

## Guidance for Specific Watershed Protection Project Types

All grants funded by the commonwealth, whether direct or indirect (matching grants), that produce data and information are property of the commonwealth. The resulting grant data is used in combination with agency data for a complete environmental assessment. The data is public information unless there is a grant or contract condition that specifies otherwise. Examples of deliverables include reports, graphics, spreadsheets, imagery, data files, audio and digital video products, and educational curriculum materials. Department standards can be referenced at <http://www.depweb.state.pa.us/growinggreener> click on "Help for Recipients".

Here are some suggestions for your detailed scope of work by specific project types. Another valuable resource is "Helpful Hints for Better Applications" on the Grants Center Web site in the Resource section – click on "Help for Applicants".

DEP reserves the right to change the proposed project type designation if it believes the proposal does not sufficiently match this project type.

### A. Develop a Watershed Management Plan

Your watershed may contain healthy or unhealthy streams. It may be pristine or have many pollution problems. Before local watershed groups begin to tackle specific projects, the department strongly encourages that a watershed management plan be completed. Proposals for developing plans that address watershed-specific resources, sources and causes of degradation, and that have a realistic schedule of tasks will be favored for funding. A watershed management plan should cover the following components:

1. Information about the watershed group or interested party.
2. How financial and human resources will be secured.
3. A comprehensive assessment (water quality emphasized).
4. An evaluation and prioritization of projects and initiatives.
5. A description of how your projects and initiatives will be implemented.
6. A monitoring component that determines the success of your efforts.

This is the road map that will help identify problems and threats and recommend specific restoration or protection measures.

If watershed planning is to be meaningful, some entity should have the ability and authority to carry out recommendations that are made. Taking on watershed planning means involving all the stakeholders in the watershed. It is especially critical to enlist the support of your local governments.

Both restoration and protection components of your watershed management plan should describe which of your projects and initiatives are a priority, how they will be completed and who will do it.

Describe how the watershed management plan will engage the public, gather their input and maintain their involvement. Describe how interested parties, including county and local governments, and landowners, will be involved in each part.

## Assessments – Learning About Your Watershed

The first step in creating an effective restoration or protection plan is to do an assessment of your watershed. An assessment gathers data on your watershed that already exists and collects new data, if needed. Perhaps a local monitoring group has collected water quality data for years, or DEP has recently surveyed the stream organisms. But no one has evaluated how much riparian cover the streams have, how many farms are being lost, how invasive species are impacting the watershed, or the severity of stream bank erosion. *Don't* reinvent the wheel, but *do* gather all the evidence you need to paint the picture of what is right and what's wrong in your watershed. Fill in the "data gaps" if you need more data. Here are some things that should be considered:

- prior reports, watershed assessments, stormwater management plans, source water protection reports, etc.
- map of the watershed and streams
- geology, topography, soils, and precipitation
- unique features like wetlands, or other biological resources
- stream designations, or floodplains
- water quality data
- 303(d) listings and or/TMDL status
- municipalities in watershed
- land use, population trends and socio-economic structure
- status of ordinances for stormwater, conservation practices
- nonpoint pollution problems – kinds and where they are
- future threats to the watershed

For some parts of an assessment, you may need help from an environmental consultant. Many times, partners can work together to gather assessment data. Watershed groups can record visual observations by conducting stream walks. The assessment should identify gaps in existing data and make recommendations for filling the gaps.

Projects that include water quality monitoring are required to complete a study design or monitoring plan. A study design or monitoring plan is a logical series of choices about the why, what, how, where, when and who of a monitoring program. A properly completed study design ensures that the correct parameters are measured and the appropriate protocols are used to meet the project's goals and data quality needs. A study design or monitoring plan maximizes time and money by focusing on specific questions to be answered through monitoring, and therefore, avoiding unnecessary sampling and analysis. A study design or monitoring plan can easily be converted into a Quality Assurance Project Plan.

It helps all involved to make choices based on clearly defined goals and the needs of the data user. These choices are organized into a 10-step process:

- Step 1: What is already known about your watershed?
- Step 2: Why are you monitoring?
- Step 3: What will you monitor?

- Step 4: What are your data quality objectives?
- Step 5: How will you monitor?
- Step 6: Where will you monitor?
- Step 7: When will you monitor?
- Step 8: What are your quality assurance measures?
- Step 9: How will you manage, analyze and report the data?
- Step 10: What are the tasks and who will do them?

