

Chapter 5: Finding Solutions

Exploring BMP Options

Introduction

5.1 Overview of Best Management Practices

5.2 Selecting Best Management Practices for Your Watershed

Active Options

Write It Down

This chapter will help you:

- Learn about Best Management Practices for water quality
- Perform targeted BMP selection

As in every chapter, this one also provides:

- Active Options
- Write It Down

Find related information about this stage of watershed planning in Chapters 9, 10, 11 and 12 of EPA's Handbook

Introduction

There are limited resources available for watershed protection and restoration. Therefore it is of the utmost importance to use these resources efficiently and effectively. To do this, you need to identify **Best Management Practices** (BMPs) that will address the sources identified through the data analysis. This is the key purpose of watershed planning.

At this point in the planning process, you have collected all of the existing data in the watershed, completed additional monitoring and performed an in-depth analysis of your watershed. Now it's time to put all of these efforts to work and determine your strategy to protect and restore your watershed.

Prior to developing this strategy, you need to have a full understanding of the variety of BMPs that are available. Section 5.1 provides an overview of these BMPs and some of the resources available for these practices. The next step is to begin selecting the BMPs that will allow you to achieve the load reduction needed that you identified for all of the sub-watersheds in the Phase 2 analysis. This is covered in Section 5.2. In Chapter 6 you will take your preliminary list of targeted BMPs and develop your implementation strategy for your watershed.

5.1 Overview of Best Management Practices

A variety of management approaches are available to address water quality problems identified by the watershed plan. These include both regulatory and nonregulatory practices for dealing with issues caused by point sources and nonpoint sources of pollution. In this Guidebook all of these management approaches are called

BMPs. BMPs are actions that result in the protection of good water quality and the restoration of poor water quality.

There are many types of BMPs, from agricultural stream buffer setbacks to urban stormwater controls to homeowner education programs for on-site septic system maintenance. BMPs can be categorized in many different ways. In this Guidebook, BMPs are organized under three major categories: subsection 5.1.1 discusses BMPs for specific land uses, 5.1.2 discusses regulatory programs as BMPs, and 5.1.3 discusses the use of education as a BMP.

Structural and Non-structural Best Management Practices

Best management practices are not only built structures, such as a fence to keep cattle out of a creek, but also include other practices. For example: a law that requires all landowners to limit their livestock's access to the stream. Many times these practices are referred to as structural and non-structural BMPs. **Structural BMPs** require construction, installation and maintenance. These are usually BMPs that you can see such as vegetated stream buffers, rain gardens, and silt fences. **Non-structural BMPs** usually involve changes in activities or behavior among people in the watershed. Examples include erosion prevention and sediment control plans for construction sites, ordinances that prohibit building in the floodplain, and education and outreach campaigns.

A "**best management practice**" or "**BMP**" has traditionally been defined as something built on the ground with guaranteed documentable results in reducing nonpoint source pollution. With paradigms changing to include more expansive management practices, we are using the term "best management practice" or "BMP" to refer to any management practice designed to reduce pollution in the watershed.

Both structural and non-structural BMPs are vital parts of a comprehensive watershed plan. In fact, often these practices are most effective when used together. For example, septic tank pump-outs in a neighborhood will have a better chance of long-term success if the homeowners are also educated on how to best maintain their septic systems. The following sections provide information on many types of BMPs, including structural and non-structural practices.



Photo Courtesy of Molly Shireman.

Rain Barrels collect and store stormwater runoff from rooftops. This water can then be used to irrigate gardens and lawns.

