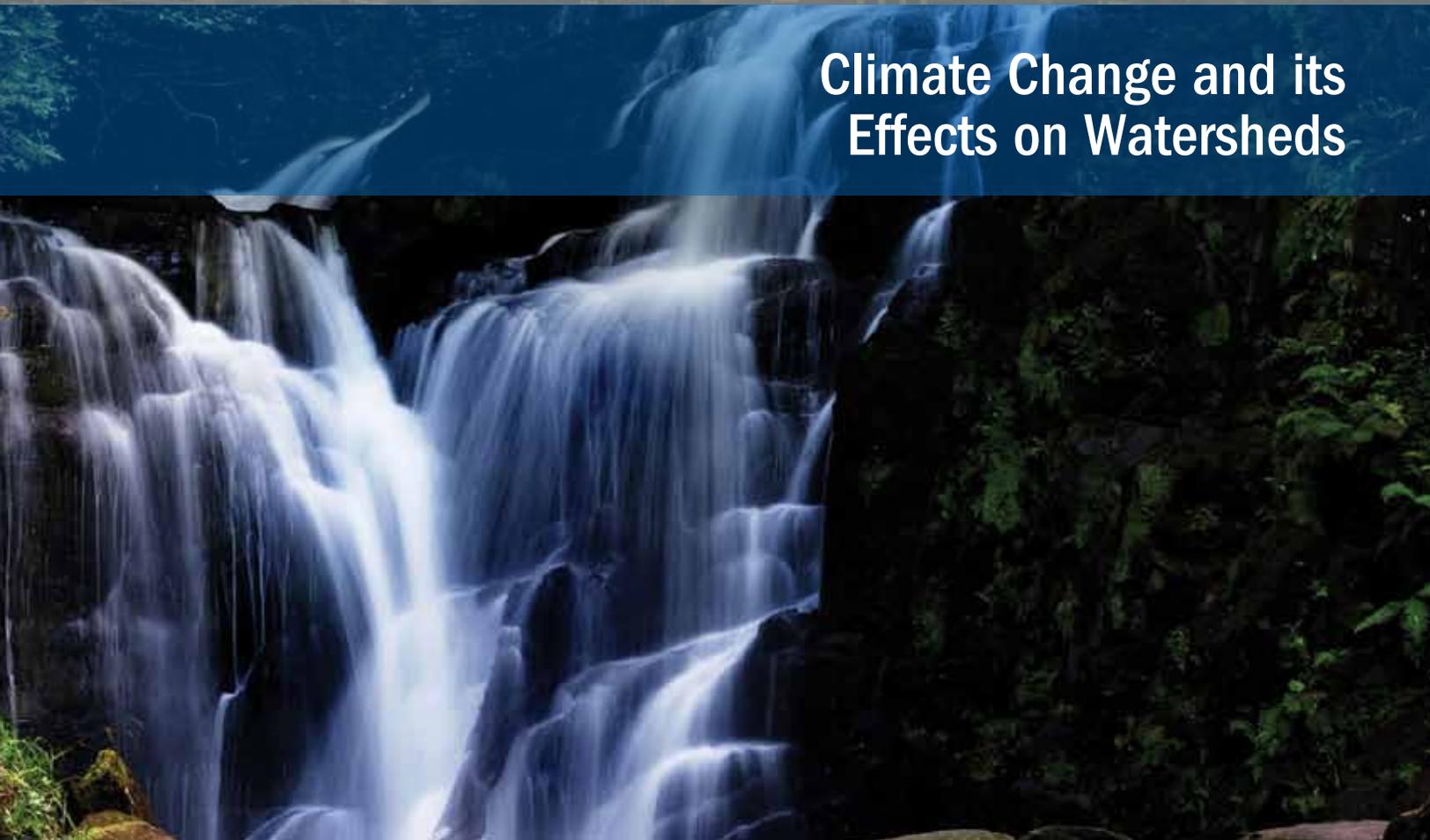




2009

*September 14-15, 2009
Hotel Thayer, West Point, NY*

Watershed Science and Technical Conference



**Climate Change and its
Effects on Watersheds**

2009 Watershed Science & Technical Conference September 14th - 15th, Thayer Hotel, West Point, New York

Within the scientific community, the phrase “climate change” is replacing “global warming” because Earth is not just getting warmer. It is also changing, and changing in ways that scientists are just beginning to explore.

