

NWQMC

# Sixth National Monitoring Conference

Monitoring: Key to Understanding our Waters

Conference: May 18 – 22, 2008

Exhibition: May 19 – 21, 2008

Atlantic City Convention Center

Sheraton Atlantic City Convention Center Hotel

Atlantic City, New Jersey



This Conference is organized by the National Water Quality Monitoring Council (NWQMC) in cooperation with the Water Environment Federation (WEF).



**The National Water Quality Monitoring Council (NWQMC)** presents its 6th conference, *Monitoring: Key to Understanding Our Waters*. We invite you to join us in Atlantic City, NJ, a world class city that boasts top tier convention facilities, hotels and family entertainment. Atlantic City is located near several river basin and coastal water initiatives, including the Delaware Bay, part of a network pilot study.

The conference will feature recent theme-related successes from a broad array of river basins and coastal waters, including overviews of the three **pilot studies** selected for the **National Water Quality Monitoring Network** for U.S. Coastal Water and their Tributaries, and plans for the Network's future.

### **Specifically Designed For:**

- Local, State, and Federal Employees
- Scientists and Researchers
- Watershed Organizations
- Volunteer Monitoring Coordinators
- Civil and Environmental Engineers
- Association Representatives
- Consultants
- Citizen Science Coordinators
- Municipal Wastewater and Water Treatment Professionals
- Industrial Wastewater and Water Treatment Professionals

### **Conference Themes:**

- Connecting and Integrating Data About Hydrologic Resources
- Collecting, Assessing and Interpreting Data: New Technologies and Analytical Methods
- Describing the Sustainability and Condition of Water Resources
- Understanding Water Quality Stressors
- Exploring Federal, State, and Local Monitoring Needs
- Enhancing State, Regional, and Local Monitoring Programs
- Addressing Multi-Jurisdictional and International Monitoring Issues
- Improving Communication through Innovative Outreach

#### **Opening Plenary**

Monday, May 19 | 10:30 am – 12:30 pm

##### **Invited Speakers:**

- Lisa Jackson, Commissioner, NJDEP
- Congressman Frank Pallone, Jr., New Jersey's 6th District
- Kameran Onley, Deputy and Acting Assistant Secretary for Water and Science, US Department of the Interior
- Scott Rayder, Chief of Staff, NOAA

#### **Closing Plenary Luncheon**

Thursday, May 22 | 11:30 am – 1:15 pm

##### **Invited Speakers:**

- Benjamin Grumbles, Assistant Administrator for Water, USEPA
- Charles Vörösmarty, Professor, Institute for the Study of Earth, Oceans, and Space, University of New Hampshire

