



# 24th WaterReuse annual symposium

where has all the water gone?

water reuse and desalination: solutions for the future

Seattle, Washington • September 13–16, 2009



2009 Symposium Registration



**Water Environment  
Federation**  
*Preserving & Enhancing  
the Global Water Environment*

**WATERREUSE**  
ASSOCIATION

**American Water Works  
Association**

# 24th WaterReuse annual symposium

**T**he 24th Annual WaterReuse Symposium, presented by the WaterReuse Association and cosponsored by the American Water Works Association and the Water Environment Federation, will feature more than 100 technical presentations, pre-conference workshops, an EPA forum, regional water reuse project poster displays, technical tours, a national legislative and water policy plenary session, receptions, an awards luncheon, and the ever-popular exhibition component.

The WaterReuse Association is a nonprofit organization whose mission is to advance the beneficial and efficient use of water resources through education, sound science, and technology using reclamation, recycling, reuse, and desalination for the benefit of our members, the public, and the environment. Across the United States and the world, communities face water supply challenges due to increasing demand, drought, depletion and contamination of groundwater, and dependence on single sources of supply. WaterReuse addresses these challenges by working with local agencies to implement water reuse and desalination projects that resolve water resource issues and create value for communities. The vision of the WaterReuse Association is to be the leading voice for reclamation, recycling, reuse, and desalination in the development and utilization of new sources of high quality water.

We invite you to join us for the world's preeminent conference devoted to water reuse and desalination where more than 700 leaders from the water reuse and desalination industry are expected to attend.



## Core Topic Areas

- Advanced disinfection technologies
- Agricultural reuse
- Alternative drivers of water reuse
- Concentrate/brine management and disposal
- Conveyance, distribution, and storage system design and operation (including cross-connection control)
- Desalination case studies—groundwater and seawater
- Energy-water nexus—energy impacts, climate change, drought planning and management
- Environmental enhancement reuse (including wetlands)
- Environmental impacts—desalination
- Financing, pricing, rates and economics—desalination and reuse
- Green building, green thinking and reuse applications
- Ground water issues and concepts (including aquifer storage and recovery, recharge, and soil aquifer treatment)
- Health effects and risk assessment
- Industrial reuse
- Innovative reuse applications
- International reuse and desalination case studies
- Membranes and MBR
- Microconstituents (e.g., pharmaceuticals, personal care products, trace organic compounds)
- Operations/maintenance and operator issues
- Planning for water reuse and desalination
- Potable reuse
- Public education and outreach; risk communication
- Regulatory, institutional, and legal issues—desalination and reuse
- Salinity management—technical and institutional issues
- Source water augmentation for potable use
- Sustainability through reuse and desalination
- Treatment technologies—desalination and reuse
- Urban reuse—golf courses, parks, landscape, residential
- Water quality issues

## Who Should Attend

- Academic Institutions
- Advocacy Groups
- Consulting Engineering Firms
- Desalination Industry
- Environmental Organizations
- Government Officials
- Manufacturers
- Regulators
- Suppliers
- Water and Wastewater Agencies
- Water Reuse Industry

## Schedule of Events

### Sunday, September 13

9:00 a.m. – 5:30 p.m.	Registration Open
9:00 a.m. – 3:00 p.m.	Golf Tournament at Foster Links Golf Course
9:00 a.m. – 3:00 p.m.	LOTT Alliance – Reclaimed Water Treatment Plants, Ponds, and Recharge Basins Tour <i>(Limited to 40 people)</i>
1:00 p.m. – 4:00 p.m.	<b>Pre-Conference Workshops</b>
1:00 p.m. – 4:00 p.m.	<b>EPA Forum</b>
2:30 p.m. – 3:00 p.m.	Refreshment Break
4:00 p.m. – 5:00 p.m.	WaterReuse Association State Section Meetings
5:30 p.m. – 7:00 p.m.	Exhibit Hall Open
5:30 p.m. – 7:00 p.m.	Welcome Reception

### Monday, September 14

7:30 a.m. – 3:30 p.m.	Registration Open
7:30 a.m. – 12:00 p.m.	Exhibit Hall Open
7:30 a.m. – 8:30 a.m.	Continental Breakfast
8:30 a.m. – 9:30 a.m.	<b>Opening Session</b>
9:30 a.m. – 12:00 p.m.	<b>Technical Sessions</b>
10:30 a.m. – 11:00 a.m.	Refreshment Break
12:00 p.m. – 1:30 p.m.	Awards Luncheon and Annual Membership Meeting
1:30 p.m. – 4:30 p.m.	South Treatment Plant Reclaimed Water Facility and Reclaimed Water Research Garden Tour <i>(Limited to 50 people)</i>
1:30 p.m. – 3:30 p.m.	Exhibit Hall Open
1:30 p.m. – 5:00 p.m.	<b>Technical Sessions</b>
3:00 p.m. – 3:30 p.m.	Refreshment Break
5:30 p.m. – 7:00 p.m.	President's Reception at the Space Needle

### Tuesday, September 15

6:30 a.m. – 2:00 p.m.	Registration Open
6:30 a.m. – 3:30 p.m.	Exhibit Hall Open
6:30 a.m. – 8:00 a.m.	Continental Breakfast
7:00 a.m. – 8:00 a.m.	<b>Early Bird Session:</b> Sustainability of Energy and Alternative Water Sources
8:00 a.m. – 9:00 a.m.	<b>National Legislative and Water Policy Plenary Session</b>
9:00 a.m. – 12:00 p.m.	<b>Technical Sessions</b>
10:00 a.m. – 10:30 a.m.	Refreshment Break
12:00 p.m. – 1:30 p.m.	Lunch on Your Own
12:00 p.m. – 1:30 p.m.	WaterReuse Association Committee Meetings
1:30 p.m. – 5:30 p.m.	Carnation Wastewater Treatment Facility and Reclaimed Water Wetland Enhancement Tour <i>(Limited to 50 people)</i>
1:30 p.m. – 5:00 p.m.	<b>Technical Sessions</b>
3:00 p.m. – 3:30 p.m.	Refreshment Break

