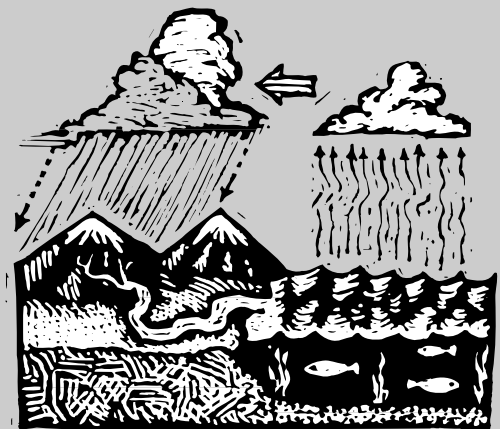


# What Citizens Can Do



## What Citizens Can Do

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# Volunteer Environmental Monitoring

*Testing the Waters*

BY DIANE WILSON

*Wilson is Citizens' Volunteer Monitoring Coordinator, Bureau of Watershed Conservation, Pennsylvania Department of Environmental Protection.*

**A**cross the state of Pennsylvania, volunteers are monitoring the condition of streams, rivers, lakes, estuaries, wetlands and wells. A recent survey by the Citizens' Volunteer Monitoring Program of the Pennsylvania Department of Environmental Protection (DEP) counted at least 70 groups involving more than 6,000 individuals in some sort of voluntary monitoring in the state. The number and variety of monitoring programs are continually on the rise. Also increasing is the complexity of the monitoring activities that volunteers undertake.

Surveys of monitoring efforts under way in Pennsylvania paint a picture of community-based, grassroots environmental protection. The majority of groups are small, with a median size of 20 individuals. Even those participating in large-scale efforts usually monitor a body of water they live on or near. It's hard to escape the conclusion that volunteers across the state are showing a strong sense of ownership for aquatic resources close to home.

With more than 83,000 miles of streams in Pennsylvania, it is not surprising that close to 90 percent of all groups indicated they are monitoring a stream or river. Twenty-five percent of the groups reported they are evaluating a stream in conjunction with a wetland, lake or groundwater source. This indicates a movement toward a whole-watershed approach to monitoring.

## Why Monitor?

**M**ost volunteer monitoring programs assess the physical, chemical or biological conditions of the waters in a given watershed. Environmental monitoring provides an in-depth view of complex ecosystems. It



also can alert residents of the watershed to elements that may threaten the delicate balance of natural systems. Insights gained into the physics, chemistry and biology of aquatic resources are educational, for sure, but they may also provide a documented record of the status of a watershed's health. Therefore, care must be taken in choosing sampling methods, deciding where to sample, and selecting a level of monitoring that will provide reliable answers in an affordable way.

Volunteer monitoring can supplement professional monitoring in a variety of important ways:

- Volunteer monitoring can provide the only data available for a particular subwatershed, especially in remote areas;
- It can provide environmental data during unusual conditions such as rainfall events;
- It can provide data more frequently than routine sampling carried out by resource agencies;
- It can help watershed residents develop an understanding and appreciation for the resources they

wish to protect, as well as an awareness of the natural variability in ecosystems;

- It can help document the presence of important flora and fauna in a watershed through observation near established monitoring stations;
- It can result in informed individuals who are better equipped to review and comment on government actions during public meetings and hearings related to the environment.

## Developing a Watershed Monitoring Plan

Before undertaking any sort of monitoring, it is critical to develop a program design. The following tips were created for groups wishing to begin whole-watershed monitoring, but the same steps can be followed in designing a monitoring plan for a single stream stretch, lake or wetland.

### Define the scale of your study.

A watershed is a geographic area in which water, sediments and dissolved materials drain into a common outlet such as another stream, an estuary or ocean, a lake or an underlying aquifer. It is important to define the size of the watershed you wish to study. A determining factor, of course, is the resources available to carry out your study—the amount of time and money your group has to spend on the project. It may be best to begin with a small area associated with a “lower-order stream,” or a stream in the upper reaches of the watershed, where the magnitude of change in water quality will be easier to determine.

### Set specific goals for your monitoring efforts.

Goal-setting is a vital step in your overall monitoring design and one that is often overlooked by groups. It involves answering a series of questions about your chosen watershed, such as:

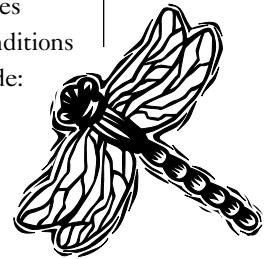
- What data already exist about the watershed? Are there reports available that can give you the background necessary to determine the state of the watershed?

- What water quality standards are already in place in your watershed? Are they being met?
- What are the uses, values and threats in your watershed? What are your goals for the uses, development or management of the watershed?
- What questions do you want to answer with your monitoring efforts?

### Determine what watershed indicators you will monitor.

An indicator is a measurable feature that provides insight into environmental or human health conditions and trends. Major categories of indicators include:

- Chemical and physical indicators such as water temperature, flow/gauge, pH, dissolved oxygen, nitrates/nitrites;
- Biological indicators such as macroinvertebrates (insects), aquatic plants, fish and wildlife;
- Physical habitat indicators such as stream gradient, streambank condition, streambottom composition; and
- Watershed-level stress indicators such as pollution and land use.



### Determine your data quality objectives.

Uses of volunteer data vary greatly. Data can be used to: promote citizen education and stewardship; influence local planning decisions, such as where to locate a highway; direct local priority setting by determining which wetland or lake requires restoration; screen for potential pollution problems that can then be investigated more closely by resource agencies; or provide data for state water quality reports such as the 305(b) report, which is used for state and national priority setting for watershed restoration.

Once the data use and potential users have been determined for your monitoring project, it's time to set data quality objectives (DQOs). These are statements establishing the quality and quantity of data that will be acceptable and useful for the end users. Parameters include such things as accuracy, precision, representativeness, comparability and completeness. DQOs spec-

ify the quality of the data needed in order to meet the monitoring project’s goals. Some of the important considerations are:

- **Completeness:** How many samples do you need?
- **Representativeness:** How representative are your samples of the conditions you are monitoring?
- **Precision:** How close should the values of repeated measurements be?
- **Accuracy:** How close should the measurements be to a “true” value, or standard? A true value is one that has been sufficiently well established to be used for the calibration of instruments.
- **Sensitivity:** What is the minimum level of an indicator you must detect?

DQOs should be determined and recorded for each indicator you plan to assess.

Decide which methods you will use.

After you have determined which indicators you will assess in your chosen watershed and have decided on DQOs for each of these, the next step is to select a method for sampling and analyzing each indicator. The main methods you can choose from are summarized below:

**VISUAL SURVEYS.** Monitors estimate and record observations about certain indicators in the field. Indicators that may be monitored in this way include: water clarity; river bank erosion; habitat characteristics; sedimentation; pollution threats; water color; and water odors.

**WATER SAMPLING AND ANALYSIS.** Water samples are collected in specially prepared containers from the stream, river, lake or wetland and analyzed in a lab for certain indicators. These indicators can include nutrients, dissolved oxygen, pH and more.

**FIELD MEASUREMENTS.** The indicator is measured directly in the field by volunteers using hand-held meters or field test kits. Indicators that can be monitored in this way include: dissolved oxygen; pH; conductivity; water clarity; nutrients; temperature; and

water quantity (flow/gauge).

**BENTHIC MACROINVERTEBRATE SURVEYS.** This is a special type of monitoring that involves the collection and identification of insects that live in the water for most of their life cycle. Nets may be used, or artificial substrates (a leaf pack in a net bag or a sampler made of rough textured boards) can be placed in the stream for a period of weeks to be colonized by the insects. No matter the collection method, it’s the job of the monitors to identify the insects to a taxonomic level appropriate to the level of skills and resources available.

Decide where you will monitor.

Sampling locations should be selected on the basis of which locations and how many will provide adequate answers to your questions. For example, if you want to establish baseline information on the overall health of a watershed, sampling sites should be established throughout the entire watershed, from the headwaters to the mouth. On the other hand, if you want to measure the impact of a specific human alteration such as a housing development or some other change in land use, sampling locations should be chosen to “bracket” the impact—for example, immediately upstream and downstream of the site—and to isolate the site from other potential impacts on the watershed’s health. A few suggestions for selecting sites:

- Use a topographical map to delineate the watershed. Then select monitoring sites within the watershed’s boundaries that will help answer your questions.
- Field-check each site for accessibility and safety.
- Always obtain landowners’ permission, and avoid sites where permission can’t be obtained or ownership can’t be determined. Also avoid slippery slopes or eroding banks.
- Photograph each site at the sample collection point.
- Map each site.
- List all the sites selected along with the rationale for choosing them in your study design.

**Determine when you will monitor.**

Decisions about how frequently and at what times of the year and day to sample depend upon the questions you ask about your watershed. For example, if you are trying to establish a baseline of information, it's important to sample at regular intervals throughout the year and in a range of weather conditions. If you are trying to determine the impact of human alteration in the watershed, sampling before and after storm events may be a part of your study. For consistency's sake, samples should be taken at the same time each day because some indicators, such as dissolved oxygen, fluctuate throughout the day. Other indicators, such as macroinvertebrates, are best sampled in the spring and fall, while visual surveys are easier to conduct in the fall after trees in the watershed have lost their leaves.

**Final Notes**

**I**t is very important to write down your study design and to keep the documentation as part of your group's files. To insure that your monitoring is giving you the answers you need, reevaluate your study design regularly and compare your results with your goals for the project. It may be necessary to change course as the project progresses. With a clear written record of what you're doing, along with notes about any changes in the design of your project, you'll have the makings of a meaningful monitoring program that can play a vital role in improving local watershed health. ■

**For more information:**

There are a variety of support groups in Pennsylvania to assist you in creating and implementing an environmental monitoring program. The Citizens' Volunteer Monitoring Program (CVMP) at DEP can offer assistance in creating a monitoring program design to meet your goals. The program can also help you identify other technical support groups that can be of assistance. Last but not least, the CVMP attempts to link volunteer monitoring groups to specific programs within DEP that may have a need for a particular type of data.

The following publications are available from the CVMP: Water Quality Monitoring of Pennsylvania Streams by Citizens Groups: A Primer in Quality Assurance and Quality Control; CVMP Fact Sheet; Potential Funding Sources for Watershed Groups Fact Sheet; Statewide Directory of Citizens' Volunteer Monitoring Groups - First Edition; Monitoring Matters (a statewide newsletter for volunteer monitors). Coming soon from CVMP is a handbook for volunteer monitoring programs.

For more information, contact: Citizens' Volunteer Monitoring Program, Department of Environmental Protection, Bureau of Watershed Conservation, P.O. Box 8555, Harrisburg, PA 17105-8555. Phone: (717) 787-5259. E-mail: Citizens.Monitoring@a1.dep.state.pa.us.