Sea levels are rising, glaciers are melting and shrinking, plants and trees are blooming earlier and in places where they have never bloomed before, growing seasons are lengthening, polar permafrost is thinning.

The scientific debate is changing as well, moving away from whether and why we are warming, to what effects climate change will have on Earth’s environment, and just what exactly is causing it. Is it simply human output of greenhouse gasses? Is it a natural climatological progression? Or is it a complex convergence of these and other factors?

In the end, perhaps the most important question is how we will adapt to climate change. Scientists are currently at work

predicting and modeling potential effects, with an eye toward formulating necessary actions needed not only to reduce and delay these changes, but to respond to them.

This conference will bring scientists, engineers and technical experts together with watershed stakeholders and the public, to technically inform and present leading-edge research findings on the most current scientific trends and data regarding climate change as it relates to watersheds and water supply.

The conference will be valuable to elected officials, directors of public works, buildings, planning and highway departments, land use planners, consulting engineers, regulated industries, attorneys, educators, environmental groups and interested citizens. Conference attendees will find themselves in a unique forum for collaboration, providing an opportunity to enhance information and technology transfer and increase coordination among the array of entities working with watershed protection science.

Organizers



The New York Water Environment Association, Inc. (NYWEA) – Founded in 1929, by professionals in the field of water quality as a non-profit, educational organization. Association members helped lead the way toward existing state and national clean water programs. Today the Association has over 2,500 members representing diverse backgrounds and specialties, but all are concerned and involved with protecting and enhancing our precious water resources. www.nywea.org



The Watershed Protection & Partnership Council – Created by the historic New York City Watershed Memorandum of Agreement to provide a regional forum to aid in the long-term protection of New York City’s drinking water, and the economic vitality of the Upstate Watershed communities. www.dos.state.ny.us/watershed/WPPC.htm



New York State Department of State – The Office of the Secretary of State was established in 1778, making it, other than the Offices of Governor and Lieutenant Governor, the oldest agency in the administration of New York State government. www.dos.state.ny.us



The New York State Department of Environmental Conservation – Exists to “conserve, improve, and protect New York State’s natural resources and environment, and control water, land and air pollution, in order to enhance the health, safety and welfare of the people of the state and their overall economic and social well being.” www.dec.state.ny.us

Many Thanks to the Conference Sponsors

- Catskill Watershed Corporation
- New York City Department of Environmental Protection
- New York State Department of Environmental Conservation
- New York State Department of Health
- New York State Department of State
- New York Water Environment Association, Inc.
- United States Geological Survey - Lower Hudson Chapter
- Watershed Protection and Partnership Council

Watershed Science and Technical Conference

September 14th - 15th, 2009 - PROGRAM AND SCHEDULE

Day 1 - September 14, 2009

8:00 am	Registration
9:00 am	Welcome - NYWEA President, Bruce Munn
9:10 am	Opening Remarks – WPPC Executive Director, William C. Harding
9:20 am	Matthew C. Larsen, United States Geological Survey
9:30 am	Lee Tryhorn, Northeast Climate Data Center <i>Adapting Water Resource Management to Climate Change Impacts</i>
10:00 am	Roy Rasmussen and David Yates, National Center for Atmospheric Research (NCAR) <i>Recent NCAR Results on the Impact of Climate Change on the Water Cycle and its Impact on Local Users</i>
10:30 am	Break
10:45 am	Katie Dolan, Nature Conservancy <i>Rising Waters: Helping Hudson River Valley Communities Adapt to Climate Change</i>
11:15 am	Betsy Blair, NYS Department of Environmental Conservation
12:00 - 1:30 pm	Lunch
1:30 pm	Panel Presentation– Climate Change
	Potential Impacts of Climate Change on Water Quality in the New York City Water Supply System – Mark Zion, Donald C. Pierson, Elliot M. Schneiderman, NYC Department of Environmental Protection and Hampus Markensten, Upstate Freshwater Institute
	Overview of DEP Climate Change Integrated Modeling project: Present Activity and Future Goals – Donald Pierson, Mark Zion and Elliot M. Schneiderman, NYC Department of Environmental Protection and Allan Frei, CUNY Institute for Sustainable Cities
	Climate change impacts on water availability in NYC water supply Adao Matonse, Hunter College of CUNY, Allan Frei, CUNY Institute for Sustainable Cities and Donald Pierson and Mark Zion, NYC Department of Environmental Protection
	Climate Change Effects on Phytoplankton Composition in Cannonsville Reservoir - Hampus Markensten and Emmett Owens, Upstate Freshwater Institute, Donald Pierson, NYC Department of Environmental Protection and Aavudai Anandhi, Hunter College of CUNY
	Future climate projections of NYC watershed: GCM selection and downscaling Aavudai Anandhi and Allan Frei, CUNY Institute for Sustainable Cities, Donald Pierson and David Lounsbury, NYC Department of Environmental Protection
	<i>PDH determinations are being considered for this panel.</i>
3:30 pm	Break
3:45 pm	Bus Departs from front of Hotel for Tour of Historic West Point Campus
5:30 pm	Reception
6:30 pm	Dinner & speaker

