

The Volunteer Monitor

The National Newsletter of Volunteer Water Quality Monitoring
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Note: This information is provided for reference purposes only. Although the information provided here was accurate and current when first created, it is now outdated.

Special Topic: Program Management

This issue focuses on the "people" side of managing a volunteer monitoring program. In it, you'll find articles on such topics as fostering volunteer leadership, maintaining close ties with volunteers, and getting everyone in your organization involved in strategic planning.

Of course, good management of people is only one of the essential ingredients for a successful program. Many other important ingredients have already been covered in *The Volunteer Monitor*--data management in the Fall 1995 issue, fundraising in Fall 1993, and building program credibility in Fall 1992 (see page 2 for instructions on ordering these back issues). Another crucial ingredient--community outreach--is slated for a future issue.

Co-Editors: Bellevue Utilities Stream Team, Bellevue, WA

This issue was co-edited by the Bellevue Utilities Stream Team, which involves residents in surface water protection and enhancement. Volunteers monitor water quality and habitat, clean streams, replant shorelines, remove noxious weeds, and enhance salmon habitat.

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Charting a Course - Long-Range Strategic Planning

by Sharon Behar

The following article borrows freely (with permission) from Thinking Strategically: A Primer on Long-Range Strategic Planning for Grassroots Peace and Justice Organizations, by Randall Kehler, Andrea Ayyazian, and Ben Senturia. This excellent 40-page manual, containing step-by-step guidance for creating a strategic plan, is available for \$10 from The Exchange Project, Peace Development Fund, P.O. Box 1280, Amherst, MA 01004; 413/256-8306.

Long-range strategic planning is the process of determining where an organization wants to be in the future, and how it can best get there. There's nothing mysterious or complicated about strategic planning--it's based on common sense. In its simplest form, strategic planning can be summarized by four basic questions:

1. What is our purpose?
2. Where are we now, in relation to our purpose?
3. Where do we want to be?
4. How do we get from here to there?

Planning isn't always strategic. Often it is *incremental*. Incremental planning consists of a series of more or less random steps that don't intentionally build toward anything. By contrast, *strategic* planning means figuring out a progression of steps, each one built on the last one, which will lead to a goal (see below). Unfortunately, volunteer monitoring groups tend to rely mainly on short-range, incremental planning ("Our plans? Well, this month we'll do a creek cleanup, next month we're having a picnic for volunteers, and in August . . .").

Why do strategic planning?

All organizations, regardless of size or stage of development, benefit from long-range strategic planning. Strategic planning generates a clear common vision, effective guidelines for decision making, and an ongoing way for the group to examine and learn from its actions.

Without long-range strategic planning, we risk allowing outside forces to set our agenda for us. We find ourselves continually *reacting* to situations--a proposed development on sensitive wetlands, a sudden increase in contaminated shellfish--instead of taking the initiative. Feeling confused about our goals, we squander our resources trying to do everything, and end up feeling burned out.

Strategic planning gives us an invigorating sense of direction. It enables us to set priorities and focus our energies. We gain a sense of equilibrium that makes our work environment saner and our work more effective.

Overcoming resistance

With so much to gain, why do we resist strategic planning so strenuously? Usually because we are full of fears.

One fear is that planning will require rigid adherence to some blueprint, making our organization unable to respond to changing circumstances. The reality is just the opposite: a plan is a tool that helps us look reflectively at what we're doing and adapt our actions as needed. A strategic plan should not stop you from doing something new if the need arises. But it does provide criteria for deciding which actions to say yes to and which to say no to.

Another fear is that planning takes too long. Yes, successful planning does take time. But if we want to be effective, it is time well spent. When we claim we don't have time for planning because we have so much "real" work to do, we're really saying that we have come to value activity over reflection, no matter how frenzied or ineffective the activity. A wonderful Buddhist saying goes: "We have very little time; therefore we must proceed very slowly."

At the mere suggestion of planning, people may groan, "It's going to mean horrendous meetings." Unfortunately many of us have experience with poorly facilitated, interminable meetings. The solution is careful attention to designing the planning process (see [step 1](#) below).

Though rarely expressed aloud, a very common fear is that "we will have to give something up." It's true that planning does mean setting priorities and making choices. It means doing fewer things--but doing them better.

The strategic planning cycle

There is no single "right way" to undertake strategic planning. Each organization needs to design a process that fits its own culture and climate. The process should involve all organizational players and everyone who helps realize the group's vision. For a volunteer monitoring group, volunteers should be major participants. Remember that the broader the participation in the making of the plan, the sounder the plan and the greater the sense of ownership.

The planning cycle itself consists of five steps.

Step 1. Make a commitment. This step can often take the longest--but don't try to push it. A group needs to understand the value of planning and have its fears addressed before the process starts. Set aside time for a discussion of the pros and cons of doing strategic planning. After the discussion, decide whether to proceed. If the group is not ready to proceed at this time, you can agree to discuss it again in six months or a year.

Once your group commits to planning, you're ready to design a process that will fit your needs. Consider questions such as: How much time do we have for the process? Who will participate? Where and when will sessions be held? Who will oversee the process and keep it on track?

It often works best to stretch the planning sessions over a period of months to give participants time to mull things over before proceeding to the next step. Making good strategy is like making good bread: the ingredients must be allowed to "rest and rise."

Step 2. Take stock. Begin by reviewing the group's history and crafting or reviewing the mission statement. The mission statement is the foundation upon which the strategic plan is built.

Then comes assessment, in which you address the question Where are we now? Evaluate the group's internal strengths and weaknesses (considering such issues as staff, board, and volunteer roles; funding sources; current activities; and group communication) as well as external opportunities and challenges (community needs, political trends, status of issues you're concerned about, allies, and opposition). This assessment helps you identify the issues and questions that need to be addressed in the plan.

Step 3. Set goals. Think in terms of where you want to be in three, five, or even ten years. Make goals specific so you'll be able to tell whether you've achieved them. The more you can break long-term goals into measurable short-term goals, the more opportunities you'll have to experience success.

It's helpful to classify goals into three categories: external (e.g., restore fish habitat); internal (e.g., involve more volunteers in leadership positions); and community outreach (e.g., improve relationships with the media).

Step 4. Develop strategies. Now comes the most difficult part, in which the group tackles the last of the four questions listed at the beginning of this article: How do we get there from here? This is where you lay out a detailed step-by-step strategy for achieving your goals. The following process is helpful:

- For each individual goal, create a strategic timeline that shows a sequence of steps leading to the goal. (Note: Consider whether the steps really build on one another. If they are interchangeable, the plan is probably more incremental than strategic.)
- Narrow down the list of goals and accompanying timelines to the ones you are actually prepared to adopt and implement.

- For each timeline, estimate the staff and volunteer time, money, and other resources that will be needed to carry out each step.

Once the plan is finalized, write it down and give everyone a copy. Then celebrate! Writing a strategic plan is a significant achievement.

Step 5. Making the plan work. How can you ensure that the plan conceived in enthusiasm and idealism doesn't end up languishing in a file drawer? First, use the strategic plan to make a detailed workplan for the coming year. Break down each step into activities and specify who's in charge of the activity, when it will be done, and how much it will cost. Use the workplan to determine the budget for that year.

Then make sure the plan stays in the forefront of everyone's mind. Condense the most important points and post them on a large sheet of paper on the wall of your meeting room. Discussing the plan's progress should be part of the agenda of every board or staff meeting. Encourage everyone to ask themselves, as they embark upon new activities, "How does what I'm about to do fit in with our long-range goals and strategies?"

Step 6. Evaluate. A plan is a living, breathing organism. Through regular review and evaluation of the plan, you learn what's working and what isn't, which goals may have been too ambitious, and what factors created barriers. Changes in your group's mission or resources, or in the external environment, may also require changes in the plan. It's a good idea to create a Strategic Planning Committee to prepare for and conduct these review sessions.

At the end of the year, prepare the next year's workplan, taking into account everything that was learned in the evaluation process.

The final word on planning is that it never ends. There is no such thing as a plan that doesn't have to be revised. And if you ever get to the point where the plan feels like a straitjacket, go back to the drawing board! Good strategic planning should help you feel less oppressed and more creative.

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Strategic Plan Checklist

A good strategic plan should be:

- **Feasible.** Does the organization have the resources to carry out the plan?
- **Measurable.** Are the goals specific enough that you'll know when you've achieved them?
- **Time-specific.** Is the plan translated into comprehensible timelines and time-specific workplans with clear deadlines?
- **Flexible.** Have you scheduled regular review sessions for assessment and revision?
- **Inspiring.** Does the plan give people a sense of something worth working for? Is it bold and imaginative?
- **In writing.** If the plan isn't in writing, you might as well not have a plan because everyone will have a different idea of what the plan is.

(Adapted from Thinking Strategically.)



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Developing Leadership

by Abby Markowitz

Volunteer leadership makes the notions of "volunteer monitoring" and "citizen involvement" more than just slogans. Volunteers can and should play a central role in our programs beyond simply collecting data. Our long-term success in promoting positive environmental change is strongly tied to our success in developing volunteer leaders. Volunteer leaders provide the vision for setting goals and the commitment to carry them out, and they enable a program to develop and grow without stagnating.

To successfully develop volunteer leaders, we have to invest in a leadership-friendly organizational infrastructure that allows people to move through the process of recognizing, developing, practicing, and increasing their own leadership potential. Creating this infrastructure requires that the organization:

- make a commitment to volunteer leadership
- actively identify potential leaders
- provide opportunities for people to develop and use their leadership skills

A commitment to volunteer leadership

Making a commitment to developing volunteer leaders requires a willingness to give up some control and decision-making power to others. This can be a frightening prospect. We all know the old adage: "If you want something done right, do it yourself." But if we really believed that, we wouldn't be in the business of training volunteers to assess water quality. By definition, volunteer monitoring program coordinators believe that nonprofessional monitors can collect useful information. We have to extend that same faith in our volunteers to the decision-making parts of our programs. If we are not willing to share power, we will have "mascots" or tokens--not true volunteer leaders. And, most likely, we won't have them for very long.

Identifying potential leaders

Although every volunteer is valuable, there are particular qualities and skills associated with leadership. Leaders are people who:

- feel a sense of ownership over a project
- communicate ideas, motivate others, and build consensus
- take on increasing responsibility (but not more than they can handle)
- delegate responsibility effectively
- develop leadership skills in others

The Institute for Conservation Leadership estimates that "roughly 10 percent of your members have the capability or motivation to become leaders." But how do you recognize which 10 percent? The best way is to get to know the volunteers as individuals. What are their jobs and interests? What do they see as their own skills and abilities? What motivated them to become monitors?

One good way to spot potential leaders is to ask volunteers for feedback on training sessions, events, and workshops. This can be done by means of written evaluation forms, or through discussions with groups or individuals. Ask people what problems they see, what ideas they have for solutions, and what topics they'd like covered at future training sessions or workshops. Include questions about their particular skills and interests, and always ask if they'd like to become more involved in specific projects. Look for people who go beyond simple ratings or yes/no answers, and for those who say we instead of you when referring to the organization.

Learn to recognize different types of leaders. Don't assume, for instance, that leaders are all extroverts who enjoy being in the public eye. Leslie, one of the best volunteer leaders I ever worked with, did not like high-profile jobs like public speaking or talking to the media. Yet she took on the responsibility of coordinating a re-evaluation of 100 monitoring sites for Maryland Save Our Streams. She orchestrated the entire process, leading discussions, delegating tasks, and recruiting additional volunteers to help. Leslie is a behind-the-scenes leader--effective at dealing with people in small groups or one-on-one but not interested in being a visible spokesperson.

In helping new leaders develop, start slow and be creative. Let people know you have confidence in them--but don't bulldoze. Help them find their niche without pushing them too far or too fast. Often people are more willing to get their feet wet in a setting where they already have a relatively high comfort level. For instance, try asking the monitor who coaches Little League give a presentation about the monitoring project to the league's players and coaches. As people feel more successful and comfortable they will look for ways to get more involved.

Providing leadership opportunities

Identifying leaders won't get you far unless the program provides opportunities for people to grow and increase their skills. The training grounds for developing leaders already exist in your program. Does the organization have committees? publish a newsletter? hold training workshops? communicate with the media? make public presentations? All these activities can serve as fertile soil for growing leaders--but only if new people are welcomed and actively encouraged to participate.

