

### Restoration Template Checklist

Are you ready to start restoration planning and implementation? Answer questions below before beginning.

	<b>Comprehensive assessment completed and available</b>
	<b>Physical description of the watershed written</b>
	<b>All diagnostic data sources researched and compiled</b>
	<b>Other plans located and available (landuse, zoning, stormwater)</b>
	<b>Overall watershed goals developed</b>
	<b>Adequate organizational structure in place</b>
	<b>Adequate organized human resources committed to plan and implementation</b>
	<b>Adequate human resources committed for the long term evaluation of watershed goals</b>
	<b>Adequate human resources committed to operation and maintenance of implemented projects</b>
	<b>Yearly evaluation date set</b>

## Introduction

Welcome to the Watershed Restoration Template. There are two components to watershed management. Restoration is one element while protection or conservation is the other. Both management strategies build from information gained by completing a thorough assessment. This module only focuses on developing and tracking restoration activities. The module is intended to assist the user with turning an assessment plan into a watershed restoration plan that prioritizes subwatersheds and restorative strategies. But first, let's define what we mean by restoration. Watershed restoration is the process of assisting the recovery of an ecosystem that has been degraded, damaged or destroyed. An ecosystem has recovered or is rehabilitated when it contains sufficient natural living systems and physical resources. The watershed will then be able to sustain itself structurally and functionally and demonstrate resilience to normal ranges of environmental stress and disturbance. Some watershed groups may prefer to use the term rehabilitate or enhance rather than restore. Use whatever term is more conducive to your overall watershed goals.

There is a continuum in watershed assessment and planning that runs from "fly by the seat of your pants" to "study it to death". If you "fly by the seat of your pants," you are probably going to have mistakes in your decision making. If you "study it to death," you may become too paralyzed to make any decisions at all. Somewhere between these two extremes is a happy medium that allows you to gather sufficient information to make reasonable decisions.

The purpose of this Restoration Template is to guide you through a process that allows you to go from data to decisions. Determining when you have enough data to make reasonable decisions is for your group to decide. This determination will in large part depend on the complexity of your watershed and also to some extent, upon the human resources and interests of your group. What is suggested here is fairly comprehensive, but you should feel free to customize this to meet your group's needs and the needs of a specific funding source such as the Section 319 program. This is simply a tool to guide you from point A to point B. We are not trying to be prescriptive or dictate how your restoration plan must be. Our goal is simply to provide one means to an end.

The template includes seven major parts and incorporates a subwatershed prioritization matrix and a project prioritization matrix. The first section of your restoration plan should include a watershed overview. This may already be written if a monitoring plan or study design has been completed. The next section deals with watershed diagnostics. Simply stated, this is what the assessment tells you about problems in your watershed. The third section asks for your overall watershed goals and if the information gained in the assessment is helping you reach your goals.

The heart of the restoration plan will be the prioritization of subwatersheds and then the design and prioritization of projects within the subwatersheds. Once projects have been prioritized, you will generate a "to do" list for implementing them on the ground. Finally, you will need to assign responsibilities and indicate how you plan to evaluate your restoration activities' short and long term effectiveness.

Watershed restoration planning is meant to be a continuing process. It is recommended that the restoration plan be revisited annually and that corrections be made as needed.

## **Table of Contents**

		<b>Page</b>
<b>Section A.</b>	<b>Watershed Overview</b>	<b>4</b>
<b>Section B.</b>	<b>Watershed Diagnostics</b>	<b>4</b>
<b>Section C.</b>	<b>Goal Setting</b>	<b>5</b>
<b>Section D.</b>	<b>Prioritization of Sub Watersheds</b>	<b>5</b>
	<b>Subwatershed Prioritization Matrix</b>	<b>6</b>
	<b>Subwatershed Prioritization Matrix Worksheet</b>	<b>7</b>
<b>Section E.</b>	<b>Prioritization of Restoration Projects within Subwatersheds</b>	<b>9</b>
	<b>Prioritization Projects Matrix</b>	<b>10</b>
	<b>Prioritization Projects Worksheet</b>	<b>11</b>
<b>Section F.</b>	<b>Implementation Planning and Generating the “To Do” List</b>	<b>13</b>
<b>Section G.</b>	<b>Evaluating Your Progress</b>	<b>13</b>
<b>Appendix A.</b>	<b>Additional Sources of Planning Information</b>	<b>15</b>
<b>Appendix B.</b>	<b>A sampling of Resources to Consult in Selecting BMP’s for Stream Restoration</b>	<b>18</b>





