



Step 5: Establishing a Clean-Up Plan

ESTABLISHING PRIORITIES

After your group has completed an assessment of the watershed, identified potential CMD discharge sites, and reviewed the basic treatment methodologies, a plan should be developed to address the highest-priority problems. During this phase of your project, it will be most important to involve the technical professionals, agency personnel, and volunteer monitors who will be dealing with the prioritization, design, funding, installation, maintenance, and monitoring of the treatment method selected.

Form a Committee

The work undertaken during this phase is usually managed by a special committee, with regular reporting to watershed partnership members on progress.

This technical committee will ideally involve representatives from mining and water quality agencies, soil and water conservation programs, university research institutions, environmental protection

In This Chapter...

- ♦ Establishing Priorities
- ♦ Setting Goals and Objectives
- ♦ Developing a Plan of Action
- ♦ Resource Information

agencies, private engineering firms, landowners, public officials, and citizens. In deciding how to proceed, the committee will review results of the monitoring program, the nature and amount of available funds and other resources, space requirements for selected site treatment systems, and landowners' willingness to participate.

Define Clean-Up Parameters

The process of identifying where and what type of treatment approaches to use is highly subjective. Water chemistry, flow, available space, and financial resources will determine the nature of the remediation projects approved for construction. Since water quality and flow are two primary considerations in the deliberations, the importance of a well-designed, well-executed monitoring and assessment program (see Step 3) cannot be overstated. Monitoring groups will provide the data to professional staff and agency representatives involved in the remediation design that will dictate the path of much of the clean-up program.

The following section describes the process for determining the desired outcomes for each watershed and subwatershed, and how these activities affect the goals that have been established.



MILL CREEK

There were six main factors that influenced the group's decision to clean up Mill Creek.

- *Even though Mill Creek was heavily polluted, the group felt the watershed could be improved. If a clean-up attempt was not made, Mill Creek would continue to deteriorate.*
- *Previous studies on CMD within the watershed had already been conducted and documented by U.S. Army Corps of Engineers and the PA Department of Environmental Protection.*
- *The watershed included both Jefferson and Clarion Counties, which brought to the table each county's NRCS office, Conservation*

District, and Resource Conservation and Development District organizations. The involvement of two counties was also advantageous for financial support considerations.

- *The lower half of Mill Creek's main stem included a public access recreational area known as PA Game Commission Game Lands Unit #74. This region had a high potential for a recreational cold-water fishery.*
- *Future strip mining was not a concern since most of the watershed had been previously mined and the quality of the remaining coal was low.*
- *Mill Creek is easily accessible for both Clarion and Jefferson residents.*

Set Priorities

Regional watersheds contain multiple subwatersheds, which have unique attributes, problems, and uses. Federal and state agencies define surface waters as high-quality outstanding resource waters (such as Wild and Scenic Rivers); primary contact recreational waters (swimmable), secondary contact waters (fishable); domestic water supply sources (drinking water sources), cold water aquatic habitat (trout-quality streams), and warm water aquatic habitat (a catch-all category for nondesignated waters). States usually designate their waterways as serving one or more of these uses. If a water body does not support its designated use, it is said to be use-impaired and is often targeted for remediation.

After investigating the uses, quality, characteristics, and relationships that each water resource has within the watershed, individual goals for subwatersheds can be established. These goals usually depend on existing and future desired uses, so consideration should be given to public health concerns, drinking water quality, recreational uses, and aesthetic quality, among other criteria. In selecting a watershed for a clean-up project, pick a site that is doable. Tackling an extremely polluted site that is beyond the capabilities of the partnership and the resources available might lead to failure and frustration. Clean up smaller areas first, then move on to bigger ones; it will give your partnership valuable experience and the motivation that comes from executing successful projects.

SETTING GOALS AND OBJECTIVES

In setting goals for your watershed and subwatersheds, it is vital to work with the state water quality personnel within your partnership. These agencies collect and maintain records on most water bodies within the state, which are forwarded to Congress every two years as part of the state's requirements under the Clean Water Act. A close alliance with public agencies during all phases of your project will pay dividends by having the project at least considered in the agency's official documentation and goal-setting processes.

Determining the goals and desired condition of water resources, however, is increasingly left to the discretion of citizens and other stakeholders in the watershed. Under the watershed protection approach being implemented by state and federal agencies, regional watershed partnerships are charged with the authority and responsibility for developing criteria for the desired quality of water resources in their regions. Through this process, partnership members set goals for the watershed (fishery support, recreational use, aesthetic beauty, etc.) and then identify factors that prevent attainment of the goals. Problem factors are then assessed, and plans are developed to address them.

A goal for your CMD-impacted waterway might be to lower the levels of acidity and metals to the standards required for designation of your stream as cold water aquatic habitat. When considering long-term goals for the watershed, partnership members should widen the scope of their assessment to include problems stemming from nonmining sources.

Use your goals and objectives as guidance for the project, but do not become so obsessed with them that you become inflexible. Unforeseen circumstances abound in any project. Maintain a clear sense of ultimate purpose (cleaning up the watershed) and perception to help your group recognize future challenges and opportunities when they emerge and make it easier to deal with them. Establish a process for revising components of the objectives as necessary to make the work proceed with minimal disruption.

Start with a "Vision"

A "visioning" process is often employed to establish goals for the watershed. Partnership members bring unique perspectives and desires to the partnership, and the melding of these diverse outlooks and aspirations into an achievable plan provides the sense of ownership stakeholders need to stay involved over the long term. From the vision synthesized by the partnership, long- and short-term goals can be established and plans to reach those goals can be developed. When considering long-term goals for the watershed, partnership members should widen the scope of their assessment to include problems stemming from nonmining sources. Erosion, failed or nonexistent onsite sewage treatment systems, nutrient runoff, and other nonpoint and point sources of pollution often contribute significantly to water quality problems in Appalachian watersheds. Developing a comprehensive watershed plan involves identifying all contaminants and developing strategies to deal with them.