Committees provide tremendous opportunities for fledgling leaders to gain skills in voicing opinions, building consensus, making decisions, delegating tasks, and mentoring other people. Volunteers who serve on committees acquire many of the skills that make for an effective member of a board of directors.

Formal leadership training

In addition to the informal leadership training that volunteers gain through participating in the work of your organization, you can provide more formal training by offering workshops on particular leadership skills. A training series on public speaking is an excellent place to start. Giving a public presentation is one of the most common and effective ways for volunteers to build their confidence, as well as increase their knowledge about the program. A "trainers' training" program that teaches a core of volunteers to serve as trainers and team captains is another good way to foster leadership. The training should include instruction in ways trainers can identify and mentor new leaders. If you want to enhance volunteers' ability to interact with local government and give them a sense of the connection between their monitoring and government processes, you might offer training in basic civics and communication with agencies and elected officials.

For any training to successfully build leadership, it must incorporate a plan of action. In other words, when people complete the training they need a concrete way to put what they've learned into use.

People involved in volunteer monitoring are accustomed to the idea of "fostering stewardship." Typically we use this phrase to describe the process of creating and nurturing a community sense of ownership over the local environment. We may not realize that leadership development is also a process of fostering stewardship--of nurturing the volunteers' sense of ownership over the monitoring program. And building volunteer stewardship over our programs is one of the most critical ingredients in achieving our larger goal of community stewardship over the environment.

Abby Markowitz is an environmental consultant with TetraTech, Inc., and serves on the board of directors for the Maryland Volunteer Water Quality Monitoring Association.

(This article is partially based on "Developing Leadership Among Volunteers," by Abby Markowitz, in Proceedings of the 4th National Citizens' Volunteer Monitoring Conference; available free from Alice Mayo, USEPA, 202/260-7018.)



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How to Discourage Leaders

The pyramid below shows a typical structure for a nonprofit volunteer monitoring organization, with each level representing an increased degree of commitment and responsibility.

Ideally, an organization should provide clear opportunities at every level for volunteers to move up the pyramid into positions of greater leadership. Unfortunately, in the real world the would-be leader too often encounters barriers where there should be ladders. Often groups are unaware of how their actions (or inactions) make it difficult for new people to rise to leadership positions.

Are you involved with a group that's short on new leaders? Check for symptoms of the following problems:

Don't ask, don't get. The group does not actively or regularly invite the public to participate. If they do have an event that draws the general public, they don't invite attendees to join or become volunteers.

Only talk to the people you know. When new people show up at a meeting or training, group members don't introduce themselves.

Nowhere to plug in. The group has no "entry points"--no organized system for getting new people involved. The new volunteer either gets no job, or else gets a poorly thought-out or overwhelming task. ("See if you can do something about this mailing list. No one's looked at it for years.")

"I'd rather do it myself." People in the group feel it's easier to do tasks alone than to form a committee. Without committees, there's no testing ground where the group and the new volunteer can try each other out, and no opportunity for volunteers to take on increasing responsibility.

"Welcome to the group, do you want to be president?" Anyone who shows the slightest interest in taking on more responsibility is immediately asked to chair a committee or be the group's secretary. This situation arises when a group has failed to develop leaders from within its ranks, and current leaders are burned out.

Veterans disease. This syndrome develops when leaders who've been around for a long time become

roadblocks to change. If a suggestion is made, the veterans dismiss it with "We tried that six years ago. It didn't work." Other members defer to the veterans, further discouraging new leaders from expressing ideas.

(This article is based on workshop materials developed by Institute for Conservation Leadership trainers Sharon Behar, Ben Senturia, and Dianne Russell. For more information about ICL, please see [page 10](#).)



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Organizational Development - Weathering the Storms

by Jo Goeldner

"Oh, no, not this squabbling again! This group is never going to get anywhere! Maybe it's time to quit."

These were the thoughts of Brian Bodenbach in the summer of 1992, shortly before he attended a workshop on how to form a group to protect local waterways.

At the workshop Blair Wolfley, an Extension Educator with Washington State University Cooperative Extension, spoke about the five predictable stages of development that most groups go through--"form," "storm," "norm," "perform," and "re-form." Bodenbach came out of the workshop with eyes opened. He realized that the Thornton Creek Alliance, an organization he had recently helped found, was merely going through the organizational equivalent of the "terrible twos."

After the workshop, Bodenbach started bringing Wolfley's handout about the five stages to Thornton Creek Alliance meetings. "I could see the stages actually materializing," he says. "They fit us to a T."

As it happens, I was also a participant at Wolfley's workshop, and its message has sustained me through hundreds of hours of tedious and tumultuous meetings, secure in the knowledge that a predictable metamorphosis is taking place and that in time an effective and productive entity will emerge.

This article will describe the five stages, using excerpts from the same source Wolfley used in his workshop--a 124-page handbook titled "Community Leader's Guide," developed by the Washington State University Cooperative Extension Institute for Extended Learning.¹ Each stage will be illustrated with the real-life experiences of the Thornton Creek Alliance and other volunteer monitoring groups in the Puget Sound area. Read on--undoubtedly you will recognize the ebb and flow of organizational development in groups you've been involved in.

1. Form. During this stage, group members are basically concerned with "what are we here for?" People will tend to look for a strong leader to get things moving. Discussion will focus on different perceptions

of the reason the group has come together. People are "checking out" one another to decide whether they want to be part of the group. Little work is normally accomplished at this stage because there is some anxiety about the new situation and a fair amount of confusion about how to proceed.

There are two important things to accomplish at this stage: (1) everyone needs to feel welcome and included, to have a sense that their opinion will be respected; (2) there needs to be some consensus, or group agreement, about the basic mission or goal.

Based on her experience with Chautauqua Northwest's Seniors for the Environment, Jane Hardy says that during the form stage "successful groups accommodate people of all backgrounds and ages, offering a variety of options for participation."

The form stage is also a time of excitement and discovery: Peter Hayes recalls that when the Thornton Creek Project (not to be confused with the Thornton Creek Alliance) first came together, there was "an 'Aha!' of people realizing they had common interests and could get further together than alone." Bodenbach says, "When you're all pulling together around the entire watershed, sharing thoughts and ideas, a bond is created." And Ellen Haas says that when she started Backyard Waterways, "People said, 'Thank you for bringing us together.'"

Terry Lavender, a member of Water Tenders, has a word of caution for the form stage: "Be careful how much you take on and how much you expect of members--people will be scared off if too much is expected too soon."

2. Storm. Once members have "bought into" the group and its goals, there tends to be a time when power plays occur. The leadership established during the first stage may be challenged by other group members. Special interests in the group will try to assert themselves. There may be many different ideas about how to meet the goal. Members will feel unstable at this time and there will be a sense of polarization in the group.

Some groups may move through the storm phase in one meeting; other groups can stay stuck in this phase for years. The group facilitator can help the group most by getting conflict out in the open, encouraging good communication skills, and showing confidence that this is a healthy stage and one that the group will resolve.

"The important thing about storming," says Bodenbach, "is to recognize that it's natural. Don't try to avoid it, but deal with it. It's the make-it-or-break-it phase. Either you get through it or you fall apart."

Most of the Thornton Creek Alliance's storming was over philosophical differences: "Some people were only interested in stream restoration, community education, and monitoring, while others wanted to be more politically active," says Bodenbach. "But the storm phase didn't last very long, thankfully. We got through it quickly because we recognized it could kill the group if we didn't."

Ellouise Pritchett, founder of the Like-Hell-You-Will Committee, says, "Most of our storms came about as a result of frustration--and when people are frustrated they tend to focus on the facilitator or leader. I remember one time a member read me the riot act." Pritchett notes that it's important for the leader to react constructively to such outbursts: "You need to ask yourself, What is the underlying problem here?"

3. Norm. By hammering out their differences, the group should reach general agreement on the ground rules for how to get their work done. These ground rules, or "norms," will address how people treat one another, how meetings are conducted, who will do what work, and how work will get carried out.

At this stage, a leader or facilitator can become less directive. Members will feel comfortable and there will be a sense of team cohesiveness and common spirit.

"We put lots of energy into norming in the first year of the Denny Creek Neighborhood Alliance," says Ellen Haas, a founding member. "We defined our geographical area, nominated officers, set up bookkeeping and mailing, and shaped and reshaped committees."

Bodenbach says, "The discussions the Thornton Creek Alliance had in the storm phase set the tone and the philosophy for the norm phase. During the storm phase, we made the basic decision to be advocates. During the norm phase we worked out a process for deciding how we would respond to particular issues. For example, we don't just fight everything that comes along; we discuss each issue and decide where to put our energy. And we compromise over how far to go."

Ellouise Pritchett observes that norms can be either spoken or unspoken. In Water Tenders (another group Pritchett founded), she says that norms are "mostly unspoken. You just know which people you can depend on to do what."

Terry Lavender recommends that groups establish the following healthy "norms": First, make decisions based on principles, not emotion. Second, remember to have fun and celebrate your successes. And finally, always remember to say thank you. "This is one of my basic rules of operation," she says, "especially when dealing with political people. They hardly ever hear the positive side."

4. Perform. Now that the team has established its norms, it becomes capable of diagnosing and solving problems and making decisions. This is the stage where a great deal of work can occur. The group can become increasingly creative. It can work as a full group as well as delegate work to task forces and individuals. Initiative in leadership may come from any group member and most members share responsibility.

Ellen Haas says, "Clearly this is where the fun is--doing work projects together with wheelbarrows and tools and rain and snow and children and binoculars and coffee." Or, as Bodenbach puts it, "Norming is the liftoff and performing is flying."

Of course this stage isn't all fun--Haas points out that "ninety percent of the work you will do is

community organizing. Plan on networking and databasing and telephoning." And Jane Hardy emphasizes that even though everything may look smooth and effortless once you get to the perform stage, "a lot of organization and work going through the previous stages is the reality behind the magic."

5. Re-form. At some point, most groups return to the form stage, either because their original purpose has been achieved or because of membership or leadership turnover.

Terry Lavender and Ellouise Pritchett agree that Water Tenders is probably now on the verge of the re-form stage. Lavender says, "The original core members have gone through all these phases and now are either burned out or very involved in other projects. The group really needs to find some new members and sort of begin anew. I am sure this happens to many groups as the old guard leaves and new people have not stepped forward to take leadership roles. There also seem to be surges in activity by individual group members as their lives and energies allow."

To avoid burnout, Lavender recommends that groups "work on putting lots of people in leadership roles rather than just a few, so there is always someone to step forward when others can't." Of course this is easier said than done, and, as Pritchett notes, it's hard to find people who simultaneously "embrace the group's vision and have the time and energy to commit." (Note: For ideas on how to encourage leaders within the ranks, see "[Developing Leadership](#)" on page 12.)

Looking back, Bodenbach says, "That workshop kept me from quitting my stream advocacy work." Understanding the stages of group development got Bodenbach through the rough spots. Hopefully this knowledge will also give readers the faith they need to weather their own groups' storms.

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¹ The "Community Leader's Guide" is available for \$10 (includes shipping) from Lois Irwin, Guide Editor, Institute for Extended Learning, 3305 W. Ft. Wright Dr., Spokane, WA 99204; ph. 509-533-3782; fax 509-533-3226. Please make checks payable to PRI.



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What Kept Me Going - One Volunteer's Story

by Joan Drinkwin

I started volunteer monitoring in the summer of 1991, after I got dragged along to a weekend training hosted by the Lower Colorado River Authority. The training was intense but fun, and since we always took the obligatory "sunset break," even the evening sessions were enjoyable.

So I began weekly monitoring at a small, distressed creek near my house in Austin. I was pretty committed and lasted . . . oh, about three months at that pace. Then I started skipping. I was a busy graduate student, newly married, and frankly, I had better things to do than scramble down a thorny path to a yucky urban creek and take fecal coliform samples. I think what turned me off most was the time it took--at least two hours out of my life every week.

About a year after my initial training, I stopped any pretense of sampling. I felt forgotten, harried, and apathetic about it. I felt my testing had already proved that my creek was the poorest quality creek in Austin. I thought, what the heck, what else do we need to know?

Guilt at retaining the expensive sampling equipment without using it finally forced me to call the volunteer coordinator, Jack Goodman. I told him I was sorry but I had to quit monitoring, and could he come and pick up my equipment?

No.

No?

No. He really thought what I was doing at the creek was valuable. In fact, he was hoping he could send some new recruits to my site for training. Would I consider being a trainer?