### **C. Goal Setting**

1. Is there broad agreement within your community on the issues identified above? If not, why?
2. Have primary stakeholders as well as existing and potential partnerships been identified and engaged with clear, definable goals?
3. What are your priority goals for restoration? Defining specific goals is critical to prioritizing restoration activities. These goals should be more specific than your overall vision for your watershed and should lead to measurable objectives. For example, restoration of the wild trout fishery or put and take fishery, increased recreational opportunities of stream usage (canoeing, kayaking, swimming), improved drinking water sources (ground and surface water), improved water quality/ quantity for economic development, ecological health, reduction of public health and safety concerns, etc. List the goals in decreasing order of importance.
4. For each of your priority goals:
  - a. Characterize the cause and magnitude of the problem/stressor.
  - b. Address whether the existing data are sufficient.
  - c. How will addressing this problem/stressor aid you in achieving your goal?
5. List quantifiable objectives that will support achieving your goals. For example, reduction of nutrient (nitrogen or phosphorus), iron or sediment load by a specific percentage, increase water pH from *X* to *Y*, reduction of fecal coliform contamination in surface and groundwater by a specific percentage, restoration of *X* miles of 100 foot wide riparian buffer, etc.

Note: Some groups may also want to list their watershed protection or enhancement goals in this section.

**D. Prioritization of Subwatersheds**

The first step in the watershed restoration prioritization process is an evaluation of problems, solutions and benefits on a subwatershed basis.

1. What subwatersheds are critical for you to meet your restoration goals? Use the Subwatershed Prioritization Worksheet to complete the Subwatershed Prioritization Matrix in order to evaluate subwatersheds for each of your priority goals. Follow each step as illustrated below. Step 1: give each column a rank on the matrix in order of importance to your watershed goals with 1 being most and 11 being least. Write the rank at the top of the column. Step 2: calculate a normalized rank according to the equation given on the matrix. Next use the Subwatershed Prioritization Worksheet questions to assign a score to each column. High would receive a score of 3; Medium would receive a score of 2 and low would receive a score of 1. Step 3: multiply the score from the worksheet by the normalized rank for that column and write the total. Finally, sum across all the columns for the tributary to get your final total.

Example:

Restoration Impact

Restoration Potential

STEP 1: Rank each column in order of importance with 1 being most and 11 being least	5	1	3	4	8	11	2	7	10	6	9	
STEP 2: Obtain a normalized rank by the following equation:  $\frac{(11 - \text{rank} + 1)}{66}$	$\frac{(11 - 5 + 1)}{66}$ = 0.106	$\frac{(11 - 1 + 1)}{66}$ = 0.167	$\frac{(11 - 3 + 1)}{66}$ = 0.136	$\frac{(11 - 4 + 1)}{66}$ = 0.121	$\frac{(11 - 8 + 1)}{66}$ = 0.061	$\frac{(11 - 11 + 1)}{66}$ = 0.015	$\frac{(11 - 2 + 1)}{66}$ = 0.152	$\frac{(11 - 7 + 1)}{66}$ = 0.076	$\frac{(11 - 10 + 1)}{66}$ = 0.030	$\frac{(11 - 6 + 1)}{66}$ = 0.091	$\frac{(11 - 9 + 1)}{66}$ = 0.045	STEP 3: Multiply score by normalized rank and sum across columns.
Tributary Name	1 Level of Tributary Impairment	2 Impact of Impairment on Mainstem	3 # of sites For Potential Recovery	1 Stakeholder Involvement	2 Site Access	3 % of Public Access	4 Suitability for Restoration Goal	5 Ecological Benefit of Restoration	6 Financial Feasibility	7 Technical Feasibility	8 Socio-economic Benefit of Restoration	TOTAL
Mill Run	2 x 0.106 = 0.212	3 x 0.167 = 0.501	3 x 0.136 = 0.408	3 x 0.121 = 0.363	1 x 0.061 = 0.061	3 x 0.015 = 0.045	2 x 0.152 = 0.304	2 x 0.076 = 0.152	3 x 0.030 = 0.090	1 x 0.091 = 0.091	3 x 0.045 = 0.135	2.362

