

## Section 7:

# Evaluating monitoring program performance

### This Section will show you how to:

- Determine if your monitoring program's goals and objectives were met.
- Decide how to proceed in the future.
- Stay engaged in the ongoing monitoring program.

### Take stock and plan for the future

We've emphasized how important it is to continually evaluate and review how you are performing against the goals and objectives you set early in your program. But once your project is finished – or at the very least, on an annual basis – you should evaluate the performance of your overall monitoring program. Doing so could be the most important step in the design and review process. That's because evaluation procedures can resolve whether the information you developed was sufficiently precise and scientifically usable. If there is anything you could be doing better, to gain more credible and useful data, you will often uncover it in the evaluation process.

Having good field notes will make the process of evaluation go more smoothly. If you have an ongoing record of activities, changes you made during the program, etc., it will help you remember what occurred during the monitoring effort.

Keep in mind, too, that it may take a few years of monitoring before it is possible to fully analyze and

interpret your data, so take that into consideration as you routinely evaluate your program.

You generally review and evaluate in order to measure the effectiveness of the monitoring actions and programs you implemented, and to provide essential information that can be used to redirect and refocus your design plan.



## To evaluate your program, follow these basic guidelines:

- Determine if your monitoring program's goals and objectives were met.
- Identify successes/what worked in your monitoring program.
- Identify any monitoring problems associated with your project.
  - Collecting and analyzing samples
  - Storing, disseminating, and interpreting data
  - Reporting the information to managers and the public
  - Identifying gaps and inefficiencies
- Evaluate the costs of the monitoring program relative to other costs, such as clean-up, lost environment and results realized.
- Provide feedback.

### 1. Determine if goals and objectives were met

Evaluating your actual results against original goals and objectives (see *Section 3*) will help determine if the program should be modified by adding, deleting or expanding monitoring components.

Suppose, for example, that your goal was to collect at least 24 water samples per site monthly to measure fecal coliform bacteria, dissolved oxygen, total phosphorus, temperature, pH and total acidity. Upon evaluation, you realize you were able to collect an average of 18 samples. You may decide the samples collected were actually good enough to meet the objective, or you may realize you need more volunteers or need to use the volunteers you have more often.

An evaluation may also reveal that to meet your goal, you need to add an alternative sampling strategy to fulfill the objective. It may become obvious, for example, that you should also be sampling for nitrates. Based upon this, you may decide to add the procedure, or determine that it is beyond the scope of your particular project.

Whatever you decide, you will then use this information to update your monitoring design plan before you proceed to the next level.

### 2. Identify successes

You are going to have some successes, regardless of the data objectives you set. Even if you missed a particular goal, what you did accomplish may meet a lesser goal. For example, you may have set out to establish baseline data for your neighborhood watershed, but you were not able to collect enough information to meet your objectives. You did, however, raise community awareness and promote community education. Celebrate that success as you redesign your project for the next phase.

### 3. Identify problems

Problems may have been identified as the monitoring program was in progress or you may uncover new ones that show up on final evaluation. At this stage, you can make note of the problems and determine



how to incorporate changes in your updated design plan to avoid these problems the next time. You may find you need to enhance your QA/QC procedures. Or you may find that your original goal or purpose has changed based on the information you have.

#### 4. Evaluate costs

Costs in monitoring programs vary widely – from expenses involved in purchasing equipment to costs associated with actually carrying out the program (meeting, transportation, volunteer hours spent). In order to protect this considerable investment, evaluate your sampling strategies to be sure you have selected the most effective monitoring components and variables, and that you have optimized your overall monitoring effort.

#### 5. Provide feedback

Use results of your evaluation to identify current and future needs and activities of your group and data users.



#### Typical problems identified in monitoring program evaluations:

- Monitoring programs did not clearly define monitoring objectives and apply available design tools.
- Monitoring group did not check with potential data users to determine types of data to collect.
- There was a lack of communication and coordination among the people in the program.
- They needed to adopt standardized sampling and QA/QC procedures to ensure data comparability.
- The results of the monitoring program were not presented in a form that is useful to interested stakeholders. It is essential to link data management strategies and data analysis methods to the objectives of the monitoring effort. It is also necessary to devise a plan for effectively communicating monitoring results to the identified audience.

## Develop partnerships and connections

Because environmental sampling can be costly and resources will often be limited, it makes sense to leverage your resources as much as possible.

Other organizations with similar goals and objectives may have developed procedures or training materials that can streamline your particular project. Databases may already include information that you can use to build on. The city where you live no doubt has resources that you can use. You will often find regional conferences will be a big help in providing information and motivation for your volunteers.