I was a bit hesitant--but, frankly, my vanity got the best of me. When someone says, "I want you to do this job because no one else can do it better," well, what can I say?

The next week, two shining new faces greeted me at my door. The following week, two more were

added. Over the next year or so, many others came, were trained, and moved on to monitor other creeks. Two--Jill Parrish and Pam Geiger--remained monitoring with me at my creek. While I cannot say the added hands decreased the time it took to sample (quite the contrary), I will say they generated an indescribable energy, making us all take ownership of this poor little creek and boosting our monitoring from cookbook chemistry into the realm of activism.

Soon, I began assisting with organized trainings at various locations in the Colorado River watershed. As I got to know more and more volunteers up and down the river, I gained a sense of the volunteer network as a family and volunteer monitoring as a national movement. I became a "true believer" in the power of volunteer monitoring.

The rest of the story is long and very interesting to me. But this short piece is not about the lasting friendships nourished at my kitchen table over petri dishes and a water bath incubator, nor about how the monitoring eventually led me to a new career. This article is about motivating volunteers. For me, motivation came from being given praise, a sense of purpose, a feeling of family, and more and more responsibility. I have Jack to thank for that, and all the volunteers and staff who gave me their attention, energy, faith, and friendship.

Joan Drinkwin is an Outreach Specialist for the Puget Sound Water Quality Authority, Olympia, Washington. She can be reached at 360/407-7313.



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About *The Volunteer Monitor*

The Volunteer Monitor newsletter facilitates the exchange of ideas, monitoring methods, and practical advice among volunteer environmental monitoring groups across the nation.

Address all correspondence to: Eleanor Ely, editor, 1318 Masonic Avenue, San Francisco, CA 94117; telephone 415/255-8049.

Rotating Co-Editors

The Volunteer Monitor has a permanent editor and volunteer editorial board. In addition, a different monitoring group serves as co-editor for each issue.

This issue was co-edited by the Bellevue Utilities Stream Team, which involves residents in surface water protection and enhancement. Volunteers monitor water quality and habitat, clean streams, replant shorelines, remove noxious weeds, and enhance salmon habitat.

Subscribing

The Volunteer Monitor is published twice yearly. Write to the address above for a free subscription. Your subscription will start with the next issue.

Reprinting Articles

Reprinting material from *The Volunteer Monitor* is encouraged. Please notify the editor of your intentions, and send a copy of your final publication to the address above.



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Back Issues

Most older issues of *The Volunteer Monitor* are either out of print or nearly out of print. To conserve existing supplies and cover photocopying costs, there will now be a charge of **\$1 apiece** for certain issues, as indicated below.

Fall 1991 - Biological Monitoring (\$1)

Spring 1992 - Monitoring for Advocacy (\$1)

Fall 1992 - Building Credibility (\$1)

Spring 1993 - School-Based Monitoring

Fall 1993 - Staying Afloat Financially (\$1)

Spring 1994 - Volunteer Monitoring: Past, Present, & Future

Fall 1994 - Monitoring a Watershed

Spring 1995 - Managing and Presenting Your Data

Fall 1995 - Monitoring Urban Watersheds

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From the Editor

In the articles in this issue, one theme stands out. Writer after writer stresses the critical importance of personal interactions with volunteers.

Looking for ways to show volunteers your appreciation? Try writing them personal letters. Concerned about volunteer attrition? Sandy Fisher reports that lack of feedback from program staff was the most important reason volunteers were leaving Florida Lakewatch. Want to develop more volunteer leaders? Abby Markowitz writes that getting to know your volunteers as individuals is the best way to recognize potential leaders.

Three coordinators of statewide monitoring networks contributed to this issue (Sandy Fisher; Laurie Hawks of Georgia Adopt-A-Stream; and Tina Laidlaw of Alabama Water Watch), and all of them describe Herculean efforts to meet face-to-face with every member group. Last year, Laurie conducted 44 training workshops all over Georgia, yet still laments that "we are losing groups each year because I don't have enough time to personally stay in touch." Tina, newly hired in February, put 3,000 miles on her car in April.

As EPA Region 10's Susan Handley says, "Maintaining close contact with volunteers is really the glue that holds a program together." And what does it take to provide this indispensable personal touch? Time! Yet, ironically, staff time is often the item funders are least willing to pay for. If you're having trouble persuading funders that staff time is at least as important as that new spectrophotometer, test kit, or computer, maybe you can use the articles in this issue as ammunition!

Next issue

The theme for the Fall 1996 issue of *The Volunteer Monitor* will be "The Wide World of Monitoring." The issue will be coedited by the Coyote Creek Riparian Station in Alviso, California, and will feature articles in two categories: (1) unusual monitoring projects and (2) monitoring worldwide.



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Letters

It is refreshing to see a publication in which chemistry is represented as natural curiosity and something fun to learn rather than some ivory tower pursuit. As a laboratory manager I appreciate your efforts.

In the Fall 1995 issue (vol. 7 no. 2), there is an article about Wildcat Creek that includes a photo of three elementary kids. Two of them have safety goggles pushed up onto their foreheads and the third has no goggles on. While it's true that not all science activities require eye protection, consistency is very important for kids to learn. If the kids receive goggles they should wear them correctly. The message sent by the photo to me is that these kids are clearly not scientists.

In conclusion, I hope my observation is taken as a refinement and not just criticism.

David Klein
Texas Parks and Wildlife Contaminants Laboratory
San Marcos, TX

Response from Wildcat Creek Monitoring Project: I appreciate David Klein's comments and agree with him wholeheartedly. It was an oversight that the children were not wearing their goggles properly at the time the photo was taken. The Wildcat Creek Monitoring Project is very strict about the children's need to be fully protected with goggles and gloves when they work with chemicals or creek water.

Ellie Insley
Urban Creeks Council
Berkeley, CA

Editor's note: The Wildcat Creek Monitoring Project actually sent me two excellent photos to accompany the article. The one I should have used is shown here. Unfortunately, until I read David Klein's letter I never even thought about the different safety messages conveyed by the two photos. Apologies to all concerned!



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Getting Started - Four Perspectives

[Texas Watch--Dave Buzan](#)

[River Rangers--Alex Thomas](#)

[Fortuna Union High School--Pam Halstead](#)

[Georgia Adopt-A-Stream--Laurie Hawks](#)

Texas Watch--Dave Buzan

Texas Watch officially started in February 1991, but, as Dave Buzan describes below, its roots go back to at least 1988. Buzan managed the program from its inception until 1993.

A confluence of ideas, stresses, and opportunities led to the creation of Texas Watch. I was first intrigued by the idea of volunteer monitoring when I heard Ken Cooke (of Kentucky Water Watch) speak at an EPA conference for professional water quality monitors in the spring of 1988. At the time, I was Manager of the Surface Water Quality Monitoring Program for the Texas Water Commission (now the Texas Natural Resource Conservation Commission, or TNRCC).

Since 1985 the agency had been coping with a series of massive fish kills on the Pecos River, caused by a toxic alga (*Prymnesium parvum*) that was relatively unknown in the Western Hemisphere. Then in May of 1988 one of our staff attended the first national volunteer monitoring conference (at the University of Rhode Island) and returned to suggest that a volunteer monitoring program could help us address some of the problems we were facing on the Pecos River. These problems included a lack of monitoring data to help us identify the conditions leading to the kills, and the challenge of trying to educate the public about the true cause of the kills when that public was very suspicious both of government and of the local oil industry.

Our initial effort was a training session for a handful of volunteers--ranchers' wives, a retired oilman, and an unemployed geologist--on the Pecos River in May 1989. We issued thermometers, pH paper, Hach chloride test kits, color comparison sheets to estimate water color, and containers for collecting water samples (to be analyzed in our lab for the toxic alga).

I remember my supervisor being unhappy that I had spent about \$35 on pH paper. In fact, middle management was generally unsupportive of our early efforts. Required to ensure that the agency's grant funds were properly accounted for, mid-level managers were suspicious of any project not specifically detailed in grant commitments. Moreover, most middle managers were skeptical of the idea that volunteers could collect useful information. Fortunately, the fledgling volunteer monitoring program did have the support of top management, who saw our program as an opportunity to create positive public relations with Texas citizens.

In December of 1989 the EPA's newly formed Gulf of Mexico Program held a meeting in New Orleans in conjunction with the second national volunteer monitoring conference. Several high-level administrators from our agency attended and returned very interested in volunteer monitoring. From that point, the agency began to seriously move forward. We applied for, and received, a Clean Lakes grant to establish a volunteer monitoring program. We were fortunate that EPA supported our broad vision of volunteers monitoring all types of aquatic habitats, and did not require us to limit the Clean Lakes funding to monitoring lakes and reservoirs.

The next question was which division of the agency should administer the volunteer monitoring program. In many ways the division I worked in seemed like the obvious choice, since it directed the existing surface water quality monitoring program as well as the water quality standards program. However, middle managers in our division were unsupportive of the idea of volunteer monitoring, whereas middle managers in the division that directed the agency's field operations were enthusiastic. The final decision was to place the volunteer monitoring program in the field operations division. I applied for, and got, the job of managing the volunteer program.

I believe that separating the volunteer monitoring program from the division responsible for directing the professional monitoring program had substantial negative impacts. It inevitably created a perception that there was one monitoring program collecting usable information and another one working on public relations and public education with volunteers. The separation also meant that the staff directing the professional monitoring program felt little responsibility to support volunteer monitoring--on the contrary, they seemed to regard the volunteer program as a threat, fearing either that they would have to accept additional workload (working with volunteers) without compensation, or that volunteer monitoring would make their jobs obsolete. (Note: In the fall of 1995, reorganization of the TNRCC placed Texas Watch in the same division as the professional monitoring program. It will be interesting to see whether this move will be beneficial to volunteer monitoring.)

A Vision for Volunteer Monitoring

Most people I knew considered my new job a move "down" and assumed I had been forced out of my former job. In reality, my decision to change jobs was based on a philosophy and a vision that had evolved during my nine years of managing the professional monitoring program.

I had come to believe that the chief reason our professional monitoring program was constantly involved

in a struggle for adequate funding was that our program had little demonstrable, direct relevance to public interest. I believed that our agency could not adequately serve the public unless we seriously tried to understand what information the public wanted, and the only way to obtain that understanding was to engage in active two-way dialogue with different segments of the public.

During my years in a state regulatory agency, I had seen the public, government employees, and the regulated community engaged in a variety of bitter battles over water quality standards and regulatory actions. I hoped that volunteer monitoring could promote better understanding among all these groups and that it would act as a focal point for somewhat neutral but proactive dialogue. This hope was founded on another fundamental vision which I was developing: that our role in government was not so much to protect the environment as to empower all Texans (including industries and cities) to share in that responsibility. Local communities that are well educated and have access to good information will more effectively protect the local environment than will mandates from a geographically and psychologically removed state government.

Additionally, I had become a strong believer in the thought that data quality will be highest when the person who collects the data is the first person to use it. Over the years I had put much emphasis on trying to understand what influences the collection of representative, usable monitoring data, and I came to believe that professional monitors in some cases did not collect representative data because they did not have any personal stake or interest in the data.

Finally, from a very practical perspective I believed volunteers could collect valid information over a much more intensive spatial and temporal regime than we would ever have the resources to collect alone as an agency. I believed their observations would help identify short-term problems that would otherwise go unnoticed and therefore uncorrected.

Lessons Learned

My personal approach has always been to pursue a vision and not worry too much (many would contend, not enough!) about details. Even before Texas Watch was formally established (in February 1991), we were receiving requests to help start volunteer monitoring programs around the state, and I decided we should jump in and do whatever we could to help satisfy those requests. I believed the experience gained by helping new volunteer monitoring groups start up would help us build a better program.

Moving forward quickly had its positive and negative aspects. On the plus side, we generated a lot of interest and excitement, which drew in other organizations and potential volunteers and attracted positive attention from funding agencies like EPA. The drawback was getting so busy so fast that we did not have the time we desired for program development. More important, we couldn't provide all the volunteers who contacted us with the level of support we wanted to give them.

I think the key to success for any program, volunteer or professional, is communication. In the early days of Texas Watch, I would try to respond in a meaningful way to up to 40 phone calls per day. I learned

that even though interaction with volunteers was one of the greatest rewards of my job. I couldn't do it all myself. To be effective we needed a network of local or regional partners who could communicate directly with volunteers. So we created the Texas Watch Partnership Program, which has been critical to Texas Watch's longterm success. The Partnership Program identifies governmental, industrial, and other organizations who are willing to support volunteer environmental monitoring in their area by becoming Texas Watch Partners. There are currently 70 Partners, forming a broad network of local support that reduces Texas Watch's reliance on a central staff at TNRCC.

