



Starting Out in Volunteer Water Monitoring

What is volunteer water monitoring?

Across the country, volunteers monitor the condition of streams, rivers, lakes, reservoirs, estuaries, coastal waters, wetlands, and wells.

They do this because they want to help protect a stream, lake, bay or wetland near where they live, work, or play. Their efforts are of particular value in providing quality data and building stewardship of local waters.

Volunteers make visual observations of habitat, land uses, and the impacts of storms; measure the physical and chemical characteristics of waters; and assess the abundance and diversity of living creatures—aquatic insects, plants, fish, birds, and other wildlife. Volunteers also clean up garbage-strewn waters, count and catalog beach debris, and become involved in restoring degraded habitats. The number, variety, and complexity of these projects are continually on the rise.

Volunteer monitoring programs are organized and supported in many different ways. Projects may be entirely independent or may be associated with state, interstate, local, or federal agencies; with environmental organizations; or with schools and universities. Financial support may come from government grants, partner-

ships with business, endowments, independent fundraising efforts, corporate donations, membership dues, or a combination of these sources.

Volunteers Provide Quality Data

Many volunteer groups collect data that supplements the information collected by state and local resource management or planning agencies. These agencies might use the data to:

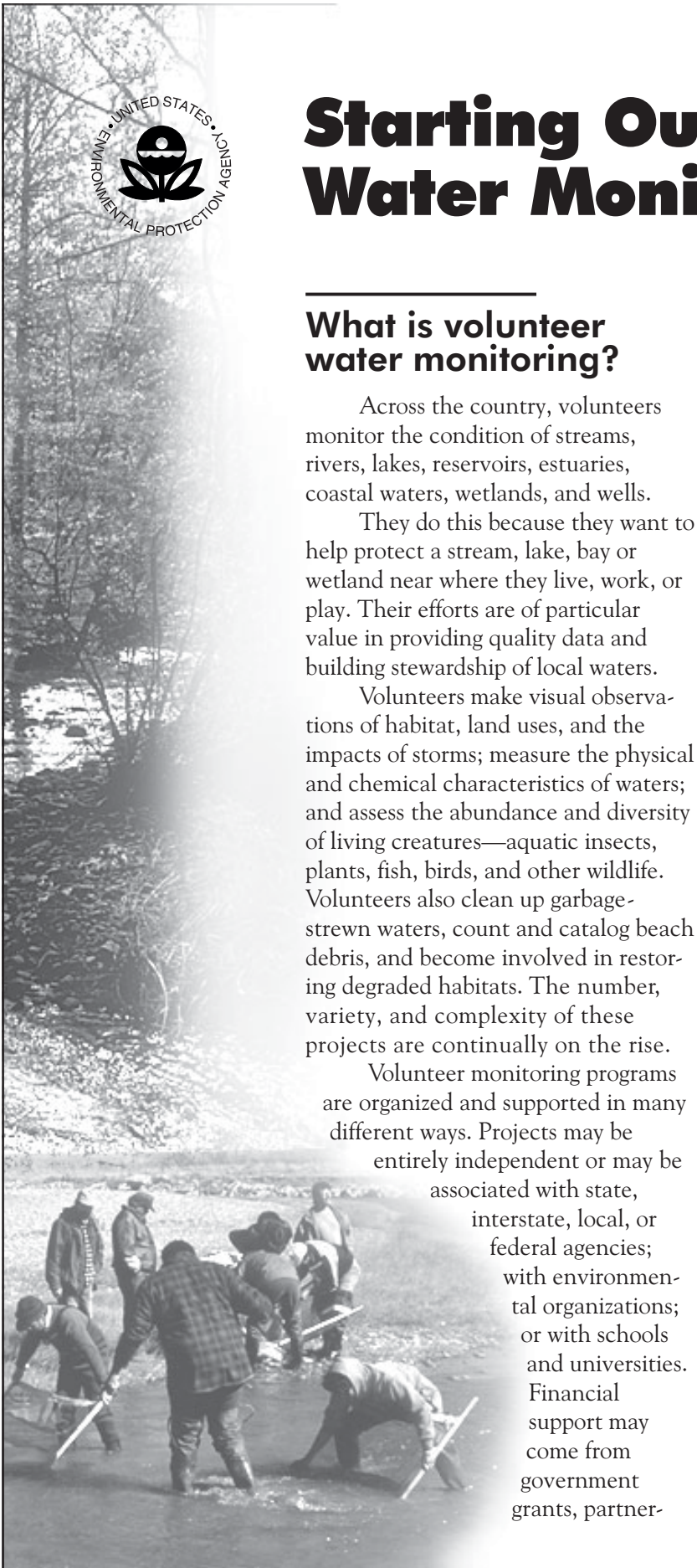
- ◆ screen water for potential problems, for further study or for restoration efforts
- ◆ establish baseline conditions or trends for waters that would otherwise go unmonitored
- ◆ evaluate the success of best management practices (BMPs) designed to mitigate problems