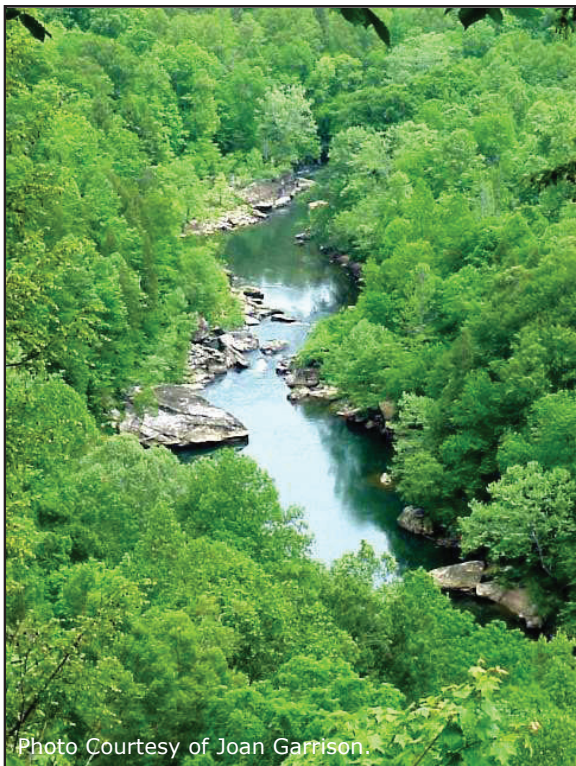


Photo Courtesy of Joan Garrison.

Healthy riparian zones help filter sediments and nutrients from runoff, stabilize streamside soils, and provide shade, food, and habitat for the aquatic systems and aquatic life of a waterway.



Photo Courtesy of Phyllis Croce.

Rain Gardens are shallow, depressed gardens that collect stormwater runoff from rooftops or other hard surfaces. These rain gardens help filter pollutants and act as beautiful landscape features.



Photo Courtesy of Steve Higgins

Fencing livestock out of streams and providing alternative water results in pathogen reduction, streambank protection, and provides clean water for livestock.



Seeding or covering bare soil with mulch, blankets, mats, and other erosion prevention products as soon as possible is the cheapest way to prevent erosion. Grass seeding alone can reduce erosion by more than 90%.

5.1.1 Best Management Practices for Specific Land Uses

In the Watershed Basics section you learned how land uses can impact water quality. Numerous BMPs have been developed to address these impacts. Table 5.1 provides some examples of structural and non-structural BMPs. Keep in mind that this is only a portion of the actual BMPs available to address water quality issues.

	Structural Practices	Non-structural Practices
Agriculture	<ul style="list-style-type: none"> Contour buffer strips Grassed waterway Herbaceous wind barriers Mulching Live fascines Live staking Livestock exclusion fence (prevents livestock from wading into streams) Revetments Sediment basins Terraces Waste treatment lagoons 	<ul style="list-style-type: none"> Brush management Conservation coverage Conservation tillage Educational materials Erosion and sediment control plan Nutrient management plan Pesticide management Prescribed grazing Residue management Requirement for minimum riparian buffer Rotational grazing Workshops/training for developing nutrient management plans
Forestry	<ul style="list-style-type: none"> Culverts Establishment of riparian buffer Mulch Revegetation of firelines with adapted herbaceous species Temporary cover crops Windrows 	<ul style="list-style-type: none"> Education campaign on forestry-related nonpoint source controls Erosion and sediment control plans Forest chemical management Fire management Operation of planting machines along the contour to avoid ditch formation Planning and proper road layout and design Preharvest planning Training loggers and landowners about forest management practices, forest ecology, and silviculture
Urban	<ul style="list-style-type: none"> Bioretention cells Rain Gardens Rain Barrels Infiltration basins Green roofs Permeable pavements Wetland creation/restoration Establishment of riparian buffers Stormwater ponds Sand filters Sediment basins Tree revetments Water quality swales Clustered wastewater treatment systems 	<ul style="list-style-type: none"> Planning for reduction of impervious surfaces (e.g., eliminating or reducing curb and gutter) Management programs for onsite and clustered (decentralized) wastewater treatment systems Educational materials Erosion and sediment control plan Fertilizer management Ordinances Pet waste programs Pollution prevention plans Setbacks Storm drain stenciling Workshops on proper installation of structural practices Zoning overlay districts Preservation of open space Development of greenways in critical areas

*Note that practices listed under one land use category can be applied in other land use settings as well.

Table 5.1. Examples of Structural and Non-structural Best Management Practices

Resources listed below provide information about BMPs based on land use characteristics and their impacts. This is not an exhaustive list of BMP resources, but these sites are good places to start.