Program & Schedule

Day 2 - Tuesday, September 15, 2009

	Session I (Morning)	Contact Hours: Engineer: 2	Wastewater: 2.5
8:00 am	Registration and Coffee		
9:00 am	Use of a Saturated/Unsaturated Zone Groundwater Model to Investigate Soil-Water Dynamics in Onsite Wastewater Treatment Systems James Hassett, SUNY College of Environmental Science and Forestry		
9:30 am	Benefits of the NYCDEP Wastewater Treatment Plant Upgrade Program Robert Ravallo, NYC Department of Environmental Protection Erick McCandless, NYS Environmental Facilities Corporation		
10:00 am	Break/Refreshments		
10:30 am	Biomonitoring Demonstrates the Success of Wastewater Treatment Plant Upgrade Martin Rosenfeld, NYC Department of Environmental Protection		
11:00 am	Pharmaceutical and Personal Care Products in the Watershed- DEP's PPCP monitoring program-a Review of the State of the Science and Regulatory and Research Framework David Lipsky, Timothy Martin, Ian Hurley and Carla Glaser, NYC Department of Environmental Protection		
11:30 am	River Friendly Certification Programs Kathy Hale, New Jersey Water Supply Authority, Abigail Jone, North Jersey Resource Conservation & Development Council		
12:00 pm	Lunch		
	Session II (Afternoon)	Contact Hours:	Wastewater: 2
1:00 pm	Japanese knotweed composting feasibility study, Delaware County, NY Laurence Day and Jessica Rall, Delaware County Soil and Water Conservation District, Susan McIntyre, Delaware County Department of Public Works and Charles Terrance, SUNY Delhi		
1:30 pm	Do Fish Care About Restoration in Streams of the New York City Watershed? Barry Baldigo, U.S. Geological Survey		
2:00 pm	Post Flood Tools and Techniques for Working in and Near Streams Scotty Gladstone and Rick Weidenbach, Delaware County Soil and Water Conservation District and Philip Eskeli, NYC Department of Environmental Protection		
2:30 pm	Progress, Opportunities and Challenges for Stream Management in the Catskill and Delaware Watersheds Elizabeth Reichheld, NYC Department of Environmental Protection		

Tuesday, September 15, 2009

	Day 2	Session III (Morning)	Contact Hours: Engineer: 2
8:00 am	Registration and Coffee		
9:00 am	Light-Scattering Features of Turbidity-Causing Particles in Interconnected Reservoir Basins and a Connecting Stream Feng Peng and Steven Effler, Upstate Freshwater Institute and Donald C. Pierson and David G. Smith, NYC Department of Environmental Protection		
9:30 am	Resuspension as a Source of Turbidity in a Water Supply Reservoir Emmet Owens, Rakesh Gelda and Steven Effler, Upstate Freshwater Institute and Donald C. Pierson, NYC Department of Environmental Protection		
10:00 am	Break/Refreshments		
10:30 am	A Turbidity Model for Ashokan Reservoir, NY Rakesh Gelda, Steven Effler, Feng Peng and Emmet Owens, Upstate Freshwater Institute		
11:00 am	A Probabilistic Model for Turbidity and Temperature in the Schoharie Reservoir Withdrawal Steven Effler and Rakesh Gelda, Upstate Freshwater Institute and Donald C. Pierson, NYC Department of Environmental Protection		
11:30 am	Evaluation of Turbidity Control Alternatives at Schoharie Reservoir William Weiss, Hazen and Sawyer, P.C., Steven Effler, Upstate Freshwater Institute and David Warne, NYC Department of Environmental Protection		
12:00 pm	Lunch		
	Session IV (Afternoon)	Contact Hours: Engineer: 2	Wastewater: 2
1:00 pm	Water Quality Trends in NYC Watershed Streams James Mayfield, NYC Department of Environmental Protection		
1:30 pm	Assessment of Protozoa in New York City's Hillview Reservoir Kerri Ann Alderisio, NYC Department of Environmental Protection		
2:00 pm	Bio-stability of New York's Distribution Water evaluated by HPC and Bioreactor biofilm Salome Freud, Xiaoping Wang and Guo Baiying, NYC Department of Environmental Protection		
2:30 pm	Calculation of a Protozoan Pathogen Budget for Kensico Reservoir Christian Pace and Kerri Ann Alderisio, NYC Department of Environmental Protection		