### Wednesday, September 16

6:30 a.m. – 8:30 a.m.	Registration Open
6:30 a.m. – 8:00 a.m.	Continental Breakfast
7:00 a.m. – 8:00 a.m.	<b>Early Bird Session:</b> Lookin' for Reuse in All the Wrong Places? Hardly!
8:00 a.m. – 10:00 a.m.	<b>Technical Sessions</b>
10:00 a.m. – 12:00 p.m.	<b>Closing Plenary Session:</b> Direct Potable Reuse—Has its Time Come?
12:00 p.m. – 12:15 p.m.	Executive Director's Closing

# 24th WaterReuse annual symposium



## Travel and Transportation

### Hotel Accommodations

The 24th Annual WaterReuse Symposium will be held at the Sheraton Seattle Hotel. Special rates have been secured for conference attendees at the hotel. Please refer to the 24th Annual WaterReuse Symposium when making reservations in order to obtain the conference rate. We have a limited block of rooms at the hotel; therefore, all rooms are on a first-come, first-served basis. All reservations must be made by **Saturday, August 22, 2009** in order to ensure the special conference room rate.

Sheraton Seattle Hotel  
1400 Sixth Avenue  
Seattle, WA 98101  
(206) 621-9000

Room Rate: \$189 per night plus tax

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### Air Travel and Ground Transportation Information

The Sheraton Seattle Hotel is conveniently located 15 miles or 25 minutes from the Seattle-Tacoma International Airport (SEA). The estimated taxi fare is \$30 – \$35 or you can take the Downtown Airporter for \$11/one way or \$18/round trip.

The WaterReuse Association and JetBlue Airways have partnered to provide discounted airline travel for the 24th Annual WaterReuse Symposium. We are pleased to offer a 5% discount on all airline travel into the Seattle-Tacoma International Airport (SEA) between the dates of September 11–18, 2009. To receive the discount, all travel must be booked online.

Please visit [www.jetblue.com/promo](http://www.jetblue.com/promo) and enter the discount code **24thsymposium**

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### Car Rental

The WaterReuse Association and Enterprise Rent-A-Car have partnered to provide discounted car rental rates for the 24th Annual WaterReuse Symposium. The discounted rates include 10% off all airport rentals with no underage fees and no additional driver fees. Reservations can be made two ways:

- Visit [www.enterprise.com](http://www.enterprise.com) and enter in the promotional/account code of **16SW201**. When prompted for a pin, enter **wat**.
- Call 1-800-Rent-A-Car and give them our promotional/account code of **16SW201**.

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### Parking

The Sheraton Seattle Hotel offers ample parking:

Self Parking Rate: \$28 per day with unlimited in and out access  
Valet Parking Rate: \$38 per day with unlimited in and out access

## General Information

### Registration Desk Hours

The Registration Desk will be located on Level 2 of the Sheraton Seattle Hotel in front of the Grand Ballroom. Your conference materials may be picked up at the registration desk during the following hours (please note that we do not mail conference materials ahead of time and they will need to be picked up onsite at the registration desk):

Sunday, September 13	9:00 a.m. – 5:30 p.m.
Monday, September 14	7:30 a.m. – 3:30 p.m.
Tuesday, September 15	6:30 a.m. – 2:00 p.m.
Wednesday, September 16	6:30 a.m. – 8:30 a.m.

### Professional Development Hours (PDHs)

The WaterReuse Association is pleased to offer Professional Development Hours (PDHs) for the 24th Annual WaterReuse Symposium. More and more certification and licensing authorities, companies, government agencies, and organizations are requiring that professionals earn a certain number of continuing education or professional development hours each year. A Professional Development Hour is generally defined as one clock hour that is spent engaged in an activity that contributes to the advancement or enhancement of professional skills or scientific knowledge of a professional engineer.

Professional Development Hours are available for individuals successfully completing concurrent technical sessions throughout the conference. PDHs are acquired on a contact hour basis with one PDH equaling one hour attended. It is the attendee's responsibility to keep his or her own record of PDHs and submit them to the WaterReuse office. Forms for tracking Professional Development Hours will be available at the conference.

**NOTE:** Terminology and education credit requirements and restrictions vary widely. All participants are responsible for checking with their license/certification authority to ensure that the WaterReuse technical concurrent sessions meet specific requirements.

### Regional Water Reuse Project Poster Displays

The 24th Annual WaterReuse Symposium will feature poster displays of regional water reuse projects. The posters will showcase Pacific Northwest reuse projects and highlight the unique drivers of reuse projects in this local area.

### Art/Writing Contest

The 24th Annual WaterReuse Symposium will feature an art and writing contest for students to promote the importance of water management and the infinite possibilities for conserving, protecting, and advancing technologies and projects that result in greater water reuse, recycling and efficient management of water resources. The winning entries will be displayed at the conference.

### President's Reception at the Seattle Space Needle

With incredible views, excellent food, and great networking among friends and colleagues, we hope you will join us on Monday evening for the President's Reception at the Seattle Space Needle. The Space Needle boasts fabulous 360 degree views that include Mt. Rainier, Puget Sound, the Olympic and Cascade Mountains, the beautiful city of Seattle, and beyond.

### Weather and Dress in Seattle

September weather in Seattle is very pleasant with an average daytime high of 70 degrees and an average evening low of 53 degrees. The days are pleasant, while the evenings can be a bit cooler. A lightweight jacket or sweater is a good choice for the evenings.

Attire at the WaterReuse Symposium is business casual. Feel free to be comfortable in slacks, polo shirts, sweaters, blazers, blouses and, most importantly, comfortable shoes. Suits, ties, nine-to-five dresses, and high heels are not required.