### Watershed Management Plan -Your Watershed "How-To" Manual

As watershed stewardship has evolved, numerous terms have been used interchangeably causing some confusion for those involved with watershed stewardship. Following is a brief description of some typical terms associated with various types of plans as they relate to watershed management:

**Watershed Assessments** -Assessments attempt to identify the important issues impacting the water quality and quantity for surface water and groundwater. However, assessments are not just about water quality, they are also about environmental health in general.

**Watershed Management Plan** -A management plan serves as a framework for conducting watershed stewardship. The management plan succinctly lays out in a step-by-step process how and where watershed stewardship will take place.

**Conservation District Implementation or Strategic Plan** -Applicants are strongly encouraged to contact their county conservation districts when developing projects and preparing their grant applications. Many conservation districts maintain County Implementation Plans that include basic watershed planning and project implementation information that is useful in developing and coordinating watershed projects. (County Implementation Plans are currently available in all Chesapeake Bay watershed counties and expanding to be available statewide.) County Implementation Plans can help applicants avoid duplication of efforts and assure compatibility with other projects in the watershed.

**Watershed Restoration Plans** -Restoration plans provide a more detailed explanation of how, where and what type of restoration projects/strategies are to be employed to improve the watershed. Restoration plans build on what was learned in the assessment and evaluation/prioritization phases of your watershed management plan. Therefore, restoration plans are the next logical step. It is imperative that a restoration plan contain an implementation schedule that specifies who is responsible for each activity and in what timeframe. Typically, these plans are more site-specific and project oriented. Note: restoration plans can differ significantly due to the type of project under consideration.

**Watershed Protection Plans** -Protection plans describe specific strategies or actions (such as land use ordinances or wellhead protection plans) that together will help to ensure that your watershed receives some level of protection. Protection plans are in a sense "preemptive" in that resources will be protected prior to any impairment. Protection plans are strongly recommended even in pristine watersheds. Restoration and protection plans are often combined into one document.

**Water Resource Management Plans** -Water resource plans are the most comprehensive of any of the plans mentioned above. Resource plans will likely have an assessment, restoration and protection component to them. Resource plans look at just about anything that has a direct or indirect effect on water quality, water quantity and water use. Numerous stakeholders are often involved in this type of plan including government entities, industry, business, environmental groups, public authorities and others. Water resource plans consider more fully water quantity, quality, usage and availability. A water resource management plan undertaken by a county or group of municipalities as a component of a county comprehensive plan or multi-municipal plan may also be considered for funding.

Projects proposing watershed assessments or restoration planning may receive additional consideration by meeting certain local land use planning and control requirements. This consideration may be obtained by including a Multi-Municipal Planning Form or county/municipal letters with the application as described in the "Help for Applicants" resource found at <http://www.depweb.state.pa.us/growinggreener>. Click on Act 67 and 68 Policy-Land Use Planning. Click on Technical Guidance Document 012-0200-004 (Refer to Paragraph IV). Please note that this is NOT a program requirement and is only necessary to obtain additional consideration for funding.

## **B. Education/Outreach**

- Projects will be strongly favored that result in exposure of the target audience to actual environmental conditions, including seeing comparisons of nonpoint source pollution and best management practices and/or being personally involved in putting best management practices into place. For each proposal, include:
  - Describe the methods of communication, the message, the target audience and the expected size of the audience.
  - How will the watershed community be involved in the project? How will you try to reach people not previously involved in environmental issues?
  - Design a detailed set of tools to assess audience comprehension (i.e. a survey before and after the project, or a newsletter followed by a measure of workshop attendance to judge the effect of the newsletter).
  - How will the project be tailored to your specific watershed? If a watershed plan exists, describe how this project relates to the identified goals, objectives or priority actions. If no plan exists now, how will this project help lead to the development of one?
  - How does this project relate to objectives or implementation steps of Pennsylvania's Nonpoint Source Management Program Update? Projects that fulfill objectives of the NPS Management Program will be favored.
- Videos, brochures and newsletters as stand-alone outreach tools will not be favored; they can be produced by the sponsoring organization as matching effort in connection with implementation projects and will contribute to favorable scoring of the implementation in that context.
- Outdoor environmental education construction, such as gazebos, pavilions and bridges, are not eligible for Growing Greener grants.
- For any workshop where a registration fee is charged, the amount must be deducted from any Request for Reimbursement.

- Environmental education projects related to the Department of Education's academic standards for environment and ecology, e.g., if they involve curricula, teachers and students or school facilities, should be submitted to DEP's Director of Environmental Education (contact Jack Farster at [jfarster@pa.gov](mailto:jfarster@pa.gov), or 717-705-3767) or to the Department of Education.