# Conference at-a-Glance

Sunday, May 18	
7:00 am – 5:00 pm	Registration
9:00 am – 6:30 pm	Field Trip A: Canoeing through Wharton State Forest
11:30 am – 5:30 pm	Field Trip B: Sailing on NJ's Tall Ship, the Schooner <i>A.J. Meerwald</i>
7:00 pm – 1:00 am	Field Trip C: Horseshoe Crab Census on Reeds Beach
Monday, May 19	
8:30 am – 5:00 pm	Registration
9:30 am – 7:00 pm	Exhibition
9:30 am – 10:30 am	Breakfast in Exhibit Hall
10:30 am – 12:30 pm	Opening Plenary
12:30 pm – 1:30 pm	Lunch in Exhibit Hall
1:30 pm – 3:00pm	Concurrent Session A1: Overview of the National Monitoring Network Pilot Studies
	Concurrent Session A2: Adding to Our Water Quality & Watershed Monitoring Toolkits
	Concurrent Session A3: Monitoring and Assessment of Lakes to Address Management Needs
	Concurrent Session A4: Monitoring the Physical Processes of Ocean-Inland Interactions
	Concurrent Session A5: Statistics in Survey Design
	Workshop A: Communication Planning for Water Stewards
	Short Course A: Sharing Water Quality Data with EPA: An In-Depth Look at STORET and WQX, Part 1
3:00 pm – 3:30 pm	Break – Refreshments in Exhibit Hall
3:30 pm – 5:00 pm	Concurrent Session B1: Facilitated Discussion of the National Monitoring Network
	Concurrent Session B2: Monitoring Urban Environments
	Concurrent Session B3: Microbial Source Tracking
	Concurrent Session B4: Monitoring Strategies to Support Federal & State Objectives
	Concurrent Session B5: Communication Works Both Ways
	Concurrent Session B6: Hackensack River Oyster Project: Integrating Volunteer Monitoring to Develop a Benthic Restoration Plan
	Short Course A: Sharing Water Quality Data with EPA: An In-Depth Look at STORET and WQX, Part 2
5:00 pm – 7:00 pm	Exhibit and Poster Reception in Exhibit Hall
Tuesday, May 20	
6:30 am – 5:00 pm	Registration
7:00 am – 4:00 pm	Exhibition
7:00 am – 8:00 am	Breakfast in Exhibit Hall
8:00 am – 9:30 am	Concurrent Session C1: Emerging Environmental Protection Issues and Modeling Challenges I
	Concurrent Session C2: Wastewater Monitoring & Design Technology
	Concurrent Session C3: Development and Evaluation of Bioassessment Tools
	Concurrent Session C4: Documenting Monitoring Methods
	Concurrent Session C5: Integrating and Sharing Data from Many Sources
	Concurrent Session C6: Mid-Atlantic Coastal Ocean Observation Regional Association (MACOORA): Where we Need to Go in Coastal Water Quality Management
	Workshop B: Start With the End in Mind: Key Ingredients for Effectively Putting Your Data to Use, Part 1
	Short Course B: Development of Probability Survey Designs for State Monitoring Programs
9:30 am – 10:00 am	Break – Refreshments in Exhibit Hall
10:00 am – 11:30 am	Concurrent Session D1: Emerging Environmental Protection Issues and Modeling Challenges II
	Concurrent Session D2: Source Water Monitoring and Protection
	Concurrent Session D3: Large Scale Monitoring and Assessments
	Concurrent Session D4: Monitoring and Managing Nutrients
	Concurrent Session D5: Implementing the 3C's in California - Communication, Coordination, & Collaboration
	Concurrent Session D6: The Rutgers University Coastal Ocean Observing System
	Workshop B: Start With the End in Mind: Key Ingredients for Effectively Putting Your Data to Use, Part 2
11:30 am – 1:00 pm	Lunch in Exhibit Hall
1:00 pm – 2:30 pm	Concurrent Session E1: Assessment of Nutrients and Chemistry in Coastal Systems
	Concurrent Session E2: Creating a Framework for Monitoring the Nation's Groundwater
	Concurrent Session E3: Development and Implementation of Biological Indicators in Coastal Environments
	Concurrent Session E4: Innovative Approaches to Clean Water Act Assessments
	Concurrent Session E5: Partnering for Progress
	Concurrent Session E6: Analysis and Interpretation of Water Quality Data
	Concurrent Session E7: National Rivers and Streams Assessment: Field Sampling Methods, Part 1
	Workshop C: Evaluation of Your Monitoring Program – Are You Producing Measurable Results and How Do You Know?, Part 1
2:30 pm – 3:30 pm	Break - Refreshments in Exhibit Hall
3:30 pm – 5:00 pm	Concurrent Session F1: Bacteria Monitoring
	Concurrent Session F2: Groundwater Monitoring Programs from Across the Nation
	Concurrent Session F3: Monitoring Indicators of Ecological Health OR Measuring Complex Ecological Processes
	Concurrent Session F4: Integrated Monitoring Approaches to Assess Watershed Interactions
	Concurrent Session F5: Data Management and Exchange I
	Concurrent Session F6: Sensor and Sampler Technology
	Concurrent Session F7: National Rivers and Streams Assessment: Field Sampling Methods, Part 2
	Workshop C: Evaluation of Your Monitoring Program – Are You Producing Measurable Results and How Do You Know? Part 2

# Conference at-a-Glance

Wednesday, May 21	
6:30 am – 5:00 pm	Registration
7:00 am – 4:00 pm	Exhibition
7:00 am – 8:00 am	Breakfast in Exhibit Hall
8:00 am – 9:30 am	Concurrent Session G1: Monitoring for Emerging Contaminants Concurrent Session G2: Groundwater Monitoring: Methods, Needs, & Answers Concurrent Session G3: State Monitoring Strategies Concurrent Session G4: Monitoring Designs to Detect Climate Change Concurrent Session G5: Incorporating Innovative Analytical Techniques to Improve Assessment Decisions Concurrent Session G6: QA/QC Considerations Workshop D: Water Words that Work, Part 1 Short Course C: Population Estimation Using Probability Survey Designs, Part 1
9:30 am – 10:00 am	Break – Refreshments in Exhibit Hall
10:00 am – 11:30 am	Concurrent Session H1: Data Management and Exchange II Concurrent Session H2: Groundwater Sustainability Concurrent Session H3: Large Scale Coastal Monitoring Programs Concurrent Session H4: Data Analysis for Climate Change Effects Concurrent Session H5: Using Hydrography and Cartography for Monitoring Concurrent Session H6: Demonstrating Project Effectiveness Through Monitoring Workshop D: Water Words that Work, Part 2 Short Course C: Population Estimation Using Probability Survey Designs, Part 2
11:30 am – 1:00 pm	Lunch in Exhibit Hall
1:00 pm – 2:30 pm	Concurrent Session I1: Advances in Mercury Monitoring Concurrent Session I2: Working Toward Better Communication Between the Water Quality Monitoring Community and Modelers Concurrent Session I3: Integration of Water Monitoring in NJ Concurrent Session I4: Development of Integrated Observation and Information Delivery Systems Concurrent Session I5: Effectively Communicating Results Workshop E: Macroinvertebrate Monitoring: Training and Education for Volunteers Short Course D: Enabling Watershed Protection with NHDPlus and Geospatial Analysis, Part 1
2:30 pm – 3:30 pm	Break - Refreshments in Exhibit Hall
3:30 pm – 5:00 pm	Concurrent Session J1: Monitoring and Assessment of Lake Populations at Multiple Scales Concurrent Session J2: Biological Responses to Human Land Use Gradients Concurrent Session J3: Wetlands Assessments Concurrent Session J4: Real Time Monitoring Concurrent Session J5: Making the Transition to Healing: Effectiveness Monitoring for Better Management Decisions Workshop F: Quality Assurance - It CAN Be a Success Story! Short Course D: Enabling Watershed Protection with NHDPlus and Geospatial Analysis, Part 2