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# Stream Cleanups

## *Hands-On Environmental Protection*

BY SUE WISEMAN

*Wiseman is Executive Director of PA CleanWays.*

**L**itter and unsightly pollution are a threat to both our lands and waters. Litter is everywhere, and some areas are plagued by large amounts of illegally dumped trash. Waterways are prime victims of all the mess because rainwater usually flushes litter to the nearest waterway, and trash that's dumped "over the hill" usually makes its way down the hill to a stream or other water resource. Also contributing to the trash problem are floodwaters, which pick up large amounts of debris, both natural and manmade, and deposit it downstream.

Illegal dump surveys performed by county-based PA CleanWays chapters have identified between 75 and 200 dumpsites across the state. One survey showed that at 50 percent of the sites there was trash in a nearby waterway or within 50 feet of it.

Volunteer cleanups are a great way to deal with the never-ending problem of trash and litter in our waterways. And the fact is we need more and more volunteer cleanups every year. Of all the pollutants entering our waters, trash is one we can easily do something about.

### A Ten-Step Program

**M**any organizations and individuals may be reluctant to get involved in waterway cleanups because of the risks posed by working with trash and being near waterways. Others may simply be unaware of how to organize and perform a cleanup. To counter this apprehension and lack of know-how, PA CleanWays, with funding from the Howard Heinz Endowment's Western Pennsylvania Watershed Protection Program, compiled a list of ten steps to organizing a successful waterway cleanup. The steps are illustrated in a 12-minute video entitled, "People: A

Solution to Waterway Pollution," available from PA CleanWays (105 West 4th St., Greensburg, PA 15601. Phone: 724-836-4121). The ten steps are as follows:



#### **Step 1** Find Someone to Organize

All it takes to get a waterway cleanup started is someone willing to organize it. Experience in organizing events is not necessary. All that's needed is for the organizer to have the time and the desire to rid our waterways of trash. Others, of course, should be willing to help in the effort, but one person is all it takes to get the ball rolling. And, once the ball is rolling, you'll find that others will rally behind the organizer and give their support. The amount of time needed depends on many factors—the volume of trash, the surrounding terrain, the willingness of the community to be involved, and unanticipated problems that may arise during the planning.

#### **Step 2** Scout the Waterway

To determine what you'll need in the way of volunteers and supplies, it's important first to scout the

stream. The best time for any cleanup is in early spring, when temperatures are comfortable and before vegetation makes seeing trash and getting to it difficult. Therefore, to allow yourself plenty of time to make arrangements for your cleanup, you should scout the stream in late fall. If you can't scout the stream until early spring, you may be limited in how much you can accomplish.

Walk along the waterway and take notes—if possible, on a map—of all the trashy areas along the stream. (Note: topographical maps from the U.S. Geological Service are inexpensive and can be purchased at outdoor recreational stores or from your local Conservation District.) Be aware that high waters and spring flooding may move or add some debris. Invite others to join you. The more people you have along, the more ideas, contacts and support you'll have in your planning. Don't feel that you have to clean the entire waterway the first year. Target a section of waterway that's easily doable and save the difficult sections for future cleanups. The more difficult sections won't seem as monumental once you've gained experience and have community support. The trash didn't accumulate in one year and it may take more than one year to remove.

If you'd like to accomplish more or if high waters and other circumstances will prevent removal of some items, consider another cleanup in late summer when waters are lower, or in the fall when vegetation is gone. Also, when defining your cleanup boundaries, keep in mind that volunteers should not work more than three or four hours. While some may have the strength, stamina and desire to spend a whole day cleaning a stream, the majority will not. Moreover, you'll want your volunteers always to be alert so they avoid injuries and sloppy work. A 9:00 a.m. start with lunch at noon usually works well.

While you and your partners are scouting the waterway, make note of the following:

- Amounts and types of trash—estimate the number of truckloads or rolloff boxes it will take to remove the trash, as well as the number of appliances, tires and other large items;
- Trash items that will require special tools, equipment and/or consultations to move;

- Safety concerns such as steep embankments, proximity to roadways, railways and other traffic areas, unsafe bridges, etc.;
- Locations where trash can be piled for pickup;
- Locations suitable for younger volunteers with parental supervision;
- Landmarks along the waterway so you can gauge your progress;
- Neighboring businesses and homeowners.

Based on what you see during your scouting, you should be able to make a rough estimate of the number of volunteers you'll need. If it looks like you'll be creating a disturbance in the waterway as a result of your work, be sure to contact the Pennsylvania Fish and Boat Commission and Pennsylvania Department of Environmental Protection (DEP) prior to the start of the cleanup to obtain permission. Local phone numbers for these agencies can be found in the blue pages of your phone directory.

Note: If you encounter suspicious or possible hazardous materials, contact your local DEP solid waste specialist to have him or her inspect the materials. It's also a good idea to take photos of trouble spots, or particularly trashy areas. These may prove helpful as you seek support, and they can definitely be used to help increase public awareness of the problem.

### **Step 3** Recruit Volunteers

It takes a large number of volunteers to complete a waterway cleanup. Setting the date for the cleanup well in advance will allow time to publicize and promote the event and will increase volunteer response. Use a variety of approaches to find the most volunteers possible:

- Distribute and post fliers at public places—storefronts, bulletin boards, bus stops, restaurants, etc. Don't forget to ask permission—this may lead to cleanup support from area businesses and their employees.



- Visit homes located near the area you will be cleaning up and talk to the residents or leave information for them to read.
- If you are affiliated with an organization that publishes a newsletter, use the newsletter to publicize the event.
- Ask other organizations to put information on the cleanup in their newsletters and announce the cleanup at their meetings. Provide them with the necessary contact information. Note: sportsmen's groups, watershed associations, conservancies and scout troops all are active in conservation activities and could be good targets for volunteer recruitment.
- Contact your local newspapers, radio stations, and public access TV stations. Call to introduce yourself and then send a press release well in advance of the cleanup. Some newspapers will also accept a brief news release just prior to an event to remind the public.
- Encourage families with older children to be involved.

Suggested information for public announcements includes: date of cleanup; meeting time and place (include a map if the location is not well known); who is organizing the event; sponsors' names (businesses and agencies providing support); contact name and number for further information; number to call for rain cancellation or rescheduling; proper apparel (boots, gloves, long pants, long sleeves); "Free Lunch."

#### **Step 4** Get Permission to Enter

Well in advance of the cleanup, it's important to contact all landowners adjacent to the waterways. Ask them to sign a "permission to enter" form for the cleanup and maintenance (see page 107). Be willing to work with property owners. They may agree to allow your group to perform an initial cleanup but may not be willing to grant an open-door policy for maintenance cleanups.

If you don't know the property owners, a search at your municipal or county tax office will provide their names and addresses. Neighbors may also provide you with information on who owns what parcels of land. If

the property owner does not live in your community, you'll probably need to send him or her a letter along with the permission to enter form. Allow plenty of time for a reply.

A personal contact is the most friendly and successful way to work with property owners. These contacts may even inspire them to help you on the day of the cleanup. There will be some property owners, of course, who will refuse entry. Respect their wishes and work around their properties. If you perform another cleanup, ask them again. They may have been leery of your initial efforts and will reconsider after they've seen your good work.

#### **Step 5** Obtain Releases of Liability

To address landowners' concerns about liability and to protect yourself and your organization, require all volunteers on the day of the cleanup to sign a form releasing the property owner and your organization from liability (see page 107). For additional protection, you might also want to look into general liability insurance.

#### **Step 6** Secure Community Involvement and Support

In every community, there are people and groups that value clean waters and that will be more than willing to donate what they can to support your work. Local businesses, utilities, governments and government agencies all are valuable sources of support. Ask them to help in your cleanup in any way they can. Start out by letting them suggest how they might be able help, but be ready with a few suggestions of your own. Can they help recruit volunteers among their employees? How about getting them to contribute bags or gloves, food and refreshments? Or maybe they can help with disposal and hauling of trash—often the biggest challenges in any cleanup.

Landfills that serve your community can usually be counted on to support community efforts. In addition, your municipal government might be interested in helping citizens clean up their community and might allow municipal crews and equipment to take trash to the landfill during the week (don't expect Saturday support). If your municipality can't help with the cleanup, contact your local trash hauling companies. Other businesses with work crews and equipment might also be willing to help transport trash. And don't

forget to make arrangements with a scrap dealer or local recycler to recycle scrap metals, appliances, auto batteries and more.

If your waterway flows through public lands—lands open to hunting, fishing, camping, nature walks, etc.—be sure to contact the government agencies that maintain the lands and ask for their support. The Pennsylvania Bureau of Forestry, Bureau of State Parks, Game Commission, and Fish and Boat Commission all are eager to work with citizens to keep public lands clean. Also, the U.S. Army Corps of Engineers may have jurisdiction along your waterway and may be able to help.

In all of your requests for help, stress that you are organizing a community project and that you'd like the people and organizations you are contacting to be part of the team. Keep track of everyone who becomes part of your team and write down what they contributed so you can personally and publicly thank them down the line. These records will also be helpful when planning future cleanups. Along the way, don't be discouraged by those who won't or can't help—not every business or group places the same level of importance on the environment, and some may not be in a position to help.

A final note about community support: Major cleanups have been successfully performed without any money exchanging hands. Keep seeking new sources and new partners until you get everything you need. If time runs out, save a section of the waterway for next year, and continue to work on gaining the necessary support. Unfortunately, many waterways do need yearly maintenance cleanups, so make your community involvement efforts a continuing activity. Keep everyone excited about the progress you're achieving.

### **Step 7** Designate Individuals to Enter the Water

If entry into the waterway is necessary to remove trash, assign the job to individuals with professional training, such as divers and rescuers; these will be your “entry volunteers.” Recruitment of this group shouldn't be a problem. These individuals and the organizations to which they belong are generally dedicated to community service and ought to be more than willing to help. Another possible source of “entry volunteers” are military reserve units. These men and women are trained to work together and know how to respond in emergency situations.

Invite your “entry volunteers” and their organizations to your waterway prior to the cleanup. They need to become familiar with the trashy areas so they can determine what tools and equipment they'll need. Under no circumstances should an untrained individual who has not been designated as an entry volunteer prior to the cleanup be permitted to enter the waterway. Even though the water may seem shallow and perfectly safe, you never know what dangers you might run into below the surface.

### **Step 8** Put Together a Plan for the Day

After all your pre-planning, it's critical to have a well thought out plan for the day, from arrival to departure. Here are some basic guidelines:

**BEFOREHAND**—Since waterway cleanups can cover a considerable distance, the best approach may be a team approach, with each team covering a designated section of the stream. Team leaders should be designated before the cleanup and given a written list of jobs to be done along with a sketch of the area. Make arrangements to have a sufficient supply of tools and equipment available on the day of the cleanup. Also: Make plans for inclement weather. Heavy and/or constant rains can make waterways treacherous and the banks slippery. Publicize a phone number for possible cancellation and rescheduling information.