### **C. Design and/or Construction**

Large, complex projects: For projects such as treating large abandoned mine discharges or natural stream channel design, lengthy design and permitting may be required. This takes time. Two separate grant applications, made in two separate grant years, are suggested. The first application would be to fund such activities as project design, obtain permits, evaluations for natural diversity (PNDI) and historical (PHMC) impacts and other pre-construction activities. The second application would be to fund the construction phase.

If your project is relatively simple and has a small scope -design, permit, and construction activities can be addressed by one grant application. A streambank restoration project less than 500 linear feet long and eligible for a general permit is an example of a small construction project.

Projects proposing the construction of infrastructure of facilities (including streambank restoration or BMPs) may receive additional consideration by meeting certain local land use planning and control requirements. This consideration may be obtained by including a Land Use Planning Form or approval letter with the application as described in the "Help for Applicants" resource found at [www.depweb.state.pa.us/growinggreener](http://www.depweb.state.pa.us/growinggreener). Click on Act 67 and Act 68 Policy-Land Use Planning. Click on Technical Guidance Document 012-0200-002 (refer to Paragraph V.) Please note that this is NOT a program requirement and is only necessary to obtain additional consideration for funding.

For any construction project, small or large, here are the types of things that should be clarified in your application:

- Identify on a map the approximate size and location of the critical areas to be treated. Include photographs if available.
- Describe how the measures to be implemented will have a significant impact on restoring or protecting habitat or water quality.
- Quantify environmental results/benefits that can be expected as a result of project implementation (i.e., measures implemented, pollutant reduction, improvement in biological or physical parameters).
- Include signed letter of commitment from the landowner(s).
- Describe contractor involvement, contracting procedures, construction inspection provisions and whether competitive bidding will be used.
- Indicate project schedule, tasks, deliverables and timelines. Be sure to include your progress in obtaining necessary permits and approvals.
- For projects involving planting, we favor projects that use species native to the region. List species you will use, if known. Make sure to provide adequate maintenance (even through difficult growing conditions, like drought).

- Land Use Planning Form or approval letter from the municipality or appropriate planning office demonstrating that you coordinated your project with the municipal entities to determine consistency with local land use planning.
- Describe how restoration projects relate to the rest of the watershed. In particular, describe what attempts have been made or will be made to address the source(s) and cause(s) of the problem being addressed in this proposal.
- Describe the roles and responsibilities of each group involved in the project.
- Describe the general operational maintenance and repair/replacement activities for the proposed treatment system or BMPs/CP installed. For AMD treatment systems this discussion must also include information on the established financial resources needed to sustain the AMD treatment system. A final, detailed plan that identifies the Operational, Maintenance & Repair/Replacement (OM&R) Plan needs, responsible parties and established financial resources will be a project deliverable for all construction projects designed to treat AMD. Long-term project repair/replacement must also be addressed in the OM&R plan, including who will be responsible for it, the anticipated cost, and estimated timeframe when it will be needed. The applicant must state in the plan if it expects the Department or any party other than itself to be responsible for the long-term project repair/replacement.
- All applications for design and/or construction of AMD treatment facilities must include the use of AMDTreat software for rough sizing and cost estimating.

#### **D. Operation, Maintenance and Repair/Replacement (O, M&R)**

The need for long-term operation, maintenance and repair and replacement (O, M&R) has been recognized as a requirement to ensure the continuing success of watershed restoration projects. This category is not intended to fund routine operation and maintenance activities, nor is it intended to repair or replace systems damaged by operator negligence. The purpose of this funding category is to fund non-routine operation, maintenance and repair/replacement items needed for existing watershed restoration projects. This category is not expected to be used to cover all O, M&R costs, but only those that can't be covered by project sponsors using local resources. Examples include: lab analysis of water samples collected for monitoring purposes, sludge or sediment removal from settling ponds, major structural repairs to berms damaged by flooding, replacement of materials being used up in the system (compost, limestone) and partial system reconstruction where the system is not operating as designed. Dedicated sponsors, with landowner approval, are expected to provide much of the operation and routine maintenance needs. However, when costly maintenance needs, technical upgrades, and system replacement needs arise, Commonwealth funding may be necessary.