2. Now prioritize and list all subwatersheds in order of descending importance using the total score in the last column on the matrix



*Watershed Restoration Template – DRAFT from 9/01/2004 Meeting***Subwatershed Prioritization Worksheet**

Worksheets can be customized to meet your group's needs. The following scales are only to provide you with examples of how to rank your tributaries.

**Restoration Impact**

1. What is the level of tributary impairment?
  - <20% of tributary impaired – **Low**
  - 20 – 50% of tributary impaired – **Medium**
  - >50% of tributary impaired – **High**
  
2. What level of impact does the tributary have on the main stem?
  - Contributes <20% total pollution to main stem – **Low**
  - Contributes 20-50% total pollution in main stem – **Medium**
  - Contributes >50% total pollution in main stem – **High**
  
3. What are the number of sites within the tributary for potential recovery?
  - 1- 2 sites – **Low**
  - 3-5 sites – **Medium**
  - >than 5 sites – **High**

**Restoration Potential**

1. What is the level of stakeholder involved (local citizens, land owners, resource agencies and elected officials) in reviewing and commenting on the issues restoration planning process?
  - Problem only meaningful to group and little other public involvement – **Low**
  - Problem is meaningful to variety of stakeholders and plan being developed by several resource management people, landowners with public meeting for updates – **Medium**
  - Problem relevant to many and plan circulated and reviewed by citizens, landowners, resource agencies and elected officials – **High**
  
2. How does access to the stream, riparian area or restoration site impact restoration potential in the subwatershed?
  - Access to problem areas difficult and may cause more environmental damage – **Low**
  - Some access problems but for the most part good access with minimal environmental impact – **Medium**
  - Very little problem with access and no additional environmental impact expected – **High**
  
3. What is the percentage of stream miles open to public access in the subwatershed? (Information available through PA Fish and Boat Commission)
  - <10% open to public – **Low**
  - 10 – 50 % open to public – **Medium**
  - >50% open to public – **High**

*Watershed Restoration Template – DRAFT from 9/01/2004 Meeting*

4. Level of work in this subwatershed will assist in reaching overall watershed restoration goal?
  - Tributary is degraded but restoration of degradation has minimal impact on overall watershed restoration goal – **Low**
  - Reducing tributary degradation will achieve some of the overall watershed restoration goal – **Medium**
  - Reducing tributary degradation will achieve major watershed restoration goal – **High**
  
5. What level of ecological benefit will be gained by restoring this subwatershed?
  - Some benefit but subwatershed is or has potential for major land use disturbance – **Low**
  - Subwatershed has good potential but existing land uses/land cover (roads near streams, etc) may negate ecological benefits if not addressed – **Medium**
  - Subwatershed had great potential for ecological gains and exhibits long term sustainability – **High**
  
6. What is the financial feasibility of reducing pollution in this subwatershed?
  - Tributary will require major funding and take many years to accomplish – **Low**
  - Tributary will require substantial funding, volunteer leadership and professional involvement – **Medium**
  - Tributary will require low cost projects that can be done with minimal financing and volunteer support – **High**
  
7. How technically feasible are the problems that need solved?
  - Technology exists but not widely demonstrated or accepted – **Low**
  - Standard technology can be used and is acceptable to address particular problem – **Medium**
  - Basic easy technology such as BMP's could easily be used to solve the problem – **High**
  
8. What are the social and economic benefits for restoring this subwatershed?
  - Restoring tributary has some benefit to certain community sectors – **Low**
  - Restoring tributary enhances history, culture of area and has some potential for economic impacts to more community sectors – **Medium**
  - Restoring tributary will benefit whole community – **High**

## **E. Prioritization of Restoration Projects within Subwatersheds**

The second step is to select, evaluate and prioritize restoration projects to meet your restoration goals. To do this you should first address project design considerations, select Best Management Practices (BMP's), and identify potential funding sources.