### Useful Websites & Local Attractions

- [www.visitseattle.org](http://www.visitseattle.org)
- [www.seattle.net](http://www.seattle.net)
- [www.seattle.com](http://www.seattle.com)
- [www.spaceneedle.com](http://www.spaceneedle.com)
- [www.seattlecenter.com](http://www.seattlecenter.com)
- [www.pikeplacemarket.org](http://www.pikeplacemarket.org)
- [www.seattleaquarium.org](http://www.seattleaquarium.org)



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## Additional Activities

### Pre-Conference Workshops

#### WS1: Desalination 101

Sunday, September 13

1:00 p.m. – 4:00 p.m.

Fee: \$75 *Limited to 50 people*

Want to get up to speed on the latest desalination issues and technologies? This workshop will feature presentations by desalination experts who will cover the basics of membrane separation technology, selection of pretreatment and reverse osmosis systems given certain brackish and seawater sources, and permitting/institutional challenges to implementing desalination projects in the U.S. The workshop will conclude with a forwarding-thinking perspective on desalination research, the search for lower-cost desalination, and collaborative efforts with nationwide stakeholders.

#### WS2: Membrane Bioreactors (MBRs)

Sunday, September 13

1:00 p.m. – 4:00 p.m.

Fee: \$75 *Limited to 50 people*

According to a recent survey by the WaterReuse Foundation, there are 166 municipal Membrane Bioreactor installations worldwide (> 1 mgd). In fact, MBR technology is enjoying a surge in popularity over the last five years, with a 250% increase in the number of worldwide installations. If you want to be part of the growing number of municipalities using MBRs for wastewater treatment to meet reclaimed water standards, this workshop is designed for you. Participants will have the opportunity to learn about new innovative installations, the latest design issues and technology updates. Experts participating in this workshop will include representatives from municipalities, industry, the research community, and consultants. The workshop will conclude with an opportunity for participants to provide some input and perspective on where additional research and design parameters should be heading.

### Golf Tournament

Foster Links Golf Course

Sunday, September 13

Check-In: 9:00 a.m.

First Tee Time: 10:00 a.m.

Format: 4-person scramble

Fee: \$75

The WaterReuse Association is pleased to announce that the 24th Annual WaterReuse Golf Tournament will be held September 13, 2009 at Foster Links Golf Course located just south of Seattle in Tukwila, WA.

A Northwest tradition since 1925, Foster Links has provided entertainment for generations of golfers. The golf course, with its walkable length and user-friendly layout, is perfect for the tournament golfer. It is exciting for the better player, while the inexperienced golfer will not be intimidated. The course is bordered by the meandering Duwamish River, offers views of wildlife, and features two Par 3 holes requiring the golfer to hit over the river.

In 2004, a dramatic remodel included the construction of a new clubhouse and renovations of the golf course including new tees, the rebuilding and addition of several greens, and the rebuilding of the 10th fairway. All of the changes were done with a look to the future. They began the transition of irrigating the course with reclaimed water this year.

The tournament will begin with the first tee time at 10:00 a.m. The entry fee covers transportation to the course, greens fees with cart, drinks, lunch at the course, door prizes, a gift bag, closest to the pin contests, a longest drive contest, and team prizes based on final scores.

For more information on sponsorship opportunities, or to donate prizes, please contact Jo Sullivan at (206) 296-8361 or at [jo.sullivan@kingcounty.gov](mailto:jo.sullivan@kingcounty.gov).



Reclaimed water wetland enhancement discharge from the Carnation treatment facility

## Technical Tours

While you are in Seattle for the conference, we would like to invite you to take advantage of a unique opportunity – register for a local facility tour! All tours will depart from the main entrance of the hotel. Please check the schedule of events as some of the tours may conflict with other scheduled conference activities.

### LOTT Alliance – Reclaimed Water Treatment Plants, Ponds, and Recharge Basins Tour

Sunday, September 13

9:00 a.m. – 3:00 p.m.

Fee: \$55 (includes a box lunch) *Limited to 40 people*

To meet the wastewater treatment needs of its growing tri-city area (Lacey, Olympia, and Tumwater), the LOTT Alliance committed to supplementing its central marine-discharge treatment plant by building satellite facilities that would produce and distribute reclaimed water.

This tour will compare the operations, final products, and lessons learned from two different facilities, featuring different reclaimed water technologies. The Martin Way Reclaimed Water Plant is a membrane bioreactor satellite system. Built initially to treat two million gallons per day, it treats wastewater diverted from a nearby pump station. The Budd Inlet Reclaimed Water Plant, a sand filter system located at LOTT's larger central treatment plant, takes up to 1.5 mgd of already-treated and disinfected effluent, which has been through biological nutrient removal, and further treats it to reclaimed water quality.

Treating to Washington State's Class A Reclaimed Water standards, LOTT's reclaimed water is safe for public contact and can be used for irrigation and a wide range of other nonpotable purposes. Tour participants will also view current use sites, including state, city, and port park areas in the downtown Olympia area. In Lacey, participants will visit LOTT's 40-acre Hawks Prairie Reclaimed Water Ponds and Recharge Basins site.

### South Treatment Plant Reclaimed Water Facility and Reclaimed Water Research Garden Tour

Monday, September 14

1:30 p.m. – 4:30 p.m.

Fee: \$45 *Limited to 50 people*

King County's Wastewater Treatment Division operates a 115 mgd treatment plant in Renton, WA. Since 1997, a reclaimed water facility using a sand filter has produced between 80 and 100 million gallons of Class A reclaimed water annually for in-plant processes and off-site customers that irrigate athletic fields, nurseries, and other landscaping.

This is the second year of a two-year study being conducted by the University of Washington to develop data on the growth response and safety of commercially grown food-crops and ornamental plants irrigated with reclaimed water. The tour will feature research plots and demonstration gardens of vegetables grown with reclaimed water. These vegetables will be tested for food safety standards for human consumption in their washed and unwashed state. The tour will also discuss last year's lab study results.

### Carnation Wastewater Treatment Facility and Reclaimed Water Wetland Enhancement Tour

Tuesday, September 15

1:30 p.m. – 5:30 p.m.