- Identify on a map the approximate size and location of the critical areas to be treated. Include photographs if available.
- Describe how the measures to be implemented will have a significant impact on restoring or protecting habitat or water quality. (Refer to the TMDL for the watershed, if one exists.)
- Quantify environmental results/benefits that can be expected as a result of project. Indicate project schedule, tasks and timelines. Be sure to include your progress in obtaining necessary permits and approvals.

- For projects involving planting, projects are favored that use species native to the region. List species you will use, if known. Make sure to provide adequate maintenance (even through difficult growing conditions, like drought).
- For projects proposing treatment of a specific pollution source (such as abandoned mine drainage), include water quality data if available and cite the source of the data.
- Identify the funding source of the original construction project that resulted in the system needing O, M&R funds.
- Describe what routine measures have been done prior to this application for the efficient operation of the facility to preclude the need for more expensive replacements.
- A final, detailed plan that identifies the Operational, Maintenance & Repair/Replacement (OM&R) Plan needs, responsible parties and established financial resources will be a project deliverable for all OM&R projects designed to treat AMD. Long-term project repair/replacement must also be addressed in the OM&R plan, including who will be responsible for it, the anticipated cost, and estimated timeframe when it will be needed. The applicant must state in the plan if it expects the Department or any party other than itself to be responsible for the long-term project repair/replacement.
- What will be the impacts to the watershed should this system fail to provide effective treatment?

#### **E. Technical Assistance**

Grantees for this project type are expected to provide mentoring and other assistance to local organizations involved in watershed restoration at no cost to the local organization. Technical assistance projects provide a technical service directly to local organizations in a defined geographical area. DEP will reimburse the grantee for the costs of providing this assistance.

Previous Technical Assistance grants have been given for legal advice, data management assistance, geographic information, general and specialized science advice, technical engineering work, and general program management. Technical Assistance services should support DEP priorities and program initiatives with an emphasis on helping local organizations achieve technical capability in response to their requests.

Priority would be to assist watershed groups with finding other private or government sources of funding, how to work to get local community support to include providing match and other financial backing.

Projects proposing technical assistance in defined geographic areas may receive additional consideration by meeting certain local land use planning and control requirements. This consideration may be obtained by including a Multi-Municipal Planning Form or county/municipal letters with the application as described in the "Help for Applicants" resource found at <http://www.depweb.state.pa.us/growinggreener>. Click on Act 67 and 68 Policy-Land Use Planning. Click on Technical Guidance Document 012-0200-004 (Refer to Paragraph IV). Please note that this is NOT a program requirement and is only necessary to obtain additional consideration for funding.

## **F. Evaluation, Assessment and Monitoring Tools for Watershed Management**

Applicants for this project type will develop tools, techniques, and methodologies to aid Pennsylvania's watershed community in its efforts to implement, monitor, and evaluate watershed restoration and protection plans and activities.

Examples of proposals eligible in this category include but are not limited to:

- Research leading to improved efficiency and effectiveness of Best Management Practices
- Information technology aiding in the access and use of watershed data
- Modeling for watershed management
- Test applicability of approaches to integrate holistic watershed budgets (groundwater and surface water)

Priority funding will be given to projects with innovative or new approaches. Applications proposing information technology tools shall be consistent with DEP Guidance for Data Management.

## **G. Watershed Group Organization/Support**

- Identify the physical area of focus for your group using natural boundaries converging at stream or river outflow(s).
- Identify the watershed your group will advocate for, who in the watershed you plan to help and how you intend to aid both the watershed and its residents.
- Describe the process and timeline for identifying stakeholders, developing goals and objectives, formulating your mission statement and developing a constitution and bylaws.
- Identify existing nonpoint sources of pollution and if water quality monitoring will be needed.
- Discuss provisions for a public meeting and consideration of filing articles of incorporation.
- Describe how the group plans to recruit and retain volunteers, e.g., how brochures and newsletters will be used to attract a broadly representative group of supporting members who will provide on-going financial support and a pool of volunteers. Describe the start-up tasks that your group will accomplish if funds are awarded, for example: a website, pamphlets, or posters informing the public about your watershed and watershed group; monitor the watershed anticipating developing a watershed restoration plan and/or protection plan (project type B).
- Include a "business development plan" that describes how the organization will achieve a greater share of operating costs from sources other than DEP organizational support grants. Projects that plan for long-term sustainability of the organization will be favored.