In general, the volunteer monitoring program should work cooperatively with state and local agencies in developing and coordinating its technical components. To ensure that its data are used, the monitoring program should also develop a strong *quality assurance project plan* (QAPP) that governs how volunteers are trained, how samples are collected and analyzed, and

Volunteers Most Commonly Monitor:

| | |
|--------------------|---------------------|
| Water temperature | Flow/water level |
| Dissolved Oxygen | Turbidity |
| pH | Habitat |
| Macroinvertebrates | Secchi transparency |
| Phosphorus | Bacteria |
| Nitrogen | Land use |

Source: *Directory of Volunteer Environmental Monitoring Programs*, 5th Edition





Participating in a volunteer program that provides data to be used by government agencies will usually require that you take part in formal training sessions and commit to a regular schedule of sampling.

If you are interested in learning about your local waterway and educating others, your time commitment may be less and any training will probably be less formal.



how information is stored and disseminated.

Volunteers Build 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 can:

- ◆ make the connection between watershed health and our individual and collective behaviors
- ◆ build bridges among various agencies, businesses, and organizations
- ◆ create a constituency for local waters that promotes personal and community stewardship and cooperation

Volunteer groups whose primary purpose is education and constituency-building generally adopt simple, easy-to-use assessment methods and may not need to develop a stringent quality assurance project plan.

How do you get started as a volunteer monitor?

1 Determine your personal goals.

Ask yourself why you want to become a volunteer monitor. Do you want to provide high-quality data to be shared with state and local government agencies, or are you more interested in helping local students learn about the envi-

ronment? Do you want to monitor a specific stream in your neighborhood or are you willing to be assigned a site by your county resource management agency?

Participating in a volunteer program that provides data to be used by government agencies will usually require that you take part in formal training sessions and commit to a regular schedule of sampling (usually weekly, monthly, or seasonally, depending on the project). If you are more interested in learning about your local waterway and educating others, your time commitment may be less and any training will probably be less formal.

2 Learn about any existing volunteer monitoring programs in your area and around the country.

The National Directory of Volunteer Environmental Monitoring Programs, published by the U.S. Environmental Protection Agency (USEPA), can help you locate existing groups nearby and around the country and help you learn about the kinds of monitoring taking place. In addition, USEPA's *Adopt Your Watershed* site on the World Wide Web can help you link up with volunteer groups in your watershed (see back page).

Another good place to start is with your local or state environmental protection, natural resource, parks, or fish and game agency. Even if it does not sponsor a volunteer program, the agency may be aware of other programs or groups you can join. Other potential sponsors or sources of information include:

- ◆ local community-based groups such as civic or watershed associations, garden clubs, universities, and activist organizations
- ◆ national environmental organizations with chapters in your area
- ◆ regional offices of federal agencies such as USEPA, the US Department of Agriculture's Extension Service, the U.S. Park Service, and the U.S. Fish and Wildlife Service

Once you locate volunteer monitoring groups, you will probably find that they offer a variety of opportunities. You might become involved in collecting samples, analyzing the results in a laboratory, developing ways to present data, writing reports, speaking to local groups about water resource issues and the volunteer project, producing a newsletter, fundraising, or recruiting and training new volunteers. You might also become involved in organizing stream cleanups, planting trees, and other habitat restoration activities. Chances are you will find opportunities that suit your interests and skills.

3 If you can't locate a local group, consider starting one yourself.

If you decide to start your own program, you'll need to do some basic research to determine how to proceed. To help your research, develop a list of questions that you can discuss with other volunteer program coordinators. For example:

- ◆ what relationships does the program have with state and local agencies, local businesses, schools and colleges, other groups?
- ◆ what kind of monitoring does the program conduct?
- ◆ what are the program's monitoring costs? How is the program funded?
- ◆ how are volunteers recruited, trained, and retained?
- ◆ how is the quality of the data ensured? Does the program have an approved quality assurance plan?
- ◆ what reference materials, training aids, and methods manuals do they recommend?

Starting a volunteer monitoring program is not a simple task. You will need money for equipment and possibly for staff; appropriate meeting, training, and lab facilities; a network of knowledgeable people (such as educators, extension agents, local government representatives, etc.) who are interested in your project and willing to advise and help out; connection to (or sponsorship by) potential data users who

can help you plan your project so that it meets *their* needs as well as your own; and organizational skills to manage and maintain the project. Most of all, you will need time to make contacts in the community, design your 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.

Here are some of the lessons learned by other volunteer programs:

Start small. A pilot project that serves to test out methods, training sessions, and organizational skills can keep you from being overwhelmed and allows you to evaluate and refine your project before moving on to more ambitious efforts.

Keep your goals—and those of your volunteers—realistic. Chances are slim that your data will ever be used in court to stop a polluter. Data collected for such regulatory purposes requires a very high degree of quality assurance. Most volunteer data is used to educate the community and to screen for potential problems.