Thursday, May 22, 2008	
7:00 am – 12:00 pm	Registration
7:00 am – 8:00 am	Breakfast
8:00 am – 9:30 am	Concurrent Session K1: Beach Monitoring I Concurrent Session K2: Geochemical Characteristic and Trend Monitoring of Contaminants in Groundwater Concurrent Session K3: Adding to Our Water Quality and Watershed Monitoring Toolkits II Concurrent Session K4: Measuring the Effects of Urbanization Concurrent Session K5: Innovative Approaches to Education and Training Concurrent Session K6: National Wetland Condition Assessment: Indicators and Reference Condition, Part 1 Concurrent Session K7: Methods and Data Comparability for Water Quality Sensors Short Course E: Methods and Tools for Calculating Relative Bed Stability, Part 1
9:30 am – 10:00 am	Break
10:00 am – 11:30 am	Concurrent Session L1: Beach Monitoring II Concurrent Session L2: Groundwater Contaminant Monitoring Concurrent Session L3: Moving Beyond Grab Samples Concurrent Session L4: Data Management and Exchange III Concurrent Session L5: Strength in Numbers: Partnering with Volunteers Concurrent Session L6: National Wetland Condition Assessment: Indicators and Reference Condition, Part 2 Short Course E: Methods and Tools for Calculating Relative Bed Stability, Part 2
11:30 am – 1:15 pm	Closing Plenary Luncheon
1:00 pm – 6:30 pm	Field Trip E: Canoeing through the Pinelands National Reserve
1:30 pm – 6:00 pm	Field Trip D: Water Monitoring in the Pinelands National Reserve

## What's Included With Your Registration

	Full Conference	One-Day
Technical Sessions	Yes	Registered Day Only
Exhibition	Yes	Registered Day Only
Receptions	Yes	Registered Day Only
Luncheons	Yes	Registered Day Only

	Full Conference	One-Day
Online Proceedings	Yes	Yes
Workshops	No	No
Short Courses	No	No
Field Trips	No	No

# Workshops

## Workshop A

### Communication Planning for Water Stewards

Monday, May 19 | 1:30 pm – 3:00 pm

Price: \$15

Water managers are confronted by a myriad of communication issues when collecting and interpreting data for the public. Among these are who our key audience is? What is our goal in communicating with them? How do we determine what is the critical message for each of the stakeholders we work with? And how do we evaluate the success of our communication effort? This talk will explore some of the communication challenges water managers face when preparing to communicate with the public as well as discuss some of the reasons why communication can fail. A model to plan a more effective communication and outreach program will be presented along with tools to help managers craft SMART goals and clear action oriented messages.

## Workshop B

### Start with the End in Mind: Key Ingredients for Effectively Putting Your Data to Use

Tuesday, May 20 | 8:00 am – 11:30 am

Price: \$15

Defining your data use, data users and developing a data communication plan is too often an afterthought for many monitoring programs. It is important to define your users and your uses as you start to plan your monitoring program. Too often volunteers try to fit their data/information into classic data use scenarios. When asked about data use goals for their program, volunteer program coordinators will often respond “we want our data to be used by the state.” The first part of this workshop will focus on the key ingredients to consider when you design a program. (This is an integral part of cog 2 “Design Monitoring Program” in the NWQMC Framework for Monitoring.) The second part of the workshop will focus on discussing examples and sharing stories of successful data use beyond the realm of 303 d/305b reports - data use for local change. These are not tales of protracted legal and regulatory battles, but instead of local residents learning to use their data for effective care of their own watershed.

Note: Space in all workshops, short courses, and field trips is limited and is available on a first-come, first-serve basis. Workshops, short courses, and field trips require an additional fee.

