

## Join us for the 2004 National Monitoring Conference, May 17–20, 2004, in Chattanooga, Tennessee!

During the 2002 National Monitoring Conference, the Council introduced its **Framework for Monitoring** that illustrates a process to produce and convey the information necessary to understand, protect, and restore our water resources. This year's conference will explore five themes related to each element of the Council's framework and critical to **Building & Sustaining Successful Monitoring Programs**:

- Promoting collaborative efforts
- Exploring new and emerging methods and technologies
- Addressing changing expectations of monitoring
- Ensuring data and information comparability
- Sharing results and successes

Register online now! [www.nwqmc.org](http://www.nwqmc.org)

Registration includes admission to all Tuesday, Wednesday and plenary sessions; breakfast, lunch and afternoon refreshments (Tuesday through Thursday morning); and a Monday evening Exhibit and Poster Reception.

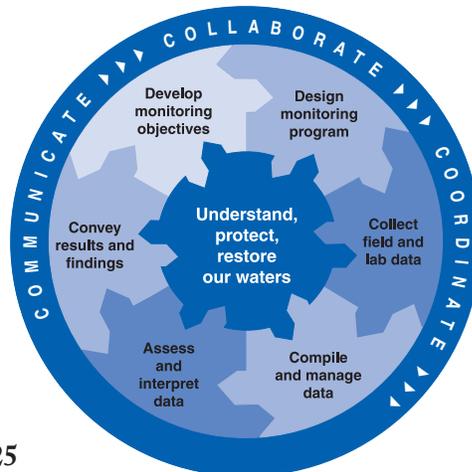
- Attendee: **\$275** (early registration); **\$325** (after April 1, 2004)
- Presenter (oral, short course, workshop, or poster): **\$200**
- Single day registration or additional exhibitor registration: **\$125**

### Gain Visibility—Become an Exhibitor

As an Exhibitor, you will be a very visible part of the only national conference solely devoted to water monitoring. Exhibitors have a choice of two booth sizes: 10ft. by 10ft. (\$1000) and 10ft. by 20ft. (\$1500). All meals and breaks during exhibiting hours will be held in the Exhibit Hall, maximizing traffic and allowing more time to mix with potential clients in the water monitoring community.

### Support the Conference as a Sponsor

We are inviting agencies and organizations to enjoy many of the same benefits as exhibiting by becoming a conference sponsor. Sponsorships are offered at different levels to help cover the costs of social events, giveaway items, and provide much-needed scholarships to presenters and participants who may otherwise be unable to attend. For more exhibitor and sponsor information, email Myra Fuller at [mgfuller@tva.gov](mailto:mgfuller@tva.gov), or call 423-751-2614.



*Come Enjoy Chattanooga!*



The conference will be held at the brand-new Chattanooga Convention Center, which features innovative meeting facilities and exhibit areas, as well as easy walking to revitalized downtown Chattanooga. The "Scenic City" offers a wide variety of arts, entertainment, cultural exhibits, recreational activities, one of the largest selections of food and dining in the area, and many opportunities to enjoy the beauty of the Tennessee River.

Blocks of rooms have been reserved at the Chattanooga Marriott at the Convention Center, Read House Hotel, Staybridge Suites, and the Days Inn Rivergate. All are within easy walking distance to the Convention Center and are also on the city's free downtown shuttle route. Attendees must make their own reservations by mid to late-April, depending on the hotel, to receive the negotiated rate of \$55/night. Please reference the *National Monitoring Conference*.

### Major Sponsors



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Additional sponsors at all contribution levels are welcome!

Visit [www.nwqmc.org](http://www.nwqmc.org) for more conference information

# Tentative Conference Agenda

(Please note: Scheduling of sessions on Tuesday and Wednesday is subject to change)

## Sunday – May 16, 2004

12:00–4:00pm	Registration
1:00–9:30pm	Field Trips: Ocoee River Rafting, a tour of the Tennessee Valley Authority Pumped-Storage Facility, and a Southern Belle Riverboat Dinner Cruise

## Monday – May 17, 2004

7:30–8:30am	Breakfast provided for short course & workshop participants and Registration (ongoing)					
8:30–11:30	Statistical Techniques for Trend and Load Estimation, Part 1	Groundwater/Surface Water Interactions: A Comprehensive Watershed Approach, Part 1	Building and Sustaining a Collaborative Monitoring Council, Part 1	Evaluating State Water Monitoring and Assessment Programs	Bioassessment Performance & Comparability	International Perspectives on Water Quality Monitoring
11:30–12:30pm	Lunch provided for short course & workshop participants					
12:30–3:30	Statistical Techniques for Trend and Load Estimation, Part 2	Groundwater/Surface Water Interactions: A Comprehensive Watershed Approach, Part 2	Building and Sustaining a Collaborative Monitoring Council, Part 2	Balancing Priorities: Developing a Monitoring Network to Meet Multiple Needs	Making the Most of Water Quality Monitoring Data: Applications of Water Quality Data Elements	Wetlands Biological Assessments: The 1–2–3 Approach
4:00–5:45	Opening Plenary					
6:00–8:00	Exhibit and Poster Reception with hors d'oeuvres and drinks					

