

TOOLBOX 5



WATERSHED MANAGEMENT PLAN IMPLEMENTATION

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TOOLBOX 5 - WATERSHED MANAGEMENT PLAN IMPLEMENTATION

SELF EVALUATION

Please complete the following self evaluation to determine if there are areas for improvement or if you are ready to proceed to the next toolbox.

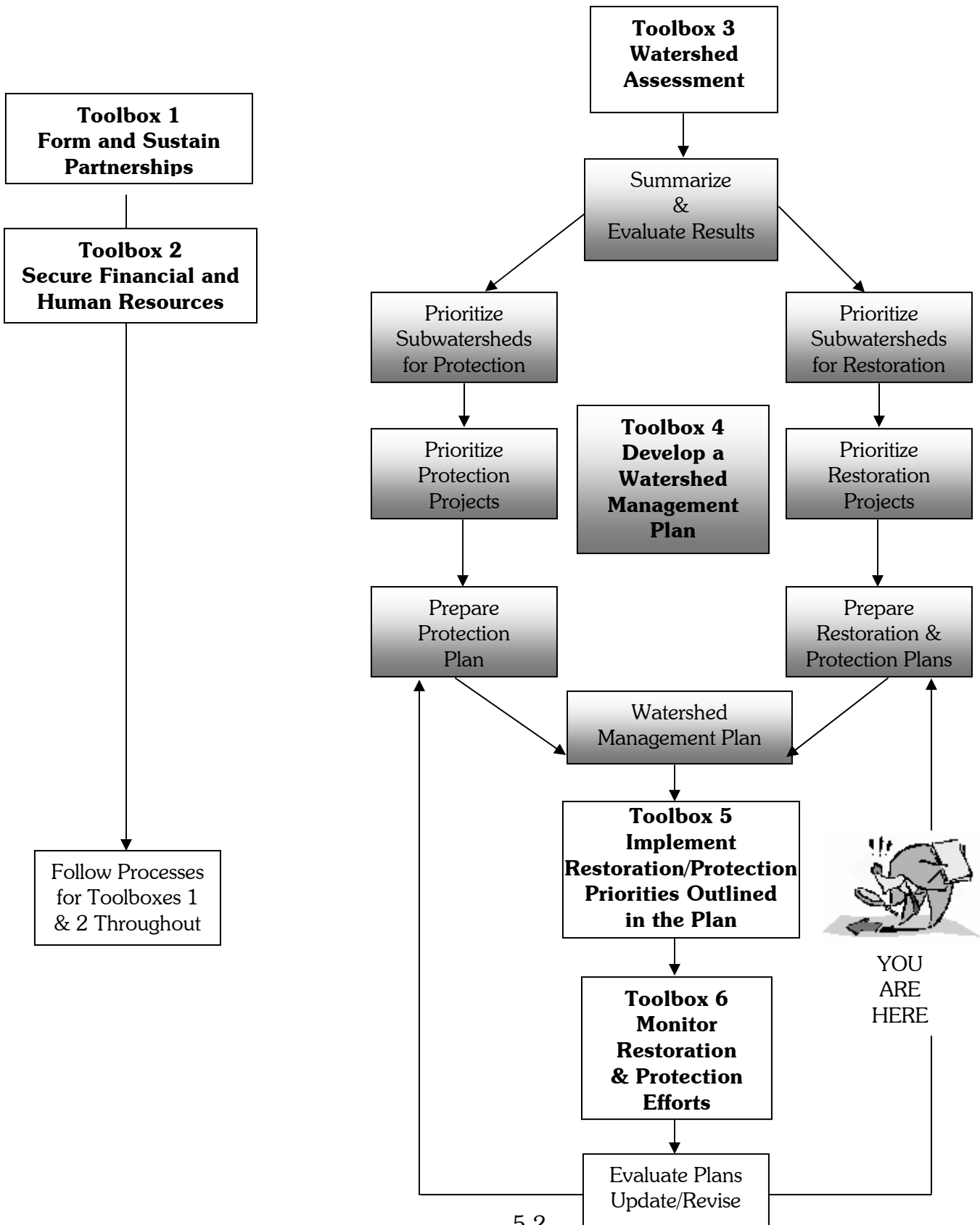


1. Have you secured funding for your projects?
2. Have you developed an achievable implementation timeline?
3. Do you have local support from landowner, municipal, county and state agencies?
4. Have you developed a plan for maintenance and monitoring of your projects?
5. Do you have volunteers to assist with your plan implementation?
6. Have you discussed the implementation with the County Conservation District watershed specialist, DEP watershed manager, DCNR or other resource agencies?
7. Have you determined if any permits are needed before undertaking any of your projects?
8. Do you have potential projects, which will require a contractor to do the work?
9. Have you determined who will maintain the project site and the costs of maintenance?
10. Do your implementation efforts comply with other planning programs, various grant requirements and deliverables?

If you answered YES to all ten questions you may skip to Toolbox 6.

If you answered NO to any of the questions you may feel free to visit Toolbox 5 for suggestions or proceed to Toolbox 6.

Comprehensive Watershed Management Planning Process



TOOLBOX 5

WATERSHED MANAGEMENT PLAN IMPLEMENTATION

Introduction

This toolbox provides general information about implementing a watershed management plan. **Implementing your watershed management plan is the fifth step in comprehensive watershed management planning.**

What Is Watershed Management Plan Implementation?

Implementing your watershed management plan means to take what you have learned about your watershed and turn that into projects and initiatives that will protect and restore your watershed.

Implementation can be as simple as producing a brochure on water conservation or as complex as large projects such as repairing hundreds of feet of streambank.

Implementation entails a systematic or phased-approach that prioritizes your projects and initiatives for delivery.

Why Implement A Watershed Management Plan?

Implementation ensures that the overall watershed management plan goals will be met. Implementation strategies explain how actions and projects are to be carried out so that watershed-related problems are addressed on a systematic and practical basis. The implementation phase will protect areas that the plan has identified as critical for watershed health, and will work towards correcting the problems the plan has also identified.

The Watershed Plan Implementation Process

Implementing Protection Projects

As described in Toolbox 4, watershed plans typically have two overarching goals, protection and restoration. A specific watershed plan may have one or both of these goals. The following information describes basic considerations for implementing these goals.