1. What restoration projects are critical to reach your restoration goals? Answer the following questions and then use the Project Prioritization Worksheet to complete the Project Prioritization Matrix to evaluate potential restoration efforts within each critical subwatershed. Use the same ranking and scoring process used to prioritize subwatersheds.
  - a. Document BMP's planned or already implemented in the subwatersheds and assess their effectiveness.
  - b. Identify target areas within the subwatersheds requiring additional management measures.
  - c. Select appropriate BMP's for each target area based on the nature and magnitude of the problem, location and characteristics of the source, engineering feasibility and cost effectiveness of treatment, availability of landowner cooperation, etc. Resources providing assistance with the selection of BMP's for stream restoration are included in Appendix B.
  - d. Estimate the costs of designing, installing, operating and maintaining these BMP's, as well as the potential benefits of implementing them.
  - e. List the funding sources to be used for implementing the chosen BMP's. A fact sheet titled "Potential Funding Sources for Watershed Groups" is available from the DEP website ([www.dep.state.pa.us/eps/](http://www.dep.state.pa.us/eps/) – select 'Publications' then select 'Bureau of Watershed Management.'



*Watershed Restoration Template – DRAFT from 9/01/2004 Meeting*

## Project Prioritization Worksheet

1. How financially feasible is the project?
  - Project is costly or unknown – **Low**
  - Project requires substantial funding but is doable – **Medium**
  - Low cost project that can be done with volunteers – **High**
2. How technically easy will the project be to do?
  - Project is highly sophisticated and will require significant engineering resources – **Low**
  - Project will require a moderate amount of engineering – **Medium**
  - Project is low tech and easy to do – **High**
3. What is the level of landowner consent?
  - Landowner not cooperative or has not been contacted – **Low**
  - Landowner has some concerns about project – **Medium**
  - Landowner agrees with strategy and has signed an easement or donated land – **High**
4. Is the site suitable for restoration activity?
  - Not enough land, geology not right, no access for project – **Low**
  - Site has good potential to complete project but has some initial design issues – **Medium**
  - Access not an issue, enough area to build project, no inhibiting environmental factors – **High**
5. Is there broad public support for the project?
  - Certain residents likely to be upset and may try to stop it – **Low**
  - Project is non controversial and is compatible with community vision and organization goals – **Medium**
  - Project provides positive change for community and is embraced by all – **High**
6. What is the availability of funds?
  - Creative and non traditional funding is needed – **Low**
  - Traditional, competitive funding exists and fits project type – **Medium**
  - Non competitive funding is available and fits project type – **High**
7. What are the chances for the project's success?
  - Project is not a demonstration or has low visibility – **Low**
  - Project has demonstration potential and in a somewhat visible location – **Medium**
  - Project has great demonstration potential and is highly visible – **High**
8. What impact will single project have?
  - Minimal impact and hard to implement – **Low**
  - Some impact and somewhat easy to implement – **Medium**
  - Major impact and easy to implement- **High**
9. How much human energy is needed to implement project?
  - Many volunteers needed or project can't be done – **Low**

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- Some volunteers needed and available to get project done – **Medium**
- A few volunteers needed and available to get project done – **High**

10. How easy will project be to operate and maintain?

- Major operation and maintenance required which will be costly – **Low**
- Some operation and maintenance required with some cost – **Medium**
- Minimal operation and maintenance with little cost – **High**

There may be other questions your watershed group would want to consider in the matrix based on the amount of volunteer, partnership and technical support being given. For example:  
Is there internal organizational project management capacity?