General

There are numerous resources for BMPs. Two websites that contain information about a wide variety of BMPs are listed below:

- The US EPA has developed several guidance documents on management practices, broken out by type of management measure. The following site provides links to the EPA National Management Measures for Agriculture, Forestry, Hydromodification, Marinas and Boating, Urban, Wetland, and Riparian areas publications on their website .
- The website of Kentucky Division of Water's Nonpoint Source Program lists BMP publications for all categories of nonpoint sources .



Each website icon refers to a site on that gateway website. In the electronic version of the document, these icons refer to direct links in a list on the gateway website. This gateway website address is <http://water.ky.gov/watershed/Pages/WatershedPlanningGuidebook.aspx>

Storm Water

The overall goal of storm water BMPs is to treat, store and infiltrate stormwater runoff before it enters a nearby waterbody. This can be achieved through a variety of structural and nonstructural practices.

- The online International Stormwater Best Management Practice Database provides access to performance data for more than 200 urban management practice studies conducted over the past 15 years .
- A number of communities throughout Kentucky have developed stormwater BMP manuals. These documents can be excellent resources for all watersheds throughout the state.
 - Bowling Green
 - Northern Kentucky Sanitation District No. 1 - Stormwater Management Handbook: Implementing Green Infrastructure in Northern Kentucky Communities
 - Lexington
- The EPA provides a "BMP menu" for stormwater on their website .
- EPA also has an excellent site for Green Infrastructure
- The Center for Land Use and Environmental Responsibility at the University of Louisville developed the *Kentucky Wet Growth Tools for Sustainable Development* handbook, which provides a variety of tools for cities, counties, multi-stakeholder groups, watershed groups, and other interested members of the public to manage or control growth and development for water resource protection .

Agricultural

Agricultural BMPs are practical, cost-effective practices that farmers can implement to reduce the amount of pesticides, fertilizers, animal waste, and other pollutants entering our water resources. These BMPs are designed to benefit water quality while maintaining or even enhancing agricultural production.

- The online NRCS National Handbook of Conservation Practices contains information about agricultural BMPs .
- BMPs for farm pesticide applications are listed on the Kentucky Department of Agriculture’s website .
- Kentucky farmers use BMPs as part of the Agriculture Water Quality Plans that most are required to develop. Farmers receive assistance from Conservation Districts; see their website for more information .

Construction

Construction site BMPs are designed to prevent erosion and sediment along with other pollutants from leaving a construction site and entering a nearby waterbody. Kentucky has specific BMP guidance documents for construction sites. This information is also available in some of the resources listed under Storm Water above.

- The “Kentucky Erosion Prevention and Sediment Control Field Guide”
- “Best Management Practices (BMPs) for Controlling Erosion, Sediment, and Pollutant Runoff from Construction Sites”

Forestry

Forestry BMPs are practices that landowners can implement to protect nearby waterbodies from polluted runoff that can result from forestry activities. These BMPs are also intended to help landowners manage these forestry resources for long term sustainability.

- “The Kentucky Forest Landowner’s Handbook” is available online .

Onsite Wastewater Treatment

Onsite wastewater BMPs are practices that result in the proper installation and maintenance of these systems and prevent malfunctioning systems that can contaminate local water resources.

- The EPA Onsite Wastewater Treatment Systems Manual is available online .
- The Kentucky Onsite Wastewater Association Homeowner’s Guide is available online .
- Information on the National Onsite Demonstration Program is available online .
- The EPA Handbook for Managing Onsite and Clustered (Decentralized) Wastewater Treatment Systems is available online .

5.1.2 Regulatory Programs

A number of regulatory programs exist in Kentucky to manage water quality. It is important to understand the general requirements of these programs and how they can help with implementation. In some cases the implementation needed to address a water quality issue may already be required under a regulatory permit. In this case, you would not want to use your limited resources to implement practices that another entity is required to perform by law, although you may want to put some energy into improving compliance – or even enforcement, if needed.

The following provides an overview of many of these programs, their requirements, how to find out if they apply in your watershed, and how they may be an integral part of the implementation strategy that you develop in Chapter 6.

