers concise and practical tools and methodologies for evaluating water quality, stream conditions, forests, wetlands, lakes and ponds, shorelines, and land uses. Related tools and programs are also referenced for each category of evaluation.

  For example, the chapter *Stream Assessment* provides a simplified approach to assessing riparian buffers, streambank erosion, stream sinuosity, fish blockages, invasive species, public access, trash, stormwater outfalls, combined sewer overflows, and point sources of pollution. All of these parameters are indicators of a stream's health. For each of these areas, the handbook briefly reviews what to look for and how to score an area as having low, medium, or high quality conditions. For a copy of the handbook, contact the Chesapeake Bay Program office at 1-800-YOUR-BAY or download the handbook from its website www.chesapeakebay.net.

Efforts to Promote Local Watershed Planning in the Bay Watershed

Watershed management plans provide an excellent framework to coordinate the numerous regulatory and non-regulatory programs associated with water resources management. In addition to the Chesapeake Bay Program, local watershed teams should examine potential linkages with other state and federal watershed initiatives, such as Tributary Team Strategies in the Chesapeake watershed, state nonpoint source management plans (known as Section 319 non-point source program), Watershed Restoration Action Strategies envisioned under the federal Clean Water Act, monitoring programs, and plans to achieve Total Maximum Daily Loads (TMDLs). These programs may provide significant opportunities for collaboration and the "nesting" of smaller projects within larger frameworks, yielding benefits to both.

The following section describes how local watershed management planning is being promoted in the Bay Program's jurisdictions: Maryland, Pennsylvania, Virginia, and the District of Columbia.

How is local watershed management planning being promoted in Maryland?

Maryland has 127 watersheds within the Chesapeake Bay drainage area. (These watersheds are 8-digit subunits of USGS hydrologic units.) Currently, there are a number of initiatives led by the Maryland Department of Natural Resources (DNR), with support from other agencies such as the departments of Planning, Environment, Agriculture, and Transportation, to assist with the development and implementation of local watershed management plans.

In 2001, Maryland launched a ***Watershed Restoration Action Strategy (WRAS) Initiative***, which sets up cooperative agreements between state and local governments to develop watershed protection and restoration strategies. County WRAS partners are eligible for 1) a grant of approximately $40,000 to address watershed planning or assessment needs and to develop a strategy, 2) targeted watershed technical assistance services provided by DNR, and 3) the opportunity to compete for future federal watershed implementation project money administered by DNR.

Initially, five county WRAS partnerships have been selected from priority watersheds pursuant to the Maryland Clean Water Action Plan of 1998. These local WRAS will complement the larger-scale work of Marylands's Chesapeake Bay Tributary Teams, of which there are ten, by coordinating federal, state, local, and private resources in those areas most in need of restoration and protection. Over the coming decade, WRASs will be developed and implemented in all of Maryland's more than fifty Clean Water Action Plan priority watersheds. They will also help local watersheds conform to TMDLs being developed by the Maryland Department of the Environment.

For existing watershed management plans, DNR is developing an acknowledgment process to 1) recognize quality, local watershed work, 2) enhance local governments' competitive edge in securing implementation funds, and 3) increase the potential for having a local watershed management plans quality as an applicable TMDL implementation plan.

For more information regarding WRAS, contact Katherine Dowell, DNR's Coastal Zone Management Division, (410) 260-8711, or email at kdowell@dnr.state.md.us; website information at www.dnr.state.md.us/cwap. A summary of watershed profiles can be found at www.dnr.state.md.us/watersheds/surf/index.html.

How is local watershed management planning being promoted in Virginia?

