

## **Volunteer Monitoring**

A volunteer monitoring program consists of an organized group of citizen volunteers to collect water resources data from a local water body, encouraging both involvement and education.

Volunteer monitoring promotes the stewardship of local waters. By educating volunteers and the community about the value of local waters, the kinds of pollution threatening them, and how individual and collective actions can help solve specific problems, volunteer monitoring programs:

- Establish a connection between watershed health and citizens' behaviors
- Build bridges among various agencies, businesses, and organizations
- Create a constituency for local waters that promotes stewardship and cooperation
- Build awareness of pollution problems and pollution prevention
- Help clean up area waterbodies
- Provide data that might go uncollected, thereby increasing the information available.

The volunteers often become educators themselves, informing inquisitive passersby, family, colleagues, and friends about storm water.

Volunteers conduct a variety of activities, including

- Analyzing water samples for dissolved oxygen, nutrients, pH, temperature, and many other water constituents
- Evaluating the health of stream habitats and aquatic biological communities
- Inventorying streamside conditions and land uses that may affect water quality
- Cataloging and collecting beach debris
- Restoring degraded habitats.

Citizen monitoring can provide important data and information during the development of a storm water program. These data can help determine stormwater management practices and strategies for a particular community. State and local agencies can not usually use volunteer collected data for their reporting, but it can be used as a guide for where the State should best spend their time monitoring.

### **Establishing a Volunteer Monitoring Program.**

Starting a volunteer monitoring program requires some effort. Things that will be needed are

- Money for equipment and possibly for organizational staff
- Appropriate meeting, training, and lab facilities
- A network of knowledgeable people (such as educators, extension agents, and local government representatives) who are interested in the project and willing to advise and assist with the efforts
- Connection to or sponsorship by potential data users who can help plan the project to meet their needs as well as those of the new program's
- Organizational skills to manage and maintain the project.

Most of all, time will be needed to make contacts in the community, design a monitoring plan, develop training sessions, recruit volunteers, revise the program as it matures, raise funds, analyze the data, and report back to the volunteers and the community.

Volunteer monitoring programs are organized and supported in many different ways. Projects might be entirely independent (initiated by volunteer groups) or associated with government agencies. Programs might also be associated with environmental organizations or with schools and universities.

A good place to start asking questions is the NC Streamwatch program, a type of Adopt-A-Stream program.

### **Finding Support for Volunteer Monitoring**

Volunteer monitoring programs are funded through a variety of sources. Financial support for these programs can come from government grants, partnerships with businesses, endowments, independent fund-raising efforts, corporate donations, membership dues, or a combination of these sources. In some cases, state and local water quality or natural resource agencies sponsor the volunteers and contribute staff,

equipment, and services such as data analysis. Some programs receive funding from federal agencies such as the EPA, the National Park Service, and the U.S. Forest Service.

In addition, many volunteer programs receive private support through foundations, universities and other research centers, or corporate sponsors. This support may include funding for a full- or part-time organizer, equipment, training workshops, or data analysis. Some agencies or organizations also offer support by allowing volunteer monitoring programs to use their facilities and equipment. In many programs, volunteers themselves also help pay for monitoring by purchasing their own equipment and hosting training sessions.

### **Anticipating Challenges**

Getting volunteers to commit is one of the major challenges to any volunteer effort. Effort and dedication is required to obtain equipment, find a site or sites, and get people to volunteer their time, effort, and expertise. Advertising volunteer opportunities and facilitating volunteer groups are key to a successful program.

Be realistic about how data from volunteer monitoring will be used. Because volunteers often have no formal water quality sampling training, the quality of the data is questionable even if a quality assurance program plan (QAPP) is followed. There is no guarantee that rigorous sampling protocols will be followed to the letter. Additionally, some data gathering, such as benthic macroinvertebrate sampling and identification, requires a good deal of skill. NC DENR agencies will not usually accept volunteer data to use in their own analyses, but may accept results as a 'red flag' for identifying sites with probable water quality problems. Volunteer groups whose primary goal is education usually implement straightforward assessment methods and do not focus on quality assurance plans. Clearly communicate to your volunteers how the data may or may not be used to prevent disappointment later.

### **Some Lessons Learned:**

- *Start small.* A pilot project can test methods, training sessions, and organizational skills. It keeps volunteers from being overwhelmed and allows them to evaluate and refine the project before moving on to more ambitious efforts.
- *Keep goals realistic.* Most volunteer data are used to educate the community and to screen for potential problems. Although it is important to strive for data quality, for most projects a high degree of data quality assurance is not necessary.
- *Planning pays off.* Few things are more frustrating than collecting a year's worth of data and then finding that the volunteers have no idea how to analyze them, that the methods used are not considered valid, or that sites were sampled in the wrong locations.
- *Make connections.* The more people in the community and within local and state agencies who are aware of the program, the more friends and supporters the program could have. Potential data users should be included in all phases of the project's development.
- *Develop volunteer leadership.* Volunteer leaders within a project provide the vision for setting goals and the commitment to achieve them. They enable a project to develop and grow without stagnating.
- *Pamper volunteers.* Volunteers give up their free time to come to meetings, attend training sessions, and monitor sites. Social opportunities should be provided, and volunteers should be rewarded.
- *Use the data.* Findings can be reported to volunteers and to the community. Volunteers can present monitoring results at fairs and town meetings or can send findings to appropriate contacts in state and local government. Also, a newsletter or data report can be created to inform the public about what has been accomplished. Volunteer groups can present findings at town meetings and prepare reports or brochures to distribute to interested citizens.

### **References**

NC Streamwatch [[http://www.ncwater.org/Education\\_and\\_Technical\\_Assistance/Stream\\_Watch](http://www.ncwater.org/Education_and_Technical_Assistance/Stream_Watch)]

EPA Volunteer Monitoring Program [<http://www.epa.gov/owow/monitoring/vol.html>]

Albemarle Pamlico National Estuary Program (APNEP) Volunteer Monitoring Program [<http://www.ecu.edu/icmr/cmn/>]