Source Water Protection Plans, Wellhead Protection Program, and Groundwater Protection Plans

The federal Safe Drinking Water Act Amendments of 1996 requires states to analyze existing and potential threats to each of its public drinking water systems. If there is a permitted water withdrawal in your watershed for a public drinking water supply, Safe Drinking Water Act requirements for either a Source Water Protection Plan or a Wellhead Protection Plan apply. In addition, be sure to check downstream, because your watershed could be part of a protection area for a downstream, surface water intake for public water supply.

For public water systems using surface water, the Safe Water Drinking Act requires that counties develop county or regional water supply plans that assess the quantity of water used by their public water systems and formulate protection plans for the source waters used by those systems. A great deal of information regarding water resource planning is available through the Kentucky Infrastructure Authority (KIA) Water Resource Information System (WRIS) . To obtain specific information about water resource planning and source water protection in your area you can contact the Water Management Planner for your Area Development District (ADD) . You can also contact the Water Quantity Management Section of the Kentucky Division of Water.

Similarly, the Kentucky Division of Water administers the Wellhead Protection Program, which is designed to assist communities that rely on groundwater as their drinking water source. To obtain additional information about this program contact the Water Quantity Management Section of the Kentucky Division of Water .

The Groundwater Section of the Kentucky Division of Water also oversees the development of Groundwater Protection Plans, which are required for anyone engaged in activities that have the potential to pollute groundwater. To learn more about these plans for your area, contact the Groundwater Section of the Kentucky Division of Water .

These plans can provide a great deal of useful information for your watershed. They can also function as good BMPs. For example, if these plans restrict the types of land use in these designated areas, then they may act as a good protective measure in the watershed. The Drinking Water Utility may also be interested in partnering on an educational campaign to inform local residents how their actions can impact their drinking water source.

Agriculture Water Quality Plans

The Kentucky Agriculture Water Quality Act requires, any farm operation on a tract of land situated on ten or more contiguous acres that engage in agriculture or silviculture activities to develop and implement a water quality plan. The Kentucky Agriculture Water Quality Plan consists of best management practices from six areas: 1) Silviculture, 2) Pesticide & Fertilizer, 3) Farmsteads, 4) Crops, 5) Livestock and 6) Streams and Other Water. Landowners must prepare and implement these plans based on their individual farm operations and keep a record of planning and implementation decisions. Agricultural agencies assist farmers in the simple steps of developing these plans. The Agriculture Water Quality Plan generally gives an

overview of each landowner's decisions regarding how they plan to address potential water quality impacts generated by their operation. These plans are maintained on file with the individual farm operator or owner. Your local District Conversationalist or the Division of Conservation (DOC) may be able to provide you an estimate of the number of plans filed in your area or the percentage of farmers that have these plans. You can find more information about these plans on DOC's website [www.ky.gov/conservation](#). Online guidance is available for developing the plans [www.ky.gov/conservation/404](#).

Regulations and Programs for Wetlands and In-stream Construction or Disturbance

Section 404 of the Clean Water Act regulates the discharges of dredged or fill materials into the waters of the United States, including small streams and wetlands adjacent or connected to regulated waters. These discharges include return water from dredged material disposed of on the upland and generally any fill material (e.g., rock, sand, dirt) used to construct land for site development, roadways, erosion protection, and so on. Guidebook section 2.4.3 includes instructions for obtaining information about 404 permits and 401 Water Quality Certifications. In addition to being aware of these permitted activities in your watershed, it's important to consider these requirements when selecting BMPs. For example, you may have found that sedimentation impacts in your watershed are due in part to in-stream construction or placement of fill material in the floodplain. You may also have found that these activities are occurring without a 404 permit or 401 certification. This would identify the need for BMPs that educate local officials and contractors of these permit requirements and the need to ensure these requirements are properly enforced.

Regulations for Floodplain Construction

Anyone performing construction and other activities in the 100-year floodplain are required to apply and obtain a permit from the KDOW Floodplain Management Section. Typical permitted activities are dams, bridges, culverts, residential and commercial buildings, placement of fill, stream alterations or relocations, small impoundments, and water and wastewater treatment plants. More information about the floodplain management program and permit requirements can be found on KDOW's website [www.kdow.com](#).