Here are a few ways you will benefit from making connections:

- Receive funding or learn about funding sources.
- Obtain technical assistance.
- Receive on-site supervision of volunteer projects.
- Get help from speakers, field trips and telephone or e-mail support.
- Obtain materials, videos, curricula, posters, public education flyers and displays.
- Receive loans or gift equipment from interested parties.
- Obtain maps and data on water quality, native species, soil types, wetlands, history, etc.
- Track the status and progress of other programs in situations similar to yours.
- Learn how you can improve your own programs by learning about other current and emerging programs.
- Learn about programs that are working well.
- Put your own program in a framework or context of water monitoring as a whole.
- Learn how to present your findings to elected officials and the public about the progress you have made.



Most agencies, organizations and governmental bodies are eager for the help that volunteers provide. Ask these questions to evaluate whether an agency/organization fits into your monitoring goals:

- Are its goals compatible with your goals and objectives?
- What do you hope to get from the agency?
- When do project activities take place?
- Does the organization provide training?
- How does the organization use volunteers in its projects?
- Will the agency help with transportation, liability issues and supervision?
- Will support staff be available to help you in person or by phone/e-mail? Are they responsive and reachable?

Throughout this guide, we have referenced guidance manuals and organizations that provide excellent resources for volunteer water monitors. These references only scratch the surface of information that is available to you. Take advantage of it so you can

leverage the resources you have in the most effective way possible.

## Stay motivated and engaged

You, and others on your team, may have joined the monitoring effort for any number of reasons.

- To have an impact
- To be part of a team
- To meet people and make friends
- To learn something
- To gain experience
- To build a resume
- To gain fulfillment
- To feel needed and appreciated
- To have fun
- To use a skill
- To give back to the community

Joining the team took effort on someone's part and following through to implement the program took commitment on everyone's part. The challenge is to



### Students produce data that will help clean up St. Louis River estuary

Students in the St. Louis River River Watch program collect chemical, physical, and biological data twice per year at river sites located throughout northeastern Minnesota. The data are compiled, evaluated and shared among all schools, as well as with the state and local communities in a variety of ways. For example, an environmental engineering company recently requested the program's water temperature data to help model temperature fluctuations in the St. Louis River sediment. These models will help advance clean-up efforts at a Superfund site in the St. Louis River estuary. In these and many other ways, student-gathered data are used to protect and manage the St. Louis River ecosystem (from St. Louis River Watch web site:

<http://www.fdl.cc.mn.us/ei/rw/data.html>)

stay interested in your monitoring project. A study about why volunteers leave, prepared by *Florida Lakewatch* in 1998, may help you understand how to stay motivated yourself and to motivate others on your team.

Some volunteers will leave for reasons such as health problems and life changes, or taking a more time-consuming job, or moving out of the area. Others may leave because they are left to maintain their own motivation, with little or no encouragement, interaction or reporting of results.

You may find the following ideas that *Lakewatch* created to address the challenge of keeping volunteers motivated may help your group as well. Encourage your group to try some of the following suggestions if you feel they will help your group move forward:

### Improve feedback

- Hold more meetings, at least one general meeting per year, so everyone has a sense of connection to a group and to offer opportunities to deal with any questions and concerns.



- Speed turnaround time between data collection and feedback.
- Improve data report format.
- Produce a variety of types of feedback (videos, brochures, in-person presentations).
- Produce a newsletter at least twice a year.
- Hire regional coordinators to maintain closer touch with volunteers.

### Add new challenges

- Take training in monitoring additional parameters, such as bacteria levels, bird populations or aquatic plant levels.
- Perform training, if you are an experienced volunteer.
- Get everyone involved in fundraising and recruiting.

### Create rewards

Probably the best reward volunteer monitors can receive is to see their data being used. This is often accomplished when you present your data in a public venue. In so doing, you will feel more like a necessary part of your organization. And, last but not least, say “thank you” over and over again. Some ways organizations have said “thank you”:

- Hold a picnic, barbecue or party.
- Take volunteer leaders out to lunch.
- Hold a banquet that is a fundraiser and awards ceremony.
- Write personal letters expressing your appreciation for everyone’s contribution.
- Profile volunteers in a newsletter.
- Present appreciation awards – certificates, pins, caps, mugs, etc.
- Give scholarships.
- Send regular memos keeping everyone up to date on activities and the status of the project.
- Plant a tree honoring your project.