Remember: the safety of each and every volunteer comes first! Make arrangements for communications and know the phone numbers of local emergency agencies. If there isn't a public phone nearby, have cellular phones or other forms of radio communication available. This is absolutely essential for safety but will also prove helpful if you need additional support.

Make sure there will be plenty of parking available for your volunteers. Ask local emergency personnel, fire and police officials, and even ham radio operators for help with communications and traffic safety. Make arrangements for drinking water, refreshments and/or lunch for the volunteers. Not only will food replenish their energy, but taking time out for breaks or lunch will give them an opportunity to share their cleanup stories and feel good about what they are doing.

**THE DAY OF THE CLEANUP**—As the volunteers arrive, have them sign a release form, assess them for proper attire, and make sure young volunteers have suf-

ficient adult supervision. Once everyone has signed the release form, it's time to get to work. Before starting:

- Welcome everyone and thank them for coming.
- Review and discuss safety precautions. (Many precautions seem like common sense, but volunteers will need to be reminded.)
- Assign volunteers to team leaders. The team leaders should be easily recognized by bright-colored armbands, hats, vests, etc. The team leader will give volunteers specific instructions on what needs to be done and how to do it.
- Instruct volunteers to give any evidence that may lead to prosecution of individuals intentionally trashing our waters to their team leaders; you can then present this evidence to the Pennsylvania Fish and Boat Commission.

- Tell volunteers when and where refreshments/lunch will be served.
- Give everyone instructions about what to do in emergency situations.

## Step 9

### Public Education and Awareness

Major waterway cleanups may be a perpetual event in your watershed if you don't educate the public and create an awareness of the problems created by trash and pollution. You may always have to remove items swept into the waters by heavy rains or floods, but you can impact the amount of trash entering the waterways as a result of people's carelessness or intentional actions.

Of course, you've already started your education process as you get to work organizing and completing the cleanup. For the volunteers, a positive environmental experience such as this can help shape or even change their values. Young volunteers are especially impressionable and will perhaps gain the most and return the most from this experience. These volunteers unknowingly will become models and educators, through example and through personal communications.

To maximize your educational efforts, send press releases and invite local newspapers and TV stations to attend the event. This should be done well in advance of the cleanup. It may also be helpful to identify a reporter or editor who is interested in the environment.

Even if some reporters and camera crews show up, be prepared to do your own publicity for the media that don't. Have someone take action photos, and send post-cleanup press releases announcing your success and recognizing your volunteers. You can also use the photos in your own newsletters or other publications. Be sure to identify volunteers in every picture as a way of giving them credit and saying "Thanks."

### **Waterway Cleanup Safety Precautions**

- Wear sturdy shoes, hats, long sleeves and long pants to avoid falls, sun exposure, scratches and exposure to poisonous plants.
- Always wear heavy-duty work gloves and bring a spare pair. Leather work gloves work best.
- Do not work during inclement weather.
- Avoid overexertion.
- Do not enter the waterway unless you have been designated as a waterway "entry volunteer."
- Do not work on steep banks and slopes.
- Do not attempt to remove heavy or partially buried objects.
- Use teamwork for difficult tasks.
- Do not remove any unknown, suspicious or known hazardous substances such as chemicals and toxic materials in containers.
- Do not remove animal carcasses.
- Be alert for snakes and rodents.
- If working near roadways: 1) erect safety signs that are available from your municipality or PennDOT (depending who is responsible for the road's maintenance); and 2) always wear orange safety vests.

**Step 10**Acknowledge Your Volunteers

There are three main reasons why most people get involved in stream cleanups and similar efforts:

- 1) They are concerned about the environment;
- 2) They like working with and meeting other volunteers; and
- 3) They like seeing the difference that they made.

To encourage these feelings, you might want to have a lunch afterward or a gathering to give people the opportunity to share experiences and build on new friendships. In addition, a spoken word or a personal letter will go a long way toward letting volunteers know you appreciate their work. You might also consider giving out awards or certificates suitable for framing. Donated t-shirts and coupons for food and other products and services are nice ways for local businesses to say thank you and show their appreciation.

Last but not least, be sure to give public recognition where it is due. Take every opportunity to mention your supporters and their contributions, especially when talking with the media. A letter to the editor or a small ad in a local paper might be just the thing to publicly recognize those who help.

If you follow these ten steps, everyone will be glad they decided to be part of the solution. They'll feel great about the job they've done, and your local watershed will be a cleaner and a better place. ■

**Sample Permission to Enter**

I, (name), being owner of a property situated at (description of property location) in (name of municipality) do hereby grant permission to (group's name) represented primarily by (name of organizer) and the volunteers recruited by this group and/or organizer for a cleanup on my property to remove refuse from my property which borders (name of waterway).

By granting this permission, I do hereby, with intent to be legally bound, release (group's name) and the volunteers from any liability and do not assume liability for actions incurred during the cleanup to be held on (date) with an alternate date on (alternate date).

Signature of property owner \_\_\_\_\_ Date \_\_\_\_\_ Signature of witness \_\_\_\_\_

Printed name of property owner: \_\_\_\_\_

Signature of group's representative \_\_\_\_\_ Date \_\_\_\_\_ Signature of witness \_\_\_\_\_

Printed name of representative owner: \_\_\_\_\_

*-OPTIONAL-*

Also, I do hereby grant this group and recruited volunteers permission to enter my property henceforth to help maintain this property as a refuse-free property and to remove any trash as may be deemed necessary by them.

Signature of property owner \_\_\_\_\_ Date \_\_\_\_\_ Signature of witness \_\_\_\_\_

Printed name of property owner: \_\_\_\_\_

Signature of group's representative \_\_\_\_\_ Date \_\_\_\_\_ Signature of witness \_\_\_\_\_

Printed name of representative owner: \_\_\_\_\_

**Sample Release from Liability**

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Cleanup Location: \_\_\_\_\_

Notice: the undersigned, recognizing and assuming all risks of accident and injury, hereby agrees, with the intent to be legally bound, that the following sponsors:

(Name of landowner and sponsors)

will not be liable or legally responsible for any injury sustained by the participant, or for loss or damage to property owned or in the possession of the participant during, or as a result of, participation in the cleanup project at the above location whether such personal injury or property damage is caused by the negligence of the sponsors or their respective employees, officers, agents, or otherwise.

Signature, Date \_\_\_\_\_

Parent/guardian signature if signatory is less than 18 yrs of age: \_\_\_\_\_

Witness, Date \_\_\_\_\_

## Working With Landowners

*The Five C's*

BY HARDY VANRY

*VanRy is former Assistant Director, French Creek Project*

In the past quarter century, environmental protection and pollution prevention have too often meant the choosing of sides, the division of a community, and the development of rather unneighborly attitudes among neighbors. The classic stereotype of economy versus environment dooms one to failure from the very beginning, and leaves little room for each “side” to meet in the middle.

In the 1990's, however, environmental protection has expanded beyond merely cleaning up factories and waste dumps to encompass a greater focus on non-point sources of pollution. As landowners, government agencies, and environmental groups struggle with these new changes and challenges, the most long-lasting successes have evolved from a new kind of conservation. There is a growing recognition from all sides that a handshake is more effective than a punch in the nose, that dialogue gets more results than a shouting match, and that serving on a collective committee is much better than serving someone court papers. And at the heart of this new environmental ethic are five very basic concepts: the five C's.

CONNECTION. Knock on someone's door and start preaching to them about how their pesticides are disrupting the mating behavior of the pigtoe freshwater mussel, and more often than not you'll find the door shut in your face. Knock on someone's door and engage them in a dialogue about their drinking water or how good the fishing is in the local stream, and you are more apt to have a longer conversation. Many landowners and environmentalists have clashed in the past because both sides fail to see that they have anything in common. In other words, they have no converging reference point; they have no connection.



*Members of the French Creek Project working with area landowners.*

Making a connection often requires more up front leg-work and dialogue, and may require a bit more patience than many landowners and environmentalists have been willing to give in the past. Unless there is a readily apparent problem (a stream bank has caved in, trees are dying, a well has gone dry, etc.), many landowners may assume that their impacts on the environment are rather minimal. It may take several conversations and a slow, gradual building of trust before a landowner and an environmentalist finally reach a level of understanding. Often, a connection will never be made with a given landowner, and time is better spent reaching out to others within the watershed.

Workshops, community meetings, or even conversations over a cup of coffee can often lead to an environmental partnership down the road. Sometimes, providing educational materials or informally exchanging ideas can be enough to spark a future interest in working together. If an environmentalist is too quick to jump at the main issue—“Listen, I think you should stop cutting down so many trees on your land”—a landowner may become disenchanted with the con-

versation and refuse to continue the relationship. On the other hand, a landowner who is too quick to dismiss an environmentalist as an “eco-nut” or an “agitator” may lose out on future opportunities to improve his property or make his operations more efficient.

Making a connection means finding something in common that may relate (no matter how remotely) to pollution prevention or environmental protection. For example, perhaps both parties like to hunt, fish, canoe, or hike, or maybe an environmental group can provide some information that is useful to the landowner, or perhaps both parties have a common acquaintance. Regardless of the exact connection made, success results when each party stops viewing the other as an outsider or opponent, and begins to see that there is common ground on which they walk.

**COMMUNICATION.** Too often, environmentalists view certain landowners as unfeeling polluters or “the bad guys,” and landowners see environmentalists as unrealistic do-gooders with little sensitivity for a lifestyle that grows more difficult every year. Obviously, each party will possess his or her own agenda and seek to benefit from the partnership, but it pays to understand the other party’s point of view if both parties are to truly benefit.

Entering into such a partnership can be difficult for some landowners (particularly those in Pennsylvania) who have become distrustful of government and environmentalists, and often view even a conversation as a first step towards increased regulation and a reduction in private rights. This makes connection and especially communication all the more important. The long-term success of the relationship greatly depends upon the manner in which the relationship is originally formed. But it also depends upon a continued and consistent dialogue in which all viewpoints are shared. In this way, both parties can discuss concerns, offer solutions, and provide feedback that will prove useful as things move forward.

**CARING.** This word might conjure up images of lessons learned on “Sesame Street,” but its fundamental simplicity serves us well as we attempt to foster positive relationships between landowners and environmentalists. In the past, environmental protection focused on heavy-handed governmental regulation and non-profit watch-dogging, which tended to alienate landowners.

Many times, the first contact a landowner had with environmentalists was when he was served with a fine by an agency, or accused by his neighbors of polluting a stream he shared with them. Wrist-slapping and finger-wagging constituted a majority of landowner-environmentalist interaction. Environmentalists at all levels must acknowledge the needs, responsibilities and challenges of landowners. It is rare that a landowner will purposefully destroy the environmental health of his property if a reasonable alternative can be identified. For environmentalists to care about what happens to the land, they must first care about what happens to the landowner.