Fee: \$45 *Limited to 50 people*

Carnation, a city of about 2,000 people, lies in an environmentally-sensitive rural area on the eastern edge of metropolitan King County. Failing septic systems posed a threat to the city's environmental quality and economic vitality. The city signed a contract with King County to design, build and operate a centralized wastewater treatment plant, a membrane bioreactor with ultraviolet disinfection system with a design capacity of 400,000 gallons per day. The plant came on line in 2008. This technical tour offers the opportunity to share lessons learned in designing, constructing, and operating this kind of facility.

After a tour of the plant, the group will travel 1.5 miles to the reclaimed water wetland enhancement at Chinook Bend Natural Area. All of Carnation's wastewater is treated to Washington State Class A reclaimed water standards and is used to provide drought tolerant hydrology to enhance a natural wetland. A number of strong interagency partnerships, including a key partnership with Ducks Unlimited, allowed the project to meet obligations and regulatory requirements while providing wildlife benefits and enhancing the passive recreation opportunities in a forested wetland.

This is your opportunity to check out the 2008 WaterReuse Small Project of the Year Award winner.



South Treatment Plant Reclaimed Water Facility

# 24th WaterReuse annual symposium

## Overview of Events

### Technical Sessions

The Symposium offers more than 100 technical sessions covering key topics such as treatment technologies, water quality issues, sustainability, agricultural reuse, regulatory issues, desalination, education and outreach, and much more. The session matrix on the pages that follow provide an overview of all of the sessions. Detailed descriptions of each presentation are available at [www.watereuse.org/conferences/symposium/24](http://www.watereuse.org/conferences/symposium/24).

### EPA Forum

**Sunday, September 13, 1:00 p.m. – 4:00 p.m.**

We need some help from all water reuse experts! The U.S. EPA Water Reuse Guidelines were last updated in 2004, but the process started three years earlier in 2001 with workshops around the country to solicit comments. That process is beginning again in 2009 for the next version of the Guidelines and this forum will provide an excellent opportunity for attendees to understand the update process, provide their input on topics that need additional coverage in the next edition, or to suggest topics in the current document that do not need to be changed.

The forum will begin with a short introduction of the 2004 Guidelines, the process, and draft outline for comment. Opportunities to volunteer as a chapter or section author, provide case study input, or serve as a reviewer and commenter will be outlined. The balance of the forum will be devoted to hearing from attendees as they identify their concerns and provide an opportunity for discussion of the issues raised.

### Opening Session

**Monday, September 14, 8:30 a.m. – 9:30 a.m.**

The 24th WaterReuse Symposium will feature several prominent speakers in the opening session. Ron Sims, former King County Executive and the new Deputy Secretary of HUD will be one of two keynote speakers. Named Leader of the Year by Governing Magazine in 2006 and County Leader of the Year by the American City & County Magazine in 2008, Sims has been a champion for addressing climate change and sustainability. His local and national leadership on climate change includes a green transit fleet, funding of a new flood control program, and construction of a reclaimed water system to help reduce effluent going into the Puget Sound and to help with future water supply needs.

He will be followed by Congressman Earl Blumenauer (D-OR) who represents Oregon's 3rd District in the Congress. Congressman Blumenauer serves as the Vice Chair of the Select Committee on Energy Independence and Global Warming. Congressman Blumenauer was named a German Marshall Fellow in 1995 and has won numerous awards from environmental, education, community, and civic organizations. His other honors include the 1999 Legislator of the Year award from the American Planning Association, the National Building Museum's Apgar Award in 2000, the Public Radio Leadership Award from National Public Radio in 2005, one of "The Top 25 Change Agents in Bicycling History" from the League of American Bicyclists in 2005, and the Public Official's Award from the Water Environment Federation in 2006.

The Symposium's opening session will also include presentations by Rebecca West, President of the Water Environment Federation (WEF) and an officer of the American Water Works Association (AWWA). AWWA and WEF partner with WaterReuse in the planning and convening of the WaterReuse Symposium.

### Awards Luncheon/Annual Membership Meeting

**Monday, September 14, 12:00 p.m. – 1:30 p.m.**

The Awards Program recognizes excellent water reuse, and desalination projects and practitioners. The WaterReuse Association will identify projects that advance reuse, have a new reclamation twist, or have made significant contributions to water reuse. The following awards will be presented during the luncheon on Monday:

- 2009 WaterReuse Project of the Year (Large, Small, Desalination)
- 2009 WaterReuse Institution of the Year
- 2009 WaterReuse Public Education Program of the Year
- 2009 WaterReuse Person of the Year
- 2009 WaterReuse Customer of the Year
- 2009 WaterReuse Award of Merit

The WaterReuse Association will also conduct its annual membership meeting during this luncheon.

### National Legislative and Water Policy Plenary Session

**Tuesday, September 15, 8:00 a.m. – 9:00 a.m.**

Jon Freedman, Chair of WaterReuse's National Legislative Committee, will moderate a session entitled "National Legislative and Water Policy Outlook" on Tuesday morning. Several prominent speakers will be featured. This session will focus on water policy and the prospects for new national legislation in 2009.

### Closing Plenary Session: Direct Potable Reuse—Has its Time Come?

**Wednesday, September 16, 10:00 a.m. – 12:00 p.m.**

As the number of indirect potable reuse projects continues to increase, some water professionals are suggesting that we should go to the next step and consider direct potable reuse. At this final plenary session moderated by Dr. Jim Crook, a renowned expert in water reuse, panelists with varying viewpoints will address the question of whether we have the treatment and monitoring capability to reliably treat reclaimed water and assure that it is safe to be piped directly into a potable water distribution system. The panel will include experts representing water utilities, environmental engineering, and health and regulatory agencies. This session will be provocative, thought-provoking, and—as always—fun. Be there!