First, we will look at watershed protection. The Center for Watershed Protection (see #7 "Helpful Resources" on page 5-11) outlines eight tools for protecting watersheds and aquatic resources. They are:

- Land use planning
- Land conservation
- Riparian buffers
- Better site design when development occurs
- Effective erosion and sediment control
- Stormwater treatment practices

- Non-stormwater discharges
- Watershed stewardship programs

A watershed protection plan identifies which of these tools should be used and where in the watershed, the key partners and strategies necessary for implementing them, and mechanisms for monitoring results and adjusting strategies accordingly. More detailed information about “Eight Tools for Watershed Protection” is available at the web site for the Center for Watershed Protection at www.cwp.org (select site map, then watershed protection).

Most of these protection tools involve establishing good relationships, and working with local and county government officials, local or regional land trusts, landowners and landowner organizations and civic organizations that can provide volunteers. County conservation districts, and state agency staff who work with stormwater and other water resource programs are also a resource. A friendly and proactive approach can go a long way towards building bridges needed to implement watershed protection tools. Some suggestions for establishing relationships with these individuals and organizations are:

- Attend routine meetings to meet the local government officials and to learn how they work; talk to the officials outside of the meeting to introduce yourself and your organization.
- Ask for a few minutes at the local government planning meeting to talk about your organization and its role in watershed management—offer your organization as a resource to provide information about the watershed, or to help collect information that they may need.
- Obtain local planning documents and read them to learn about development approval processes and local government ordinances.
- Ask for an appointment with a local or regional land trust and the local conservancy to discuss your organization’s interests in the watershed, to learn about the conservancy’s work and to identify common areas of interest.
- Some watershed associations have sponsored highly successful meetings attended by key stakeholders in the watershed to start building a coalition.
- Seek membership on, or at least invitations to attend, meetings of any committees already established to work with water resource planning and protection. One example is the local committees formed to develop Act 167 Stormwater Management plans. At the very least, keep an eye on the newspaper to learn when various public meetings will be held, and be sure someone from your organization attends.
- Ask any members of your organization who live along streams to start talking to neighbors about the watershed, if they haven’t already.
- Send letters to riparian landowners introducing your organization, and inviting them to an open house or festival that you organize or participate in.
- Involve local schools.