On the other hand, many landowners fail to act quickly enough, if at all, to reduce a potential impact on the environment. For example, some farmers have been known to remove vegetation from a stream bank to allow easier access to water for their cattle, and then contact an environmental group or government agency a few years later to ask what they can do to stop their stream banks from eroding. They might also over-fertilize or over-pesticide their crop land, which could eventually affect the water supply for their family, neighbors and cattle. Farmers and landowners almost always recognize the importance of environmental protection, but they must truly care about the watershed in which they live and take steps that will actually protect it.

**COOPERATION.** No matter how nicely you ask, and how willing a landowner is to institute pollution-prevention measures, cooperation must be present and paramount for the measures to be successful. The point is obvious in reference to the landowner: he or she must be willing to cooperate with government and non-profit entities, to rely on their expertise, and to carefully weigh their suggestions.

Cooperation on the part of government and environmentalists might mean taking a more active role in assisting the landowner with instituting change. For example, many non-profit organizations now offer economic assistance to landowners who willingly enroll in pollution prevention programs. Many community groups will now provide volunteers to help a landowner plant trees, put up a stream bank fence, install waste collection devices, or teach new agricultural methods. State government officials, and especially county conservation district representatives, will provide technical assistance in addition to money so a landowner feels

comfortable with making positive changes on his or her property. Conservation through cooperation has become an effective strategy for enhancing environmental quality with fewer bad feelings and a longer-lasting impact.

COMPROMISE. Preventing or reducing non-point source pollution is rarely a black-or-white, all-or-nothing venture. Because we all contribute in some way to non-point source pollution, it is often difficult to pin all blame on one given landowner or to measure the impact on environmental health if that landowner institutes positive changes on his property. Still, with effective communication and cooperation, landowners and environmentalists can devise strategies to protect both the environment and the landowner's rights. Such strategies are only possible through compromise.

### About the French Creek Project

In 1995, the Pennsylvania Environmental Council joined with Allegheny College and the Western Pennsylvania Conservancy to initiate a cooperative, five-year watershed project in northwest Pennsylvania. The project brings together conservationists, landowners, farmers, the business community, local government officials and academic institutions in a collaborative effort to protect one of the state's premier streams.

Few streams in the Commonwealth are more attractive or more diverse than French Creek, a nationally renowned waterway that begins in Chautauqua County, New York, and flows for 117 miles through the northwestern Pennsylvania counties of Erie, Crawford, Mercer and Venango. French Creek provides habitat for more species of fish (more than 80) and freshwater mussels (26) than any other stream in the state.

There are still extreme cases in which a governmental regulator must take a hard stance on a landowner's activity: for example, if a landowner was illegally dumping extremely toxic substances like lead or mercury, or digging a quarry without a permit, or somehow impacting an area known to provide habitat for an endangered species. In such cases, compromise is not an option; the activity must stop immediately to prevent dire consequences for the environment. Usually, however, an agreement can be reached through an open dialogue that includes a variety of options and a willingness of both parties to meet each other halfway.

For the landowner, this might mean developing a new method of doing business that could be slightly more expensive or inconvenient. For example, agree-

ing to put up a stream bank fence to prevent erosion might mean having to install alternative water sources for cattle. Reducing reliance on pesticides and fertilizers might mean slightly smaller crop yields. Disposing of barnyard wastes properly might mean adding an extra hour onto the work day. Still, most landowners see the logic behind such pollution-prevention measures, and would rather live with a compromise than participate in a system of fines and heavy regulation.

For environmentalists, compromise means listening to landowners and recognizing their dependency on the land around them. For example, perhaps a landowner feels he is unable to provide a 150-foot buffer between his crop land and a stream band because it would require taking too much land out of production. Although it would be slightly less effective as a means of water protection, a 50-foot buffer zone might be an agreeable compromise with which the landowner is willing to live. The environmentalist must often accept the less effective buffer distance as a reasonable alternative to a slammed door.

### Conclusion.

As we approach the 21st century, many landowners, government officials, and environmentalists are recognizing their interdependency. The command and control mandates of the past thirty years are not usually applicable to today's prevention and reduction of non-point sources of pollution. Similarly, the in-your-face finger pointing once employed by environmental organizations now serves only to turn off the average citizen to the ecology ethic. For their part, more and more landowners are benefiting from programs that can improve both the green of their property and the green of their wallet. A new common sense approach to the environment is being played out across Pennsylvania and the country: conservation through connection, caring, communication, cooperation, and above all, compromise. ■



# Working with Business to Protect the Watershed

## *The Corporate Connection*

BY MARTIN H. SCHEERBAUM

*Scheerbaum is Supervisor of Environmental Engineering with PPG Industries, Inc.*

**S**uccess in maintaining or improving the quality of life along a watershed can only be achieved if everybody gets involved. And that includes the businesses operating in the region. Businesses often are searching for ways to become involved in their communities in a positive way. A store may depend for its success on the image of the area where it's located. A manufacturing facility's continued growth may hinge on attracting a well educated workforce to the area. And the quality of life along the watershed may dictate whether the infrastructure and tax base can support the services that these and other businesses require. If you are active in an organization that's involved in watershed issues, interaction with an individual business or business organization is an excellent way to achieve further success.

It may be that a particular issue directs your organization to contact a business. For example, maybe the small tributary you are interested in protecting or revitalizing flows predominantly through the property of one business. If multiple businesses are involved, then you might want to approach a broad-based organization such as the Chamber of Commerce, or perhaps a trade organization or mutual association if your region is dominated by a particular type of industry. In certain cases, multi-industry groups may already exist to address these and other issues.

Understanding areas of mutual interest or concern is the key to building a lasting partnership with business. In almost every instance, a common issue linking business and other community organizations is education; everyone supports improving local schools and increasing citizen understanding of important local issues. Often, major retailers, manufacturers and other businesses will have published commitments to supporting local educational efforts. When a particular issue is of



*USX employees participate in the United Way Day of Caring at Dead Man's Hollow, Allegheny County.*

concern to your organization and area businesses, combining forces to make the public more informed may benefit both parties. Involvement in educational opportunities can lead to lasting associations with area business as well as the local school district.

### **Making Contact**

**I**n the same way that many successful organizations start small, making an initial contact with a business on a small scale can lead to later success. An initial contact with an appropriate business can be as simple as two people sharing comments at a community meeting. Or perhaps the two are volunteering together to support a community asset or historical treasure. Establishing this kind of "common interest" early on is essential to fostering a relationship and developing trust and understanding.

Early discussions between your organization and a business contact will often center around an exchange

of viewpoints. During this period, each party will be trying to convey its views and priorities to the other. Extended back-and-forth may be needed to sort through gaps in understanding or competing points of view. A business, for example, may view a tangle of briars or an unsightly mass of trees along its rear property line as a nuisance that needs to be removed. Your organization, however, may identify the area as a vital riparian zone and consider the vegetation in question an ecological necessity. Similarly, the truck traffic your organization sees as contributing to smog in the area may be viewed by business as a necessity to supply “just-in-time” parts to a growing auto assembly industry in the region.

Discussing these and other issues is an opportunity for your organization to broaden understanding of its goals and mission while gaining credibility. For businesses, it’s a chance to demonstrate the demands they face in trying to remain profitable. This exchange of ideas usually will lead to both parties expanding their viewpoints.

Once you have made your initial contact and have started some conversations about shared concerns and potential areas of conflict, the next step is to take time to understand the business and its customers. Make inquiries about the business’s products or services. Is it a single-location business, or is the facility part of a larger corporation?

Often, a corporation will have an individual on staff who is accountable for interaction with the community or regional organizations; he or she will surely be able to provide more information about the business. Sometimes learning more about the business is as easy as asking the plant manager to address your organization at your weekly luncheon or monthly meeting. And be sure to get a hold of the business’s annual report (if it’s a public corporation) or other published information describing its accomplishments and goals. In addition, more companies are publishing annual environmental, health and safety activity summaries that might focus on issues and activities of specific interest to your organization. So long as your inquiries are straightforward and direct, you should have no problem getting the information you need.



## Introducing Your Organization

Just as you will find it useful to understand the business you are contacting, that business will be interested in the goals, objectives and successes of your organization. Provide a short, concise written summary of your organization. Are you a nonprofit organization? Are you affiliated with a national organization with published objectives? Succinctly point out the history of your group, and emphasize your present and future objectives. Have you authored any news articles? What other partnerships do you have? What segments or components of the watershed are of interest? Do you have an upcoming major project that would be of interest to the businesses in the region?

This stage of communication is critical in fostering positive interactions in the future. A well organized, “business-like” summary of your organization will provide the needed information and demonstrate your organization’s professional approach to its work.

Once you and the business or businesses have exchanged information, it’s important to suggest a framework for your future interactions. (It may be that the business representatives will suggest a format.) In many instances, the best approach may be to establish a watershed coalition made up of various individuals, businesses and organizations. On the other hand, a simple, unfunded association may be all that’s needed if your community group is requesting the assistance of a business to provide volunteers to clean a nearby creek. If you are planning to request funding from a large corporate foundation, you might be expected to file as a formally chartered, 501(c)3 organization. The structure of your organization and your partnerships with local businesses will depend on your objectives.

## Presenting your position

Your efforts in introducing yourself to business can lead to a collaborative effort to tackle issues impacting the watershed and the region. To be successful, you need to present your vision of how the area can and should change, and how any strategies you propose can lead to success. Clearly communicating your ideas to your potential partners—businesses and others—is perhaps the most difficult and important task you’ll face. Time and effort spent to make your

case will lay the foundation for the success you are pursuing in the future.

In order to communicate a clear and successful strategy, you first must achieve some level of consensus within your organization. Your philosophy will probably be based on your organization's existing positions and already-written materials. Nevertheless, making sure that the current members of your team are all in agreement about your goals and the thinking behind them is critical. Remember: one-size strategies usually do not fit all situations or all regions. Be sure to gather all the relevant background information you can about the matter at hand. Research arguments both for and against your position. If you are presenting a long-range vision, it may be advisable to select a series of tangible, short-term goals as well.

The critical question, however, is a simple one: What do you want? Do you need additional people to complete a yearly stream cleanup? Do you need your business partners to provide advice and a "business perspective" to help shape your ongoing efforts? Are you soliciting for a senior business person to provide leadership on your board or to meet with state elected officials to request support? Are you in need of funding for a proposed or an ongoing program? Be prepared to answer questions about your proposal. Ask the toughest ones of yourself in advance—e.g., are you expecting too much or too little from any one member of the group?

A well thought-out approach will be welcomed by the business you are seeking to work with. You won't be expected to bring all the answers to the table but a thorough effort up front shows that you are serious about achieving success.