## Workshop C

### Evaluation of Your Monitoring Program – Are You Producing Measurable Results and How Do You Know?

Tuesday, May 20 | 1:00 pm – 5:00 pm

Price: \$15

The first part of the workshop will be an overview and evaluation of where participants are in regards to their monitoring program. This effort will identify such items as monitoring program longevity, scope, purpose(s) and workshop expectations. This in part is for the instructor to be able to adjust the agenda according to need, pair like interests, and use group examples during the workshop. Groups will be re-organized at tables with similar monitoring programs, needs and expectations.

Each participant will receive an electronic version of the Rocky Mountain Watershed Network, Watershed Monitoring and Assessment Design Workbook, which has all the evaluations and worksheets in electronic format. This workbook was funded by EPA Region VIII.

The second part of the workshop will be individual monitoring program evaluation. We will evaluate in specific detail one combination of a data purpose and targeted data user for each entity. This is so the participant can experience and understand the evaluation process and not be overwhelmed by too many objectives at one time. Once the evaluation process is experienced and understood it can be repeated. Each combination of data use and targeted user should be evaluated.

The approach will be to use the evaluation tools and worksheets in the Watershed Monitoring and Assessment Design Workbook to evaluate four areas of a monitoring and assessment program,

- 1) **People Design** – targeted data uses and users, decision makers information needs, monitoring questions and information blueprints
- 2) **Technical Design** – what, when, where, how, data quality objectives, raw data management plans
- 3) **Information Design** – turning data into information, observations, analyses, interpretation, conclusions, recommendations, information delivery, data management for these purposes
- 4) **Evaluation Design** – how, when, where and what to evaluate in your monitoring plan, how to evaluate multiple monitoring programs, stations, etc.

The workbook has the above four areas divided into 18 steps, each step has a worksheet and micro “action” plan component. It also provides a Monitoring and Assessment Plan outline that if an entity was to complete after every step, in the end would have a documented Monitoring and Assessment Plan.

After each area and steps of the evaluation the participant will have an assessment of components they are doing well and those they need to work on. The evaluation will be interactive using the Rivers of Colorado Water Watch Network as an example where needed and wherever can use participant’s programs as examples. A component will be presented and then entities will conduct their evaluation, using the resources at their table or in the room. Participants can complete worksheets and evaluations on their laptops if possible.

The last part of the workshop will be to develop an action plan to address their identified gaps, questions or issues. We will also take some time to discuss the process of evaluation they just experienced and might continue at home or with others.

## Workshop D Water Words That Work

Wednesday, May 21 | 8:00 am – 11:30 am

Price: \$15

Conservation communications expert Eric Eckl has dived deep into social research exploring the discrepancy between what citizens tell pollsters and what they actually do. In this eye-opening workshop, he'll share the answers he's uncovered to three simple but profound questions:

- How much of what we say and write do everyday citizens understand?
- How often do they actually hear from us anyway?
- What does the future hold for public opinion about nature protection and pollution control?

Through hands-on exercises, attendees will develop skills for:

- Working with reporters and bloggers
- Preparing websites and print publications
- Speaking at public meetings and hearings
- Sticking to your message in the face of hostility and ignorance

## Workshop E Macroinvertebrate Monitoring: Training and Education for Volunteers

Wednesday, May 21 | 1:00 pm – 2:30 pm

Price: \$15

This hands-on workshop will provide participants an introduction to macroinvertebrate monitoring and related stream ecology. The activities and content presented are based on lessons learned from training and communicating water quality information to thousands of community volunteers, educators, conservation professionals and the public throughout the mid-Atlantic region.

Workshop participants will be provided with an introduction to macroinvertebrate monitoring techniques (qualitative and quantitative methods) and discuss the importance of a study design to a monitoring program.

Participants will learn methods to introduce macro identification ranging from PowerPoint presentations to games. A variety of tools and materials appropriate to the budget of volunteer programs will be used and presented. Participants will then use these materials to identify macroinvertebrate specimens to the order and/or family level dependant on their skill. Connections to stream ecology (feeding preferences, habitat, etc.) will be made during the identification session.

The final workshop component is an introduction and review of 3 different data analysis methods used by volunteer monitoring groups. Actual data from a New Jersey stream will be assessed using three different tools to discuss the relative merits of different approaches.

During the workshop participants will be encouraged to share tips or successes related to macroinvertebrate monitoring and training. Our vision is that the workshop provides new content, techniques, or ideas for attendees but also fosters sharing and networking among the participants.