Take a non-confrontational approach—you are there to learn, to introduce your organization as a community resource, and to start dialogues about the most appropriate means for watershed protection. The more relationships you establish, and the better informed you become about local processes, the better you and your partners will be prepared to proactively protect identified critical areas with the most appropriate tools.

Implementing Restoration Projects

The same approach for building bridges applies to implementing watershed *restoration* plans. Restoration projects often involve actual construction of best management practices for reducing nonpoint source pollution, so obtaining landowner permissions, knowing how to hire and work with consultants and contractors, and knowing the process involved in obtaining permits are all critical for implementation success. Suggested approaches are further described below.

STEP 1: PRIORITIZE PROJECTS AND INITIATIVES.

It will not take long to list more projects or initiatives than your group can possibly do. This is why the group will need to prioritize the actions. When prioritizing, be sure to consider the following:

- Availability of funds
- Return on funds to be invested
- Time and other non-financial resources
- Ability to get the action done
- Early successes motivate more action
- Some actions rely on other actions for success
- Biggest environmental benefit
- Technical feasibility
- Group goals and objectives are met
- Site accessibility (including landowner cooperation)
- Concerns of local people

For more information on Prioritizing refer to Toolbox 4.

STEP 2: DEVELOP PROJECT DESIGN(S) AND A TIME LINE FOR DELIVERY.

Work with your project partners to concisely describe project tasks (design, installation, operation, maintenance and monitoring), to assign specific responsibilities for each task, and to develop realistic time frames in which the tasks will be completed. The timeline can be as simple as a list of tasks and a target date for completion of each (benchmarks). More complex projects should be broken into subtasks, with a duration time for each task. Some tasks may occur throughout the project (for example, educational activities), while most are likely to have a limited timeframe. The overall project timeline, showing all the tasks, can be presented as a chart, showing each task and subtask beginning, duration and end. Be sure to include items required by grant programs, such as reporting, as a task. An example of a typical chart, plus additional information about project management, is available at <http://psdam.mit.edu/rise/tutorials/management/management.html>.

STEP 3: WORK WITH LANDOWNERS.

Owners of the land on which projects are implemented are a critical implementation link. Implementation of site-specific projects absolutely depends on their understanding and approval. They should be made aware of watershed plan development early in the process, and their input solicited. Here are some steps you can take to help smooth the transition from planning to implementation:

- Contact and visit each landowner you plan to work with early in the process – before planning individual projects, if possible. Make them aware of your organization and what it is doing, the overall watershed plan, the reason for it, its goals, and the key role landowners play in watershed management. Initial contact may be made by letter or phone, but face-to-face meetings help to establish trust.
- If particular landowners are reluctant to talk with you, enlist the help of other organizations or individuals they already work with and trust, such as neighbors, church officials, teachers, or representatives of government programs that the landowner may already be working with (some farm programs, for example).
- Once you have established a relationship, talk to the landowner about his property, offer to help address any land management problems (be realistic about your organization’s capabilities) and make him aware of some of the programs available to help with problems.
- Explain in detail the proposed project, the problems it will address, what will be involved in implementing and maintaining it, and the role you and partner organizations will have. If possible, provide examples of similar projects that have already been completed in your watershed or nearby.
- Obtain the landowner’s permission for your organization, volunteers and contractors who may be working on the project. If the project involves planting, construction or earthmoving, you should obtain written permission. Some grant programs require this before awarding funding. Walk the landowner through the permitting process, if permits will be required.
- Invite the landowner’s participation along the way, and keep him/her informed of every time project-related people enter the property, and the status of the project.
- Enlist the landowner’s help in monitoring the project after it’s in place and in maintaining it.
- Provide some type of landowner recognition, such as kudos in your newsletter, thank you letters, and awards programs, for projects that have been completed.
- Consider how the project may affect other off-site landowners or adjacent landowners.

An agreement that outlines proper maintenance signed by the organization and landowner should be stressed. Too many projects get mowed over or removed because landowners are not really involved.

STEP 4: OBTAIN PERMITS.