## Achieving Success Together

Your organization's decision to collaborate with business is now off to a good start. If you have selected a business that shares your goal of improving the quality of the watershed, then it's a good bet that both parties are beginning to communicate better. Each of you is now more able than before to understand the other's perspective and priorities. Use this broader knowledge base to spur ongoing creative discussions and positive changes to your program.

## A Partnership Success Story

In northwestern Pennsylvania, PPG has been a long-time supporter of the French Creek Project and other initiatives to protect the Creek, Pennsylvania's most biologically diverse stream. When the Project began in 1995, PPG provided support financially and with people. Plant Managers Joe Stas and Gary Danowski, as well as the plant environmental engineer, Doug Mehan, have served on the Project's advisory committee and helped to shape the vision plan for the watershed that is the guiding document for conservation and education efforts. With support from plant managers, Mr. Mehan has also served on the Board of Directors for the Conneaut Lake and French Creek Valley Conservancy, an organization that focuses on land conservation and management. Finally, PPG has underwritten the costs for student symposiums on French Creek and rails to trails efforts.

Note: It's important to understand that the priorities and direction of your program may have changed by now; it may not be the program you first conceived. That's not necessarily a bad thing; it's probably just the result of getting input from the broader knowledge base of other participants.

To help insure your partnership's success, you will probably want to document, in writing, the mission and objectives of the effort to keep focused on the task ahead. Your written description of the project and its objectives, when shared with all participants, will be a good way to reaffirm the ideas agreed to by all.

Just communicating with business and defining the goals you share can be counted a success. But the ultimate goal is not to achieve just one small step but to make a major impact on improving the watershed or some portion of life around it. Try to avoid scaling back the project's objectives out of compromise or convenience. You'll never want to look back on what's been accomplished and say, "I wish we could have done more!" Challenge the group to set its sights high. Remind everyone of the combined energies and resources that your organization, your business partners and others bring to the effort. Tell them this is an important opportunity to make a difference.

Achieving success together has many tangible and intangible benefits. Often, you meet interesting people who may change the way you view your watershed and your community. By starting with that initial contact



*PPG Industries Inc. works: Meadville, PA. Plant Environmental Engineer checking the pH of discharge water from plant operations.*

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and following up with good discussions, projects that were impossible to imagine can end up being the stuff of your wildest dreams. ■

# Residential Water Conservation

## *Plugging the Drain: Saving Water and Money at Home*

BY CURTIS B. MAGNUSON

*Magnuson is Program Manager with Conservation Consultants, Inc.*

I grew up in Erie, Pennsylvania. As a young boy, I remember my parents and neighbors getting upset when the city decided to charge for water service. Our neighbor figured that at the rate the city proposed to charge per gallon, one could flush a toilet three times for a penny. Charging for water seemed an outrage at the time, but today when we are paying at least five times as much for the same water, those early charges look more and more like a deal.

Clean water, which was once so plentiful we could provide it to communities for free, is now a valuable commodity. It is not even available in some places. There are entire communities and counties in Pennsylvania where public water is actually considered poisonous. Whole communities are advised to purchase bottled water to avoid agribusiness pollutants. If this continues, we may soon be living the famous line from Samuel Taylor Coleridge's *Rime of the Ancient Mariner*: "Water, water everywhere and not a drop to drink!"

Across the country, the majority of Americans turn to authorities for solutions to such problems as insuring a sustainable water supply. We feel that this problem lies outside our range of influence, and we hope that our local and federal governments are working to provide clean, potable water to our homes. But the problem isn't going away. The Earth's supply of water continues to dwindle and most of us feel unable to help. There is good news, though. Every one of us can do something right now to correct the problem by using water more effectively.

The one place where most of us still have some control over water is in our homes. We pay utility bills and maintain the property whether it is mortgaged or rented. Most of us pay a water bill and are increasingly aware of the rising costs of this vital utility; in many communities, sewage charges are levied in direct pro-



*Huntsville Reservoir, a drinking water reservoir in Lehman Township.*

portion to a home's water use. Despite this increasing awareness, most of us are using more water than we intend to, according to residential water conservationists. By making a small investment of time or money, we can achieve lower water and sewage bills and aid in sustaining the water supply. We can save our water.

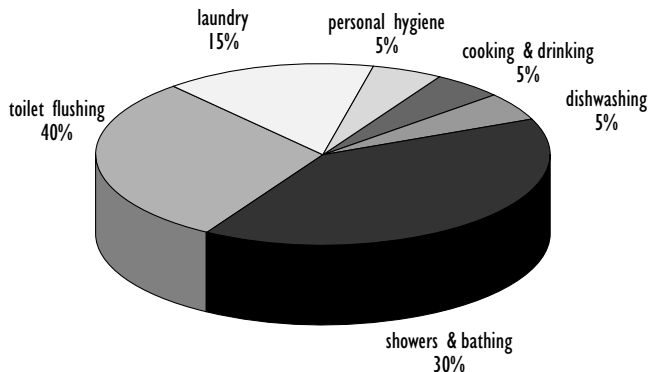
### Using New Technology

Before we can make effective changes in water usage, we need to know what works best. As a first step, we should know where water may be wasted in our homes without our knowledge. On the next page is a chart showing how our water is being used in our homes. The facts are truly surprising!

#### In the Bathroom

From the pie chart, we can see that the largest, single user of water in our homes is the toilet. Few of us consider this because the water is hidden in an opaque tank and, as a result, we are not aware of it. Although

### How we use Water in Our Homes



many newer homes are equipped with water-saving tanks using one to three gallons of water, many older houses and apartments still have toilet tanks holding five to seven gallons. In other words, an older toilet can use two to three times as much water for the same task!

Nevertheless, we may become discouraged at the cost of installing a new toilet or at the difficulty involved in convincing a property owner to replace the old toilet. But the fact is there's no need to replace the toilet at all if we spend about two to four dollars on a device called a toilet dam. A simple tool made of a sheet of flexible stainless steel and bordered with soft, durable plastic, a toilet dam is slightly wider than a toilet tank and easily bends to conform to the interior of the tank. Once installed, it holds back between 20 and 25 percent of the water used to flush the toilet. In some larger toilets, two dams can be installed for up to 50 percent in savings. If your home has more than one bathroom, each toilet should have a dam.

A second new-technology approach to reducing your water bill is replacing the shower head. If your home is ten years old or more, and if you haven't remodeled the bath or replaced the showerhead in that time, this is an option you should consider. A typical showerhead installed ten years ago is designed to use five to ten gallons of water a minute. A high-efficiency showerhead, on the other hand, uses two gallons a minute, keeping up a comfortable flow of pressure thanks to internal pressure devices. High-efficiency showerheads cost no more than standard models, and they come in several designs, including shower massagers. In many places, they are the only showerheads

available.

Check the flow of your current showerhead by catching the water in a bucket for a full minute. Then measure it to determine the flow for that time. This tells you whether your showerhead is efficient or not. If struggling with a bucket in the shower seems like too much work, look at the neck of the showerhead. Most manufacturers are required to stamp the flow there (e.g., "2.5 GPM") to verify flow for building code.

Because bathroom use demands up to 75 percent of all the water in the home, it stands that we should do all we can to reduce use in this room while still providing what we need. Besides the toilet tank and the showerhead, we should also look at the faucet in the bathroom sink. Most faucets have a removable aerator, which should be replaced every one to two years. These aerators work to mix air into the water to produce a better quality flow while using less water. They can be purchased within a range of one to two dollars each.

#### In the Laundry

The laundry is the next area to think about for bill reduction and water savings. One way to reduce wasted water in the laundry is by washing full loads. Washing full loads or using a low water cycle can save several gallons per load. For large families, full loads are usually not a problem, but for single people or couples, this may require a little planning. If there are people in your family who occasionally wash one item of clothing, talk with them about finding like items to complete a full load. Another approach is to replace older clothes washers with newer, high-efficiency models. American manufactures are now making front-loading washers that use a fraction of the water a top-load washer does while giving a better quality wash. Although they are currently more expensive, the extra cost of these newer-model washers is returned thanks to a permanently lower water bill.

### In the Kitchen

The kitchen offers two primary opportunities for water reduction. The first is achieved by replacing the faucet aerator, as in the bathroom. A second approach is installing a flow control on the end of the faucet. These devices typically sell for about five dollars and attach like an aerator. The device is controlled by a small lever that can shut off water to a drip. Using a flow control, one can set the water temperature at the faucet, and then shut it off and turn it on by the flow control. If you are washing dishes by hand, you can shut off the water while you're washing and then turn it on with the small control at the end of the faucet to rinse each dish. The water temperature thus remains constant, and you can save several gallons of water each time you do dishes.

### Changing Daily Behavior

Of course, you don't have to rely exclusively on new technologies to change your water use patterns. As mentioned above, when you're doing your laundry, it's best to always wash full loads. The same can be said for the dishwasher, which should only be run when it's completely full. Not only does this save water, but it also saves electricity and the gas used to heat the hot water tank. You can then use the dishwasher's air dry cycle to save even more on your electric bill.

### Repairs and Maintenance

When I moved to Pittsburgh and bought an older house, I was surprised that my water bill was over \$100. I argued with the water authority that it couldn't be right. And, after several meter readings, we discovered that the problem was a silent leak in the powder room toilet. This constant leak, although undetectable, was tripling our water and sewage bills! Not long after, I entered the conservation field and found that toilet leaks aren't the only culprits that can double or triple water and sewage bills; joint leaks and faucet leaks can do the same thing.

Often, we think that the cost of hiring a plumber defeats the savings of the repairs, but the truth is that

### Tips for Conserving Water Every Day

Changing daily behavior requires no money, and, at the most, just a small adjustment to our schedules. There are many ways to conserve water throughout the day and year. Listed below are some techniques suggested by Pennsylvania American Water Company for lowering the water bill by using only what we need:

- Shorten shower time to ten minutes.
- Take a shower instead of a bath; you'll save 20 gallons each time.
- Don't use the toilet as a trash can; save 1 to 7 gallons per flush.
- Shut off water while brushing teeth and shaving; save 3 gallons.
- Use watering cans to catch the cool water that runs while you're waiting for the hot.
- Keep a gallon of drinking water in the refrigerator; save 200 gallons per month.
- Defrost frozen food in a pot or pan of water instead of running water; save 50 gallons a month.
- Compost vegetable waste instead of using disposal; save 50 gallons.
- Water gardens and grass once a week instead of daily; save 750 to 1,500 gallons per month.
- Use a pool cover on swimming pools to save up to 1,300 gallons a month.
- Run a hose from the central air conditioner and use draining water on gardens.
- Wash cars with a bucket, turning on the hose only to rinse; save 150 gallons.

the unending expense of wasted water can exceed a plumbing bill in just one to three months. Proper maintenance is essential for controlling water use. If someone in the home can do repairs, that's even better. Most repairs cost a small fraction of what a plumber charges. Costs usually run from less than \$1 to less than \$20 to stop most water leaks.