Program & Schedule

Tuesday, September 15, 2009 *(continued)*

Day 2	Session V (Morning)	Contact Hours: Engineer: 1	Wastewater: 2
8:00 am	Registration and Coffee		
9:00 am	Urban Stormwater Runoff Phosphorus Loading and BMP Treatment Capabilities Scott Perry, Brian Lee and Joel Garbon, Imbrium Systems		
9:30 am	Prediction of Land Use Change and Nutrient Loading Consequences in the West of Hudson Watersheds to 2022 Myrna Hall and Seth Myers, SUNY College of Environmental Science and Forestry		
10:00 am	Break/Refreshments		
10:30 am	Impact Assessment of Natural Gas Production in the NYC Water Supply Watershed Grantley Pyke, Hazen and Sawyer, P.C., Frank Getchell, Leggette, Brashears & Graham, Inc., and Kimberlee Kane, NYC Department of Environmental Protection		
11:00 am	The Chesapeake Bay: An Evolving Framework for Watershed Collaboration Jane McDonough, AECOM Water and Andrea Sweigart, EDAW		
11:30 am	Community Based Biodiversity Assessment & Training Andrew Meyer, Gretchen Stevens, Hudsonia, Ltd.		
12:00 pm	Lunch		
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	Session VI (Afternoon)	Contact Hours: Engineer: 2	
1:00 pm	Results of the Continued Catskill Forest Nutrient Imbalance Experiment Gregory Lawrence and D.A. Burns, U.S. Geological Survey and W.C. Shortle and K.T. Smith, USDA Forest Service		
1:30 pm	Status, Trends, Distribution, and Functions of Wetlands in the New York City Water Supply Watershed. Laurie Machung, New York City Department of Environmental Protection		
2:00 pm	A GIS-Based Model To Identify Sensitive Water Resource Properties in Need of Protection Jen Zhang, NJ Water Supply Authority		
2:30 pm	Habitat mapping: biodiversity assessment for resource conservation Nava Tabak and Gretchen Stevens, Hudsonia Ltd.		
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Day 2	Session VII (Morning)	Contact Hours: Engineer: 2	
8:00 am	Registration and Coffee		
9:00 am	The Impacts of Reservoir Drawdown on Water Quality in NYC's Catskill and Delaware Reservoirs Lorraine Janus, G. Marzec, R. Van Dreason, James Mayfield and D. Pierson, NYC Department of Environmental Protection and Rakesh Gelda, Upstate Freshwater Institute		