## 24th Annual WaterReuse Symposium Program

**Sunday, September 13, 2009**

9:00 a.m. – 5:30 p.m. **Registration Open**

9:00 a.m. – 3:00 p.m. **Golf Tournament at Foster Links Golf Course**

9:00 a.m. – 3:00 p.m. **LOTT Alliance – Reclaimed Water Treatment Plants, Ponds, and Recharge Basins Tour** *(Limited to 40 people)*

1:00 p.m. – 4:00 p.m. **Pre-Conference Workshops**

**WS1: Desalination 101**  
Fee: \$75 *(Limited to 50 people)*

**WS2: Membrane Bioreactors (MBRs)**  
Fee: \$75 *(Limited to 50 people)*

1:00 p.m. – 4:00 p.m. **EPA Forum**

2:30 p.m. – 3:00 p.m. **Refreshment Break**

4:00 p.m. – 5:00 p.m. **WaterReuse Association State Section Meetings**

5:30 p.m. – 7:00 p.m. **Exhibit Hall Open**

5:30 p.m. – 7:00 p.m. **Welcome Reception**



# 24th WaterReuse annual symposium

## 24th Annual WaterReuse Symposium Program

**Monday, September 14, 2009**

7:30 a.m. – 3:30 p.m. **Registration Open**

7:30 a.m. – 12:00 p.m. **Exhibit Hall Open**

7:30 a.m. – 8:30 a.m. **Continental Breakfast**

8:30 a.m. – 9:30 a.m. **Opening Session**

	<b>A1: Groundwater Issues – Part I</b>	<b>B1: Advanced Disinfection Technologies</b>	<b>C1: Education &amp; Outreach</b>	<b>D1: Brine Management &amp; Salinity Issues</b>
9:30 a.m. – 10:00 a.m.	Boundary Conditions for the Removal of Trace Organic Contaminants During Managed Aquifer Recharge Systems <i>Christiane Hoppe Colorado School of Mines</i>	New Waves of Disinfection <i>Andrew Salveson Carollo Engineers</i>	Data and Public Outreach: Number Crunching Your Way to Success <i>Juan Diaz-Carreras MWH</i>	A Salinity Paradox in the Paradox Valley <i>William Everest Malcolm Pirnie</i>
10:00 a.m. – 10:30 a.m.	Benefits of Recycled Water Recharge to an Overdrafted Coastal Groundwater Basin <i>Jerry Cole CDM</i>	Oxidation of Microconstituents and Disinfection of Pathogens: Synergistic Considerations for Water Reclamation Plants <i>Larry Schimmoller CH2M HILL</i>	Understanding the Role of New and Social Media in Public Involvement <i>Sara Katz Katz &amp; Associates</i>	Pilot Testing of ZLD Technologies Using Brackish Groundwater for Inland Desert Communities <i>Andrew Wiesner Carollo Engineers</i>

10:30 a.m. – 11:00 a.m. **Refreshment Break**

11:00 a.m. – 11:30 a.m.	Aquifer Recharge through Wicks—Challenges and Successes <i>Mark Owen AECOM</i>	Achieving Sustainable Disinfection for Reuse Applications <i>Gary Hunter Black&amp; Veatch</i>	Microconstituents: Communicating in the Face of Uncertainty <i>Rula Deeb Malcolm Pirnie</i>	Membranes' Role to Manage Salinity <i>Val Frenkel Kennedy/Jenks Consultants</i>
11:30 a.m. – 12:00 p.m.	Unexpected Impacts of Groundwater Quality on Reuse Planning: Surprise, Arizona Selects a Water Reuse Strategy <i>Timothy Francis Malcolm Pirnie</i>	Investigation of the Effectiveness of Surfactant-Loaded Minerals in Tertiary Effluent Disinfection <i>Temesgen Garoma San Diego State University</i>	Education: The Gateway to Reuse Acceptance—It Begins With Us! <i>Linda Macpherson CH2M HILL</i>	Producing Sustainable Freshwater Using Direct Contact Membrane Distillation Coupled to a Salt-Gradient Solar Pond <i>Francisco Suarez University of Nevada, Reno</i>

12:00 p.m. – 1:30 p.m. **Awards Luncheon and Annual Membership Meeting**

1:30 p.m. – 4:30 p.m. **South Treatment Plant Reclaimed Water Facility and Reclaimed Water Research Garden Tour**  
*(Limited to 50 people)*

1:30 p.m. – 3:30 p.m. **Exhibit Hall Open**

## 24th Annual WaterReuse Symposium Program

Monday, September 14, 2009 (Continued)