The Department of Conservation & Recreation (DCR) is Virginia's lead agency in providing guidance, coordination, and technical and financial support to local watershed-based efforts. DCR works with and promotes the efforts of Cooperative Watershed Initiatives, which are watershed-based forums involving a broad range of participants from the public and private sectors. "Front-line" leaders of these initiatives include the Planning District Commissions, Soil and Water Conservation Districts, and local watershed organizations. Examples include the Potomac Watershed Roundtable, the Elizabeth River Project, Friends of the Shenandoah, and Rappahannock River Basin Commission. Some of these efforts are led by DCR in cooperation with local partners, while others are locally-initiated endeavors.

Local watershed management planning is also taking place under revisions to Virginia's Tributary Strate-

gies, which focus on reducing nutrient and sediment loadings to the Chesapeake Bay. First completed was the Shenandoah and Potomac River Basin Strategy, which has been heavily implemented with support from the state's Water Quality Improvement Fund. Strategies for the lower tributaries to the Bay have also been developed for the Rappahannock, York, James, and Eastern Shore rivers. The Department of Environmental Quality, which oversees the Tributary Strategies, is working to coordinate the larger framework of tributary strategies with more local watershed management planning efforts.

DCR is also assisting local groups in locating areas in which TMDLs are being developed, as well as assisting groups with applying for the Chesapeake Bay Program's Small Watershed Grants. These grants can be used for watershed planning, habitat restoration, water quality improvement, and education and training.

Recently, five Chesapeake 2000 Coordinators have been hired by DCR to assist with outreach efforts related to local watershed management planning and implementation. The coordinators are regionally located to serve the following divisions: 1) Albermarle, Chowan, & Coastal, 2) James, 3) Potomac, 4) Rappahannock, and 5) Shenandoah.

For more information, contact your regional Chesapeake 2000 Coordinator as provided at the website: www.dcr.state.va.us.

How is local watershed management planning being promoted in Pennsylvania?

Pennsylvania's Growing Greener initiative has accelerated locally driven watershed management over the last two years by channeling millions of dollars in state funds toward the development and implementation of local watershed management plans. More than 150 assessment, restoration, and protection plans have been completed, and more than 60 watershed groups have been organized.

In support of this growing network of local watershed efforts, the Department of Environmental Protection (DEP) has placed 29 Watershed Managers in regional and district offices across the state, along with 57 Watershed Specialists housed in county conservation district offices. These positions are working with local watershed organizations, local governments, and the public to develop and implement comprehensive watershed management plans.

The Growing Greener program provides state-funded watershed and technical assistance grants through DEP and Rivers Conservation grants through the Department of Conservation & Natural Resources. Federal funds through Section 319 of the Clean Water Act (Nonpoint Source Management Program) are also available to support the development and implementation of watershed management plans.

How is local watershed management planning being promoted in the District of Columbia?

The District's Watershed Protection Division (WPD) of the Environmental Health Administration (EHA) is directly responsible for developing and promoting management plans for its watersheds. Several tributary monitoring and assessment documents have been developed and are used to prioritize and list streams and their watersheds, which would benefit from the development of a Watershed Restoration Action Strategy (WRAS). The primary focus for increased attention and restoration action has been the District tributaries of the Anacostia River. Four of the largest tributaries to the Anacostia have had a WRAS developed for them and are in various stages of watershed restoration study, design and implementation.

The EHA has been a primary driving force for watershed management plans which have been able to draw city and federal funds into the development of truly innovative watershed and tributary restoration plans. The WPD has actively been utilizing its funding to address sediment, nutrient and toxics loadings to the District's waterbodies through the implementation of Best Management Practices (BMPs), as well as promoting low impact development (LID) practices in the early stages of project design.

Not only working on the ground, the office has an active outreach and education branch which is working to inform and encourage positive attitudes and experiences related to a neighborhood tributaries and rivers. Through these inroads, the WPD is beginning to enlist schools and community groups to adopt their local small tributary in an effort to improve public participation and stewardship of local resources. An active partner and participant in the Chesapeake Bay Program, the office assists groups with applying for the Bay Program's Small Watershed Grants which can be used for watershed planning, habitat restoration, water quality improvements as well as education and training.