Another thing that has made Texas Watch viable is a strong, shared, broad vision. Can a program function without a vision? Yes. Can it hurdle obstacles, adapt to changing needs effectively, and survive the lean times without a vision? No.

***Dave Buzan** is Team Leader of the Kills and Spills Team at Texas Parks and Wildlife Department, 4200 Smith School Rd., Austin, TX 78744; 512/389-4634.*

River Rangers--Alex Thomas

*River Rangers is a small, independent group currently monitoring 10 sites on the San Marcos River in San Marcos, Texas. Below, Alex Thomas describes the group's beginnings in an interview with *The Volunteer Monitor*.*

The Volunteer Monitor: How did you get the idea of starting River Rangers?

Alex Thomas: In 1995, I was part of a group of citizens contesting a wastewater plant discharge permit. The city of San Marcos had applied for a permit to increase wastewater discharge without upgrading standards and without treating for phosphorus. (The citizens eventually won, after a lengthy and expensive battle--but that's another story.)

At one public hearing on this issue, the hardest data I saw came from a monitoring group that had been bracketing the discharge site, testing just above the wastewater plant and right below it. I was so impressed that I decided to organize a group to test the river at more points, and more often.

VM: Who helped you get started?

AT: Texas Watch provided training, and also gave us a model. They set the path which we are following. The San Marcos River Foundation provided funding for test kits and helped us pick our test sites. Their knowledge about local issues and specific threats to the river helped us focus our efforts.

VM: Have you gotten funding from other sources?

AT: We held a benefit concert that raised about \$200, and we've received some private donations. Our

expenses are pretty low because we're an all-volunteer organization.

VM: Did you have in mind specific uses for the data?

AT: Yes. We wanted to present our data to municipalities and state agencies; we wanted to share it with school kids; and we wanted to contribute to baseline data. Basically we wanted to help build a picture of the San Marcos River.

VM: What questions did you want to answer about the river?

AT: The core concern of our monitoring efforts is to build a river profile over a period of time. Additionally, we want to find out what specific nonpoint source pollutants are reaching the river, how these pollutants move down the river, and how they change over time and space. We're especially interested in sediments, fecal coliforms, and petrocarbons (which would indicate road runoff).

VM: How did you decide what parameters to monitor?

AT: We started with the basic Texas Watch kit, which allowed us to monitor dissolved oxygen, air and water temperature, conductivity, and pH. We added testing for phosphorus, nitrates, and fecal coliforms at specific sites where these parameters are important--for example, a site near a fish hatchery, which has a nutrient-rich discharge.

VM: What challenges did you face in getting started?

AT: At first some volunteers, especially those who are students, were not totally reliable (though they were very high on enthusiasm and energy). This problem was resolved when a core group of the most committed volunteers talked to them, asked what the problem was, and reinforced the idea that "this is serious, the protocols are important."

VM: Was there any conflict within the group?

AT: Some people wanted the River Rangers to take a political stand for zero discharge, and others did not. In our meetings we discussed what this group is about, which is monitoring. We agreed that members can work on other projects too, but not in the name of the group. For this group, the most important thing is to get the job done--that is, to collect the data.

VM: Any advice for others starting a volunteer monitoring program?

AT: It's important to be clear about your goals, and the nature of the commitment you need from volunteers. We're not an Earth First! group, and we're not a coffee club for talking. We are focused on a particular activity. Once the group's focus is agreed on, many different types of people can work together.

Don't bring in too many volunteers too fast. Everyone wants to be a monitor, but not all have the necessary commitment. Also, you need to think about who's going to train and organize new volunteers. The leaders quickly wind up spending 8 to 10 hours a week on the project.

Finally, never underestimate how much fun it is, and how important it is.

Alex Thomas can be contacted at 2502-B Hwy 80, San Marcos, TX 78666; 512/357-6023.

Fortuna Union High School--Pam Halstead

Pam Halstead, a biology and physical science teacher at Fortuna Union High School in Fortuna, California, started monitoring a local creek with her students in 1989.

Seven years ago--and in my seventh year of teaching high school--I felt I was ready to create educational experiences for my students that both challenged and enlightened them. I wanted something that would take the students outside to apply scientific knowledge to their local environment. So I asked myself, What is accessible and available in the local environment? How can I positively link the students with community members?

Recalling my own childhood explorations of the creek that ran behind my house, I thought, What a great environment for engaging students! Five tributaries of the Eel River run through Fortuna, and one, Rohner Creek, is a mere six-minute walk from my classroom. I asked my students their perceptions of this waterway.

"It's a dump!"

"Is it a creek? I thought it was just a ditch!"

"My grandfather told me he used to catch big fish in that creek."

"I heard that people used to swim in it. Gross!"

After hearing these first impressions, I knew we had some direction. "So," I queried, "what can we do to learn something about this waterway?" The brainstorming that followed set the stage for a project that ultimately grew to include biological, chemical, and physical stream monitoring, biannual creek cleanup days, and native riparian vegetation restoration.

Interested students began meeting during lunch and after school to work on a watershed model of Rohner

Interested students began meeting during lunch and after school to work on a watershed model of Rohner

Creek, built from styrofoam covered with plaster of paris and mounted on a 4-by-8-foot plywood base. With its massive vertical exaggeration, the model made our humble creek look like the Grand Canyon.

I visited the town hall to get the names and addresses of residents who lived along the creek, and students wrote letters asking permission to conduct streamside studies. Permission was granted at an accessible 100-foot stretch. While this site was indeed "accessible" in the sense of being a reasonable walking distance from school, encroaching Himalaya blackberries made it almost impossible to reach the water. I contacted the California Conservation Corps for help, and they agreed to donate labor to create 10 trails through the berries.

Obvious safety and liability issues were associated with students working outdoors near ferocious berries, steep slopes, and running water. Letters of permission were written to parents, and students completed school liability forms.

Physical Science students went to work mapping channel cross-sections and measuring water speed to calculate flow rate. They used tools purchased at the local hardware store--all we had at that point. When students from different classes compared their results, they found that their maps and values varied greatly. Students analyzed the reasons for the discrepancies and concluded that both our tools and our work area required some improvements. We needed money!

Three valuable sources of money and expertise allowed us to make the necessary improvements. The California Mentor Teacher program gave me money for equipment upgrades and a computer, and a grant from the California Department of Education's Environmental Education Grant Program enabled us to add water quality testing and aquatic macroinvertebrate monitoring. The California Department of Water Resources awarded us funds for restoration through its Urban Streams Restoration Grant Program. Students worked with agency personnel to manually remove the blackberries and plant native conifers, alders, maples, and willows along the banks.

I realize that the process I've described so far probably sounds relatively smooth: Students were involved from the beginning; problems were identified; funds were sought and granted; we had active participation from local agencies. Actually, the reality of this project has been far from simple! Here are some of the challenges that faced us:

(1) Community participation, with a few exceptions, has been low. City agencies and residents alike view the creek mainly as a problem (i.e., a source of flooding) rather than an asset. To remedy this situation, students helped create an informational creek brochure which they handed out to residents. They also write letters to residents, informing them of the project's progress.

(2) Data accuracy has presented a problem at times. Students need to realize that quality assurance and quality control are critical and that meaningful results cannot be drawn from sloppy, inaccurately collected data. This is as important a real-world science lesson as any.

(3) I purchased dissolved oxygen and pH meters that proved difficult, if not impossible, for high school students to use. I now make a point, before any equipment purchase, to talk with others who have the same equipment about accuracy, cost effectiveness, and ease of use.

(4) In order to meet University of California standards, college preparatory science classes must cover specific topics. Because of the time required for students to perform accurate aquatic invertebrate collection, I now have an extracurricular group perform the sampling. This group receives extra credit for their work while providing data that can be analyzed in the biology classroom.

The long-term benefits of projects like ours are enormous. But the short-term reality can at times be full of failures and disappointments. Success and progress are the result of involving as much of the community as possible, and sticking with your dreams of an improved educational system, environment, and community.

***Pam Halstead** can be contacted at Fortuna Union High School, 379 12th St., Fortuna, CA 95540; 707/725-4461 ex. 65.*

Georgia Adopt-A-Stream--Laurie Hawks

In 1993, Georgia's Department of Natural Resources hired me to plan and implement a volunteer monitoring program. Luckily I didn't have to start completely from scratch. By the time I arrived, a grant had been secured to fund my position and the program for several years, and a feasibility study had been conducted.

But even though these steps had been taken, there wasn't full support for the program at first. In fact, the grant had actually been approved several years before I was hired--but the volunteer monitoring program had been put on hold. Apparently it had taken that much time to reassure folks that the program wouldn't be a Pandora's box, unleashing untold numbers of volunteers to report back problems and expect us to "fix it."

I already knew a little about volunteer monitoring when I arrived, but I knew I needed to learn more, so I did the normal thing--I set out to learn what everyone else was doing. I called monitoring program coordinators in Georgia and other states. I gathered information. I made site visits to other monitoring groups. I was having a great time meeting all these committed people. Eventually my boss sat me down and told me politely, OK, you've been visiting people for a month--now you have to start *doing something*.

So I started doing things. I put together a monitoring project on a nearby urban stream. And then a project at a school. And then a countywide project. I taught workshops. I wrote up minutes on organizational meetings and dutifully sent them out to everyone. I tried to personally stay on top of everything, from the logistics of a training workshop to sending reminder notices for meetings. Obviously this did not last--but it took most of the first year for me to learn that I couldn't do everything

myself. A statewide program needed a statewide structure.

Nine months after being hired I finally put together an Advisory Board. Forming the board proved to be a critical step in gaining help and support from many sectors. We have excellent representation from business, universities and schools, environmental groups, and municipal associations.

Together, the board and I built consensus for what the program would look like. We wanted lots of local involvement and support, so we followed other states' models and emphasized partnerships (thank you, Texas Watch!). We wanted to give everyone who wanted to protect streams a chance to get involved, so we designed a program with three levels of involvement. Level 1 consists of simple visual surveys and litter pick-ups, while Levels 2 and 3 include additional activities, such as biological or chemical monitoring or habitat improvement. We wanted to be able to provide good water quality data, but also make room for those who were more interested in monitoring as an educational activity. So we developed a QA/QC plan under which volunteers can be certified, but aren't required to be. Only data from certified volunteers is entered into the database.

In the beginning, I was pushing "data, data, data" while it seemed almost everyone else wanted more of an educational approach. In part, the emphasis on education reflected a wariness of volunteer-collected data, but I've come appreciate that there's another, more valid reason to stress education. Gathering more numbers on more streams doesn't automatically translate into cleaner streams. But having more people aware of more water quality issues, and able to back up their concern with solid information, does translate into cleaner streams. Sometimes we spend so much time teaching monitoring techniques that we forget we need to do something with the results. I'm pleased that Georgia Adopt-A-Stream is trying to do both.

Finally, after personally conducting 44 workshops last year (that's a lot of Saturdays!), I realized that I needed trainers. Fortunately I've had the support of two North Georgia College professors who for several years (independent of Adopt-A-Stream) have conducted summer workshops for teachers and students, using water quality evaluation methods similar to ours. Together these professors and I envisioned a statewide structure to support Adopt-A Stream training. We have started training trainers in biological and chemical monitoring, and are now expanding the system to five colleges across Georgia. It's important for Adopt-A-Stream to keep some control over the training, to ensure consistency--but how incredibly rewarding to finally see a statewide structure falling into place.

So now everything is on track, right? Not exactly. Now that methods are worked through, the program structure is in place, and training is under way, what am I forgetting? People! People still need personal contact and support when starting and continuing a project. We are losing some groups each year because I don't have enough time to personally stay in touch. However, we've just hired a new staff member, and her first task will be to call every monitoring group on our list and find out how they are doing and what they need.

Early fears about volunteers overwhelming the agency with demands for quick fixes never materialized.

On the contrary, after three years we have proved that the program helps people understand that water quality problems are complex and require whole-watershed planning. Rather than calling us to "come and do something," volunteers are recognizing the need for longterm community solutions like planting streamside buffer zones or doing a better job of enforcing erosion control laws.

