

CHAPTER V. SUPPORT AVAILABLE FROM THE VEMN

The **Merrimack River Initiative** was started in 1988 to promote holistic management of natural resources throughout the Merrimack River Watershed. Participants recognize the dual benefits of developing a watershed-wide base of information and of building a strong watershed constituency by supporting citizen groups who want to conduct their own surveys. To meet these objectives, the **Volunteer Environmental Monitoring Network** (VEMN) was organized.

The VEMN provides services to volunteer environmental monitoring groups in the Merrimack River Watershed. These services include guidance in the form of documents and manuals, training, consulting, and connecting volunteer groups to resources in their communities. The purpose of the VEMN is to coordinate all the volunteer monitoring efforts and to develop a complete picture of water quality throughout the watershed.

The VEMN is developing an array of organizational and training services for new and existing groups. One major aim of the VEMN is to more closely integrate volunteer monitoring programs into environmental management decisions that are made in the Merrimack River Watershed every day at every level of human activity.

The guidelines laid out in this and in other VEMN products, will help citizen groups build effective local programs that also contribute to a watershed-wide view of the health of the Merrimack River Watershed.

Over the past two years, VEMN staff and partners have developed an array of written guidance documents (we call them “tools”) that can assist volunteer monitoring groups in the watershed with a wide range of program challenges. They are available in written and, in many cases, electronic form. They are summarized on the following pages.

VEMN Tools

- ***Characteristics of a Successful Volunteer Water Quality Monitoring Program***

This outline includes organizational and technical characteristics that the VEMN has found to be associated with successful programs. It can be used as a means for volunteer groups to evaluate themselves and plan for future work. The document outlines successful organizational characteristics in the following areas:

- _ Mission
- _ Community Support
- _ Funding
- _ Leadership
- _ Volunteers
- _ Data Use
- _ Achievement
- _ Community Outreach and Public Education

It also outlines successful technical characteristics in the following areas:

- _ Study Design
- _ Quality Control
- _ Data Management and Reporting

- ***Guidelines For Subwatershed Groups on Preparing Scientific Study Designs***

This is a comprehensive guidance document that describes the process by which freshwater river and lake monitoring groups design customized monitoring programs to address issues important to their watersheds. It is one of the most useful products the VEMN offers to volunteer monitoring groups interested in designing studies which will provide data to a wide range of users, from state and federal agencies to local town citizens and businesses.

Part I of the Study Design Manual will take you through the study design process. It includes worksheets for each part of your study design which you can fill out as you go and you can actually use the compilation of these worksheets as your final study design document. If you start with the three core assessments, you can easily complete the worksheets for Steps 2 through 5 and Step 9 (there are only 9 steps) of your study design. You will still need to determine where and when you will monitor and who will do the monitoring.

When you are ready to design your study, Parts II and III of the Study Design Manual will help you with the specific steps.

Part II is a listing of issues and questions that monitoring can address. Seven basic questions with more specific sub-questions are listed. Use this to help

with Step 2 in the study design process; to choose questions that best suit your group.

Part III of the Study Design Manual is a guide to choosing users and uses of data and data quality goals that work for your group. Use this part to help you with Step 4 in your study design process.

- ***VEMN Guide To Volunteer Watershed Monitoring Options In the Merrimack River Watershed***

This document supplies monitoring groups with a menu of monitoring study design options in order to help them design programs which gather information that can be used by a wide range of water management and education entities. It is intended to be an expandable library to which new study designs may be added as they are used in the watershed by volunteer groups. The menu includes study designs for watershed assessment, water quality standards assessment, a health risk assessment, non-point source pollution site evaluation, non-point source pollution impact assessment for agriculture, waste water treatment plant impact assessment, baseline assessments for rivers and lakes, stormwater discharge assessment and wastewater discharge compliance. The study designs explain the questions and issues that each will address, explain who can use the information collected using the study design and for what purpose, describe indicators that should be used and reference the collection and analysis methods, explain the types of water bodies for which each study may be used, describe the necessary quality control, explain site selection considerations, frequency and timing of sampling, and outline training requirement for each study.

- ***VEMN Training Manual of Core Monitoring Parameters and Methods***

This manual fully describes and documents the procedures and quality control measures needed to do the core assessments recommended by VEMN for all monitoring groups:

1. *Watershed Assessment* - how to carry out a visual survey and evaluation of the water and surrounding areas in order to gather basic resource information in preparation for other types of monitoring.
2. *Water Contact Health Risk Assessment* - how to carry out a combination of water sampling and data gathering (by sampling the human population via questionnaires and other techniques) on actual disease occurrence to see if there's a relationship between water quality, water contact and illness.
3. *Water Quality Standards Assessment* - how to collect and analyze water samples for water quality indicators that the states of Massachusetts and New Hampshire use to determine how well our waters comply with state standards for their designated uses.