	<b>A2: Planning for Water Reuse</b>	<b>B2: Membranes: Applications &amp; New Technology</b>	<b>C2: Water Quality Issues</b>	<b>D2: Desalination's Role in the Energy-Water Nexus</b>
1:30 p.m. – 2:00 p.m.	Regional Goal Setting for Water Recycling: Balancing the Use of Potable and Recycled Waters in Parallel with Conservation to Meet Community Needs <i>Sean Goldwasser Black &amp; Veatch</i>	Investigation of MBR Effluent Water Quality and Technology—A Worldwide Survey <i>James DeCarolis MWH</i>	Proposed Recommendations to Minimize the Degradation of Reclaimed Water Quality in Distribution Systems <i>Patrick Jjemba American Water</i>	Combining Reverse and Forward Osmosis for Low Energy Desalination and Potable Reuse <i>Tzahi Cath Colorado School of Mines</i>
2:00 p.m. – 2:30 p.m.	Is Wastewater Reuse Coming to the “Water Rich” Northeast? The University of Connecticut Evaluates MF/RO/and UV to Solve Its Water Supply Problems <i>Richard Cisterna Hazen &amp; Sawyer</i>	Full-Scale Evaluation of Antiscalant and NDMA Removal at Scottsdale Water Campus <i>Kevin Alexander Separation Processes</i>	Seasonal Variation in Accurate Identification of E. coli in Treated Municipal Effluent and Irrigated Soils <i>Jean McLain USDA Agricultural Research Service</i>	Environmental Impacts of Desalination from California to the Middle East <i>Karla Kinser MWH</i>
2:30 p.m. – 3:00 p.m.	Operational Experiences of NEWater Plants <i>Elaine Quek PUB Singapore</i>	Modeling the Removal of Organic Contaminants by Highpressure Membranes <i>Christopher Bellona Colorado School of Mines</i>	Health Effects Concerns of Water Reuse Industry: Prioritizing Chemical Research Needs <i>Joe Cotruvo Joseph Cotruvo &amp; Associates</i>	Carbon Neutral Desalination in Monterey, CA <i>Jim Heitzman Marina Coast Water District</i>
3:00 p.m. – 3:30 p.m.	<b>Refreshment Break</b>			
3:30 p.m. – 4:00 p.m.	Reclaimed Water Planning as an Effective Wastewater Management Tool <i>Mark Buscher King County</i>	Bench-Scale and Pilot-Scale Testing of Alternative High-Pressure Membranes <i>Bruce Mansell County Sanitation Districts of Los Angeles County</i>	Comparison of the Inorganic and Organic Matter Composition of Reclaimed and Conventional Drinking Waters <i>Eric Dickenson Colorado School of Mines</i>	Harvesting Wastewater Energy with Pressure Retarded Osmosis <i>Andrea Achilli University of Nevada, Reno</i>
4:00 p.m. – 4:30 p.m.	North Texas MWD East Fork Raw Water Supply Project—A Natural Treatment System Success Story <i>Ellen McDonald Alan Plummer Associates</i>	Challenges and Lessons Learned from Pilot Testing of an Advanced Water Treatment Facility <i>Ufuk Erdal CH2M HILL</i>	Quantitative Risk for Eastern Treatment Plant and Western Treatment Plant, Melbourne, Australia <i>Judy Blackbeard Melbourne Water</i>	Renewable Energy Application in Water Reuse <i>Ernest Yeboah Inland Empire Utilities Agency</i>
4:30 p.m. – 5:00 p.m.	Sustainable Water Management at UNC Chapel Hill's New Satellite Campus <i>Carolyn Efland University of North Carolina, Chapel Hill</i>	Multiple-Barrier Treatment Process: An Alternative To MBR Technology—Field Application At St. Helens WWTP, Australia <i>James Horton Aqua-Aerobic Systems</i>	Seasonal Reclaimed Water Quality Assessment of Nutrient, Chemical & Biological Variability <i>Channah Rock University of Arizona</i>	Conserving Both Water and Energy through Water Recycling <i>David Roohk HDR Engineering</i>
5:30 p.m. – 7:00 p.m.	<b>President's Reception at the Space Needle</b>			

# 24th WaterReuse annual symposium

## 24th Annual WaterReuse Symposium Program

**Tuesday, September 15, 2009**

6:30 a.m. – 2:00 p.m. **Registration Open**

6:30 a.m. – 3:30 p.m. **Exhibit Hall Open**

6:30 a.m. – 8:00 a.m. **Continental Breakfast**

### Early Bird Session: Sustainability of Energy and Alternative Water Sources

7:00 a.m. – 7:30 a.m. A 21st Century Project Must Be Diverse in its Solutions, Socially and Politically Astute, and Environmentally Sound  
*Steve Kasower, University of California, Santa Cruz*

7:30 a.m. – 8:00 a.m. A Proposed Role for Water Reuse in Achieving National Energy Independence  
*Dawn Lesley, Kennedy/Jenks Consultants*

8:00 a.m. – 9:00 a.m. **National Legislative and Water Policy Plenary Session**

	<b>A3: Reuse Treatment Technologies</b>	<b>B3: Microconstituents</b>	<b>C3: Thinking Green</b>	<b>D3: Institutional Issues Associated with Desalination</b>
9:00 a.m. – 9:30 a.m.	Maximizing Filtration Capacity for Production of Tertiary Recycled Water <i>Bahman Sheikh Water Reuse Consultant</i>	Formation and Occurrence of NDMA at the City of Scottsdale Water Campus <i>Benjamin Lee Water Works Engineers</i>	Walking the Talk: Water Recycling and Energy Efficiency Intertwined at an Eco-Tourism Resort <i>Michael Falk HDR Engineering</i>	The Impact of Legislation Eliminating Use of Ocean Outfalls on Reuse in Southeast Florida <i>Patrick Gleason CDM</i>
9:30 a.m. – 10:00 a.m.	Field Evaluation of MF-Ozone-BAC Process Train for Removing of Microconstituents from Wastewater Effluent <i>Vijay Sundaram ECO:LOGIC Engineering</i>	Perchlorate, Bromate, and Other Contaminants in Hypochlorite: Implications for Water Reuse <i>Benjamin Stanford Southern Nevada Water Authority</i>	The Graywater "Blues" - The Perils of Its Use <i>Alan Rimer Black &amp; Veatch</i>	Water Reuse and Desalination in the Modern Water Supply Portfolio <i>Jorge Arroyo Texas Water Development Board</i>
10:00 a.m. – 10:30 a.m.	<b>Refreshment Break</b>			
10:30 a.m. – 11:00 a.m.	Evaluation of Three Filtration Technologies to meet Unrestricted Water Reuse Criteria <i>Onder Caliskaner Kennedy/Jenks Consultants</i>	Predicting Future Contaminants of Concern for Indirect Potable Water Reuse <i>Peter Fox Arizona State University</i>	Effective Use of Recycled Water in Cooling Towers with New Green Technology <i>Joe Walters West Basin Municipal District</i>	Tampa Bay Seawater Desalination Facility—Environmental Impact Monitoring <i>Robert McConnell Tampa Bay Water</i>
11:00 a.m. – 11:30 a.m.	New Monitoring System for On-line Real Time Measurement of Bacterial Load in the Treatment Process <i>John Adams JMAR Technologies</i>	Are Downstream Fish Under the Influence of Estrogen? <i>Clint Rogers Carollo Engineers</i>	The Future of Water Recycling in the United States from a Land Use Planner's Perspective <i>Vicki Elmer University of California</i>	The Benefits and Costs of Desalting in the Inland Empire's Chino Basin <i>Bob Raucher Stratus Consulting</i>
11:30 a.m. – 12:00 p.m.	Nutrient Reduction on a Saline Stream: A New Twist to AWTP <i>Cindy Wallis-Lage Black &amp; Veatch</i>	Membrane Bioreactor vs. Extended Aeration Treatment Pilot Study—Effluent and Groundwater Quality <i>Leslie Dumas RMC Water and Environment</i>	Environmental Applications of Reclaimed Water in Kitsap County, WA <i>Adrienne Yang Golder Associates</i>	Jordan Industries Improve their Environmental Performance Through Integrated EMS/P2 <i>Mai Abu Tarbush CDM</i>
12:00 p.m. – 1:30 p.m.	<b>Lunch on Your Own</b>			