Facility Plans for Wastewater

Wastewater authorities are required to submit plans for the development of their wastewater facilities to the Kentucky Division of Water under Section 201 of the Clean Water Act. Many times these documents are called facility or wastewater plans, but they are sometimes referred to as 201 plans. If you have a sewer system in your watershed, you should discuss the plan with the responsible authority. The information in the plan and their other operational plans can provide a great deal of information about future efforts such as sewer line extensions, treatment plant up-grades, etc. This information is extremely valuable when developing an implementation strategy to address wastewater impacts. For example, you would not want to implement a large onsite wastewater project for a neighborhood that will be added to the sewer system in the following year. If you do not know whether the communities in your watershed have these plans, then contact your Area Development District (ADD) for a list of these communities [www.kdow.com](#).

You can also contact the Kentucky Division of Water Wastewater Planning Section and ask if there are any facility plans for your area.

Additional information about these facilities can also be found at the Kentucky Infrastructure Authority (KIA) website .

Programs and Permits for Managing Wastewater Discharges

The Kentucky Pollutant Discharge Elimination System (KPDES) permit program controls water pollution by regulating point sources that discharge pollutants into Kentucky's waterways. This includes wastewater discharges from multiple human sources such as wastewater treatment plants, package treatment plants, industrial facilities, and mining operations. You can view a full list of these permits on KDOW's website .

In addition to managing human wastewater, KPDES also requires permits for Concentrated Animal Feeding Operations (CAFOs). These permits set waste discharge requirements that need to be met by implementing animal waste management practices such as reducing nutrients in feed; improving storage, handling, and treatment of waste; and implementing feedlot runoff controls. You can find more information about these permit requirements on KDOW's website .

In Chapter 2, section 2.4.1 you were instructed to obtain information about these permitted discharges in your watershed. In addition to knowing what these facilities are discharging, it is also important to understand their regulatory requirements and how the permit holder ensures these requirements are met. You may find that the wastewater treatment plant is not meeting its permit limits and as a result contributing to the elevated *E.coli* levels in the watershed. This may be due to a number of factors, such as leaking collection pipes or an undersized facility. It is important to know what measures the entity that manages the treatment plant plans to take to comply with their permit. This information is an important part of the implementation strategy for the watershed. By including these measures with other identified BMPs, you may be able to identify funding sources for these activities and ensure future compliance.

Programs and Permits for Managing Stormwater Discharges

Another discharge controlled by the Kentucky Division of Water is stormwater. More than 100 Kentucky municipalities are required to have permits that mandate programs to minimize the discharge of pollutants from their Municipal Separate Storm Sewer Systems (MS4s). In Chapter 2 you were instructed to identify any of these designated MS4 permitted communities that exist in your watershed. As part of the permit requirements, these communities must develop and implement a Storm Water Quality Management Plan (SWQMP). These plans must include the following six minimum control measures in their management programs:

- Public education and outreach on stormwater impacts
- Public involvement/participation
- Illicit discharge detection and elimination
- Construction site runoff control
- Post-construction stormwater management in new development and redevelopment
- Pollution prevention/good housekeeping for municipal operations

You can obtain additional information about these permit requirements on KDOW's website .

Through your watershed planning efforts, you may have identified a number of impacts caused by stormwater runoff. If a permitted MS4 exists in your watershed, then it is important to know how their SWQMP addresses these identified impacts. Working with the permitted community can help them target their efforts to the stormwater impacts identified in your watershed plan and can also keep both of you from duplicating efforts.

The KPDES stormwater program requires operators of construction sites that are one acre or larger (including smaller sites that are part of a larger common plan of development) to obtain authorization to discharge stormwater under a KPDES construction stormwater permit. Permits are also required for industrial facilities with outside material storage that might contribute to polluted runoff. You can obtain additional information about these permits on KDOW's website .