These core assessments will help us gather basic information on watershed characteristics, assist communities and water users to assess health risks associated with water contact, and contribute to federal and state information on the quality of our waters.

- ***How To Interpret Monitoring Data***

This is a quick outline of steps to take once monitoring data has been collected. It takes the reader through the interpretation process so that numeric monitoring results may become meaningful statements that call forth action, assist in planning and make the results palatable for general consumption.

- ***How To Report Monitoring Data***

This compilation of standardized report forms make reporting data easy and therefore ready to present to data users at all levels.

- ***Volunteer Environmental Monitoring Network Integrated Support System***

The VEMN support system is intended for use by anyone who is engaged in or interested in water quality monitoring in the Merrimack River Watershed. This includes state, local and federal agencies, businesses and industries, schools, advocacy groups, non-profits, volunteer monitoring groups and individual citizens.

This document and database was based on interviews with numerous organizations and agencies associated with water quality monitoring or watershed management. Survey participants were asked to provide information on the services they could offer to support the VEMN. After reviewing interview results, the VEMN Steering Committee made several additional recommendations on roles that various government and non-government organizations can play.

The VEMN Integrated Support System can also help you locate monitoring groups in your area with which you might want to collaborate.

This 27 page document is organized into seven support system categories:

- Training
- Consultation
- Work
- Funds
- In-Kind Support
- Information Available
- Expertise

This product is available in both computer database format (you will need Microsoft Access for Windows to run the database) or report format. Contact the VEMN coordinator on how you may access the database directly.

- ***Report: Status of Existing Volunteer Monitoring Programs in the Merrimack River Watershed and Recommendations for Changes***

This report provides an overview of the current status of monitoring programs in the Merrimack River basin and a guide for identifying areas in which VEMN can develop an enhanced array of services for new and existing volunteer monitoring groups. The report also informs volunteer groups of the activities of their counterparts throughout the basin. A list of volunteer groups participating in the survey as well as a copy of the survey used to collect the information for this report is included in the Appendix.

- ***Citizen's View Of the Merrimack River Watershed***

This report compiles the monitoring results and narratives from citizen volunteer groups throughout the Merrimack River Watershed in 1996. It will provide an inventory of active citizen groups in each subwatershed and the water bodies that they monitor, the issues that the groups are working on, what they found, the actions they have taken as a result of their findings and their recommendations for further research. This report will be in the proceedings from the 1st Annual Merrimack River Watershed Volunteer Environmental Monitoring Network Conference.

- ***The VEMN Long Term Strategic Plan***

The VEMN Steering Committee has worked over the last year to come up with long term goals for its staff. It describes the VEMN mission, the five main goals of the VEMN and an action plan for achieving those goals. The plan also describes how the VEMN will measure its success in reaching its chosen goals.

- ***The VEMN World Wide Web Site***

can now be reached through the internet. It is part of the Merrimack Web Site and can be found at: **http://www.merrimack.org**. Surf by and download all available VEMN products, send your monitoring data to VEMN headquarters or just drop a note to the coordinator. In the future, you will be able to post messages to other monitoring groups in the VEMN on the bulletin board. This is the way the network will communicate and it will also serve as a central data repository for volunteer monitors throughout the Merrimack River Watershed.

Types of Assistance Available Through the VEMN

Assistance through the VEMN is available both through VEMN staff and through organizations and agencies that have agreed to be service providers. Following is a brief description of the services that the VEMN can provide¹:

1) TRAINING, CONSULTATION AND WORK

Training gives groups the skills they need to do their own work, *consultation* is advice on particular questions and problems on a one to one basis, and *work* means exactly that; that the organization can do the work for or with the interested party. The comments section under each organization can help specify the types or amounts of assistance available. *Training, consultation* and *work* are available to monitoring groups in the following areas:

a) Program planning

- i) *Organizational* - includes designing a mission for the organization with measurable goals and an action plan to achieve those goals, creating a strategic plan, a multiple year budget and a fundraising plan, gaining community support, fostering leadership, and attracting and keeping volunteers.
- ii) *Technical* - includes identifying the issues that will be the focus of study, determining the users and uses for the data, choosing monitoring parameters, choosing sampling sites, determining sampling frequency and length of sampling season, defining sampling and analysis methods along with a quality control plan, and writing it all down in a scientific study design.