You should determine very early in the project planning process whether federal, state and local permits will be required for a particular implementation project. Determining the need for them and obtaining them can be one of your project tasks, or it can be included in the project design task. Even simple projects that involve disturbing a streambank, for example, may require a General Permit from Pennsylvania DEP. Something as minor as erecting educational signs may require a local permit. Failure to obtain needed permits can upset your entire project schedule, a critical state of affairs if you are developing the project through a grant that has a limited time period.

Preparing permit applications and working through the approval process with the issuing agency can require months, so the earlier you determine the need for specific permits, the better for your project outcome. During preliminary project planning, consult with your county conservation district, the township or borough planning office and DEP's Regional Office in your area to determine whether and which permits will be needed. They can help guide you through the permitting process, and can give you an idea of the time required. Some permitting programs are listed in Appendix F of this document.

STEP 5: WORK WITH VOLUNTEERS.

Volunteers can partly or entirely implement many projects. Here are some key questions that may help you determine whether volunteers can do a particular project, or whether it's wise to bring in professionals:

- Do you have a large enough corps of volunteers to do the job?
- Does the project require very specific technical skills, and do any of your volunteers have those skills?
- Does your organization have someone dedicated to organizing and overseeing volunteers as they work?
- Will project construction endanger the safety of volunteers?
- Are your volunteers willing to “stick with it” through unexpected problems?
- Will project-specific training be needed, and can your organization provide it?

If you have determined that volunteers can do the implementation project, here are some tips to help keep them productive and safe:

- Plan ahead. Put together a schedule for each day, and let your volunteers know what's planned, and what they are expected to accomplish. Start each workday with a briefing.
- Have each volunteer sign a “release from liability” form, and keep them on file.
- Obtain landowner permission for volunteers to work on their property, and keep landowners informed of progress.
- Have the necessary equipment and supplies available and ready at the site.

- Provide any necessary training ahead of time—include volunteers in the project planning phase.
- Provide an identified volunteer leader—someone familiar with the project—who can supervise the volunteers.
- Pay attention to the comfort and safety of the volunteers—provide snacks and water. Instruct them on proper work attire, especially work gloves and boots, ahead of time. Have first aid supplies available.
- Try to provide small rewards in addition to food. Gardeners, for example, will appreciate getting free work gloves.
- Thank your volunteers both verbally at the worksite, and by mail after each workday. Provide recognition, including in your newsletter.
- Keep volunteers informed of results of their projects.
- Provide appropriate insurance coverage.
- Identify other agencies or organizations that may provide one-on-one assistance volunteers.

STEP 6: SELECT AND WORK WITH CONSULTANTS AND CONTRACTORS.

Well qualified and experienced consultants and contractors can help to streamline project implementation, and may be necessary to complete projects that are large and require special expertise that your organization may not have, or for which your organization does not have a large enough volunteer base. As a nonprofit organization, you have the option to directly request services from a consultant you may know. However, asking for competitive bids for a project is the best way to get the “biggest bang for the buck”, and to determine qualifications and experience. You get to specify exactly what you want, and to evaluate the responses based on your criteria. Form a subcommittee in your organization to develop a “request for proposal” or RFP. An RFP is a written request for proposals that will describe how the consultant will meet your organization’s specific needs, including necessary goods (equipment) or services (specialized skills) required for the project. RFPs can be very simple and brief, but the more detailed you are in your RFP documents, the better the results. These are some basic steps involved in asking for proposals, and selecting a consultant or contractor:

- Determine ahead of time what you want the consultant to do for you.
- Determine the criteria you will use to evaluate the proposals. These criteria cannot be changed once the RFP is issued.
- Assign a weight to each of the criteria to indicate its level of importance. This approach works best if you do not publicize how the criteria have been weighted.
- Develop a RFP with these components: project description, statement of deliverables, project location map, general terms and conditions, request for schedule/time frame, request for a budget (it’s best to request a breakdown of the budget by major categories), request for references, evaluation criteria, payment/billing plan, submission dates, and a

Note that the Section 319 Program requires evidence of an open, fair and competitive process.

request for team members' qualifications. You might also want to request a description of the applicant's organizational structure, a guarantee that the staff represented in the proposal will actually be working on your project, and a glossary of terms. Specifying a submission format will help you in comparing proposals. Be sure to include information about your organization, including the name, telephone number, email address, and mailing address to which proposals should be returned. Provide a schedule indicating when you will announce the winning proposal, and when you expect the project to begin and end. You can include a "liquidated damages" clause, which is a penalty for not getting the work done on a specified schedule. You may also want to request a bid package as a deliverable.