## Workshop F Quality Assurance – It CAN Be a Success Story!

Wednesday, May 21 | 3:30 pm – 5:00pm

Price: \$15

The purpose of this workshop is twofold: a) to briefly introduce/review the concepts of Quality Assurance (QA) and their importance in planning, running and concluding successful volunteer monitoring projects; and b) to offer participants the opportunity to try their hand at reviewing and critiquing real life examples of volunteer water monitoring QAPPs.

a) The brief first part of the workshop will be devoted to presenting/reviewing the fundamental concepts of QA using both EPA Region 2 and EPA Headquarters guidance. The presentation will include the questions a monitor or organization must ask as they move from a basic concept to the development of a real monitoring plan. The presentation will take the participants through the details of turning a project's premise into a useful QAPP.

b) The second — and major — part of the workshop will consist of exercises designed to sharpen the participants' understanding using examples taken from volunteer QAPPs EPA Region 2 has reviewed, commented on and, in most cases, approved. Small groups of participants will receive handouts including excerpts from the actual QAPP submittals, with a short background on each project and specific QA concepts to look for. They will be asked to review the pertinent parts of the QAPPs, supply comments and suggest their solutions to the problems encountered. The presenters will guide the discussion, pointing out slippery rocks and rays of light and will offer solutions and approaches for following the light to avoid slipping on the rocks.

Discussion will be open throughout. The workshop will conclude with a short period for addressing any remaining questions.

### Exhibition Hours

Monday, May 19 | 9:30 am – 7:00 pm  
Tuesday, May 20 | 7:00 am – 4:00 pm  
Wednesday, May 21 | 7:00 am – 4:00 pm

Visit the exhibiting companies and organizations providing services and products to the water quality monitoring, assessment, and restoration community to learn about the innovations and new technologies available to more successfully assess, protect, and restore our waters.

Contact the WEF exhibitions group to find out more about exhibit and sponsorship opportunities:  
Phone | 703.684.2443  
Email | [expoinfo@wef.org](mailto:expoinfo@wef.org)

Note: Space in all workshops, short courses, and field trips is limited and is available on a first-come, first-serve basis. Workshops, short courses, and field trips require an additional fee.

# Short Courses

## Short Course A

### **Sharing Water Quality Data with EPA: An In Depth Look at STORET and WQX**

Monday, May 19 | 1:30 pm – 5:00 pm

Price: \$15

This short course will provide an overview of the STORET Program and the WQX data flow. Basics of the WQX framework for sharing Water Quality Monitoring data with EPA will be covered, including discussion of the WQX schema, XML, the Exchange Network and Web Services. Presenters will also discuss how to share biological, habitat and toxicity monitoring data within the WQX framework.

## Short Course B

### **Development of Probability Survey Designs for State Monitoring Programs**

Tuesday, May 20 | 8:00 am – 9:30 am

Price: \$15

The focus of the short course will be on the steps necessary to implement probability survey designs for state monitoring programs. Topics to be covered include (1) development of sample frames using available GIS coverages such as NHD or NHD-Plus, (2) developing monitoring objectives so that survey design requirements can be identified (e.g., stratification, sample size), (3) process for integrating state survey designs with national survey designs, (4) importance of site evaluation process, (5) operational use of software to select sites. For each topic area, an interactive discussion will be facilitated to exchange information on experiences.

## Short Course C

### **Population Estimation using Probability Survey Designs**

Wednesday, May 21 | 8:00 am – 11:30 am

Price: \$15

The focus of the short course will be on the steps necessary to analyze probability survey designs for state, tribal nation, regional and national monitoring programs, focusing on population estimation. Topics to be covered include (1) importance of site evaluation process, (2) adjusting design weights, (3) estimating the size of the target population, sampled population, and non-sampled population, (3) estimation for categorical variables, and (4) estimation for continuous variables.

## Short Course D

### **Enabling Watershed Protection with NHDPlus and Geospatial Analysis**

Wednesday, May 21 | 1:00 pm – 5:00 pm

Price: \$15

The National Hydrography Dataset (NHD) analyses performed to date have been predominantly based on spatial coincidence — identifying whether certain features exist or don't exist at the same location on the stream drainage network. With the recent completion of NHDPlus, up/downstream analysis, dilution modeling and watershed analyses are now possible. This short course will provide an overview of the inherent functionality provided by NHDPlus and a selection of applications that utilize it. For more details, see the NHDPlus Web site at [www.epa.gov/waters](http://www.epa.gov/waters) (NHDPlus quick link on the right).

## Short Course E

### **Methods and Tools for Calculating Relative Bed Stability**

Thursday, May 22 | 8:00 am – 11:30 am

Price: \$15

This short course focuses on software tools for calculating relative bed stability (RBS). RBS is a quantitative way of measuring sedimentation in streams. The theoretical basis of the method will be discussed and a case history of how one state has used it to assess streams will be presented. Several options for calculating the index and related parameters will be reviewed and provided to the attendees. Participants are encouraged to bring laptop computers with Excel for hands on demonstrations.