b) Program coordination - includes finding and setting up training for volunteers, ordering or locating monitoring supplies, finding or setting up a laboratory for sample analysis and getting a program started.

c) Field Work - includes all work done in the field such as habitat assessments, shoreline surveys, sampling, sample fixing, etc.

d) Lab Work - all aspects of sample analysis and quality assurance/quality control (QA/QC).

e) Data Management - designing an effective system for storage, analysis and retrieval of data for all aspects of a monitoring program, from storing monitors names, addresses and phone numbers, to complex analysis of diversity in a macroinvertebrate study.

f) Data Presentation - finding the best methods for presenting data in all forms including reports, public displays and public presentations.

¹ A detailed description of services is available in the "Volunteer Environmental Monitoring Network Integrated Support System" document.

- g) **Data Use** - determining the most effective users and uses of volunteer data and designing monitoring studies and data management systems to best fulfill those uses.
- h) **Manuals and/or Guides** - written documents available for guidance in all aspects of volunteer monitoring.

2) FUNDS

This includes organizations that can provide funding, those which can help locate sources of funds and those which can collaborate on funding efforts. The comments section under each organization will specify the type of funding assistance that the organization can provide.

3) IN-KIND

In-Kind or non-funding donations are available in the areas of equipment, people (like volunteers), and products or materials. As with the other categories, the comments section will specify the types of in-kind services available. The areas of in-kind donations can be further explained as follows:

- a) **Equipment** - includes monitoring equipment, computer equipment, lab equipment or any other types of equipment that may be useful. This equipment may be donated or loaned.
- b) **People (non-experts) - Time** - distinct from experts who can provide technical help, this area of services refers to general people who may perform any type task. They may be volunteers who will participate in monitoring, or it may mean that companies are offering their staff time for clerical help such as putting together mailings, making copies, etc.
- c) **Products/Materials** - includes donations of goods by organizations. These goods can include anything that is produced or bought by any organization from paper to food to entire computer systems.

4) INFORMATION AVAILABLE

Service providers offer an array of information about their programs as well as their own documentation. The VEMN has compiled a library of this information and can help you figure out what you need.

5) EXPERTISE

This includes people that are experts in various areas of interest for volunteer monitoring groups, from science to policy to organizing and fundraising. The **Expertise** category shows all areas in which experts are available. These experts will specify whether they are willing to review and comment on any work or data that a monitoring group produces, whether they are willing to be telephoned and whether they are willing to serve on an advisory

committee. The experts are a valuable resource that should be used to the fullest because of their knowledge and experience.

VEMN Service Providers

VEMN Service providers are organizations and agencies that have agreed to provide consultation, training, and other services to VEMN groups. The VEMN coordinator is the liaison between the organizations listed and volunteer monitoring groups. *Requests for support should be directed to:*

- * *Merrimack VEMN Coordinator Merrimack River Watershed Council, 56 Island Street, Lawrence MA 01840. Contact Alicia Lehrer, 508-681-5777.*

The VEMN Coordinator will negotiate with service providers on your behalf. In most cases, *the degree of assistance must be discussed with the provider* because support is often dependent upon availability of staff, funding, equipment, etc.

The following organizations and agencies have agreed to provide services to VEMN groups:

- *Massachusetts Department of Environmental Protection, Office of Watershed Management. P. O. Box 116, N. Grafton MA. Contact: Brian Friedmann, 508-792-7470.*
- *Massachusetts Water Watch Partnership. Blaisdell House, University of Massachusetts, Amherst MA 01003. Contact: Jerry Schoen 413-545-2842. 413-545-2304 Fax.*
- *Massachusetts Riverways Program. MA DFWELE, 100 Cambridge Street, Boston MA 02202. Contact: Joan Kimball or Karen Pelto, 617-727-1614.*
- *NH Department of Environmental Services, Rivers Program, 6 Hazen Drive, P.O. Box 95, Concord NH 03301. Contact: Jim MacCartney, 603- 271-1152*
- *River Watch Network. 153 State Street, Montpelier VT 05602. Contact Geoff Dates, 802-436-2544 or 223-8083.*
- *UNH Cooperative Extension. UNH CES, 109 Pettee Hall, UNH, 55 College Road, Durham, NH 03824-3599. Contact Jeff Schloss, 603-862-3848.*
- *US EPA. Region 1, JFK Building, Boston MA, 02203. Contact: Diane Switzer 617-860-4377*