## **F. Implementation Planning and Generating the “To Do” List**

The third step is to consider the subwatershed priorities and the restoration project priorities and select the top five projects you want to implement in the watershed.

1. What tasks need to be done? For example: landowner consent, funding, project design, necessary permits, project coordination, outreach and education, operation and maintenance plans, short and long term monitoring design.
2. Who will do it? For example: project overseer, consultant, public relations person, volunteer coordinator, site construction supervisor, financial administrator, contractor, operation and maintenance person, monitoring person.
3. Project milestones for completion of the project(s) and anticipated water quality improvements.
4. How will the public be informed and involved? Is there general public agreement in support of the project(s)?

## **G. Evaluating Your Progress**

The purpose of writing a watershed restoration plan is to develop a strategy to reach your watershed goals. Now is the time to think about how you will determine whether you have actually accomplished what you set out to do – with individual projects and in the watershed as a whole. As you develop your plan identify a timeline and methodology for the evaluations. You should also identify a person who will be responsible for carrying out the evaluations. Evaluations should be conducted after a project or projects have been completed for a period of time sufficient to allow the desired improvements to the watershed to be measurable.

Before you start your projects, it is worthwhile to ask the following questions. The answers should be incorporated into the written plan.

1. How will you determine if each project has been successful for the short and long term? How will you determine your progress toward the quantifiable objectives and overall goals you have set? If you decide in advance what “yardstick” you will use, that will allow you to collect the necessary “measurements” along the way.
2. How will you protect your investment from future land use changes that could negate the benefits you’ve reaped?

After you have begun implementing your plan you must also begin to evaluate your progress. The evaluations should inspect the performance of each individual project and examine the impact of your efforts on the watershed. Each project is intended to move you toward your goal, and you will want to know if it is having the desired effect.

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When evaluating projects you may want to ask yourself the following questions:

1. Are the projects working?
2. If not, what do you need to do to fix them?
3. What does this teach you for future projects?
4. Is the plan helping you achieve ecological restoration?
5. If not, how should the plan be changed?

Your watershed will change over time, both as a result of the projects you put in place and as other conditions in the watershed change. You will need to keep up with these changes by updating your watershed plan periodically. Use the answers to these questions and any others your group adds to update your lists of critical subwatersheds and restoration projects. Then generate a new “To Do” list and consider how you will carry out future evaluations. Watershed restoration planning is meant to be a continuing process. It is recommended that the restoration plan be revisited annually and corrections made as needed.