# Field Trips

## Field Trip A

### Canoeing through Wharton State Forest

Sunday, May 18 | 9:00 am – 6:30 pm

Price: \$125

This field trip will take participants on a 4-4.5 hour canoe adventure through the Pinelands of NJ. This trip will be down the Batsto River in the heart of the Pinelands National Reserve (PNR). The Pineland National Reserve was created by Congress under the National Parks and Recreation Act of 1978 and is the first National Reserve in the nation. The Pinelands encompasses over one million acres and covers portions of seven counties and all or parts of 56 municipalities. The New Jersey Pinelands is truly a special place. Its vast unbroken forests of pine, oak and cedar make the Pinelands the largest tract of open space on the mid-Atlantic coast, yet it is found in the most urbanized state in the nation. Here a visitor can search shady cedar swamps for the rare curly grass fern or hike through a forest of “pygmy” pines no taller than a man. The slow moving, tea-colored streams are fed primarily by the Kirkwood-Cohansey Aquifer system. This vast aquifer system contains approximately 17 trillion gallons of water and supplies much of the area with its drinking and agricultural water needs.

## Field Trip B

### Sailing on NJ's Tall Ship, the Schooner

#### *A.J. Meerwald*

Sunday, May 18 | 11:30 am – 5:30 pm

Price: \$125

The *A.J. Meerwald* is an authentically restored 1928 Delaware Bay oyster schooner. This Delaware Bay oyster dredgeboat was built in Dorchester, New Jersey in 1928 and is a sailing classroom promoting ecological and historical awareness of the Delaware Bay region. The *Meerwald* is part of the Bayshore Discovery Project which is a nonprofit organization dedicated to motivating people to take care of the environment, history, and culture of New Jersey's Bayshore region through education, preservation, and example.

Join the *Meerwald* crew in hoisting the sails or simply relax and enjoy an unforgettable two and a half hour sailing experience. Boxed lunch service will be provided prior to the sail. For additional information on the *Meerwald*, go to [www.ajmeerwald.org/](http://www.ajmeerwald.org/).

## Field Trip C

### Horseshoe Crab Census on Reeds Beach

Sunday, May 18 | 7:00 pm – 1:00 am

Price: \$42

Horseshoe crabs (*Limulus polyphemus*) are among the world's oldest and most fascinating creatures and the Delaware Bay is home to the largest population of horseshoe crabs in the world. During May and June, horseshoe crabs converge along beaches in the dark of night at high tide to spawn. As a result, the Delaware Bay hosts the second largest population of migrating shorebirds in North

America who stop along bay beaches to refuel on what was once an overabundance of horseshoe crab eggs. Participants will learn about the natural history of the horseshoe crabs and the shorebirds that are dependent on the horseshoe crab eggs for survival. There will be a 1 hour discussion on the beach followed by a field demo of collecting census information on the horseshoe crabs. Participants will be able to see and touch the horseshoe crabs and will provide valuable data to the multi-state census.

## Field Trip D

### Water Monitoring in the Pinelands National Reserve

Thursday, May 22 | 1:30 pm – 6:00 pm

Price: FREE

This field trip will take participants on a 1/2 day exploration of the application of biological measures of water quality in the Pinelands of NJ. The trip will be in the Oswego River watershed within the Pinelands National Reserve (PNR), a unique ecological region consisting of large unbroken forests of oak, pine and cedar. Highlighted during this trip will be the collection and identification of fish species and benthic macroinvertebrates, especially those individuals and communities unique to the pineland waters, and a hands on demonstration of the collection and identification of fish species and commonly found species. Participants will learn about the NJDEP's efforts to create and adopt better biological indices tailored to the Pinelands unique water attributes.

## Field Trip E

### Canoeing through the Pinelands National Reserve

Thursday, May 22 | 1:00 pm – 6:30 pm

Price: \$105

This field trip will take participants on a 2-2.5 hour canoe adventure through the Pinelands of NJ. This trip will be down the Batsto River in the heart of the Pinelands National Reserve (PNR). The Pineland National Reserve was created by Congress under the National Parks and Recreation Act of 1978 and is the first National Reserve in the nation. The Pinelands encompasses over one million acres and covers portions of seven counties and all or parts of 56 municipalities. The New Jersey Pinelands is truly a special place. Its vast unbroken forests of pine, oak and cedar make the Pinelands the largest tract of open space on the mid-Atlantic coast, yet it is found in the most urbanized state in the nation.

Here a visitor can search shady cedar swamps for the rare curly grass fern or hike through a forest of “pygmy” pines no taller than a man. The slow moving, tea-colored streams are fed primarily by the Kirkwood-Cohansey Aquifer system. This vast aquifer system contains approximately 17 trillion gallons of water and supplies much of the area with its drinking and agricultural water needs.