In talking about nonpoint source pollution, I like to stress that just as the problem is widespread, the solutions need to be widespread. We need to get lots of different people involved, so that individuals, businesses, and communities become aware of what they can do. It's not an easy task to create an ethic of protecting streams, but I think we are making a difference.

Laurie Hawks can be contacted at Georgia Adopt-A-Stream, 7 ML King Dr. SW, Suite 643, Atlanta, GA 30334; 404/656-4988.



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Make Your Own "Volunteer Opportunity Book"

A scrapbook with photos and job descriptions of volunteer jobs is an excellent tool for recruiting and orienting volunteers. Find someone in your group who likes to take pictures and ask them to photograph your volunteers in action. (Be sure to reimburse the photographer for film and other expenses.) Get several pictures for each job category. Photos that show different ages, both sexes, and a variety of cultural backgrounds will convey a welcoming attitude to everyone. Most important, show people having fun.

Create a one-page description for each job category. Using a photo album, display the photos on one page and corresponding job description on the facing page. You can leave your "Volunteer Opportunity Book" in your reception area to give visitors a sense of your activities and perhaps inspire them to volunteer.

This idea is from The Volunteer Development Toolbox by Marilyn MacKenzie and Gail Moore. This book is available for \$20 + \$4.50 shipping from the Points of Light Foundation; 800/272-8306.



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The Monitoring Matchmaker

Abbreviations Key

DWF

Dept. Wildlife & Fisheries

AM

Action-Minded

NS

Non-Scientist

Agencies Seeking Volunteers

Desperately Seeking Data

Lonely DWF on rebound from recent staff cuts. Serious, likes science, not into nurturing. Looking for supportive, indep. partner to build a database together. Please, no beginners. #8763.

Volunteers Seeking Agencies

You: Caring, Creative, Imaginative

Idealistic, eager-to-learn AM/NS seeks sensitive agency for walks along streams, lakes, wetlands. Need a "people-person" who enjoys long eves, wkends together, saving the environment. Train me, I'm yours! #9475.

If you saw these ads in the "personals" column of your local newspaper, would you introduce the authors to each other?

Sometimes agencies and volunteers have unrealistic expectations of their "partners." Without a good understanding of what each wants from the relationship, the partnership may not last longer than the first date! The agency (or university, or organization) must recognize the volunteer's need for communication and for flexible scheduling on evenings and weekends. In turn, the volunteer needs to understand that agency staff have to cope with multiple tasks and responsibilities in their jobs, and that they can't work

seven days a week. Volunteers may be eager for quick results and action, while the agency is more interested in a longterm database.

But there is hope for a happy match. With good communication and a little compromise, the needs of each can be met and the relationship can turn into a true lifetime commitment.



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Volunteer Job Description

by Susan Handley

A written job description gives volunteers the message that there is a significant job to do. It also defines the volunteer's relationship to paid staff. A volunteer job description has six parts:

1. **Title.** Giving the job a title is critical. We all know the title for our professional jobs. The job title adds prestige and gives an identity that makes the volunteer feel a part of the organization.
2. **Whom to report to.** Specify which staff member the volunteer will report to. This is the person who will give the volunteer direction, and to whom the volunteer should go when there are problems. Clarifying who is responsible for what will prevent strained relationships between volunteers and staff.
3. **Purpose.** Having a clear statement of the job's purpose assures that the volunteer will be used effectively. It also eliminates misunderstandings that can result when volunteers don't understand the limits of their role.
4. **Job responsibilities.** The job content should be written in terms of tasks--e.g., collecting samples, writing reports--and should include how often and for how long the tasks need to be done.
5. **Qualifications.** What skills, education, and experience must the volunteer have to successfully complete the job? Being unclear about job qualifications will result in misplaced volunteers who will fail in the tasks.
6. **Training.** Describe the training you will provide for the job. The opportunity for skill building can be a "selling point" for recruitment. Training also ensures that volunteers are able to do the job well and be successful.

Susan Handley is Public Involvement and Education Coordinator for U.S. EPA Region 10, 1200 6th Ave., EXA 142, Seattle, WA 98101; 206-553-1287. This article is adapted from a chapter in "A Handbook for the Effective Involvement of Citizen Environmental Stewards," a 14-page brochure written

by Susan Handley and available from her at no charge.



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23 Ways to Say Thank You

How do you show your volunteers how much you appreciate their work? The best rewards are those that match the volunteers' reasons for getting involved.

For volunteer monitors, training itself is an important reward. And seeing their data used is probably the greatest motivator of all. Kit Paulsen, former coordinator of the Stillaguamish Volunteer Water Quality Monitoring Program, says that when the volunteers presented their data at public hearings they gained a sense of community recognition that meant far more than any formal recognition event. According to Susan Handley, Public Involvement and Education Coordinator for EPA Region 10, "The most effective recognition is to make volunteers feel they're a necessary part of the organization. Ask them for input in planning and for feedback on the program."

Listed below are 23 ideas, gathered from volunteer monitoring programs around the country, for recognizing and thanking volunteers. But don't let this list intimidate you into feeling you have to rush right out and plan an awards banquet, design a T-shirt, and schedule a rafting trip. Take heart from Rebecca Pitt, a Project Director for Maryland Save Our Streams, who says, "It feels as if you owe your volunteers so much and you can never repay them. It helps for me to remind myself that they're not volunteering for the sake of the recognition--that participating is its own reward."

1. For each of our projects we hold a picnic, barbecue, or party. This lets all the monitors on a particular project get to know each other better. -- Maryland Save Our Streams
2. We offer monthly "enrichment classes"--for example, a natural history slide show, a field trip to a wildlife refuge, or a behind-the-scenes tour of a museum or aquarium. -- Beach Watch (CA)
3. We take our volunteer leaders to lunch. Until recently, staff members paid for this out of our own pockets--but after four years it finally occurred to me that a volunteer organization ought to have a "volunteer recognition budget."--Community Creek Watch (CA)
4. After one year in the program, volunteers get a red Florida Lakewatch cap. Marvin Dawkins (at left) caught his biggest bass while wearing his "lucky hat."--Florida Lakewatch

5. We held a posh formal banquet that was both a fundraiser and an awards ceremony. Paying guests included local politicians and business people. Our 14 Stream Action Award recipients were honorary guests. Above, Lynn Kramer and Frank Trotta receive an award from Congressman Ben Cardin. - Maryland Save Our Streams
6. Right after an event, I write personal letters appreciating the importance of the volunteers' contribution. It's easy to write them at that time because I feel motivated and the words come easily. I've written up to 40 letters for the same event.--Huron River Watershed Council
7. Each month we invite a local expert to give a "Tuesday Talk." In the summer we often hold the talk down at the creek. In this photo, herpetologist Mike Westphal demonstrates "advanced frog-finding techniques." We tried scheduling some "lighter" topics but found that the volunteers really pushed for the more technical talks.--Community Creek Watch (CA)
8. We interviewed a dozen or so volunteers, then interspersed quotes from them throughout an issue of our newsletter.--Adopt a Beach (WA)
9. We have a section called "Volunteer Alert" in our quarterly newsletter. In each issue we profile one volunteer.--Maryland Save Our Streams
10. We have a series of appreciation awards. The "basic" award is a certificate that we give all our volunteers on the day they bring in their last sample. After three years, we give volunteers a handmade Secchi disk pin, and after five years, we give them a Secchi disk medallion/refrigerator magnet.--Rhode Island Watershed Watch
11. Our Christmas parties were famous for our "Sampler Christmas Carols," featuring such favorites as "Randolph the Weak-Kneed Sampler" and "O Fecal Plate." A volunteer who was a professional singer started this tradition, and soon everyone was contributing songs, which we eventually compiled into a book.--Stillaguamish Volunteer Water Quality Monitoring Program (WA)
12. We give scholarships to our annual Meeting of the Monitors conference, and we are developing a scholarship fund to send volunteers to national conferences related to monitoring.--Texas Watch
13. For our annual statewide volunteer monitoring conference we put together a slide show featuring the work of many groups around the state.--Maine's Clean Water Program
14. We held a "Volunteer Appreciation Day" and invited representatives from all the monitoring groups we work with throughout the state. Before the event, we asked each participant to submit three questions for discussion. During the morning DMR staff addressed all the questions. Then we served a buffet lunch prepared by DMR staff.--Maine Department of Marine Resources
15. In addition to our twice-a-year volunteer newsletter, we send out a very informal memo called

"Notes to Volunteers" every three or four weeks. This memo serves as an update and reminder, and also is an excellent place to acknowledge any volunteer who's gone above and beyond the call of duty.--Beach Watch (CA)

16. After we finished our survey of the Napa River, we took all the participants on a rafting and kayaking trip. Also, everyone received a cup with our "River R.A.T.S." (River Assessment Team Survey) logo.--Napa County Resource Conservation District (CA)
17. When we surveyed our volunteers, they told us that rewards like mugs or pins weren't important to them. They said they were more interested in "doing good." So this year we're planning to try something new: an event at which each volunteer can plant a tree honoring his or her volunteer contribution.--King County Surface Water Management (WA)
18. Sometimes you get a chance to make a difference to volunteers on a one-on-one basis. For example, I knew that two volunteers wanted to be fisheries biologists. I was able to arrange for them to volunteer as assistants on a three-day backcountry data-collection trip with a team of fisheries biologists.--Community Creek Watch (CA)
19. The agenda for our annual meetings includes a "Distinguished Service Recognition Flyer" listing volunteers' names under the "50 Club," "100 Club," etc., in recognition of their total number of sampling trips. One monitor will probably break the 500 mark this year.--New Hampshire Lakes Lay Monitoring Program
20. Whenever volunteers send in their data, we immediately send a postcard acknowledging that we received it and thanking them for their hard work.--Texas Watch
21. This might not seem like an obvious "reward," but we find that volunteers really respond positively to being put in charge of a specific project. We tell them, "Do it your way." This gives them a real sense of ownership--Beach Watch (CA)
22. Every summer we offer a 4- to 6-week advanced training course, open to any volunteer monitor in Rhode Island. Attendees can get Continuing Education units. Seasoned volunteers, in particular, really appreciate the opportunity to learn something new.--Rhode Island Watershed Watch
23. Our annual "Volunteer Appreciation Evening" is a dance with a live band and catered buffet. The staff arranges everything--the volunteers aren't allowed to do any of the work.--Beach Watch (CA)



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Why People Volunteer

If you want to design meaningful rewards for your volunteers, a good starting point is to look at the reasons they volunteered in the first place. What did they hope to get? How can you help meet those needs and expectations? Some common motivations for volunteering are:

- to have an impact
- to be an advocate
- to be part of a particular organization
- because of a commitment to a cause or belief
- to be part of a team
- to get to know a new community
- to meet people and make friends
- to learn something
- to explore a career
- to gain experience and build their resume
- to gain a sense of personal pride and fulfillment
- to feel needed and appreciated
- for fun

- as an excuse to do something they love
- to use a particular skill
- to give something back to the community
- because they were asked

(List adapted from The Volunteer Recruitment Book, by Susan J. Ellis; available from Points of Light Foundation, 800/272-8306.)



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EPA QA Guidance for Volunteers

EPA is nearing completion of a new document designed to clarify and explain the steps involved in preparing a quality assurance project plan (QAPP) for a volunteer project. EPA-funded monitoring programs are required to have an EPA-approved QAPP before sample collection begins. However, programs that do not receive federal money should also consider developing a QAPP, especially if their data might be used by state, federal, or local resource managers.

"The Volunteer Monitor's Guide to Quality Assurance Project Plans" will be available soon and should prove useful to any volunteer program wrestling with quality assurance issues. Contact Alice Mayo at 202/260-7018 to obtain a copy.



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Just What the Doctor Ordered

by Tina Laidlaw

Is this a typical scenario for your volunteer monitoring program?

- Volunteers call but it takes you three weeks to respond--by which time they've forgotten their question.
- A monitor requests help with data interpretation. You're embarrassed to tell her you haven't even entered the data.
- Four days a week and every weekend you're on the road giving training workshops and making presentations at statewide meetings.

By the beginning of 1995, symptoms like these were gripping Alabama Water Watch. It was obvious that the program needed a booster. The prescription? Hire a full-time Volunteer Monitor Coordinator.

AWW's half-time Program Manager, Bill Deutsch, and three-quarter-time Quality Assurance Officer, Allison Busby, had been making a heroic effort to serve the needs of over 50 active monitoring groups scattered around the state of Alabama. But rapid program growth had left them little time to strengthen their personal contacts with the volunteer monitors. Many new groups were being trained at Water Watch workshops, then left on their own to conduct monthly sampling.