## Watershed Restoration Template – DRAFT from 9/01/2004 Meeting

## Appendix A

## Additional Sources of Planning Information

	Surface Water	Groundwater	Water Quantity	Fish & Wildlife	Threatened, Endangered Species	Channel Stability, Flooding	Wetlands	Land Use	Geology & Soils	Historical & Cultural	BMP's	Web Address	Contact Information
Stormwater Management Plans	X	X				X	X	X	X		X	<a href="http://www.dep.state.pa.us/dep/deputate/watermgt/wc/Subjects/StormwaterManagement/Plan.htm">http://www.dep.state.pa.us/dep/deputate/watermgt/wc/Subjects/StormwaterManagement/Plan.htm</a>	DEP (717) 772-4048
Wellhead Protection Plans		X	X					X	X			<a href="http://www.dep.state.pa.us/dep/deputate/watermgt/wc/Subjects/SrceProt/defaultmain.HTM">http://www.dep.state.pa.us/dep/deputate/watermgt/wc/Subjects/SrceProt/defaultmain.HTM</a>	DEP (717) 772-5807
Source Water Protection Plans	X	X	X					X	X			<a href="http://www.dep.state.pa.us/dep/deputate/watermgt/wc/Subjects/SrceProt/defaultmain.HTM">http://www.dep.state.pa.us/dep/deputate/watermgt/wc/Subjects/SrceProt/defaultmain.HTM</a>	DEP (717) 772-4018
County Water Supply Plans	X	X	X					X	X			<a href="http://www.dep.state.pa.us/dep/deputate/watermgt/watermgt.htm">www.dep.state.pa.us/dep/deputate/watermgt/watermgt.htm</a>	DEP (717) 787-0122
Watershed Restoration Action Strategies	X			X		X		X	X			<a href="http://www.dep.state.pa.us/dep/deputate/watermgt/wc/Subjects/Nonpointsourcepollution/Initiatives/WRASlist.htm">http://www.dep.state.pa.us/dep/deputate/watermgt/wc/Subjects/Nonpointsourcepollution/Initiatives/WRASlist.htm</a>	DEP (717) 787-4806
Scarlift Reports	X	X		X		X		X	X			<a href="http://www.amrclearinghouse.org/WPCAMR">www.amrclearinghouse.org/WPCAMR</a>	Western PA CAMR (724) 837-5271
River Conservation Plans	X		X	X		X	X		X	X		<a href="http://www.dcnr.state.pa.us/brc/rivers/riversconservation/">www.dcnr.state.pa.us/brc/rivers/riversconservation/</a>	DCNR (717) 787-2316
Comprehensive Land Use Plans								X	X	X		<a href="http://www.psats.org/tsearch.html">www.psats.org/tsearch.html</a>	Local Municipal Officials
TMDL's	X							X	X		X	<a href="http://www.dep.state.pa.us/watermanagement_apps/tmdl/">http://www.dep.state.pa.us/watermanagement_apps/tmdl/</a>	DEP (717) 787-9637

## Watershed Restoration Template – DRAFT from 9/01/2004 Meeting

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Fish and Boat Commission	X		X	X	X							<a href="http://www.fish.state.pa.us">www.fish.state.pa.us</a>	PFBC (717) 705-7800
Susquehanna River Basin Commission	X		X									<a href="http://www.srb.net/policies.htm">www.srb.net/policies.htm</a>	SRBC (717) 238-0423
United States Geological Survey	X	X	X			X			X			<a href="http://pa.water.usgs.gov">pa.water.usgs.gov</a>	USGS (717) 730-6900
US Fish and Wildlife				X	X		X					<a href="http://ecos.fws.gov/ecos/index.do">ecos.fws.gov/ecos/index.do</a>	FWS
Sewage Plans											X	<a href="http://www.dep.state.pa.us/dep/deputate/watermgt/Wqp/WQP_WM/WM_Sewage.htm#Planning">http://www.dep.state.pa.us/dep/deputate/watermgt/Wqp/WQP_WM/WM_Sewage.htm#Planning</a>	DEP (717) 783-3497
US Army Corps of Engineers												<a href="http://www.usace.army.mil">www.usace.army.mil</a>	
County Heritage Inventories										X		<a href="http://www.dcnr.state.pa.us">www.dcnr.state.pa.us</a>	DCNR (717) 787-2316
County Dirt and Gravel Road Program								X			X	<a href="http://www.pacd.org/districts/directory.htm">www.pacd.org/districts/directory.htm</a>	Local Conservation District
Municipal Ordinances								X				<a href="http://www.psats.org/tsearch.html">www.psats.org/tsearch.html</a>	Local Municipal Officials

Watershed Restoration Template – DRAFT from 9/01/2004 Meeting

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NRCS PL 566	X										X	<a href="http://www.pa.nrcs.gov/programs/watershed.html">www.pa.nrcs.gov/programs/watershed.html</a>	NRCS (717) 237-2215
GAP Assessment				X			X						
Mid-Atlantic Highlands Integrated Assessment (MAIA Report)	X											<a href="http://www.epa.gov/maia/html/maha.html">www.epa.gov/maia/html/maha.html</a>	EPA (410) 305-2744