*\*All trips are weather permitting. Please wear appropriate clothing and bring bug repellent and sunscreen as necessary. The Council reserves the right to cancel a field trip if there is insufficient registration.*

# Registration, Hotel, and Transportation Information

**Advance Rate Deadline: April 11, 2008**

**Last Day to Pre-Register: May 1, 2008**

## Registration Information

Register EARLY and SAVE \$\$ - All registration forms received by April 11, 2008, will qualify for the advance registration rate. All registrations received after April 11, 2008, will be charged the onsite rate. All registrations received by May 1, 2008, will receive confirmation notice by e-mail, fax, or mail within seven business days. Registrations received after May 1, 2008, will not be processed – please register onsite at the WEF conference registration desk in the Atlantic City Convention Center. Badges and conference materials may be picked up at the WEF conference registration desk in the Atlantic City Convention Center.

 Online  
[www.wef.org/Monitoring](http://www.wef.org/Monitoring)

 Fax  
1-708-344-4444 (No cover page)  
Faxed registration requires credit card payment. Due to registration volume, we cannot confirm fax receipts by phone.

 Mail (Please do not FAX and Mail)  
WEF: 2008 National Monitoring Conference  
c/o CSI  
PO Box 591  
Brookfield, IL 60513-0591  
USA

All registrations received by April 11, 2008 will receive confirmation notice by e-mail, fax or mail within seven business days of receipt.

## Registration Instructions

- Use one form per person. Please photocopy if more than one form is needed.
- Registration cannot be accepted without full payment (check or credit card) or government purchase order.
- Online and faxed registrations will be accepted with credit card payment only. To avoid duplicate charges, do not mail the original.
- Make checks payable to the Water Environment Federation in US funds.
- Purchase orders are accepted from US Government agencies only and must be approved with all authorized signatures and the purchase order number referenced in the payment section of the registration form. You must include a copy of the purchase order with the registration form. Government purchase orders will not be accepted onsite.
- Wire transfers are accepted. For more information, contact WEF Registration at 1-800-666-0206 and select menu option #2.
- WEF charges a \$25 non-refundable processing fee per registrant for Purchase Orders and Wire Transfers.

## Cancellation Policy

All cancellations for refunds must be submitted in writing on company letterhead with a detailed explanation by May 1, 2008. A 25% administrative fee will be deducted from all refunds. Registrants who fail to notify WEF of cancellation by May 1, are liable for the full registration fee.

FAX or MAIL cancellations or substitution requests on company letterhead to:  
WEF: Sixth National Monitoring Conference  
Attn: Registration Department  
601 Wythe Street  
Alexandria, VA 22314

## Transportation Information

For detailed information on discounted airfare, car rental, and other transportation options, please go to [www.wef.org/ConferencesTraining/ConferencesEvents/NatlWaterQualityMonitoringConference](http://www.wef.org/ConferencesTraining/ConferencesEvents/NatlWaterQualityMonitoringConference).

### From Atlantic City International Airport

**Cost:** \$13 per person each way (cash only)  
After picking up your luggage, go to the Ground Transportation Desk in the Baggage Claim Area and dial #19. This will connect you to a Tropiano dispatcher and he/she will provide instructions on what to do next.

### From Philadelphia International Airport

**Cost:** \$45 per person each way (cash only)  
Once you have retrieved your luggage, go to main concourse and call Tropiano Inc. at (800-559-2040). Dispatcher will instruct from here.

## Hotel Information

Sheraton Atlantic City Convention Center Hotel  
Two Miss America Way  
Atlantic City, New Jersey 08401

**For hotel reservations, please call 1-888-627-7212**

**Hotel Phone:** 609-344-3535

**Reservations:** 888-627-7212

**Hotel Fax:** 609-441-2999

Hotel reservations can also be made online at [www.wef.org/ConferencesTraining/Conferences/Co-sponsoredEvents/NatlMonitoringConf.htm](http://www.wef.org/ConferencesTraining/Conferences/Co-sponsoredEvents/NatlMonitoringConf.htm)

**Conference Room Rate:** \$114 single or double, (plus 14% tax)

Please make your hotel reservations as early as possible. The cut-off date for these discounted rates is April 26, 2008. WEF cannot guarantee the conference rate after this date.

**Hotel Parking:** Valet and self parking is available at the Sheraton. Valet is \$17 per day and \$12 per day for self parking. Both offer in and out privileges.

## Convention Center Information

Atlantic City Convention Center  
One Miss America Way  
Atlantic City, NJ 08401

**Convention Center Phone:** (609) 449-2000

**Convention Center Fax:** (609) 449-2090

**Convention Center Parking:** Parking is available at the convention center. The cost is \$10 for the first four hours and \$1 for every additional hour.