Tuesday, September 15, 2009

Day 2	Session VII (Morning) <i>continued</i>	Wastewater: 5.5
9:30 am	Recent Water Quality Trends in Cannonsville Reservoir (2002-2008) Richard Van Dreason and Gerard Marzec, NYC Department of Environmental Protection	
10:00 am	Break/Refreshments	
10:30 am	An Interactive Water Information System for the Consolidation of Inter-divisional Data: A Case Study Steve Di Lonardo and James C. Alair, NYC Department of Environmental Protection	
11:00 am	An Examination of Chlorine Demand in the Catskill and Delaware Supplies During 2005-2006 Charles Cutietta-Olson, NYC Department of Environmental Protection	
11:30 am	Land Acquisition: Quality and Quantity Considerations Dave Tobias, NYC Department of Environmental Protection	
12:00 pm	Lunch	
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	Session VIII (Afternoon)	
1:00 pm	Habitat responses to NCD restoration: The Good, the Bad, and the Ugly Anne Ernst, Barry Baldigo and Christiane Mulvihill, US Geological Survey and Mark Vian, NYC Department of Environmental Protection	
1:30 pm	Riparian Restoration Plan for Agricultural Lands in the Raritan Basin Kathy Hale, New Jersey Water Supply Authority and Jen House, North Jersey Resource Conservation & Development Council	
2:00 pm	Natural Resource Issues and Property Management Responsibilities of a Large Water-supply Landowner Paul Lenz, NYC Department of Environmental Protection	
2:30 pm	Watershed Protection through Local Leadership in the Schoharie Basin David Burns, NYC Department of Environmental Protection and Michelle Yost, Greene County Soil and Water Conservation District	
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	Session IX	Wastewater: 5.5
WATER AND WASTEWATER OPERATOR TRAINING <i>Introduction to Supervisory Control and Data Acquisition (SCADA) Systems</i>		
8:00 - 9:15 am	SCADA Definitions / Project Requirements / Sizes / Types / Costs / Specifications / Philosophy	
9:15-9:30	Break	
9:30-11:00	SCADA Products Hardware & Software / Technology / Communications / Benefits / Life Cycles	
11:00-12:00 pm	Servicing a SCADA System	
12:00-1:00	Lunch	
1:00-1:30	SCADA Configuration Examples	
1:30-2:00	SCADA Graphics /Reports / Security	
2:00-3:00	Building a SCADA Project / Timelines / Installation / Start-up / Acceptance	
3:00-3:15	Questions	

Watershed Science & Technical Conference - Exhibition

September 14-15, 2009

2-Day Exhibition

A limited number of exhibit spaces are available at the Thayer Hotel.

Booth cost is \$550. For more information, contact Maureen Kozol at (315) 422-7811, ext. 3

Company: _____

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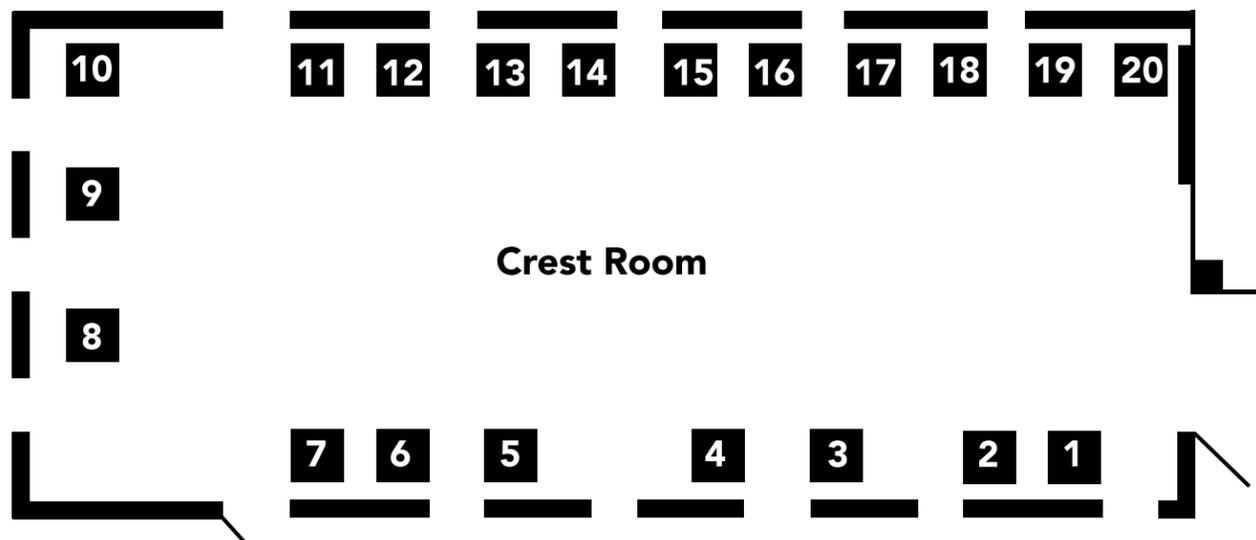
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NYWEA, Inc., 525 Plum Street, Suite 102, Syracuse, New York 13204

Conference sponsorships are also available.