Supporting the theory that only the strong survive, the groups that became faithful monitors were primarily those who were already highly motivated and required little incentive to protect their waters. Without a phone call, letter, or personal visit from Water Watch staff to give an added push of support, others quickly fell by the wayside. This state of affairs was particularly alarming in view of AWW's basic goal: to collect credible data. Achieving that goal requires the ability to provide groups with ongoing support.

As Deutsch says, "We sensed that we were moving forward and generating new interest, but with groups falling through the cracks behind us. We needed someone who could really get a grasp on people's names and needs."

In February 1996, I joined the AWW staff as the new Volunteer Monitor Coordinator. Therapeutic treatment for the program was started immediately. Citizens can now reach me and other staff through our new toll-free number. Newly trained monitors who go out for their first sampling, only to discover they've forgotten which bottle is for DO and which for pH, can call for quick help. Veteran groups who've gathered years of data can find out what it means and what trends it shows.

Monitors are now seeing the face behind the Water Watch phones as I travel the state's thousands of miles of dirt roads to personally meet with each group. These "house calls" have proved to be the strongest medicine yet for curing many of the program's ailments.

Is the prescription working? We'll have to wait for further checkups to be certain, but AWW seems well on the road to recovery.

***Tina Laidlaw** is the Volunteer Monitor Coordinator for Alabama Water Watch, Fisheries Dept., 203 Swingle Hall, Auburn University, AL 36849; 888-844-4785.*



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Why Volunteers Leave (And What You Can Do About It)

A couple of years ago, Sandy Fisher, Director of the Florida Lakewatch program, was pondering a question close to the heart of every volunteer monitoring program coordinator: how to keep volunteer monitors involved and motivated. To gain insight on this question, she decided to go back and review the notes she had made on conversations with volunteers who left the program. (Since 1988, when Lakewatch began, Fisher had made a practice of calling lake monitors who resigned to find out their reasons for leaving.) Fisher reasoned that identifying the main causes of attrition would guide the program in making improvements to better serve the volunteers.

Not surprisingly, the notes indicated that many Lakewatch volunteers had left for reasons beyond the program's control. Some had moved away from the lake; some had stopped monitoring because of health problems; and others no longer had time for monitoring because of life changes (such as taking a more time-consuming job or having a baby).

What interested Fisher more were the causes of attrition that *could* be influenced by Lakewatch procedures. The most important of these was lack of frequent and meaningful feedback. Deficiencies in the initial screening process were another significant factor, especially in the program's early years. In addition, some volunteers left when monitoring lost its novelty.

Deficiencies in feedback

Many volunteers became discouraged because of deficiencies in the feedback process. Long delays were the worst problem. Because of low staffing levels at Lakewatch, volunteers were by necessity left to maintain their own motivation--with little or no encouragement, interaction, or reporting of results--for over a year at a time.

Not only were reports delayed, but, to make matters worse, when reports finally did arrive they often consisted of data tables that meant little to most volunteers. Lakewatch staff lacked the time to translate monitoring data from each of the program's 400 lakes into a format suitable for the layperson.

Lack of screening

In the early years of Lakewatch, the program coordinators mistakenly believed that it would be difficult to find volunteers to do regular monitoring. Consequently, everyone who expressed interest was encouraged to participate. There was no mechanism for screening out volunteers who had goals and expectations inconsistent with Lakewatch goals. Volunteers were accepted into the program with misconceptions like:

- expecting their data to result in a specific action by an agency
- believing that a single sampling could give them all the information they wanted; not understanding the value of a long-term baseline data
- wanting to test for "pollution" (such as mercury, bacteria, or toxics); not understanding the value of the water quality variables measured by Lakewatch

Ultimately, these volunteers left when they realized that their goals were not compatible with the Lakewatch program.

Nothing new

Finally, some volunteers gradually lost interest in monitoring because there were no more challenges and nothing new to learn. As Fisher points out, "Sampling a lake is like feeding the dog--it's not difficult and can even be enjoyable, but it's basically repetitious. And after a while, the necessity of using consistent techniques can make the volunteer feel like a robot."

Action plan

Based on Fisher's observations, Lakewatch formulated an action plan (see box at right) to keep volunteers motivated and reduce attrition.

Fisher reports that as of spring 1996, most of the points in the action plan are being carried out. For example, the lab now sends volunteers interim data reports every few months. Once a year, each volunteer receives a cumulative report, usually including a handwritten comment or observation.

At times, carrying out the plan has required an extraordinary level of effort and commitment. To attain the goal of "a meeting in every Lakewatch county," Fisher attended 25 evening and weekend meetings last year, sometimes driving as much as 5 hours each way. "I baked a lot of cookies last year!" she says. But she has no doubt that the effort was worthwhile. "In my opinion," Fisher states emphatically, "face-to-face contact is the single most important thing you can do to keep volunteers in the program."

For more information on Florida Lakewatch, contact Sandy Fisher, Director, Florida Lakewatch, 7922 NW 71st St., Gainesville, FL 32606; 352/392-9617, ext. 228.



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Action Plan

Improve feedback:

1. Hold more meetings--at least one general meeting in each Lakewatch county per year. These meetings will:
 - give volunteers a sense of connection to a group
 - offer opportunities for Lakewatch staff to deal firsthand with volunteers' questions and concerns
2. Speed turnaround time between data collection and feedback; improve data report format.
3. Produce a variety of types of feedback (videos, brochures, in-person presentations); produce newsletters at least twice a year.
4. Hire regional coordinators to maintain closer touch with volunteers.

Improve screening:

1. Enroll new volunteers selectively, with long-term commitment as the primary criterion.
2. Develop an initial interview that will:
 - emphasize the benefits of having a long-term database
 - caution volunteers not to expect data alone to solve any particular problem
 - warn volunteers about possible delays in receiving feedback
 - identify and weed out potential volunteers who have goals different from the program's

Add new challenges:

1. Offer veteran volunteers training in monitoring additional parameters, such as bacteria levels, bird populations, or aquatic plant levels.
2. Use experienced volunteers as trainers.
3. Involve all volunteers in fundraising and recruiting.



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National Volunteer Monitoring Conference in August

The Fifth National Volunteer Environmental Monitoring Conference will be held August 4-7, 1996, in Madison, Wisconsin, and will focus on how volunteer monitoring groups can expand their role in watershed stewardship. Monitoring program coordinators, volunteers, teachers, community organizers, water quality professionals, and scientists are cordially invited to participate. The conference is sponsored by the U.S. Environmental Protection Agency, the Wisconsin Department of Natural Resources, and the University of Wisconsin-Madison.

Conference registration is \$60, and low-cost housing is available in university dorms (\$12.25 to \$32.25 per person per night). For a conference brochure, please contact Celeste Moen at Wisconsin DNR, WR/2, P.O. Box 7921, Madison, WI 53707; ph. 608/264-8878; fax 608/267-2800.



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New Monitoring Manuals and Video

Testing the Water: Chemical and Physical Vital Signs of a River, River Watch Network's new manual for high schools, is also useful to community groups. The heart of the manual is the section on water quality indicators--each indicator gets a full chapter with background information, recommended procedures, and classroom activities. The manual also covers the properties of water, monitoring study design, water quality regulations, and turning data into action. 200 pages. \$25 from River Watch Network, 153 State St., Montpelier, VT 05602; 802/223-3840.

The Adopt-A-Stream Foundation's comprehensive new manual, *The Streamkeeper's Field Guide: Watershed Inventory and Stream Monitoring Methods*, is the culmination of years of testing by teachers, students, and community organizations. Liberally illustrated with drawings and cartoons, the 300-page manual provides methods for gaining a holistic picture of a watershed as well as for collecting detailed information about a stream. \$29.95.

Complementing the manual is a 25-minute video in which Bill Nye, TV's "Science Guy," takes viewers on a zany journey from snow-capped mountains to city streets as he explains the hydrologic cycle, nonpoint source pollution, and the politics of stream care. \$19.95.

Order from The Adopt-A-Stream Foundation, 600 128th St. SE, Everett, WA 98208; 206/316-8592 (40% discount for orders of 25 or more).



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Resources for Program Management

The **Institute for Conservation Leadership** (ICL) is a nonprofit organization that trains and empowers groups working to protect and conserve the environment. The Institute provides interactive skill-building training in such areas as recruiting volunteers, encouraging volunteer leaders, diversifying funding sources, and developing a board of directors. Trainings are tailored to each group's specific needs.

Publications available from ICL include a quarterly newsletter (*The Network*) and an extensive bibliography of publications related to conservation leadership. For more information on trainings or publications, contact ICL, 6930 Carroll Ave., Suite 420, Takoma Park, MD 20912; 301/270-2900.

The **Environmental Support Center** provides grants to subsidize training in all aspects of organizational development, including strategic planning, diversity, board development, coalition building, and fundraising. State, local, and regional groups working on environmental issues are eligible. For information contact the Environmental Support Center at 1875 Connecticut Ave., NW, Suite 340, Washington, DC 20009; 202/328-7813. (Note: starting in August 1996, the address will be 4420 Connecticut Ave., NW, 2nd Floor, Washington, DC 20008.)

The **Points of Light Foundation** distributes dozens of books related to volunteer program management. For their catalog (which also includes a number of "recognition items" like T-shirts, mugs, pens, and other gifts), write or call Points of Light Foundation, Catalog Services, P.O. Box 79110, Baltimore, MD 21279-0110; 800/272-8306.

River Watch Network's *Program Organizing Guide* describes the process RWN uses to help groups design community-based river monitoring programs. Step by step, the guide takes you from identifying issues and goals through purchasing equipment, recruiting and training volunteers, analyzing data, taking action, and measuring your success. 24 pages. \$10; order from RWN, 153 State St., Montpelier, VT 05602; 802/223-3840.

The *Save Our Streams Volunteer Trainer's Handbook* tells how to organize and run a Save Our Streams water monitoring project. It covers such topics as setting goals, enlisting community support, designing a monitoring plan, training volunteers, and quality assurance. Methods for macroinvertebrate sampling are also included. 110 pages (9-page bibliography). \$15; order from SOS, IWLA, 707

Conservation Lane, Gaithersburg, MD 20878-2983; 800/BUG-IWLA.



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A Lesson in Survival Tactics

by Scott Williams

What can be done to save one of the oldest, largest, and most successful citizen monitoring programs in the nation when the state legislature pulls the financial rug out from underneath? Rather than being a catastrophe, the loss of funding can actually turn into a blessing in disguise! But only with lots of organization, commitment, and work.

Maine's Volunteer Lake Monitoring Program (VMP) was first authorized by the Maine Legislature in 1971. In 1976 the program was placed under the control of the Maine Department of Environmental Protection (DEP), where it grew steadily for 16 years. By 1992, 305 volunteers were monitoring 301 lakes, and supplying a high percentage of all water quality data for Maine lakes. The VMP's annual report was referenced extensively, and the annual value of the program's transparency data alone was estimated at over \$100,000.

Then the ax fell! In November of 1992 the Legislature, in its infinite fiscal wisdom, decided to "zero fund" the Lake Restoration and Protection Fund--the sole funding source for the VMP. At that point, the future of volunteer lake monitoring in Maine became very uncertain. But today, not only is the VMP alive and well but it costs less to run, is better funded, and has a greater degree of volunteer involvement than ever before. How was this achieved? Essentially, the volunteers themselves rescued the program.

"It was pure fear the first few days after the budget cuts," recalls Web Pearsall, a DEP Aquatic Biologist and the VMP Coordinator since 1988. "We had three options: drop the program completely, cut it drastically, or find another organization to administer it while DEP continued to provide technical support."

The third option was obviously the best, and fortunately the Maine Congress of Lake Associations (COLA) was willing to step in and help. There was just one problem: COLA had no funding or paid staff available for the VMP. As COLA's technical advisor (an unpaid position), I was doing much of the work of administering the VMP--but I couldn't do it alone.

Even before the cuts, Pearsall had been thinking about restructuring the program to give the volunteers

more responsibility. Now, with the program's survival at stake, restructuring suddenly went from being simply a good idea to being an immediate necessity. In March 1993 DEP sent out a detailed survey asking volunteers what additional tasks they'd be interested in doing. From the responses it was clear that the volunteers were ready and willing to take on everything from fundraising and strategic planning to training new volunteers to entering data into a database.