Detecting leaks in pipes and faucets is relatively easy. Finding a silent leak in a toilet, however, can be a challenge. The most obvious way to check a toilet is to listen for the "ghost in the bathroom." If the toilet flushes on its own, that indicates a major leak. If the surface of the water in the bowl ripples, that's another sign of a leak. If neither of these things is happening but you suspect a leak, put a few drops of food dye in the tank and do not flush the toilet for at least twenty minutes. If the bowl shows color from the food dye, there is a leak. Most leaks can be fixed by replacing the flapper and scrubbing the flapper opening with a scrubber pad. If the problem continues, call a plumber.

## Conclusion

Most of the high-efficiency devices mentioned in this article are available at any building supply outlet. Flow controllers and toilet dams might be more difficult to find, but they are often sold by plumbing suppliers and environmentally focused stores and catalog companies. In addition, some water companies and authorities offer water conservation kits for direct purchase by customers. Call your local conservation or environmental center to locate suppliers if other avenues fail.

A family of four using 12,000 gallons of water a month can save 47 percent of that water by making the improvements and behavior changes covered in this article. Over a year's time, these savings can have a substantial effect on the water supply. If a community can take on these measures house by house, the savings can be significant enough to encourage local officials and commercial users to apply conservation techniques as well. One of the greatest motivators for individuals and organizations is money. When we show a neighbor or a local official or business person how these simple conservation techniques have lowered our water and

sewage bills, we have their attention. And we've proved once and for all that each of us can help to establish sustainable resources! ■



# Watershed Education

## *Resources for Education*

BY TINGLE BARNES

*Barnes is Director of Environmental Education with the Audubon Society of Western Pennsylvania.*

“**E**nvironmental education is a process of developing a world population that is aware of and concerned about the total environment and its associated problems, and which has the knowledge, skills, attitudes, motivation and commitment to work individually and collectively toward solutions of current problems and the prevention of new ones.” (UNESCO, 1978)

Teaching learners of all ages about local watersheds provides the opportunity to engage them in the process of watershed protection. Beginning with awareness and knowledge, learners can understand how natural systems interact within watersheds and how humans have affected and continue to affect their local watersheds. Learners who understand these concepts can then move on to select responsible actions that will improve or maintain the quality of the water in a local watershed.

Environmental education is based on a simple premise: We can't be motivated to fix something if we don't know it's broken. Likewise, we can't decide to change our behaviors if we don't know how those behaviors connect to environmental problems.

### Selected Watershed Resources for Environmental Educators

The list of resources below is by no means complete and should serve merely as a way to get educators started in seeking out resources for environmental education in both formal and informal settings. To find out what programs are available for learners of all ages in your specific area, contact a local nature center, Audubon chapter or state park. Or call the Pennsylvania Alliance for Environmental Education (PAEE) at 717-236-3599.



### Curricula and Activity Packets

Animal Tracks Water Action Pack (Grades 4-8).  
National Wildlife Federation, 8925 Leesburg Pike,  
Vienna, VA 22184-0001. Phone: 800-822-9919.

Keystone Aquatic Resources Education (KARE)  
Workshops. These workshops are available through  
trained facilitators from the Pennsylvania Fish and  
Boat Commission. They include: *Aquatic Project Wild:  
An Aquatic Education Activity Guide* (Grades K-12), pro-  
duced by the Western Regional Environmental  
Education Council and Project WILD; and the *Living  
in Water Aquatic Science Curriculum* (Grades 4-6) pro-  
duced by the National Aquarium in Baltimore. Phone:  
717-657-4518.

*Project WET Curriculum and Activity Guide* (K-12).  
Available from the Watercourse and the Council for  
Environmental Education, Montana State University,  
Bozeman, MT 59717-0570. Workshops held through-  
out Pennsylvania are sponsored by the Pennsylvania  
Department of Education. Phone: 717-783-6994.

*Pollution: Problems & Solutions.* Ranger Rick's Naturescope (Grades K-8). National Wildlife Federation, 1990. Phone: 800-822-9919.

*Leaf Pack Experiment Kits.* Can be used as part of science curricula for schools and nature centers. Stroud Water Research Center. Phone: 610-268-2153, extension 247.

*Water, Water Everywhere.* Student reading unit for grades 6-12. Contact: HACH Company, P.O. Box 389, Loveland, CO 80539. Phone: 800-227-4224



*Hands-On Save Our Streams Teacher's Manual* (Grades 1-12). Izaak Walton League, 1995. Contact: 800-BUG-IWLA. \$18.

*Earth: The Water Planet.* By Jack Gartrell et al. National Science Teachers Association, 1840 Wilson Blvd., Arlington, VA 22201-3000. Phone: 800-722-NSTA.

*Water Precious Water: Produced by AIMS* (Activities Integrating Math and Science). Collection of activities for grades 2-6. AIMS Foundation, P.O. Box 8120, Fresno, CA 93747-8120. \$14.95.

*Field Manual for Water Quality Monitoring.* Activities focusing on monitoring techniques. Produced by GREEN (Global Rivers Educational Network), 721 East Huron St., Ann Arbor, MI 48104. \$19.95. Website: <http://www.econet.apc.org/green/>.

### Children's Literature and Song

(Note: Look for these titles in your local library or bookstore.)

*The Magic School Bus at the Waterworks.* By Joanna Cole. Scholastic, 1986. Ms. Frizzle's class shrinks to the size of raindrops to experience the water cycle.

*A River Ran Wild.* By Lynne Cherry. Harcourt Brace and Co., 1992. A true, richly illustrated environmental history of the Nashua River in New Hampshire. Chronicling man's interactions with a river, positive and negative, this book shows how individuals can make a difference.

*Our Endangered Planet: Rivers and Lakes.* By Mary Hoff and Mary Rodgers. Lerner, 1991. This is an introduction to water pollution. The authors set the stage with an introduction to the water cycle and the importance of water to all living things. Includes sources and examples of water pollution worldwide, as well as how young people can help.

*Our Endangered Planet: Groundwater.* By Mary Hoff and Mary Rodgers. Lerner, 1991. Addressing the depletion and pollution of this water source, the authors explain how it can be polluted by landfills, fertilizers and pesticides. They highlight a teenage winner of the Environmental Youth Award who alerted her town to the danger of household chemicals to groundwater.

*Where the River Begins.* By Thomas Locker. Dial, 1984. Two young boys who live along the river hike with their grandfather through the watershed in search of their river's source. Through fields and forest to a small pond in a high meadow, the boys and their grandfather have a wonderful adventure.

### Videos

*The Streamkeeper.* Science guy Bill Nye takes potential streamkeepers on a zany journey through a watershed and shows how to investigate your stream and how to monitor and take action to protect it.



Adopt-A-Stream Foundation, 600 128th St. SE, Everett, WA 98208. Phone: 206-316-8592. 25 minutes. \$19.95.

*The Mighty River.* This animated video focuses on the St. Lawrence but parallels the environmental history of many rivers in the Northeast. Over the ages, the river has served as a subject of fascination for adventurers and explorers as well as the object of neglect of settlers and industry. The Video Project, 5332 College Ave., Suite 101, Oakland, CA 94618. Phone: 800-4-PLANET. 24 minutes. \$35.

*The Murky Water Caper.* A humorous, fast-paced introduction for 5- to 10-year-olds to water pollution and practical steps for preventing it. A variety of aquatic organisms enlist the help of Detective Tuesday to discover who has been polluting the local stream. The Video Project. Phone: 800-4-PLANET. 30 minutes. \$35.

*Acid Rain: The Invisible Threat.* The story of how acid rain affects forests, lakes and our human environment is illustrated for grades 7-12. Scott Resources, Inc., P.O. Box 2121, Fort Collins, CO 80522. Phone: 800-289-9299. 20 minutes.

**OTHER RESOURCES:** The Audubon Society of Western Pennsylvania houses a Teacher Resource Center (TRC) at Beechwood Farms Nature Reserve, 614 Dorseyville Rd., Pittsburgh, PA 15238. Educators may borrow from a library of more than 800 environmental education references and curricula, videos and CD-ROMs. Call for more information or to be placed on the mailing list of "Seasonings," the TRC newsletter containing: information on the flora and fauna of Pennsylvania; activities to season your existing curriculum; and environmental education resources and workshops for teachers. Phone: 412-963-6100.

### Professional Development

Environmental education workshops are regularly scheduled throughout Pennsylvania by Project WET and Project KARE (Keystone Aquatic Resources

Education). Both are for teachers of grades K-12 and youth leaders. Find out where and when there's a workshop near you. Contact for Project WET: Patti Vathis, Pennsylvania Department of Education, Office of Environmental Education. Phone: 717-783-6994. For KARE: Pennsylvania Fish and Boat Commission. Phone: 717-657-4518. In southwestern Pennsylvania, these workshops are held at the Audubon Society of Western Pennsylvania's Beechwood Farms Nature Reserve in Pittsburgh (Phone: 412-963-6100); Powdermill Nature Reserve in Rector (724-593-6105); Lutherlyn Environmental Education Center in Prospect (724-865-9079); and Jennings Environmental Center in Slippery Rock (724-794-6011)

Another workshop series is the Pittsburgh Voyager Environmental Science Expedition Professional Development Workshops. Each workshop takes teachers aboard Voyager's floating science laboratory and introduces them to the freshwater ecology of the Three Rivers. Participants conduct water quality tests; collect and examine algae, plankton and macroinvertebrates; and observe waterfowl, birds and shoreline flora. An orientation to Voyager's classroom program and curriculum materials is included. Phone: 412-488-5602 for dates and registration information.

Global Rivers Environmental Education Network (GREEN). GREEN works with schools and communities around the world to support local efforts in watershed education and sustainability; produces a newsletter, field manuals and handbooks; and provides professional development meetings and conferences. Website: <http://www.econet.apc.org/green>

## What Is EE? Environmental Education in a Nutshell

EE includes a human component in the exploration of environmental problems and solutions.

EE rests on a foundation of knowledge about social and ecological systems.

EE includes the affective domain: the attitudes, values and commitments necessary to build a sustainable society.

EE includes opportunities to build skills that enhance learners' problem-solving abilities.

(Source: Defining Environmental Education, EE Toolbox, John Disinger and Martha Monroe, NCEET, School of Natural Resources and Environment, University of Michigan, Ann Arbor, MI 48109-1115.)

**Field Trips (Southwestern Pennsylvania only)**

A Drop in the Bucket—a multidisciplinary, day-long field experience offered to students in grades 9-12 by the Audubon Society of Western Pennsylvania at Beechwood Farms Nature Reserve. Focusing on watersheds in general and on Beechwood's pond within its watershed, students investigate the chemical and biological parameters of water and man's interactions, both positive and negative, within a watershed. Phone: 412-963-6100 for registration information.