Programs and Permits for Managing Combined Sewer Overflow (CSO) and Sanitary Sewer Overflow (SSO)

Combined Sewer Overflows (CSOs) are permitted overflows of sanitary wastewater and storm water combined in a single conduit (e.g. sewer pipe). Pursuant to the 1994 CSO Control Policy, acceptable Long-Term Control Plans (LTCPs) must be developed by the 17 CSO communities in Kentucky. These LTCP are calculated to allow those communities to achieve water quality standards after the LTCPs are implemented, as documented by post-construction compliance monitoring. Additional information for CSOs can be found on KDOW's website .

Sanitary Sewer Overflows (SSOs) are illegal according to the Clean Water Act. However, many communities in Kentucky experience SSOs periodically, and a majority of those communities have one or more recurring wet weather SSOs. The wastewater provider for the area is required to eliminate the overflow. This is usually done through a Sanitary Sewer Overflow Plan (SSOP) or other corrective action orders or agreements.

In Chapter 2 you were instructed to identify these discharges within your watershed. If one of the 17 CSO communities is in your watershed, you should review the LTCP for that area. If there are SSOs in your watershed, then it will be important to know if a SSOP has been developed or if another corrective action has taken place to eliminate the SSO. As with the SWQMPs, it's important to understand the activities identified in these plans so that you do not duplicate efforts. In some cases, your watershed planning efforts may assist the local wastewater provider in addressing these issues.

You can request LTCPs, SSOPs, and information regarding enforcement actions for SSOs from the Wet Weather Section of the Kentucky Division of Water.

Special Land Use Planning or Existing Watershed Plans

Local authorities may have ordinances and regulations that restrict how land may be used. Ordinances that directly affect water quality may include Floodplain Construction, Erosion Prevention and Sedimentation Control, riparian setbacks, or sinkhole ordinances. Ordinances for subdivision and other developments frequently impact the amount of impervious surface in the area and other factors, such as vegetative buffers in riparian areas.

Zoning or Development Plans that determine where types of development can be permitted will also have a major influence on water quality because they will determine future land uses. Some cities may have special land use planning districts that establish riparian corridors along special waterways. There may have even been past watershed planning efforts in your watershed.

It's important that you are familiar with these existing local plans and requirements so that your implementation strategy can build on these existing efforts.

5.1.3 Education as a Best Management Practice

Education can be the most effective long-term BMP for water quality and is an integral part of the watershed plan. Every watershed plan should include an education and outreach component that involves the watershed community. Because many water quality problems result from individual actions and the solutions are often voluntary practices, effective public involvement and participation promote the adoption of management practices, help to ensure the sustainability of the watershed management plan, and perhaps most important, encourage changes in behavior that will help to achieve your overall watershed goals. They are particularly important when implementation requires broad-based participation by a group of individuals: changed nutrient management practices among local farmers, for example, or the installation of rain gardens by residential landowners.

Outreach can be a part of your plan, giving it a focus for coordinating the various activities. It can also be something coordinated as part of your planning team's continuing work during the implementation phase of the plan (discussed more in the next and final chapter).

This section is based on EPA's *Getting In Step: A Guide for Conducting Watershed Outreach Campaigns*, which can be downloaded from their website <https://www.epa.gov/watershed/outreach>. EPA's website also has a toolbox of outreach materials that watershed planning teams can use

An outreach strategy, whether for the entire plan or within each action item, will have these components:

- **Define the objectives of your outreach strategy:** Are you raising awareness, providing information, or encouraging action?
- **Identify and analyze the target audience:** Who are you trying to reach with your outreach strategy? Be as specific as you can, identifying the most important segments of your community who need to be reached with a particular message. Use the Demographics and Social Issues information collected in Chapter 2 to

assist you in determining who is your target audience, what do they care about, and what is the best way to reach them.

- **Create the message:** What information do you want your target audience to know, or what actions do you want them to take? The message should be clear and tied directly to something the target audience values, such as saving time or money or improving health.
- **Package the message:** What type of communication will you use? Some media will more effectively reach certain audiences, and will target specific messages better than others. Sometimes media is not helpful at all except as reinforcement after one-on-one contacts. Be creative with your approach.
- **Distribute the message:** Especially with printed material, how will you get them to your target audience?