# Registration Form

## NWQMC Sixth National Monitoring Conference Monitoring: Key to Understanding our Waters

Conference: May 18 - 22, 2008 | Exhibition: May 19 - 21, 2008  
Atlantic City Convention Center, Sheraton Atlantic City Convention Center Hotel | Atlantic City, New Jersey

M08

First Name (as it should appear on badge)		M.I.	Last Name	
Company or Organization				
Mailing Address				
City	State/Province	Zip/Postal Code	Country	
Telephone Number		FAX Number		
E-mail address (in order to receive confirmation by e-mail)				

Conference Registration Fees		Advance Rate (by 04/11/08)	On-site Rate (after 04/11/08)	Total
<input type="checkbox"/> A	Full Conference & Exhibition	\$375	\$475	
<input type="checkbox"/> B	Presenters (Podium, Poster, Workshop, and Short Course)	\$325	\$325	
<input type="checkbox"/> C	One-Day Conference & Exhibition	\$175	\$225	
	<input type="checkbox"/> Mon. <input type="checkbox"/> Tues. <input type="checkbox"/> Wed. <input type="checkbox"/> Thur.			
<b>Optional Events</b>				
<input type="checkbox"/> WA	Workshop A: Communication Planning for Water Stewards	\$15	\$15	
<input type="checkbox"/> WB	Workshop B: Start with the End in Mind: Key Ingredients for Effectively Putting Your Data to Use	\$15	\$15	
<input type="checkbox"/> WC	Workshop C: Evaluation of Your Monitoring Program – Are You Producing Measurable Results and How Do You Know?	\$15	\$15	
<input type="checkbox"/> WD	Workshop D: Water Words That Work	\$15	\$15	
<input type="checkbox"/> WE	Workshop E: Macroinvertebrate Monitoring: Training and Education for Volunteers	\$15	\$15	
<input type="checkbox"/> WF	Workshop F: Quality Assurance – It CAN Be a Success Story	\$15	\$15	

<input type="checkbox"/> SCA	Short Course A: Sharing Water Quality Data with EPA: An In-Depth Look at STORET and WQX	\$15	\$15	
<input type="checkbox"/> SCB	Short Course B: Development of Probability Survey Designs for State Monitoring Programs	\$15	\$15	
<input type="checkbox"/> SCC	Short Course C: Population Estimation Using Probability Survey Designs	\$15	\$15	
<input type="checkbox"/> SCD	Short Course D: Enabling Watershed Protection with NHD Plus and Geospatial Analysis	\$15	\$15	
<input type="checkbox"/> SCE	Short Course E: Methods and Tools for Calculating Relative Bed Stability	\$15	\$15	
<input type="checkbox"/> FA	Field Trip A: Canoeing Through Wharton State Forest	\$125	\$125	
<input type="checkbox"/> FB	Field Trip B: Sailing on NJ's Tall Ship, the Schooner A.J. Meerwald	\$125	\$125	
<input type="checkbox"/> FC	Field Trip C: Horseshoe Crab Census on Reeds Beach	\$42	\$42	
<input type="checkbox"/> FD	Field Trip D: Water Monitoring in the Pinelands National Reserve	\$0	\$0	
<input type="checkbox"/> FE	Field Trip E: Canoeing Through the Pinelands National Reserve	\$105	\$105	
			<b>Subtotal</b>	
If you are paying by Wire Transfer, please add a \$25 non-refundable processing fee to your total.				
			<b>Total Due</b>	

### Payment Instructions

Tax ID# 53-0225129

Registration cannot be accepted without payment. Government purchase orders are not accepted onsite.

- Government Purchase Order (O) (P.O. must accompany registration form) P.O. No. \_\_\_\_\_
- Wire Transfer (WT) Transfer No. \_\_\_\_\_
- Personal Check (P) |  Company Check (C) (Payable in U.S. funds to WEF) Check No. \_\_\_\_\_
- MasterCard (M) |  VISA (V) |  American Express (A)

Card Number \_\_\_\_\_ Exp. Date \_\_\_\_\_

Signature \_\_\_\_\_

I authorize WEF to charge my credit card for the amount indicated above.

- Are you part of a volunteer monitoring organization?

**Fax form to 1-708-344-4444** (no cover page)

#### Important Notes:

- \* Cancellations received after May 1, 2008 and registrants who fail to attend are liable for the full registration fee.
- \* Your registration information form must be received via fax or mail no later than May 1, 2008, or you will have to register onsite at the Atlantic City Convention Center, Atlantic City, New Jersey.

NWQMC

# Sixth National Monitoring Conference

## Monitoring: Key to Understanding our Waters

Conference: May 18 – 22, 2008

Exhibition: May 19 - 21, 2008

Atlantic City Convention Center

Sheraton Atlantic City Convention Center Hotel

Atlantic City, New Jersey

Co-Sponsors:



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