DEP and COLA moved quickly to revamp the program structure. We divided the state into 14 regions (with about 20 lakes in each) and created two new volunteer job categories: Regional Coordinator and Data Entry Coordinator. Regional Coordinators are the first line of contact for volunteers within their regions. They answer questions, keep volunteers supplied with forms and equipment, and coordinate QA/QC workshops. Volunteer monitors give their data sheets to their Regional Coordinators, who check them for completion and then hand them over to Data Entry Coordinators. Data Entry Coordinators enter the data using software provided by DEP, then send the data via diskette to DEP, where it is used to generate an annual report.

The new Coordinators were trained in the summer of 1993. In 1994, the first full year under the new structure, the annual report was produced in record time, thanks to the work of the Data Entry Coordinators.

Early in the restructuring process, a Strategic Planning Committee was formed, with representatives from DEP and COLA, and active lake monitors. The volunteer monitors on the committee felt very strongly that the VMP should not be reduced in scope. After a two-day meeting, the committee produced an optimistic plan setting goals for data management, education, and fundraising.

In 1995 the VMP's Board of Directors voted to dissolve the ties to COLA and incorporate as an independent nonprofit organization. This decision was based on the belief that fundraising would be more direct, and less confusing to potential benefactors, if the VMP stood on its own. Through government and private sources, the VMP has now raised sufficient funds to support the program for at least the first two years and to hire paid staff. I was hired as Executive Director in September 1995, and an Administrative Assistant was hired in January 1996.

There is a slight catch . . . even though, for now, we are better funded than before, fundraising is an ongoing and uncertain process. And we are slowly becoming aware of the hidden expenses--like liability insurance for volunteers, workers' compensation insurance for employees, and the costs of setting up an office from ground zero--of running a program in which all costs were once covered by state government.

This year the VMP was able to open its doors to 25 new volunteers who had been waiting to join for as long as two years while a temporary freeze was in effect. DEP and VMP staff will be conducting statewide training and QA/QC workshops this summer. We hope to incorporate more advanced water quality monitoring and whole-watershed assessment in the near future.

Sound terrific? As a result of the forced changes, the VMP is clearly a better program and an outstanding example of a successful private-public partnership. We are less vulnerable to political winds and the effects they may have on funding. Feedback from the volunteers has increased substantially. The program is truly driven by volunteers at this point.

Advice for others? Don't be daunted by the threat of funding cuts from state or federal programs. There's more support for your project out there than you think. But you need to be prepared. A high-profile image will pave the way for future financial support from the private sector. Make sure the public and business communities know who you are, and how your program benefits everyone. And maintain strict quality assurance standards--the credibility of your program depends on this!

Finally, never underestimate the willingness of volunteers to help with anything and everything. "All you have to do is ask," says Pearsall, "and people will come out of the woodwork."

Scott Williams is the Executive Director of the Maine Volunteer Lake Monitoring Program, P.O. Box 445, Turner, ME 04282; 207/225-2070. He was also a volunteer with the VMP for 17 years.



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Lakewalk Manual

The U.S. Environmental Protection Agency's Region 10 office in Seattle has just published a "Lakewalk Manual." Modeled after the popular Streamwalk, Lakewalk is an educational tool that guides users through the collection of observational data while they learn about ecological processes and possible sources of lake pollution .

No training is needed to participate in a Lakewalk. The manual can be used by individuals, lake associations, and school classes. For a copy, please call Krista Rave at 206/553-6686.



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Are You Covered?

by Eleanor Ely

Over the past few months, I conducted a nationwide poll (well, OK, I called about 20 volunteer monitoring programs around the country) on the following question: "What, if anything, does your group do about insurance?" The sighs and groans that greeted this query made it clear that I wasn't hitting anyone's favorite topic. Many respondents admitted they were uncertain about the exact extent of their coverage. These confessions were usually accompanied by some expression of self-reproach ("Oh, dear, I've been meaning to look into that for the longest time!") and the promise to do better ("I'm going to call our legal advisor right now.").

Granted, there were a few organizations that seemed to have the situation firmly in hand. First prize goes to the program that gave the following report: "Our volunteers are covered under workers' compensation. The organization has liability insurance, and we have Directors and Officers insurance to protect our Board. Also, our equipment is insured for damage."

At the other end of the spectrum was this response: "What do we do about insurance? Nothing! People can sue us if they want to. We have no money." Most groups fell somewhere in between, but groups without liability insurance outnumbered those who had it.

If people are confused about issues of insurance, safety, and liability (collectively termed "risk management"), there's good reason. This whole field is a tangle. To make matters worse, laws differ dramatically from state to state. For example, the interpretation and validity of waivers depends to a large degree on what state you're in. Workers' compensation is another case in point: some states allow volunteers to be covered while others do not.

So, what's a volunteer monitoring organization to do? This article offers answers to some of the most common questions, along with examples of how various volunteer monitoring organizations have dealt with risk management.

Liability insurance

Liability insurance protects you if you are sued. The most common type is "general liability," which covers most bodily injury and property damage claims. When talking with an insurance broker, be sure to thoroughly document everything your organization does to reduce risks (e.g., giving safety lectures during volunteer training sessions, or including safety instructions in manuals).

Note that a liability policy covering an organization doesn't necessarily cover its volunteers in case they are sued personally. You can get your organization's liability coverage extended to your volunteers by explicitly mentioning the word "volunteer" either on the list of "insureds" or in an endorsement (an attachment that extends coverage; also called a rider). But beware: Once volunteers are added to the list of insureds, they are excluded from collecting medical benefits under the policy if they are injured. A general liability contract protects the organization against claims brought by a third party, and once a volunteer is listed as an "insured" he or she is no longer a third party. (In other words, you can't sue yourself for damages.)

Individual volunteers can also get liability coverage under their own homeowners policies. It's especially important for board members to do this, since by law they can be held personally liable for damages caused by the organization. Note, however, that most homeowners policies don't protect you if someone sues you for a purely financial loss.

Injuries to volunteers

How can you protect your volunteers in case they are injured "on the job"? In some states, volunteers can be covered by workers' compensation; call your state Department of Employment for information about the laws in your state and the cost of covering volunteers. If workers' compensation is unavailable or very expensive, you may want to buy a separate accident and injury policy for volunteers. For a "supplemental" policy (one that takes effect only after the individual's own medical coverage is exhausted), the cost is usually only a few dollars per year per volunteer. Another option is to include volunteers in the medical-payments portion of your general liability policy (however, the dollar amount of medical coverage in such policies is usually fairly limited).

Insurance through partnering

One candid survey respondent gave the following summary of his organization's three-tiered approach to risk management: "First, whenever possible we try to get funding organizations or partners to provide liability coverage. Second, we require volunteers to sign waivers. And third, we cross our fingers." Finger-crossing must surely be the world's most widely practiced risk-management strategy. But this organization's first-choice alternative--teaming up with a partner who has good coverage--is also popular among volunteer monitoring groups, and considerably more effective.

Another respondent said, "We don't have our own insurance, but we ask the Department of Fisheries to cosponsor our events. Once the volunteers sign the Department of Fisheries form, they are covered under workers' comp. The only problem we've had is that the form asks for a social security number, and some

volunteers have been unwilling to provide it. Without that, they're not covered." (Note that this program is located in a state where it's relatively easy and inexpensive to cover volunteers under workers' compensation.)

The coordinator of a program administered through Cooperative Extension said, "Since we are a 'recognized program' of the university, our volunteers are considered volunteers of the university, and are covered under the university's insurance."

One high school teacher organized his student monitors as an Explorer Post. Exploring is a division of Boy Scouts of America, and an Explorer Post is similar to a Boy Scout Troop, except the participants are older (14 to 20) and are both boys and girls. Each Post focuses on a specific activity (in this case, the water monitoring project). The group must abide by all Explorer Post regulations. Participants are eligible for low-cost insurance coverage through the Boy Scouts. (A reminder to other teachers who want to try this approach: Explorer activities must be done outside of class time.)

Waivers

Many of the people surveyed said they require their volunteers to sign waivers--but most of these same people also expressed doubt as to whether a waiver really does any good (one said, "The lawyer on our board says waivers aren't worth anything, but we use them anyway"). Actually, a carefully worded waiver, signed by an adult, can protect you if you're sued for negligent (unintentional) acts (see box at left, "[How Good Are Waivers?](#)"). Don't bother asking minors to sign waivers, though. Waivers signed by persons under 18 usually don't hold up in court.

Debra Jung, general counsel for the Close Up Foundation, explains, "Waivers are legal contracts. You can contract away your right to sue a group for negligent acts. What you can't do is waive intentional or willful conduct." When choosing the language for your waiver forms, it's important to keep in mind the distinction between "negligent" and "intentional." Asking people to sign away their right to sue you for intentional acts could invalidate the waiver in the eyes of a judge. Jung says, "Don't put that 'intentional' or 'willful' language in your waiver, because a court will look at you and frown. They may even forget that you had the word 'negligent' in there because they'll be frowning so hard."

Make sure your waiver clearly spells out all the risks involved in an activity. According to Jung, "You can be almost assured that a waiver won't hold up in court if the language is too broad. If the language is clear and unambiguous, and describes with particularity the activities for which you want the waiver, you have a much better chance of having the waiver upheld."

Because states interpret waivers differently, it's impossible to design a standard form that can be used in all jurisdictions. Consult a lawyer for the best wording to use in your state.

Risk reduction

Prevention, as always, is the best medicine. Everyone I spoke to for the survey talked about the steps they take to avoid injuries or damage. Volunteers are trained to look for and avoid hazards at sampling sites, to use the buddy system, and to take appropriate precautions when handling chemical reagents. Above all, monitoring groups stress that volunteer safety is always more important than the data, and that volunteers should never put themselves at risk to obtain a measurement.

Eleanor Ely is the editor of The Volunteer Monitor.



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How Good Are Waivers?

"I won't sue you." That's probably what you want from a waiver or release. In the eyes of the law, a waiver is a contract. If you want a waiver to be valid, you must give something in exchange. If you ask people to sign a waiver but allow them to participate on the same terms whether they sign or not, the waiver is probably invalid.

Most waivers fail because they do not adequately describe the risks of the activity and all the consequences of signing. Everyone signing the waiver must be clearly informed about dangers so they can intelligently decide whether to accept them.

Regardless of their validity, waivers can serve two valuable functions. They encourage all parties in the activity to recognize the risks and take appropriate precautions. They also create a psychological deterrent to a lawsuit. A person who has signed a waiver may be less likely to sue.

(Excerpted from No Surprises: Controlling Risks in Volunteer Programs. For ordering information, see box on [page 23](#).)



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Nonprofit Risk Management Center

The Nonprofit Risk Management Center offers pamphlets, books, and reports, several of which are listed below. The Center also publishes a free newsletter, conducts workshops on risk management, and provides direct consultation to community-serving organizations. For a complete listing of publications, or to find out more about the Center's services, contact The Nonprofit Risk Management Center, 1001 Connecticut Ave., NW, Suite 900, Washington, DC 20036; ph. 202/785-3891; fax 202-833-5747.

Selected publications available from the Nonprofit Risk Management Center:

No Surprises: Controlling Risks in Volunteer Programs. Contains readable, practical advice to help you prevent injuries, lawsuits, and other unpleasant surprises. 60 pages; \$9.95 + shipping.

Insurance Assurance for Volunteers. Focuses on insuring volunteers themselves; includes liability coverage, auto liability, and volunteer injuries. 13 pages; \$5 + shipping.

Avoiding a Crash Course: Auto Liability, Insurance and Safety for Nonprofits. Explains driving-related liability for volunteers and organizations, and insurance options. 44 pages; \$9 + shipping.

D&O--Yes or No?: Directors and Officers Insurance for the Volunteer Board. Tells how to protect your board members. 20 pages; \$6 + shipping.



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More Than a Fish Planting - Making the Most of the Streamside Experience

by Judy E. Pickens

The first fish plantings in Fauntleroy Creek were just that--a bucket of fingerlings raised in a classroom, and a group of kids eager to release them into the creek that flows past our house.

This new and exciting experience for the kids was new and exciting for this "creek lady" as well. Some 10 years earlier my husband and I had bought a house near the mouth of the creek, a decision that soon transformed us into creek activists. In 1989 we founded Friends of Fauntleroy Creek, a network of watershed residents and agency staff dedicated to protecting this mile-long urban stream.