## 24th Annual WaterReuse Symposium Program

**Tuesday, September 15, 2009 (Continued)**

12:00 p.m. – **WaterReuse Association Committee Meetings**  
1:30 p.m.

1:30 p.m. – **Carnation Wastewater Treatment Facility and Reclaimed Water Wetland Enhancement Tour**  
5:30 p.m. *(Limited to 50 people)*

	<b>A4: Agricultural Reuse</b>	<b>B4: Reuse Regulatory Issues</b>	<b>C4: Urban Reuse &amp; Case Studies</b>	<b>D4: Desalination Treatment Technologies &amp; Industrial Applications</b>
1:30 p.m. – 2:00 p.m.	Research to Demonstrate the Safety of Reclaimed Water for Edible Crops <i>Sally Brown University of Washington</i>	Protecting Use of Purple Pipe for Municipal Reclaimed Water—The Reader's Digest Version <i>Don Vandertulip CDM</i>	Revolution in Urban Recycling Risk Management <i>Hamish Reid South East Water</i>	Treatment of Oilfield Produced Wastewater for Industrial Re-Use <i>Peter Lemke Golder Associates</i>
2:00 p.m. – 2:30 p.m.	Managing the Blue Green Algae, <i>microcystis aeruginosa</i> , in Recycled Water in Melbourne, Australia <i>Judy Blackbeard Melbourne Water</i>	Washington's Reclaimed Water Program Evolving from Guidelines to Rule <i>Jim McCauley Washington Department of Ecology</i>	Playa Vista: LA's First Recycled Water Community <i>Victoria Cross Los Angeles Department of Water and Power</i>	Optimization of Forward Osmosis for Sustainable Inland Brackish Water Desalination <i>Nathan Hancock Colorado School of Mines</i>
2:30 p.m. – 3:00 p.m.	Reclaimed Water for Urban Farming in Seattle: Growth and Physiology of Six Horticultural Crops Irrigated with Reclaimed Water <i>Soo-Hyung Kim University of Washington</i>	Assuring a Clean, Abundant Water Supply Developing California's Recycled Water Policy through a Stakeholder Process <i>Mary Grace Pawson Winzler &amp; Kelly</i>	Reuse in Fort Worth—Starting from Scratch with a Regional System <i>Stephen Crumb City of Fort Worth</i>	Optimization of the Production Process of Industrial Cooling Water with High Cost-Efficiency <i>Yuansheng Pei Beijing Normal University</i>
3:00 p.m. – 3:30 p.m.	<b>Refreshment Break</b>			
	<b>E4: Poetic Utilities: Artists Re-imagine Water Infrastructure</b>	<b>B4: Reuse Regulatory Issues</b>	<b>C4: Urban Reuse &amp; Case Studies</b>	<b>D4: Desalination Treatment Technologies &amp; Industrial Applications</b>
3:30 p.m. – 4:00 p.m.	Exploring Social and Environmental Issues through Design and Planning <i>Buster Simpson Artist</i>	National Regulatory Trends Related to Impacts of Nutrients in Reclaimed Water <i>Jo Ann Jackson Brown and Caldwell</i>	Expanding a Successful Reuse Program <i>John D'Antoni Alan Plummer Associates</i>	Identifying the Cause of Reverse Osmosis Membrane Fouling at the Vander Lans Water Treatment Facility <i>R. Shane Trussell Trussell Technologies</i>
4:00 p.m. – 4:30 p.m.	Addressing Watershed Environments by Blending Sculpture, Infrastructure, Ecology, Architecture, and Theater <i>Lorna Jordan Artist</i>	The State of Indirect Potable Reuse Regulations: What Can we Learn and Where are we Headed? <i>Richard Cisterna Hazen &amp; Sawyer</i>	Innovative Reuse in the Desert: The Chandler Heights Community Facilities Project <i>Jason Marie Carollo Engineers</i>	Enhanced Concentrate Recovery Pilot Testing for the San Antonio Water System (SAWS) Brackish Water Project <i>Howard Steiman R.W. Beck</i>
4:30 p.m. – 5:00 p.m.	Creating Large and Intimate Scale Artworks that Shape and Bring Excitement and Wonder to the Urban Environment <i>Dan Corson Artist</i>	Reuse Rights—Preserving Water Rights When Sharing Wastewater Infrastructure <i>Robert Demis Richard P. Arber Associates</i>	Reclaimed Water: The Solution for a Puget Sound Utility's Integrated Water Needs <i>John Poppe West Sound Utility District</i>	Treatment of Groundwater Containing Iron and Manganese Using Reverse Osmosis Process <i>Srinivas Veerapaneni Black &amp; Veatch</i>

# 24th WaterReuse annual symposium

## 24th Annual WaterReuse Symposium Program

**Wednesday, September 16, 2009**

6:30 a.m. – **Registration Open**  
8:30 p.m.

6:30 a.m. – **Continental Breakfast**  
8:00 a.m.