5.2 Selecting Best Management Practices for Your Watershed

Now that you are familiar with the types of water quality Best Management practices, it's time to begin selecting BMPs based on the Phase 2 Analysis completed in Chapter 4. As discussed in the introduction, targeted implementation is vital to successful watershed planning. You invested a great deal of resources into the data analysis completed in Chapter 4. Now it's time to utilize the results. Based on the source identification and the calculated load reductions needed from Chapter 4 you can now select the BMPs that will most effectively and efficiently address the identified issues.

Having completed the Phase 2 analysis for the selected sub-watersheds (HUC 14s), you now have a detailed account of all the suspected sources and contributors to the pollutant concentrations and loads calculated for each sampling location. Next, create a list or table of BMPs to address these sources and contributors.

The following are some of the important factors to consider when developing the BMP list/table:

- What types of BMPs are needed to address the pollutant contributors? For example, if your analysis shows the elevated *E. coli* loads are due to livestock and failing septic systems, you should select BMPs for both of these issues.
- Where should the BMPs be implemented to address the source? It's not only important to identify the type of BMPs but they must also be targeted to the source (the area in the watershed that is contributing to the elevated pollutant loads). For example, the Phase 2 analysis may show that the largest *E. coli* load is coming from a small tributary upstream of one of the sampling locations. This area is identified as a source of *E. coli* and therefore the BMPs should be targeted to this area.
- What are the cumulative impacts as you move downstream? The loads calculated for each sampling location represents the impacts of the entire watershed draining to that point. Therefore implementing BMPs in the upper portions of the watershed may decrease the pollutant load at all of the sampling points downstream from the selected implementation area.
- Are there any sampling sites where the water quality did not exceed the in-stream target value for a particular parameter? If so, then this is an area that should be protected. BMPs should be selected for this area that protects the

characteristics (e.g. intact riparian corridor) that contribute to the good water quality.

- Are there any existing programs, regulations or other practices that are currently addressing the identified issues? As discussed in Section 5.1.2, you do not want to use limited resources to duplicate efforts or implement practices that are already required by an existing permit. On the other hand, if you find that a permit requirement is not being met and is contributing to a pollutant load, then you may need to include measures in your management strategy to address this lack of compliance.



Active Options

The following provides a number of activities to help understand the BMPs available and how these practices should be targeted in your watershed.

- Plan a field trip to observe BMPs. It is always helpful to see structural BMPs in action. There are a number of areas throughout Kentucky where you can observe these BMPs.
 - Agricultural BMPs – contact the local NRCS office and ask if there is farm that your planning team can visit to observe agricultural BMPs.
 - Stormwater BMPs – SD1’s Public Service Park in Northern Kentucky showcases a wide array of stormwater BMPs including a green roof, permeable pavements, bioswales and cisterns.
 - Onsite Wastewater BMPs – The Kentucky Onsite Wastewater Association’s Training Center in Lawrenceburg is an excellent place to see a number of onsite wastewater practices.
 - All BMPs - Contact Kentucky Division of Water’s Nonpoint Source and Basin Team Section to find out about examples of BMPs throughout the state.
- Invite an expert for particular types of BMPs to speak to your planning team. This person may be an excellent resource when it’s time to implement the practices.
- Invite someone from the local public works department, planning and zoning commission, wastewater or drinking water utility, or Health Department to speak to your Planning team about the regulatory programs outlined in Section 5.1.2.
- Take a driving tour of the watershed to take a closer look at some of the sources identified through you Phase 2 analysis. Note any possible barriers to implementation in these areas. This information will be very helpful in Chapter 6.



Write It Down

Upon completion of this stage of the watershed planning process you will have a large list or table of BMPs that are targeted to address the sources of pollution identified in the Phase 2 analysis. Although it would be ideal to implement all of these BMPs, this is not usually an option due to limited resources and a number of other factors. In Chapter 6 you will take this list of targeted BMPs and apply a number of “feasibility factors” to determine the final BMP Implementation Strategy for your watershed plan.

Other Records

Although the list of BMPs is important for the next phase of planning, it is not necessary to include the list at this point in your watershed plan. However, if you are developing a watershed plan with KY 319 funding you should keep a record of this list and be able to provide the list to the Nonpoint Source and Basin Team Section upon request.