**For more information:**

In 1996, Governor Tom Ridge signed an Executive Order that created the Pennsylvania Center for Environmental Education (PCEE). This partnership among eleven prominent Pennsylvania environmental education institutions ensures that the citizens of the Commonwealth have access to quality environmental education. Assistance is provided to schools, non-government organizations, individual citizens, business and industry, and other agencies. For more information, visit the Center's website at <http://www.pcee.state.pa.us> or call 724-738-4502

Pittsburgh Voyager—Pittsburgh Voyager provides a day-long field trip on Pittsburgh's Three Rivers for students in grades 5-12 that includes a teacher training component and pre- and post-trip curriculum. Students actively learn about the freshwater ecology of the Three Rivers. They conduct water quality tests; collect and examine algae, plankton, and macroinvertebrates; and observe waterfowl, birds and shoreline flora. Phone: 412-488-5602 for enrollment information.

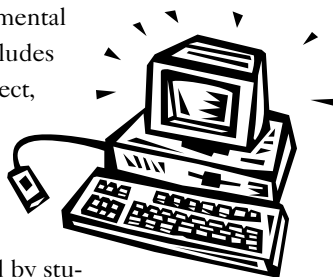
ALCOSAN Tour—To "follow the flush" in Allegheny County, call 412-734-8353. Appropriate for middle- and secondary-school students, tours at this sewage treatment plant along the Ohio River are available April through October. After this informative tour, students will be able to answer questions about where their waste and stormwater goes.

**Online Resources**

Online Discussion/Watershed Idea Exchange. Post questions about watersheds. Website: <http://dep.state.pa.us>.

French Creek Environmental Project Homepage. Includes information on the project, participating schools, a question-and-answer bulletin board, and water quality data from the watershed collected by student monitors. Website:

<http://merlin.alleg.edu/FCEEP/FCEEP/index.htm>.



EPA's Office of Water. Information on water quality, regulations and watersheds. Website: <http://www.epa.gov/ow/>.

EPA's Acid Rain Program. Includes *Acid Rain: A Student's First Sourcebook*. Background information, what can be done, experiments and activities for students and teachers. Website: <http://www.epa.gov/acidrain/student/studentz.html>.

**Other Resources**

Watershed Education Program. DCNR Bureau of State Parks. The Watershed Education Program is a pilot project being offered to grades 6-12 at several State Parks and Environmental Education Centers throughout Pennsylvania. It takes a comprehensive approach to learning about natural resources, using monitoring, research, and decision-making skills. It also uses the Internet to allow students to compare and share their data. Phone: 717-783-4356.

Delaware Watershed Education Consortium. The consortium is a network of teachers and students in the Delaware River basin and is coordinated by the Jacobsburg Environmental Education Center. Phone: 610-746-2801.

**For more information:**

For an excellent recap of watershed programs in Pennsylvania schools, contact PAEE (Pennsylvania Alliance for Environmental Education) at 717-236-3599. A recent edition of the PAEE Journal (1997, Vol. 5, No. 4) was devoted to watershed education.

# Environmental Advisory Councils

## *Ensuring Community Input in Environmental Decisions*

BY ANDREW W. JOHNSON

*Johnson is Vice President with the Pennsylvania Environmental Council.*

*(This article is adapted from the EAC Handbook published by the Pennsylvania Environmental Council (1996).)*

**I**n 1973, the Pennsylvania General Assembly passed Act 148 authorizing any municipality or group of municipalities to establish, by ordinance, an environmental advisory council (EAC). The council's role is to advise the local planning commission, park and recreation board, and elected officials on matters dealing with the protection, conservation, management, promotion, and use of natural resources located within the municipality's territorial limits.

### Act 148—What It Says About EACs

Act 148 empowers Environmental Advisory Councils to:

- Identify environmental problems and make recommendations to the appropriate municipal agencies. Recommendations can include plans and programs for the promotion and conservation of natural resources and for the protection and improvement of the quality of the environment within municipal boundaries.
- Promote a community environmental program.
- Keep an index of all open space, publicly and privately owned, including flood-prone areas, swamps, and other unique natural areas, for the purpose of obtaining information on the proper use of such areas.
- Make recommendations for the possible use of open land areas in the municipality.



- Advise the appropriate local government agencies, including the city or town council, the planning commission, and recreation and park board, on the acquisition of property, both real and personal.

#### Multi-Municipal Councils

Act 148 gives individual municipalities the authority to join with neighboring municipalities to form regional, or multi-municipal, environmental advisory councils. Multi-municipal councils are desirable because they provide a mechanism for neighboring local governments to join together and focus on cross-jurisdictional natural systems such as watersheds, forests, or aquifer recharge areas. The regional perspective offered by a multi-municipal EAC can be highly beneficial to the participating municipalities as they plan, individually or together, for natural resource protection.

#### Membership and Terms

Act 148 stipulates that an environmental advisory council may be composed of three to seven members who serve without compensation and are appointed to stag-

gered three-year terms. EACs with three members have been known to function effectively, but there are significant advantages to having a full complement of seven. These advantages include access to a wider range of expertise and the ability to undertake more projects.

Members are appointed by the local governing body. In the case of multi-municipal EACs, each participating municipality appoints an equal number of members to serve on the council. Act 148 states that “whenever possible, one member shall also be a member of the municipal planning board.” This cross-representation can be an important factor in the effectiveness of a council.

Beyond this recommendation, members are not required to represent specific groups or to have particular areas of expertise. Such requirements may, however,

be included in the ordinance adopted by a municipality creating a council. This allows each municipality to create an EAC that is best able to deal with issues particular to its region. In general, the most important quali-

fications are interest in environmental issues, interest in local government and planning issues, and willingness to devote time to the council’s projects. Nevertheless, it is always helpful to have at least some members with expertise in relevant areas of science and planning.

When new councils are formed, and when vacancies on existing councils occur, the governing body (although not required by law to do so) should advertise the open positions and attempt to fill them with a broadly representative group of individuals. In the event that there are more applicants than positions, the governing body can establish an associate member program. Associate members can provide valuable assistance on council projects, and should be given primary consideration when openings on the council occur.

### The EAC Network

Since the enactment of Act 148 in 1973, relatively few communities have created EACs. In response, the Pennsylvania Environmental Council established the EAC Network in 1990 to assist communities in starting EACs, and as a means of support for established councils. The Network’s goals are to promote EAC programs in communities across the Commonwealth, to strengthen their role in local environmental decision-making, and to encourage the state to provide them with assistance.

### Officers

The chair of a council is selected by the governing body, except in the case of a multi-municipal EAC, where the chair is selected by the council itself. The enabling legislation does not mention the election of other officers, but the general practice in Pennsylvania has been for local ordinances establishing councils to provide for the election of other officers (e.g., vice chair, recording secretary) at the first or second meeting each year. The local ordinance also can spell out the terms and responsibilities of these officers.

### Council Budget

Act 148 does not mandate that EACs have designated funding; therefore, environmental advisory councils in Pennsylvania operate on budgets ranging from nothing to thousands of dollars. A governing body may want to consider a minimum budget of \$500 to cover the basic operating expenses that will enable a council to function effectively.

## Getting Started: Establishing an EAC through Municipal Ordinance

Act 148 does not establish individual environmental advisory councils. Rather, it gives municipalities the authority to establish them by ordinance and provides guidance on their powers and responsibilities. These ordinances must be consistent with Act 148 and should include details on subjects such as officers, budget and recommended projects. The language used in Act 148 is general enough so that an ordinance can be drafted with similar wording. In other cases, the establishment of an EAC can be incorporated into another environmentally based initiative of the municipality. The powers and duties of the EAC are then related to the goals of that initiative.

Although local governing bodies may propose and act on an ordinance establishing an environmental advisory council, they are not mandated to do so. Therefore, it is often up to residents of a community to propose to their elected officials that a council be established.

To find out if there is an EAC in your community, call the municipal offices. If there is no EAC and you

are interested in seeing an environmental advisory council established in your municipality, consider the following suggestions:

- Contact the EAC Network at 1-800-322-9214 for EAC case studies and model ordinances describing the activities and responsibilities of other EACs around the state.
- Before contacting members of your governing body to suggest that they establish an EAC, attend several of their meetings to get a sense of how they work, and to learn their views on local issues.
- Introduce yourself to members of your governing body so you will be familiar to them.
- Talk to friends, neighbors and other acquaintances about an EAC, and make a list of people who are interested in serving on one.
- Talk to your governing body members informally about EACs, explain what they are, suggest projects an EAC might undertake, and ask for their suggestions on steps you can take to promote the idea of establishing a council. It might be helpful to tell them you have identified other residents who are interested in serving on an EAC.
- Emphasize the fact that EAC members are appointed by the governing body and serve in an advisory capacity to that body. Some local officials may be concerned that the establishment of an EAC will create a new layer of bureaucracy when, in fact, EACs are charged only with advising and educating the people who appoint them on environmental issues.
- Present an EAC to your local officials as a source of free research on environmental issues. One of the jobs of an EAC can be to research the environmental impacts of land-use proposals and to report its findings to the governing body to assist local officials in making decisions.

It is likely that the governing body will suggest that you submit a written proposal outlining your ideas for an EAC. Be prepared to do so, and be sure to include a

list of projects you think the new council should undertake, keeping in mind the needs of the municipality.

## ■ Creating an Effective EAC

To be effective, your EAC will need to establish procedural and organizational guidelines that govern the council's work. Consider the following suggestions:

### Organization of the Council:

#### The Role of Individual Members

The governing body will designate the council chair, but in most cases EAC members designate other officers provided for under the local ordinance (e.g., recording secretary). In addition, it can be helpful to make sure that each member has an assignment (e.g., as a liaison to a municipal board, or as editor of a council newsletter) that fits her or his interests and abilities. Members should report on their assignments at each meeting, with the meetings serving as deadlines for getting work done. As time passes, individual members will develop areas of expertise related to their assigned tasks, a situation that will reap rewards for both the council and the municipal bodies it advises.

#### Committees

Organization of standing and special committees can enable your council to delve into issues in greater detail. Committees examine issues closely, meet periodically, and report to the full council on a regular basis. It is advantageous to form standing committees that relate to specific municipal functions, such as land use, parks and public open space, and areas of ongoing interest, such as public education. Special committees can be created to look at single issues that arise and do not fall under the purview of a standing committee.

#### Associate Members

Act 148 places a cap on the number of official members who may sit on an environmental advisory council. To include more people, consider the establishment of an associate members program. Associate members usually don't vote but may participate in all other council activi-

ties and serve on standing and special committees. It may be desirable to have an associate member serve as recording secretary for the council to ensure that all appointed voting members will be able to fully participate in meetings. Associate members can be an important source of expertise, and may be given high priority for appointment to the EAC when vacancies occur.