## Tuesday – May 18, 2004

7:00–8:00am	Breakfast and Registration (ongoing)					
8:00–9:30	What's in it for us? Identifying the Values of Collaboration	Combining Targeted and Probabilistic Approaches	New and Emerging Technologies: Toxics and Organics	Data Synthesis - Challenges & Approaches to Using Data from Multiple Sources	State Managed Volunteer Monitoring Programs	
10:00–11:30	College - Community Monitoring Partnerships	Design to Meet Multiple Objectives	New and Emerging Technologies: Field Sampling and <i>In-Situ</i> Analyses	Data Sharing - Collaborative Access to Centralized or Distributed Datasets	Identifying Sources of Environmental Stress	
11:30–1:30pm	Lunch followed by an Exhibit and Poster Session					
1:30–3:00	Thinking Outside the Box: Creative Collaborations	Communicating with Public Audiences	Environmental Response to Development	Database Design and Development	Monitoring Objectives: Essential to Direct and Focus Monitoring Programs	
3:30–5:00	The <b>BIG</b> Picture: Large Scale, Long Term Monitoring Efforts	Communication Among Monitoring Entities	TMDL - Applying Science to Real World Problems	Database Presentation: In-house and on the Web	New and Emerging Technologies: Early Warning and Remote Diagnostics	

## Wednesday – May 19, 2004

7:00–8:00am	Breakfast and Registration (ongoing)					
8:00–9:30	Collaborative Monitoring Efforts In the International Arena	How Changing Expectations Affect Monitoring Design	Fresh Approaches to Data Analysis	What is <i>comparability</i> and how do we ensure it? #1	Lessons Learned for Sustaining Programs	
10:00–11:30	Collaborative Monitoring Efforts In the Interstate Arena	Balancing Educational and Data Quality Needs - Tiered Approaches to Volunteer Monitoring	Facing Uncertainty in Data Analysis	What is <i>comparability</i> and how do we ensure it? #2	Water Quality Standards - Facing Today's Problems and Planning for Tomorrow's	
11:30–1:30pm	Lunch followed by an Exhibit and Poster Session					
1:30–3:00	Monitoring as a Tool for Building Community Capacity	Integrating Multiple Components to Assist Decision-making	Innovative Indices	New and Emerging Technologies: Sediment	Evolving to Meet Changing Needs	
3:30–5:00	Promoting Collaborative Efforts Discussion	Exploring New & Emerging Technologies Discussion	Addressing Changing Expectations of Monitoring Discussion	Ensuring Data & Information Comparability Discussion		
6:30–8:30	Tennessee Aquarium Reception with local fare and after-hours Aquarium admission					

## Thursday – May 20, 2004

7:30–8:30am	Breakfast
8:30–11:30	Conclusions & Participant Open-Microphone
12:30–4:30pm	Field Trips: Greenway Network & Clean Marina Campaign and Fish Viewing on the Conasauga River in the Cherokee National Forest

# Monday Short Course & Workshop Descriptions

## Statistical Techniques for Trend and Load Estimation

The course will present general data requirements and specific examples of the use of statistical software developed by USGS to compute trends in concentrations of chemicals in the environment and loads of chemicals in river systems. The focus of the course will be on the computer programs, ESTREND, QWTREND, and LOADEST, which are or will be available to the public at no cost from the USGS. Attendees who have a basic understanding of statistical techniques will benefit most from the course. Advanced training in statistics or in software development and programming are not required. Attendees will come away from the course with an awareness of the potential use and application of the statistical techniques and an appreciation for the data required to apply them. Attendees will receive copies of all course materials. Due to time constraints, attendees are expected to have only minimal time for hands-on application of the statistical packages. Additional in-depth training is likely to be necessary prior to actual use of the software.

## Groundwater/ Surface Water Interactions: A Comprehensive Watershed Approach

Recognizing and understanding that groundwater (GW) and surface water (SW) is a single resource is critical for assessing water resources and contaminant transport issues within a watershed. Groundwater provides up to 50% of surface water flow in many parts of the U.S. Over-development of groundwater will significantly impact the quantity of surface water available to the environment. Groundwater contaminants can significantly impact surface water quality and should be considered in TMDL analysis. Understanding the remedial capacity of riparian zones and GW/SW transition zones is critical for minimizing contamination of surface water from groundwater. Quantifying GW/SW interactions is important to determine present baseline conditions, which can be used to evaluate future quality and quantity changes. Specific examples of interactions in varied geographic settings such as coastal areas and karst systems will be examined. Approaches for quantifying interactions including those based on surface water data, groundwater data, ecological data, geophysical approaches, and numerical modeling will be discussed.