- Obtain your organization's approval to issue the RFP, and advertise its availability in local newspapers, your newsletter and website, and send it out to other organizations and consultants that you know about.
- Talk with other watershed groups who used consultants and get their recommendations.
- Provide sufficient lead-time for potential responders to develop an adequate proposal (at least two months).
- Review the proposals you receive, and apply your criteria to obtain scores. This may be done by a committee where process and results can be discussed. To be fair to the applicants, the evaluation process must not change once proposal evaluation begins. This process will give you a strong basis for selecting a particular consultant or contractor.

Issuing an "invitation to bid" is another way to obtain competitive bids for project implementation, especially for projects involving construction. The process is similar to the RFP process, but project specifications must be detailed. This approach requires more up-front work to define the exact specifications for the project to be done. Applicants will respond by submitting only a price for the specified work. Evaluate the submittals by cost, and the bidder's "responsiveness" and responsibility.

With either approach, you can request preparation of a bid package as a deliverable. A bid package is a set of bid documents that can be distributed to contractors who will be involved in project construction.

Also talk with other watershed associations dealing with similar projects who used consultants and get their recommendation. Once you select a contractor or consultant, you should develop a contract for the work to be done. To ensure having the work completed on schedule, you may include a "liquidated damages" clause (penalty for not getting work completed on schedule). Each contract should include the following:

- Communications
- Start and termination dates
- Scope of work (list of specific tasks to be accomplished)
- Total amount of money to be paid to the contractor
- Method of payment

- List of specific deliverables
- Any special conditions, such as providing a certain number of copies of “as finished” project plans, or providing written reports in electronic format

Some tips for working with consultants and contractors are:

- Be sure that several people in your organization maintains oversight of the work from beginning to end, and is available to answer questions and review progress regularly.
- At least two people within your organization should have the authority to approve changes and deal with problems as they arise.
- Including a scope of work, schedule and budget in a contract with the individual or firm is advisable.
- Be sure to review the work to determine that conditions of the contract have been met before completely paying for it.
- When reviewing RFP's get feedback from experienced outside agencies.

STEP 7: GET HELP WHEN YOU NEED IT.

Some projects you undertake will require months or a few years to complete fully. This may require help on a phased basis. Allow yourself plenty of lead-time to arrange for the type of help you require. Sources of help include: the agency or foundation funding the project; agencies that administer watershed management programs (EPA, DEP, DCNR), organizations that work with land management of some type (state and federal agricultural agencies, local land trusts), county conservation districts, county planning agencies, professional organizations (such as Society for Ecological Restoration), river basin commissions, local colleges and universities, and other well-established watershed associations that have completed projects similar to yours.

STEP 8: DO PROJECT MAINTENANCE.

Most watershed projects require maintenance. For example, if you plant a riparian buffer, weeds and invasive plants need to be controlled or the survival rate of your plantings will suffer. Failure to properly consider project maintenance will likely result in not meeting your long-term goals.

Critical questions are:

- Can the site be maintained by the current caretaker?
- Does the caretaker understand what it will take to maintain the site?
- How long will the project require maintenance, and what type?
- Can your organization maintain the project with volunteer help?
- Will contractors be required?
- How will maintenance costs be covered?

The larger and more costly the project construction, the more important a maintenance plan becomes.

In summary, important points to remember for implementing watershed management plans are:

- Prioritize actions and projects to help your organization avoid taking on more than it can accomplish in a given time period.
- Tie implementation to your watershed management plan goals.
- Prepare a detailed implementation schedule.
- Establish a relationship with the appropriate partners who have the authority and resources to assist with implementation.
- Continue to involve the public throughout.
- Involve landowners in the process early, and obtain their written permission to implement a project on their property.
- Give yourself plenty of lead time, especially for funding and permitting activities. Funding from some grant programs may not become available for almost a year after the call for proposals.
- Monitor for success. It can help to redirect your efforts, document environmental gains, and is essential for obtaining funding for future projects.
- Don't walk away from completed projects. Include continuing monitoring and maintenance in your implementation schedule. Prepare monitoring and maintenance plans. If needed, train volunteers to help with this work.
- Educate the public and other stakeholders and get them involved in implementation of projects in the plan.

