

Kentucky Division of Water

Guidance on Use of Volunteer Monitoring Data

February 17, 2000

“State and local agencies may use volunteer data to screen for water quality problems, establish trends in waters that would otherwise be unmonitored, and make planning decisions. Volunteers benefit from learning more about their local water resources, identifying what conditions or activities might be contributing to pollution problems, and working with clubs, environmental groups, and state or local governments to address problem areas.” Source: US EPA web site (<http://www.epa.gov/OWOW/monitoring/volunteer/epavm.html>)

Kentucky has a tremendous number of citizen volunteers; among other activities, these volunteers do monitoring and data collection and often submit their data to the Division of Water for a response. The Division also routinely reviews data from other sources, such as the regulated community, consultants, and universities. The challenge for professional and technical staff is the evaluation of these data for quality and utility.

Volunteer monitoring data is no different from data submitted by any other party, with one exception: With most consulting firms and laboratories, DOW sees data from these parties on a more routine basis and can develop a sense of the competence and the capabilities of the firms that do the collection and testing. Volunteers, on the other hand, are a mixed lot, so that data from them can vary in techniques and controls, from basin to basin, year to year, and person to person. In general, however, volunteer data should be treated and evaluated as with any other data submitted to DOW.

EPA guidance states that the prime criteria for qualifying volunteer monitoring for use in state regulatory programs is:

1. Having a quality assurance, quality control plan.
2. High quality volunteer training

The Kentucky Water Watch and Watershed Watch support three levels of volunteer monitoring:

1. Educational monitoring, such as school-based or youth-based programs.
2. Localized monitoring for "personal consumption" without a formal quality control plan.
3. Advanced volunteer monitoring with a quality control plan, volunteer tracking, and use of professional labs for analysis.

Depending upon the level of the volunteer efforts, documentation, quality assurance and control, etc., the data may simply provide information that alerts the agency to previously unknown conditions or it may be conclusionary. In the former case, data may be from a one-time sample that only provides a snapshot of the environment at that point in time. If the values indicate conditions that are of concern, then the results can serve as a “red flag” to signal the need for

follow-up sampling, inspections, or investigation. Follow-up sampling may be a simple on-site visit or a full-blown study, depending upon the circumstances.

Conclusionary data, on the other hand, are usually submitted as part of a larger study and would include multiple site visits, multiple samples, and a high quality assurance/quality control (QA/QC) program. Volunteers should seek professional, technical review of study plans prior to implementation in order to ensure the greatest utility of the data. Data submitted to DOW for consideration of enforcement action, advisories, 305(b) assessments, or 303(d) listing must meet minimum data requirements.

- Data submitted for enforcement cases must be evaluated on a case-by-case basis.
- Data for advisories must exceed the standards to indicate the non-attainment of specific water quality standards criteria.
- Data for 305(b) and 303(d) must, at a minimum, include monthly samples for a year (or equivalent, depending upon parameter, as determined by the Division of Water), or in the case of fecal coliform data, monthly during the recreation season. If the submitted data meet these quantity thresholds, the Division will then review it for QA/QC concerns, then, if necessary, do follow-up, confirmatory sampling.
- Data submitted for assessment of raw water for drinking water plan reviews requires monthly data for one year.

In general, the greater the quality and quantity of data submitted, the less confirmation that is required. **However, all data, whether submitted by a volunteer, regulated entity, consultant, university, or other party, will require review, and may require confirmation, prior to use for statutory or regulatory purposes.**

Given the potential liabilities related to directing volunteers or non-agency individuals, no staff is to specifically direct the efforts of volunteers for agency purposes. However, in cases where the Division has identified and prioritized data needs and study plans have been prepared, these needs and plans may be provided to volunteers as public information under the Freedom of Information Act.

To ensure the fullest utility of the data, volunteers should ensure that proper QA/QC procedures are followed and all documentation is available for review. Complete documentation of training, chain of custody, collection methods, analytical methods, and results should be available for review and assessment of data.

Other issues:

- Volunteers should consider including TOC in their suite of parameters for assessment of raw water. This could assist in review of requests for drinking water treatment process modifications.
- Flow data or stage levels should be collected with water quality samples, when possible. Observations of water conditions should be noted, such as “water muddy after recent rains” or “no rain lately, stream flow steady,” etc.
- Documentation on the level of volunteer training should be submitted with data.
- At no time shall volunteers be provided rides in or allowed to use a state vehicle.