## **H. Watershed Renaissance Initiative**

The Department is interested in funding the complete implementation of an existing watershed restoration or implementation plan. This plan should be to restore an impaired watershed (listed as impaired on the Department's Integrated List) using a comprehensive watershed approach that includes private and public partnerships and long term coordinated stewardship and education to promote protection of the watershed. All impairments within the identified renaissance watershed must be addressed so that upon completion, the total watershed would be expected to be able to be removed from the impaired list. In addition to general growing greener application requirements, the application must clearly identify that it is for consideration under the Watershed Renaissance Initiative

The application, and any attached watershed restoration or implementation plan, must thoroughly describe and identify the following:

- the complete watershed and all impairments;
- prioritized BMP options and recommended approaches with specific locations for implementation;
- expected load reductions and results;
- a reasonable schedule for implementation including grant year and approximate dollar amount expected to be requested for the various grant years;
- partnership contributions toward implementation and how growing greener funding will complement those partnerships;
- documented assurance of long-term (20 year) operation and maintenance commitments (addressing personnel and the cost of O&M) of all BMPs installed;
- monitoring and evaluation plan covering 3 years following final practice implementation. This plan is intended to track BMP pollutant removal effectiveness. The monitoring and evaluation plan must provide documentation of commitments of personnel and funding in order to carry out the plan.

The watershed must be of manageable size as to facilitate the full and complete implementation within a 5-year period. The project would be funded in phases.

## **I. Healthy Waters Initiative**

The Department is interested in funding projects directed at curtailing threats that are projected to lessen the integrity of a healthy waterbody or watershed. The goal is to protect healthy, intact aquatic ecosystems and watersheds and prevent their environmental degradation from impending circumstances. The project will NOT be a traditional restoration project and restoration will likely not even be a component of the project. HWI aims to avoid rather than treat a problem.

HWI projects WILL use existing data for projecting the trend of a condition or demographic that can be correlated to some loss of integrity to a waterbody or watershed. Trends in factors that are shown to be headed toward a threshold that will degrade environmental integrity are then to be used in planning and applying practices to curtail the factors causing the foreseen problematic efforts. Projects should forecast and develop ways to keep the factors from crossing a described threshold of fate that would cause identifiable harm or negative impacts to a

healthy, intact ecosystem. A project might apply foresight in development of ordinances, protections, or offsetting, but could just as well endorse green technologies, changes in conduct, and actions that will soften the footprint of present pressures.

Watersheds with a recognized important distinction (e.g., Source Water Protection Plan in place, Scenic River), or carrying an elevated designation (e.g. Exceptional Value (EV), High Quality (HQ), Class A Wild Trout) or carrying another verified special classification, use, or intrinsic merit, will be given priority. However, any waterbody that is threatened or is harboring a threat to another healthy and intact ecosystem is a potential candidate. Examples of conditions of concern include but are not limited to threats associated with changing land use, non-point source pollution, invasive species, a lack of green practices, non-sustainable development or other conditions that will reduce the environmental health or integrity of a waterbody if left unchecked. Additional consideration will be given to those projects and areas with demonstrated local interest and involvement in protection.

In addition to the general growing greener application requirements, the application must clearly identify that the proposal is intended to consideration under HWI and thoroughly describe and identify the following:

- **the threat, the trend of the threat, and the threshold to be avoided, all of which must be supported with valid existing data.**
- the watershed under consideration and its qualifying designation or distinctions.
- the methods used to show that indicators of integrity are trending toward, and projected to go beyond a reasonably established vulnerability point at a specific time.
- the proposed practices or activities that will curtail the threat of degradation and maintain or improve quality of life.
- a reasonable time schedule and activity schedule which includes planning and implementing practices to protect and preserve healthy waters as related to your project.
- how the project will inform and involve the public, officials, planners, and/or other stakeholders on findings and recommendations for continued sustainability of healthy waterbodies.

## **J. 319 NPS Project**

The Department receives Section 319(h) Nonpoint Source (NPS) grant funds (Federal Funds) from the US Environmental Protection Agency (EPA) each year to implement Pennsylvania's approved Nonpoint Source Management Program.

Eligible projects:

- Applications that implement project sites including mining projects identified in a 319 Priority Watershed Implementation Plan (WIP). A listing of the priority watersheds with an approved WIP can be found in Appendix 2 in the GG Guidance. Copies of the actual WIPs can be viewed at: <http://www.portal.state.pa.us/portal/server.pt?open=514&objID=554271&mode=2>.
- If funds remain after funding projects within 319 WIP watersheds, applications that implement projects that address nonpoint sources of pollution to restore or improve water quality of impaired water bodies (Integrated List) or protect water quality where threatened by impairment from nonpoint sources outside 319 priority watersheds may be considered.