## Appendix B

### A Sampling of Resources to Consult in Selecting BMP's for Stream Restoration

#### Agricultural BMP's

- A Conservation Catalog – Practices for the Conservation of Pennsylvania's Natural Resources, 1999, The Pennsylvania Conservation Partnership (Available from the Pennsylvania Nutrient Management Program at [http://panutrientmgmt.cas.psu.edu/pdf/conservation\\_catalog.pdf](http://panutrientmgmt.cas.psu.edu/pdf/conservation_catalog.pdf))
- Soil and Water Conservation Technical Guide for Pennsylvania, 1994, U.S. Department of Agriculture, Natural Resources Conservation Service (Contact the local Natural Resource Conservation Service Field Office – for locations go to <http://www.pa.nrcs.usda.gov/contact/>)

#### Abandoned Mine Drainage BMP's

- AMRClearinghouse.com, web site of the Western Pennsylvania Coalition for Abandoned Mine Reclamation
- Handbook of Technologies for Avoidance and Remediation of Acid Mine Drainage, 1998, National Mine Land Reclamation Center, University of West Virginia (Available from the National Mine Land Reclamation Center at [http://cbrc.nrcce.wvu.edu/programs/adti/publications/adti\\_handbook.html](http://cbrc.nrcce.wvu.edu/programs/adti/publications/adti_handbook.html))
- Passive Treatment of Acid Mine Drainage, 2003, U.S. Department of the Interior, Bureau of Land Management, National Science and Technology Center (Available from the Bureau of Land Management at <http://www.blm.gov/nstc/library/pdf/TN409.PDF>)
- Passive Treatment Methods for Acid Water in Pennsylvania, 2002, Penn State University, College of Agricultural Sciences (Available from Penn State University at <http://pubs.cas.psu.edu/freepubs/pdfs/uh157.pdf>)
- BMP selection flow chart models developed by Hedin Environmental and Tarco Technologies, Inc. (Contact Hedin Environmental at <http://www.hedinenv.com/index.htm>)
- AMD Treat software for estimating project costs (Available from the U.S. Department of the Interior, Office of Surface Mining at <http://amd.osmre.gov/>)

#### Stormwater BMP's

- Rapid Watershed Planning Handbook, A Comprehensive Guide for Managing Urbanized Watersheds, 1998, Center for Watershed Protection, Ellicott City, Maryland (Contact the Center for Watershed Protection at <http://www.cwp.org>)

*Watershed Restoration Template – DRAFT from 9/01/2004 Meeting*

- Pennsylvania Handbook of Best Management Practices for Developing Areas, 1998, CH2M HILL (Available from the Pennsylvania Association of Conservation Districts at [http://www.pacd.org/products/bmp/bmp\\_handbook.htm](http://www.pacd.org/products/bmp/bmp_handbook.htm))

Stream Corridor BMP's

- Stream Corridor Restoration – Principles, Processes and Practices, 1998, Federal Interagency Stream Restoration Working Group (Available from the United States Department of Agriculture at [http://www.usda.gov/stream\\_restoration/](http://www.usda.gov/stream_restoration/))
- Guidelines for Natural Stream Channel Design for Pennsylvania Waterways, 2002, Keystone Stream Team and Alliance for the Chesapeake Bay (Available from Canaan Valley Institute at <http://www.canaanvi.org/nscdguidelines>)

Riparian Buffer BMP's

- Chesapeake Bay Riparian Handbook: A Guide for Establishing and Maintaining Riparian Forest Buffers, 1998, U.S. Department of Agriculture, Forest Service and Chesapeake Bay Program (Available from the Chesapeake Bay Program at <http://www.chesapeakebay.net/pubs/subcommittee/nsc/forest/handbook.htm>)
- Forest Buffer Toolkit, 2000, Alliance for the Chesapeake Bay (Available from the Pennsylvania Department of Environmental Protection at <http://www.dep.state.pa.us/dep/deputate/watermgt/wc/subjects/StreamReLeaf/default.htm>)
- Adopt-A-Buffer Toolkit: Monitoring and Maintaining Restoration Projects, 2003, Delaware Riverkeeper Network (Available from the Delaware River Keeper Network at <http://www.delawareriverkeeper.org/monitoring/Toolkit-Final.pdf>)