DEVELOP A PLAN OF ACTION

By addressing your prioritized CMD problems through a step-by-step approach, you can create a sense of steady progress toward achieving the goals of your partnership. Start by assigning each task group or committee a section of the work plan and ask them to determine the following:

- a group leader
- ♦ a start-up date
- ♦ actions to complete (objectives)
- ♦ a completion date
- ♦ any obstacles they can predict that might slow the process down
- ♦ strategies to address those obstacles, and a plan for reporting regularly to the entire partnership group

It is important to keep the public informed on your progress through regular news releases, media tours, brochures, public meetings, and other outreach methods.

Develop a Schedule

Although there is no simple solution for turning your plans into action, having a master schedule will help organize your tasks. The comprehensive schedule should include budgeting information, funding and technical assistance sources and mechanisms, individual and task group assignments, and critical deadlines for negotiations and actions.

Partnership members need to understand their roles in the partnership work plan, be willing to give their time and effort, be honest and open-minded, and accept the various setbacks, pressures, and frustrations that will arise. Patience and persistence will be required from those involved, especially the leaders of the group. It is important for your partnership members to recognize that the task they are undertaking represents a significant challenge. The problems of CMD were not created in a year or two, and it is unlikely that the watershed will be cleaned up in that period of time.

Choosing Group Leaders

When choosing group leaders, consider each member's determination, dedication, reliability, and ability to articulate the goals of your partnership. It is important to have stable leaders who can keep the group focused and assist in solving disagreements. Good "people skills" are important for group leaders because they often have to deal with disagreements on strategy, work assignments or other issues. Technical know-how is helpful, but do not forget the human dimension of your work. Involving the maximum number of watershed partners will greatly add to the success of your project, so select leaders who act in an inclusive, mutually respectful manner.



Lead the Way...

The Pennsylvania Department of Environmental Protection reiterated the importance of watershed partnerships with strong leadership in the state's 1996 Comprehensive Plan for Abandoned Mine Reclamation (August 1996):

"Partnerships among public and private institutions are essential to accomplishing the goals of this comprehensive plan. Partnerships can develop at any phase of the planning process. The leadership role among the partners is the most important decision the partners make. The earlier partners establish a leader and define their individual roles, the more effective they will be. For the most part, leadership should lie with a local organization where there is strong, local support and a commitment to long-term solutions."

Organizing Takes Time

The SCRIP partnership in Pennsylvania spent 3 years organizing the watershed assessment, conducting field studies, and analyzing treatment options. Funding for some of their projects has come only recently, after several years of work.

Assign Responsibilities

It is important to assign responsibilities for managing progress toward each objective, and to identify partnership members who will be involved. Watershed groups can proceed more quickly with their projects, as enthusiastic agency personnel, business people, citizens, industrial leaders, and elected officials involve themselves in the effort. This "snowball effect" can create tremendous momentum for your project, though with increasing velocity and mass (more people) come organizational, scheduling, and work assignment challenges. Diligence, mutual respect, and a strong commitment to participatory partnership decision-making processes will ensure that progress occurs as smoothly as possible and that all participants feel the sense of involvement and momentum that vitalize and enhance CMD clean-up efforts.

Potential Roadblocks

A number of factors can affect the start date of your actions. Lack of funding and technical support, unresolved conflicts within the group, and communication gaps between funding and technical assistance participants and organizations are all examples of problems you might need to resolve before making firm dates to start work. Committee leaders will need to determine the actions required to complete specific sections of the master schedule, solicit volunteers to perform the tasks, and establish a completion date. These decisions should be reported to the partnership periodically to ensure that other possibly conflicting or mutually necessary activities can be coordinated. When organizing their work, those responsible for implementing objectives in the plan should define the roles of outside organizations and individuals and should devise a way to evaluate progress and ensure that alternative or backup plans exist.



OVEN RUN

On December 20, 1993, a letter of mutual support and cooperation for the restoration of Oven Run was signed by seven federal agencies, three state agencies, and five local organizations. The local NRCS office prepared a preliminary report on the watershed, and a resource plan was developed by the Northeast Regional Technical Center and local NRCS offices. The local NRCS is also designing the systems which will be used to clean

up the CMD at the six selected sites in the project area.

Area Conservationist Jim Gettinger attributes the success of the project to three elements: a strong local emphasis, early involvement of agencies and other organizations, and the sense of ownership that comes from an inclusive approach.

RESOURCE INFORMATION

Clean Water in Your Watershed: A Citizen's Guide to Watershed Protection. Terrene Institute. 1993. Washington, DC. Guide designed to help citizen groups work with local, state, and federal government agencies to design and complete a successful watershed protection or restoration project.

Cleaning Up Contaminated Sediment: A Citizen's Guide. U.S. EPA. Jan. 1995. Prepared for the U.S. EPA/GLNPO by the Lake Michigan Federation. This guide has a section devoted to public involvement in the clean-up of contaminated sediment.

Environmental Partnerships: A Field Guide for Nonprofit Organizations and Community Interests. Management Institute for Environment and Business. 1995. To order, call 800/782-4479.

Environmental Planning for Small Communities: A Guide for Local Decision-Makers. U.S. EPA. 1994. Designed to help leaders of small communities develop a community environmental plan that will save money, make the best use of resources, and meet all environmental regulations. Offers tips on how to build a partnership, develop a shared vision, and define community needs.

How to Do an Urban Streambank Cleanup. West Michigan Environmental Action Council. Describes the steps necessary to organize and carry out a stream cleanup.

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