Helpful Resources

1. Appendix F provides an explanation of programs that address various aspects of watershed management in Pennsylvania. A summary list follows:

Program	Administering Agency
National Pollutant Discharge Elimination System (NPDES)	Environmental Protection Agency (EPA) and Pennsylvania Department of Environmental Protection (DEP)
Stormwater Management (Act 167)	DEP
Total Maximum Daily Loads (TMDLs)	EPA and DEP
Sewage Facilities (Act 537)	DEP
Municipalities Planning Code (MPC)	Pennsylvania Dept. of Community and Economic Development (DCED)
Dam Safety and Encroachments Act	DEP
Chesapeake Bay Tributary Strategy	DEP
Statewide Nonpoint Source Pollution Program (Section 319 of the Federal	EPA and DEP

Program	Administering Agency
Clean Water Act)	
Rivers Conservation	Pennsylvania Department of Conservation and Natural Resources
Water Resources Planning (Act 220)	DEP
Source Water Protection	EPA and DEP

2. Appendix G, borrowed from the 2003 DEP Growing Greener grant application package, provides additional descriptions of activities to consider for implementing specific types of projects.

3. ***Watershed Stewardship, A Learning Guide EM 8714***

A thorough notebook that will guide your organization through Creating Successful Groups, Watershed Science and Monitoring and Evaluating, Managing and Improving Watersheds.

You can order this from:

Publication Orders

Extension & Station Communities
Oregon State University
422 Kerr Administration
Corvallis, OR 97331-2119
Phone: (541) 737-0817

The cost is \$42.00

4. ***The Conservation Technology information Center (CTIC)*** at Purdue University has a large selection of materials to assist watershed organizations on a variety of topics. Many of the materials can be viewed at:

www.ctic.purdue.edu/Catalog/WatershedManagement.html#Guides

You can also use the address and phone number below for ordering:

The Conservation Technology Information Center
1220 Potter Drive, Rm. 170
West Lafayette, IN 47906
Phone: 317-494-9555
Fax: 317-494-5969

There is a cost for the materials.

5. The **Watershed Assistance Center of the Western Pennsylvania Conservancy** has numerous publications available for watershed groups. They also provide direct technical assistance to watershed groups. You can contact them at:
- Watershed Assistance Center
 - 246 S. Walnut St.
 - Blairsville, PA 15717
 - Phone (724) 459-0953
 - Fax: (724) 459-4721
 - <http://www.paconserve.org/rc/wac.html>
6. The **Consortium for Scientific Assistance to Watersheds** (C-SAW) is a team of specialists who provide eligible watershed groups or local project sponsors Program Management and Scientific Technical Assistance through the Pennsylvania Department of Environmental Protection's (PADEP) Growing Greener Program. The service is at no cost to eligible groups. To request assistance contact the RC&D Council in your area:
- a. Capital Area 717 948 6633
 - b. Endless Mountain 570 265 5288 ext. 5
 - c. Headwaters 814 375 1372 ext. 4
 - d. Mid – State 717 248 4901
 - e. Penn Soil 814 266 8160 ext. 5
 - f. Penn’s Corner 724 834 9063 ext. 3
 - g. Pocono Northeast 570 282 8732 ext. 4
 - h. Southeastern PA 215 541 7930
 - i. Southern Alleghenies 814 263 7900 ext. 5

For more information on C-SAW, go to <http://pa.water.usgs.gov/csaw>

7. The **Center for Watershed Protection** provides local governments, activists, and watershed organizations around the country with the technical tools for protecting streams, lakes and rivers. The Center has developed and disseminated a multi-disciplinary strategy to watershed protection that encompasses watershed planning, watershed restoration, stormwater management, watershed research, better site design, education and outreach, and watershed training. You can contact them at:
- 8390 Main Street, Second Floor
 - Ellicott City, MD 21043-4605
 - Phone: (410) 461-8323
 - Fax: (410) 461-8324
 - <http://www.cwp.org/>