**Effective Meetings**

Meetings should be scheduled regularly, usually monthly, in a public place. At the meeting, provide a printed agenda, preferably one that was agreed to at the conclusion of the last meeting and added to by

members in the time between meetings.

Agendas should always allow time for public comment and new business.

During the meeting, have someone take minutes. These minutes should make note of the members present, subjects considered, decisions made, actions taken, and tasks assigned.

Preparing a meeting agenda and providing meeting minutes may seem unnecessarily bureaucratic, but they are important tools in operating an effective council.

**Communicating with the Public**

Your EAC’s communications with the public will help ensure that you are educating local residents on important environmental issues and building public support for policies advocated by the council or your governing body. Communication with the public is often most effective when it is a give-and-take process—the resi-

dents of your town will be a source of many important ideas and perspectives on environmental issues. To promote interactive contact with the public and to nurture a sense involvement among community residents, consider the following actions:

- Survey residents to ask what they think are the most important environmental issues facing your municipality. Use the results to help set your council’s priorities and to persuade local officials to make changes where there is popular support to do so.
- Seek out information on environmental issues, programs or projects that may affect the environment from community leaders, including representatives of the municipal bodies your EAC advises, and representatives of civic organizations.
- Post a list of environmental advisory council members on public bulletin boards, print it in your local paper or municipal newsletter, and encourage residents to contact them.
- Send meeting minutes and agendas to local media outlets.
- Send press releases about major events and decisions to the same media outlets.

**Types of EAC Programs and Projects**

In general, an environmental advisory council should develop programs and products to:

- Assist local officials in making policy decisions that relate to resource protection;
- Educate the public on natural resource protection and other environmental issues; and
- Coordinate activities to physically improve the municipality’s environment.

Before launching any projects, however, an environmental advisory council should always assess its capabilities and the demands of proposed projects. Setting unrealistic goals or overextending is not a good

**Possible EAC Projects**

- Develop an Environmental Resource Inventory
- Interact with the Planning Commission on Site Plan and Subdivision Review
- Develop and Maintain an Open Space Index
- Develop an Open Space Plan
- Develop Natural Resource Protection Ordinances
- Coordinate Stream Watch Efforts
- Hold Local Forums on Environmental Issues
- Hold Regional EAC Meetings to Discuss Watershed Issues



practice, particularly when the key players are volunteers. A range of projects can be undertaken and tailored to meet the capabilities of every council.

For all councils, old or new, a principal goal should be to establish a reputation for being able to undertake and complete worthwhile projects. Projects should show that the council has the ability to make a difference. This is necessary both to sustain the interest of your volunteer members and to gain the confidence of the elected officials and appointed boards the council advises. It is essential that an EAC build its reputation so that it will be accepted by all levels of local government and included in “the loop.” ■

**For more information:**

Call the Pennsylvania Environmental Council at 1-800-322-9214 for more information and for samples of work done by EACs around the Commonwealth.

# Fundraising for Watershed Protection

## *Fishing for Dollars*

BY MELISA CRAWFORD

*Crawford is Program Associate with The Heinz Endowments.*

**B**efore writing anything, do your homework! Don't submit a grant proposal to any grantmaker or donor without learning as much as you can about the organization. Thorough planning, organizing and research is critical to successful fundraising.

### Beginning the Proposal Planning Process

1. Commit your concept to paper.
2. Describe the project, list strategic partnerships.
3. State goals, objectives and strategies.
4. Construct a timeline.
5. Prepare a budget with project costs such as staff, consultants, materials, travel, equipment and administrative fees. Show funding from other sources when applicable.
6. Include a plan for program evaluation and expected measures and outcomes.
7. Last but not least, make sure all IRS and other necessary paperwork is in order and ready when requested. Remember: foundations by law can only give funding to 501(c)3, tax-exempt organizations.

### Narrowing Your Target

**F**irst, identify a small number of prospective foundations and organizations to which you will apply. It is more efficient and more effective to send well prepared requests to fewer organizations than to send a generic letter of inquiry to many. While your first proposal may not be funded, a well thought-out program that is within the guidelines of the foundation may leave a positive impression for the next time around.

Remember: foundations always receive more inquiries than they have the resources to fund; the majority of proposals are turned down. In order to increase your odds of success, learn about the goals and



*A river otter reintroduction project on the Allegheny River was made possible when local groups raised the necessary funds.*

strategies of your prospective funders. What areas do they support? Are there any other projects similar to yours? In what way can you complement and enhance the work of these organizations? Why would they be interested in your proposal? Crafting your proposal in a way that shows you are familiar with the philosophy of the potential grantor shows strategic thinking and initiative. This is an important first step in the grant application process.

Once you have determined that you are sending your proposal to an interested party, make sure you are familiar with the application guidelines of the organization. Many grantmakers prefer a letter of inquiry or a face-to-face meeting as the first step. Others want a full proposal with all the required supporting documentation. And some funders have specific forms that start the inquiry process. So again, familiarize yourself with the application procedures—it will save time, energy and ultimately produce more positive results.

The relationship between grantee and grantor is most successful when it is a cultivated relationship of mutual respect and responsibility. It is the grantor's responsibility to review requests with an open mind

and to make fair decisions in a timely fashion. For the prospective grantee, the responsibility is to do the necessary research and present a clear and thoughtfully written proposal.

## The Letter of Inquiry

Before setting out to create a full proposal, remember that many funders prefer to receive letters of inquiry first in order to determine the compatibility of your project with their interests. A letter of inquiry describes the main components of the proposal, including the purpose of the program, goals, strategies, primary partnerships and funding sources. The principal objective of this letter is to initiate a dialogue and to encourage the funder to invite you to submit a full proposal.

Some grantmakers supply instructions on what a letter of inquiry or proposal must contain to be considered for funding. In other cases, groups of funders such as Grantmakers for Western Pennsylvania use common grant applications. If instructions aren't available, follow suggested guidelines supplied by resources such as The Foundation Center in New York City (see contact information on page 130).

## The Proposal

In their book, *The Foundation Center's Guide to Proposal Writing*, authors Geever and McNeill state, "The proposal does not stand alone." Proposal writing, in other words, is just one step in the grantseeking process. It is the programming or the project itself that ultimately determines whether the organization will be funded. Consequently, grantseekers need to spend the majority of their time fully developing the project concept and then pinpointing the most appropriate potential grantmakers. Once these two steps are complete, the pieces of the proposal writing process should fall more easily into place.

Once you begin writing the formal proposal, remember the following tips:

- Respect the deadline(s) of the organization to which you are applying;
- Keep in mind those who will benefit from the project;

- Use the active rather than the passive voice;
- Avoid using jargon or acronyms without clarification;
- Be concise; keep paragraphs short; employ headings and subheadings. Most organizations prefer around 4-6 pages with limited appendices (unless otherwise directed);
- Traditional typing style is best (e.g. 12 point font, Times Roman, double spaced). Use paperclips and staples so the receiver can easily make copies if needed;
- Number the pages;
- Use quantitative data such as charts and statistics only where appropriate; and
- Keep appendices to a minimum by adding only a limited number of attachments, press releases, news clippings, resumes, etc. The most commonly requested attachments include: a copy of your organization's 501(c)(3) letter from the IRS; a list of your organization's trustees; a copy of your organization's budget and most recent financial audit; and a brochure describing the organization.

## The Elements of a Proposal

At a standard length of three or four pages, a proposal typically answers the following questions:

- What are the goals, objectives and action plan?
- What are the distinguishing features of the program?
- How is the program consistent with the funder's goals?
- Why is the proposed program needed?
- Who are the target populations and how will they benefit?
- What monitoring and evaluation methods will you use?
- What are the qualifications of the staff and the organization to undertake this project?
- What is its estimated cost?

*Remember:* preparing a proposal packet requires critical thinking. Put yourself in the reader's place; keep it

simple. Only include the information you would want to see if you were the grantor. Finally, always address your cover letter to an individual, generally the program director or executive director. Never start out with “Dear Sir” or “To Whom It May Concern.” Verify the spelling of names, titles and addresses. It’s important to start the reader’s experience on a positive note; you want to avoid glaring mistakes up front.

## After the Submission

Submitting your proposal is only the beginning of your involvement with the grantmaker. Grant review procedures vary, and the decision-making process can take anywhere from six weeks to six months. During the review process, the funder may request additional information either directly from you or from your references. If you are unclear about the process, don’t hesitate to ask.

Unless you are otherwise directed, it is usually best to wait until you are contacted by the grantmakers. Many funders send out a response letter that your proposal or inquiry has been received. This is generally a formality but nonetheless a part of the process. Patience usually works in your favor.

If your hard work results in a grant, write a letter of gratitude acknowledging the funder’s support. Generally you want to address the letter to the chairman of the board who made the final grant decision. Find out if the funder has specific forms, procedures and deadlines for reporting the progress of your project. Clarifying your responsibilities as a grantee at the outset will prevent misunderstandings and more serious problems later.

Be aware that, once you are notified a grant has been awarded, there is usually a delay of up to six weeks before a check is issued. It is wise to submit a proposal six to nine months before a project is expected to be implemented—this allows time to apply elsewhere if you are not successful. If your request was denied and you have additional questions, follow up with a phone call.

Normally, letters of regret indicate the reason for rejection—but rejection is not necessarily the end of the process. Ask the program staff if they have any suggestions or recommendations, or if they would be interested in considering the proposal at a future date. Put

them on your mailing list so they can become better acquainted with your organization. It’s never too late to build relationships with prospective funders. And remember: there’s always another year! ■

### For more information:

- The Foundation Center, New York, NY.  
Website: [www.fdncenter.org](http://www.fdncenter.org).
- Environmental Support Center,  
Washington DC. Phone: 202-966-9834.
- The Grantsmanship Center,  
Los Angeles, CA. Phone: 213-482-9860.
- Chardon Press.  
Website: [www.chardonpress.com](http://www.chardonpress.com).
- Non-profit Training Associates & Rose  
Tree Media Education Foundation,  
Media, PA. Phone: 610-565-3552.
- River Network Partners.  
Website: [www.rivernetwork.org](http://www.rivernetwork.org).  
Newsletter: *River Fundraising Alert*.
- Institute for Conservation Leadership,  
Tacoma Park, MD. Newsletter:  
*The Network*. Phone: 301-270-2900.
- Western Organization of Resource Councils.  
Publication: *Direct Mail on a Shoestring* by  
Bruce Ballenger. Phone: 406-252-9672.
- *Grassroots Fundraising Journal*.  
Phone: 510-704-8714.
- The Conservation Alliance.  
Website: [www.outdoorlink.com](http://www.outdoorlink.com).
- The Conservation Coalition.  
Phone: 603-876-3324.
- Rivers Conservation Program, Pennsylvania  
Department of Conservation and Natural  
Resources. Phone: 717-787-2316.
- West Virginia Stream Partners Program.  
Phone: 800-556-8181.

*(Note: public and university libraries may have additional information on fundraising.)*