Friends of Fauntleroy Creek launched into a variety of monitoring, advocacy, and restoration projects. As word spread about these activities, a couple of school classes invited themselves to release their fish here. The enthusiasm of the youngsters who came convinced us that fish plantings could be much more than simply depositing the fish in the water--if we were willing to work with teachers to create a holistic streamside experience.

A Flexible Outdoor Classroom

Our "test run" for expanded activities was with 90 fourth-graders. On a week's notice from a harried science teacher, I arranged for three activity stations in or near our backyard. At one station the kids planted their salmon under the supervision of one of their teachers. At another I taught them what makes a healthy habitat, and at the third they learned from a neighborhood "old-timer" about the Native American burial ground and former campsite near the creek.

In a little over an hour, three groups of 30 youngsters had rotated through all the stations and were on their way back to school, carrying with them a box of free kid-oriented brochures and a Friends of Fauntleroy Creek salmon poster. I was exhausted, yet confident that this hastily formed school-community partnership was well worth fine-tuning.

Since that day, our flexible outdoor classroom has evolved with each fish planting. For example, students now examine water quality in two ways: testing clarity, temperature, and dissolved oxygen, and finding out what "critters" (macroinvertebrates) live in the creek.

We add or subtract stations according to how many students will participate and the teacher's learning objectives. The more stations we have, the smaller the groups can be--and the more activities we must provide, staffed with neighborhood or parent volunteers.

Nature dictates that Coho salmon can be planted only in the spring, but throughout the year Friends of Fauntleroy Creek offers other activities for schools and youth groups. These include nature walks, age-appropriate "treasure hunts" for habitat features, and a flexible, kid-friendly stream survey. (Note: Copies of the stream survey packet are available at no charge; contact the author at the address below.)

Our fish plantings and other events don't require much money, because the labor is all volunteer and we're adept at finding free or low-cost brochures and posters. However, we do need to pay for test kits, field guides, and some of our printed materials. To help cover these expenses, we obtain small grants (currently a Metro Community Action Grant and a grant from the Northwest Aquatic and Marine Educators), and gratefully receive individual contributions.

Ten tips

To anyone thinking about expanding the educational potential of fish plantings, here's my advice:

1. **Plan ahead.** Teachers may want to make the fish planting the centerpiece of an extensive unit. Starting weeks or months in advance allows them to meet this objective.
2. **Orient teachers to the site.** Invite them to visit in advance to identify hazards, discuss accommodations for any students with disabilities, and decide how many parents or neighborhood volunteers will be needed.
3. **Provide enough stations to keep groups small.** Every youngster should have a chance to see, hear, and do.
4. **Adapt classroom discipline to the great outdoors.** One teacher who brought a class to our creek insisted on taking roll every few minutes and demanded that the kids keep quiet. Needless to say, this approach stifled the kids' natural curiosity.
5. **Stick to simple tests of water quality.** Students will best comprehend basic indicators related to the health of the fish they are planting.
6. **Show more than tell.** Youngsters eager to test a water sample will wither if lectured to.
7. **Make the experience free.** Schools are hard-pressed just to pay for a bus and driver to get kids streamside.
8. **Provide supplemental materials.** Find or create brochures, posters, and maps. We've found that a map of the watershed is especially helpful.
9. **Invite students back.** We send a written invitation home with each new Friend of Fauntleroy Creek.

10. **Evaluate.** Examine the entire experience--activities, logistics, handouts, timing, staffing--for what worked and what needs attention.

Judy Pickens is a writer and "creek lady" in Seattle, WA. For more information, or for samples of educational materials, contact her at 4539 S.W. Director Place, Seattle, WA 98136-2614; 206/938-4203.



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A Low-Cost Photometer for Phosphorus and Ammonia

by James C. Griffin

In his excellent article on phosphorus testing in the Spring 1994 issue of *The Volunteer Monitor*, Geoff Dates mentioned the cost of spectrophotometric measurement as one of the major barriers to incorporating phosphorus testing into volunteer monitoring programs. At the time Dates' article was published, I was designing a fiber optic ammonia sensor as part of my dissertation research. I was also directing the Marine Resources Council of East Florida's Citizen Volunteer Water Quality Monitoring Network (CVWQMN) and was acutely aware of the difficulties of integrating nutrient monitoring into our program. It occurred to me that the instruments I had designed for my research could be used to build a practical, low-cost photometer. The result of this effort was a small, portable fiber optic photometer (FOP) that can be built for about the cost of a color comparator or color-wheel kit and that can accurately measure phosphorus (as total orthophosphate) and ammonia-nitrogen (as N) at concentrations between 0.01 and 1.0 mg/l (10-1,000 g/l).

As a light source, the FOP uses a light-emitting diode (LED), which emits colored light in a specific wavelength range. LEDs are available for many different wavelength ranges, but the wavelength emitted by any given LED cannot be changed. Therefore the FOP is more limited than a spectrophotometer, in which the wavelength can be adjusted. Fortunately, analytic procedures for both ammonia and phosphate yield colored products that absorb light within the same wavelength range, so the FOP described here can be used for both ammonia and phosphate testing.

The basic design of the FOP is shown in the figure. The sample to be analyzed is poured into a standard LaMotte 5-ml colorimeter tube (1 cm diameter), and the tube is placed in the FOP's support cylinder (homemade from light-tight black plastic). Narrow-band red light from the LED is transmitted by the plastic optical fiber to the colorimeter tube, where it is partially absorbed by colored components of the prepared sample. The fraction of light that is not absorbed is transmitted via the second optical fiber to the phototransistor, which converts light intensity to a voltage. The voltage is measured by the voltmeter.

Samples to be analyzed for ammonia or phosphate are prepared using standard commercially available reagents. The CVWQMN uses the LaMotte ammonia-nitrogen kit (salicylate method) and the Hach

ascorbic acid phosphate reagent (PhosVer3). Hach ammonia-nitrogen and phosphate-phosphorus standards are used to prepare standard curves, which are used to determine the sample ammonia and phosphorus .

To take a reading with the FOP, first use a blank (distilled water or water sample) to set an initial voltage of 100 millivolts (mV) by adjusting the resistance in the phototransistor. Because the blank voltage is set at 100 mV, the sample voltage, which is lower by the amount of light absorbed, can be interpreted directly as percent transmittance. Absorbance is determined by calculating the negative logarithm of the voltmeter reading. For example, if the voltmeter reading for the sample is 88 mV (interpreted as 88% transmittance or 0.88), the absorbance is the negative log of 0.88, or 0.056. Most scientific calculators have keys for determining logarithms.

Calibration experiments with the FOP showed that for both ammonia and phosphate the relationship between absorbance and concentration is linear between 0.01 and 1.0 mg/l, with a linear correlation coefficient of 0.999. In addition, I conducted extensive parallel testing of the FOP with four commercially available instruments: a LaMotte DC 1600 field color-imeter, a Milton Roy Spectronic 20 laboratory spectrophotometer, a Hach DR/2000 field and laboratory spectrophotometer, and a Beckman DU-7 scanning spectrophotometer. In every case a close correlation was found (by linear regression), indicating that all the instruments were providing the same results.

For the past year, a volunteer team with the CVWQMN has used the FOP to monitor ammonia and phosphorus at a site at the Turkey Creek Sanctuary in Palm Bay, Florida. They have found the FOP reliable and easy to use, requiring only minimal training.

The fabrication procedures for the FOP are not difficult and could be accomplished by anyone with electronics skills and experience in using a soldering iron. The FOP is assembled on a Radio Shack circuit board. In addition to the components described earlier, the FOP utilizes a 5-volt voltage regulator, a trimming potentiometer, a precision potentiometer, and resistors. The majority of the parts are available from a fiber optics experimenters kit. The total cost for parts is about \$50, including about \$20 for the voltmeter. For detailed fabrication instructions contact the author at the address below.

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A Simple Bioassay Using Lettuce Seeds

by Joe Rathbun

Bioassays are not yet routinely performed in schools or by other volunteer monitoring programs, mainly because they are often time-consuming, costly, and/or complex. In the Spring 1993 issue of *The Volunteer Monitor*, Mark Mitchell described one relatively simple method, utilizing young *Daphnia* (water fleas) as the test organism, which has been used by some schools participating in GREEN (Global Rivers Environmental Education Network).

This article will describe an even simpler bioassay method that uses lettuce seeds as the test organism.

Plant seeds make excellent bioassay test organisms. As long as they are kept dry, they remain dormant and can be stored for long periods without losing viability. (You can't keep a packet of *Daphnia* on a shelf until you're ready to do your assay!) However, once they are hydrated they enter the germination (sprouting) phase, during which they undergo rapid physiological changes and become highly sensitive to environmental stress.

Bioassay pros and cons

As Mitchell's article notes, bioassays have both pros and cons. A strength is that they are integrative--that is, the test organism can react to multiple contaminants in a single sample, whereas chemical analyses measure only one chemical at a time. This can be especially important in urban watersheds, which often have numerous contaminant sources. The major weakness of bioassays is their lack of specificity: it is not possible to identify exactly which contaminant is causing any particular toxic effect.

Lettuce seed bioassay

The full name of the method described below is the "lettuce seed germination/root elongation bioassay." As this name implies, the assay has two endpoints: seed germination and root length. Each endpoint is sensitive to different pollutants to different degrees; that is why both are measured.

Following are general instructions for performing this assay on water samples. A more detailed

procedure, including alternatives for some steps and methods for assaying soil and sediment samples, is available from the author (see address at end of article).

Collecting water samples

Glass bottles are usually used for collecting water samples. Collect a grab sample either with a Kemmerer or Van Dorn sampler, or by manually submerging the sample bottle. When collecting directly into the sample bottle, submerge the bottle about 6 inches and let the water "bubble" in. This avoids collecting surface film, which is often more highly contaminated than the underlying water.

Performing the assay

1. Purchase lettuce seeds from any source. The "Buttercrunch" and "Black-Seeded Simpson" varieties are most commonly used. Seeds may be stored in a refrigerator for months.
2. Soak the seeds for 20 minutes in a 10% solution of Clorox in distilled water, then rinse 5 times with distilled water. The Clorox kills fungi (which could interfere with seed germination).
3. Place 9-cm Whatman #1 filter paper into labeled 10-cm plastic petri dishes. Three replicate dishes per sample are recommended.
4. Pipette 5 to 7 ml of undiluted sample onto the filter paper (enough to saturate the paper). Use the same volume in all tests. Also prepare 3 control dishes, using distilled water instead of sample.
5. Place 10 seeds on the paper, spaced evenly.
6. Incubate dishes at room temperature, **in the dark**, for 5 days. (It is OK to briefly check the dishes during incubation. If the paper seems dry, pipette a few ml of distilled water onto the paper.)

Interpreting results

For each dish, record (a) the percent of seeds that germinated and (b) the individual root lengths, to the nearest mm (see drawing). If fewer than 80% of the seeds in the control sample germinate, this indicates a problem with the assay (e.g., bad seeds, poor incubation conditions); the test should be rerun.

For each sample (including the control), calculate the mean and standard deviation for each endpoint. Comparisons can be made by using the Student's t-test. A somewhat less quantitative method is to compare the mean ± 1 standard deviation of each sample to the control. If a sample's mean ± 1 standard deviation does not overlap that of the control, there's a strong likelihood that the sample is significantly more toxic than the control.

Comparison to other bioassays

Organisms are not equally sensitive to contaminants; for example, the concentration of copper in water that would kill algae or a snail is harmless to most fish. When choosing a bioassay organism, consider which toxic compounds are of most concern. A full evaluation of a sample's potential toxicity requires performing several different bioassays.

Seed bioassays are very sensitive to herbicides and fairly sensitive to metals. They are less sensitive than fish or invertebrate assays to industrial chemicals like PCBs or solvents.

The lettuce seed bioassay is easy and inexpensive enough that it could be used as part of almost any monitoring program. It also makes an enjoyable classroom activity for introducing the principles of biological toxicity testing.

For more information

Mitchell, Mark, ed. *Heavy Metals Manual*. 1994. This 133-page manual, designed primarily for use in schools, discusses the sources and effects of heavy metals and provides instructions for several monitoring methods, including the *Daphnia* and lettuce seed bioassays. Available from GREEN, 721 E. Huron St., Ann Arbor, MI 48104; 313/761-8142. \$17.95 + shipping (call for shipping charge).

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