Planning pays off. Beware of collecting a year's worth of data and then finding that you have no idea how to analyze it, that the methods you used are not considered valid, or that you sampled sites in the wrong locations.

Make connections. The more people you talk to in your community and within local and state agencies, the more friends and supporters your program will have. Include potential data users in all phases of your project's development.

Develop volunteer leadership. Volunteer leaders within a project provide the vision for setting goals and the commitment to achieve them. They also enable a



As you start out, connect with potential users of your data to ensure that your project meets their needs as well as yours.

Some USEPA resources on theWorld Wide Web...

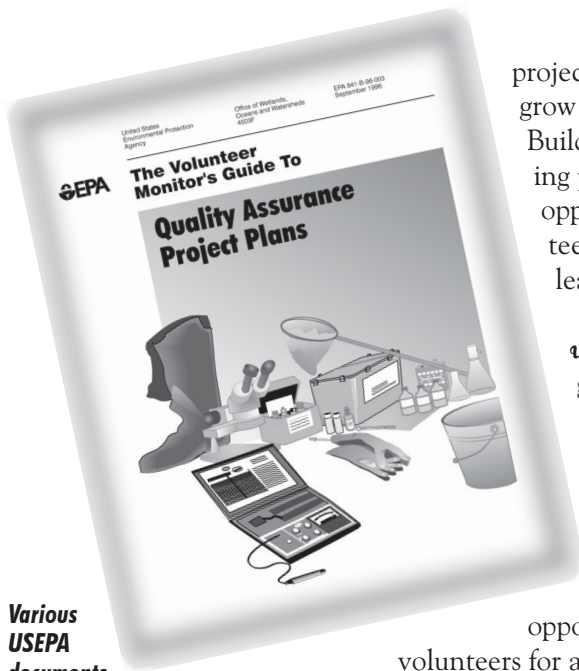
Office of Water Homepage:
www.epa.gov/ow

Wetlands, Oceans, and Watersheds Homepage:
www.epa.gov/owow

Monitoring Water Quality Homepage:
www.epa.gov/owow/monitoring

Volunteer Monitoring Homepage:
www.epa.gov/owow/monitoring/vol.html

Adopt Your Watershed:
www.epa.gov/surf/adopt/



Various USEPA documents, such as this quality assurance guide, can help programs that are starting out in volunteer monitoring.

project to develop and grow without stagnating. Build into your monitoring project plenty of opportunities for volunteers to develop as leaders.

Pamper your volunteers. Volunteers give up their free time to come to meetings, attend training sessions, and trudge out to monitoring sites.

Provide social opportunities and reward volunteers for a job well done.

Use your data. Report findings to volunteers and to the community. Help volunteers present monitoring results at fairs and town meetings. Send your findings to your contacts in state and local government. Create a newsletter or data report and let the world see what you've accomplished.

Volunteer Monitoring Resources

USEPA supports volunteer monitoring by sponsoring national conferences, publishing methods manuals, producing a nationwide directory of volunteer programs, and funding a national newsletter, *The Volunteer Monitor* (see resource box for information on subscribing to this publication). Volunteer coordinators in the 10 EPA Regional offices provide some technical assistance for local programs and help coordinate regionwide conferences. The Regions are also responsible for grants to the states that can be used, in part, to support volunteer monitoring programs that help assess nonpoint sources of pollution or that serve to educate the public about nonpoint source issues.

For more information on USEPA's volunteer monitoring program, or to obtain any of the documents listed in the resource box, contact Volunteer Monitoring Coordinator, USEPA (4503T), 1200 Pennsylvania Avenue NW, Washington, DC 20460.

Volunteer monitoring resources available from USEPA

National Directory of Citizen Volunteer Environmental Monitoring Programs, Fifth Edition. EPA 841-B-98-009.

Proceedings of the Sixth National Citizen's Volunteer Water Monitoring Conference. EPA 841-R-01-001, June 2001.

Volunteer Estuary Monitoring: A Methods Manual. Available only on the Web at www.epa.gov/owow/estuaries/monitor.

Volunteer Lake Monitoring: A Methods Manual. EPA 440/4-91-002, December 1991. Available only on the Web at www.epa.gov/owow/monitoring/lakevm.html.

Volunteer Monitor's Guide to Quality Assurance Project Plans. EPA 841-B-96-003, September 1996.

Volunteer Stream Monitoring: A Methods Manual. EPA 841-B-97-003, November 1997.

Volunteer Wetland Monitoring: An Introduction and Resource Guide. EPA 843-B-00-001, December 2001.

The Volunteer Monitor, newsletter, partially funded under cooperative agreement by the USEPA, is published twice yearly. This newsletter facilitates the exchange of ideas, monitoring methods, and practical advice among volunteer monitoring groups across the country. Subscriptions are free. Available on the Web at www.epa.gov/owow/monitoring/volunteer/vm_index.html or contact the editor at elliieely@earthlink.net.

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