For more information, contact Maureen Kozol at (315) 422-7811, ext. 3

Exhibitor's Floor Plan



Hotel Information

The Thayer Hotel at West Point
674 Thayer Rd., West Point, NY 10996
800-247-5047 or 845-446-4731
Fax 845-446-0338

The Thayer at West Point, part of American history since 1926, offers a truly unique venue for the Watershed Conference. Named for Colonial Sylvanious Thayer, Superintendent of the Military Academy from 1817 to 1833, The Thayer Hotel shares its grounds with the makers of America's top military leaders.

Listed on the National Registry of Historic Places, The Thayer Hotel boasts spectacular views of the Hudson River and surrounding highlands.

A block of rooms has been reserved at the Thayer Hotel for the Watershed Conference. To make your reservation, please contact the hotel directly. Room rate is \$130 Single; \$140 Double.

Please reference Group Code: NYWEA

Special Note: Please be prepared with proper identification (Driver's License) and conference information as you enter the military campus.

Tuesday Special Events

3:45 - 5:30 pm **Tour of United States Military Academy at West Point**

Cost: \$25 (Limited Seating)

Enjoy a fascinating bus tour of the USMA campus with interesting contemporary and historical stops. The tour starts at the Visitors Information Center and stops at the Cadet Chapel, which houses the world's largest church pipe organ as well as beautiful stained glass windows. Other stops include Trophy Point and the parade field where you will see monuments (Battle Monument) and statues of Patton, Eisenhower, MacArthur, Thayer, and Washington – to drop a few names!

Our guide will talk about cadet life and the history of the Academy including West Point's importance in the revolutionary War and the Great Chain. The final stop will be a cemetery stopping at gravesites of some of the more famous graduates (Custer, Marcus, White, Goethals, and Anderson).

5:30 pm **Reception at the Hotel Thayer overlooking the scenic Hudson River.**

6:30 pm **Dinner & Speaker**

Mix and mingle with attendees while enjoying delicious food! Speaker TBA.
Cost: \$39

Evaluation Criteria

The Watershed Protection and Partnership Council's Technical Program Committee reviewed submitted abstracts for quality, technical merit, interdisciplinary utility, as well as temporal and substantive relevance. All papers presented will be included in the Compendium of Abstracts that will be published for distribution at the conference and to interested parties.

New York City's Water Supply System Map



“Watershed – An area of land, a bounded hydrologic system; within which all living things are inextricably linked by their common water course and where, as humans settled, simple logic demanded that they become part of a community.”

– John Wesley Powell

2009 Watershed Science & Technical Conference

Pre-Registration Form
 September 14-15, 2009 • The Thayer Hotel, West Point, New York

Instructions

Complete all portions of this form. Print or type information.

Name _____

Title _____

Employer _____

Address _____

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Check here if you are a speaker

Day _____

Speaker registration is waived **on** day of presentation.

Payment

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Make all checks payable to:
 NYWEA, 525 Plum Street, Suite 102, Syracuse, Ny 13204
 Please complete all vouchers before submitting for payment.
 Registration form can also be faxed to (315) 422-3851

Complete and mail or fax to NYWEA

Watershed Science & Technical Conference	Registration Costs			Enter Fees
	Student	Member ⁽¹⁾	Non-Member ⁽²⁾	
Two Days (Monday & Tuesday, September 14-15, 2009)	\$55.00	\$120.00	\$210.00	
One Day (Monday, September 14, 2009)	\$30.00	\$70.00	\$150.00	
One Day (Tuesday, September 15, 2009)	\$30.00	\$70.00	\$150.00	
Special Functions				
Tuesday Night Dinner		\$39.00	\$39.00	
Tuesday Tour of U.S. Military Academy at West Point		\$25.00	\$25.00	
			Total Registration	\$

Two Days (Tuesday & Wednesday)
 One Day (Tuesday)
 One Day (Wednesday)

} Includes: Continental Breakfast, Lunch and Breaks on both days

(1) Member rates apply to Members and Conference Sponsors
 (2) Non-member registration includes a one-year Affiliate Membership

Registrations received after August 28, 2009 will be charged the site-registration fee.
 Cancellations must be submitted *in writing* by August 28, 2009. Site registration is \$35 higher.
 A 20% service fee will apply to all cancellations received before August 28, 2009;
 no refunds will be made on registration fees or special events after August 28, 2009.



**The New York
Water Environment
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