## Building and Sustaining a Collaborative Monitoring Council

State, regional, and watershed-based monitoring councils have become valuable forums for communication, coordination, and collaboration. These councils can provide a formal arena—including an actual table around which people can gather to explore ways to improve water monitoring and water information among monitoring stakeholders. During this interactive workshop, we will diagram the monitoring networks, communities, and connections that currently exist in our own watersheds states and/or regions; explore the language and strategies needed to address the barriers to collaboration—including articulating the “what’s in it for me?” of collaboration and identifying common ground among various monitoring entities; identify the individual and organizational assets that can contribute to a council as well as the gaps that need to be filled to sustain and reinvigorate a council; and learn how to integrate short and long-term goals with actual activities and collaborative products. To prepare for the workshop, we are asking all participants to bring to the session a list of entities within your watershed, state, or region that are engaged in monitoring. At the end of the workshop you will have the initial tools and skills needed to build, sustain, and enhance the capacity of a collaborative monitoring council.

## Evaluating State Water Monitoring and Assessment Programs

In March 2003, EPA issued *Elements of a State Water Monitoring and Assessment Program*, which listed and discussed the basic elements of a State water monitoring program and was designed to help EPA and the States determine whether their monitoring programs meet the basic prerequisites of Section 106(e)(1) of the Clean Water Act. This workshop will cover approaches and tools that are being developed to evaluate State water monitoring strategies—the first of the ten elements—and State progress toward improved programs. The workshop will also include interactive discussion of experiences and recommendations for building effective State monitoring strategies, as well as expectations and suggestions for evaluating and implementing them. The target audience for this workshop is State water quality agency staff.

## Balancing Priorities: Developing a Monitoring Network to Meet Multiple Needs

State agencies are faced with increasing mandates to conduct water quality monitoring, while at the same time the available resources to support monitoring are declining. In developing their monitoring strategies, States must make efficient use of a variety of monitoring techniques, such as probabilistic and targeted approaches, and must assign priorities to their monitoring objectives. This workshop will draw on the experiences of several States to present approaches that have proven effective. It is anticipated that discussion of these experiences will lead to the development of guiding principals that can be used by others as they develop their strategies.

## Bioassessment Performance & Comparability

This workshop will summarize current studies evaluating performance of bioassessment methods, quality of data produced, and comparability of methods, data, and assessments. Participants will discuss what is needed in terms of data quality and performance information, data quality objectives for various programs and questions, and how and on what level(s) bioassessment comparability is feasible. Next steps in terms of bioassessment comparability guidance will be identified.

## Making the Most of Water Quality Monitoring Data: Applications of Water Quality Data Elements

The difference in water quality data terminology and definitions among monitoring programs has constrained the sharing and use of these data beyond the original monitoring projects. Collecting and storing data using common data elements and definitions increases the value and significance of water quality data. The Methods and Data Comparability Board and the NWQMC adopted a common set of data elements for chemical and microbiological analytes, providing the basis for elements addressing other kinds of data, which will be presented and discussed in this workshop. Workshop participants will experience the value of using these data elements in their own projects and, through interactive break-out sessions using actual monitoring data and field forms, will learn how to integrate and tailor data elements to a particular program or user need. Attention will be given to evaluating the biological data elements recently drafted by the Board and the Council, using data provided by participants and workshop facilitators. We are especially interested in obtaining feedback on whether the toxicological and bioassessment data elements will help data users and data collectors make better use of these types of data. This workshop will demonstrate that the common data elements, when used by the public and private sectors, will enhance any investment in water quality data gathering.

## International Perspectives on Water Quality Monitoring

Around the world, water quality monitoring is designed and conducted within a variety of legal and institutional arrangements. As the context for water quality monitoring in the U.S. shifts (for example, under TMDL lawsuits), it can be helpful to explore the experiences of monitoring professionals in other countries. This panel and facilitated discussion brings together the insights of water quality monitoring practitioners from a variety of countries with a goal of examining similarities and differences. After brief panel presentations, there will be an opportunity for all participants to further explore monitoring methods and strategies, information goals, collaborative frameworks, and other innovations that help build and sustain successful programs.

## Wetlands Biological Assessments: The 1–2–3 Approach

Wetlands play a vital role in water quality management programs. As is true with all waterbodies, the biological community of a wetland reflects the cumulative response to a host of chemical, physical, and biological stressors. The most meaningful way to measure biological condition is to directly examine one or more biological assemblages. This biological assessment data can then be used to evaluate ambient water quality conditions and to determine success of wetland mitigation and restoration efforts. EPA advocates wetland assessment at three different tiers. This course will introduce the 1–2–3 assessment approach, as well as focus on the selection of assessment metrics for integration into a final index. This course will introduce biological assessment and criteria methods for wetlands and their many applications to State and Tribal wetland programs. Course material will be taken from EPA’s *Methods for Evaluating Wetland Condition* as well as case studies and examples from States. Recommended for anyone interested in conducting biological assessments and deriving biocriteria for wetlands.