### Early Bird Session: Lookin' For Reuse in All the Wrong Places? Hardly!

7:00 a.m. – Design and Operation Requirements of MBRs for Sanitary Wastewater Reuse in Saudi Arabia  
7:30 a.m. – *Subhi Al-Aama, The Saudi Arabian Oil Company*

7:30 a.m. – Water Reuse in Soft Drink Production  
8:00 a.m. – *Paul Bowen, The Coca-Cola Company*

#### A5: Groundwater Issues – Part II

#### B5: Innovative Reuse Applications

#### C5: Reuse Distribution & Storage Systems

#### D5: Desalination Case Studies

8:00 a.m. – The Fate of Injected Recycled Water at the Dominguez Gap Barrier, Los Angeles County, California  
8:30 a.m. – *Stephen Thomas  
Golder Associates*

Leveraging Water Reuse to Create Community Value: A New Paradigm  
*Diane Taniguchi-Dennis  
City of Albany, Oregon*

Myth or Reality: Is Coliform Regrowth a Concern for your Distribution System?  
*Patrice Parsons  
Monterey Regional Water Pollution Control Agency*

Tapping the Ocean in Monterey County, California: The Sand City Desalination Facility  
*Greg Wetterau  
CDM*

8:30 a.m. – Designing to Meet Stringent Florida Regulatory Indirect Potable Reuse Requirements  
9:00 a.m. – *Bruce Chalmers  
CDM*

Use of Recycled Water in Zoos and Wildlife Facilities: Water Quality, Treatment, Animal Health and Regulations  
*Cheryl Munoz  
San Francisco Public Utilities Commission  
Stephanie Vermande,  
Metcalf & Eddy/AECOM*

When New Customers Demand More: Expanding and Enhancing the San Antonio Recycled Water System  
*Jonathan Vorheis  
CH2M HILL*

Characterization of Fouling on Post Intermediate Concentrate Stabilization Secondary RO Membrane  
*Charlie He  
Carollo Engineers*

9:00 a.m. – Groundwater Reliability Improvement Program (GRIP) For the Upper San Gabriel and Central Basins in Los Angeles County  
9:30 a.m. – *John Robinson  
MWH*

City of Phoenix Water Softener Study—Developing Salinity Management Strategies  
*Peter Newell  
HDR Engineering*

Developing Reclaimed Water for the West County Energy Center  
*Walter Bashaw  
Jordan, Jones & Goulding*

Tampa Bay Water Seawater Desalination Project, After a Year of Operation  
*Don Polmann  
Tampa Bay Water*

9:30 a.m. – Soil Aquifer Treatment for Microconstituent Removal  
10:00 a.m. – *Ronald Crites  
Brown and Caldwell*

Case 1: No Water, No Watts;  
Case 2: No Watts, No Water  
*Henry Day  
Arizona Public Service*

Conveying Class A or Effluent: Establishing an Innovative Disinfection Protocol for Continuous Use of a Central Discharge Pipeline  
*Susanna Leung  
Carollo Engineers*

Pilot Operation of Novel High-Rate Granular Media Filtration as Prestrainer to Microfiltration on Open-Intake Seawater Source  
*Phil Lauri  
West Basin Municipal District*

10:00 a.m. – **Closing Plenary Session: Direct Potable Reuse—Has its Time Come?**  
12:00 p.m.

12:00 p.m. – **Executive Director's Closing**  
12:15 p.m.

## Registration Information

Register early and save! The Early Bird Registration deadline is **July 20, 2009**. All registration forms accompanied by full payment and received on or before July 20, 2009 will qualify for the Early Bird Registration rate. All registrations received after July 20, 2009 will be charged an additional \$50.

The Advance Registration Deadline is **August 31, 2009**. Registrations received after August 31, 2009 will not be processed and you will need to register onsite at the Sheraton Seattle Hotel. There will be an additional \$50 fee for all onsite registrations.

Badges and conference materials may be picked up at the conference registration desk at Sheraton Seattle Hotel beginning September 13.

## Confirmations

All registrants will receive a confirmation via e-mail once registration and full payment have been processed. This confirmation will also serve as your receipt of payment. Please allow two weeks from the time your registration is submitted until you receive your confirmation via e-mail.

## Cancellation Policy

All cancellations must be submitted in writing by **August 31, 2009** to qualify for a refund. A \$50 cancellation fee will be deducted from all refund requests received by August 31, 2009. No refunds will be made after August 31, 2009. Refunds are not given for no-shows.

E-mail cancellations or substitution requests to [ctharpe@watereuse.org](mailto:ctharpe@watereuse.org)

## Registration Instructions

- Print or type and complete all sections of the registration form.
- Use one form per registrant. For additional attendees, photocopy the form as needed or print one from our website.
- Full-Time Students must include a copy of their student identification with their registration form to receive the student registration rate.
- Registration will not be accepted without full payment (check or credit card) or federal 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 WateReuse Association.
- Purchase orders are accepted in advance from U.S. Government agencies only. You must include the purchase order number on the registration form. Government purchase orders will not be accepted onsite.

## Online

[www.watereuse.org/conferences/symposium/24](http://www.watereuse.org/conferences/symposium/24)

To register online, you will be asked to login or create an account. If you are a member or a past attendee, you already have an account established. Your username is your e-mail address, and if you've forgotten your password, you can click on the "Forgot password" link. To register another person for the conference, you must login using his or her WateReuse username (e-mail address) and password.

## Fax

(703) 548-5085

Faxed registration must be accompanied by full payment.

## Mail

WateReuse Association  
1199 North Fairfax Street, Suite 410  
Alexandria, VA 22314



# 24th WaterReuse annual symposium

## What's Included with Your Registration

	Member (WaterReuse, AWWA or WEF)	Nonmember	Full Time Student	One Day Registration
Golf Tournament	No	No	No	No
Technical Tours	No	No	No	No
Pre-Conference Workshops (Sun.)	No	No	No	No
EPA Forum (Sun.)	Yes	Yes	Yes	No
Technical Sessions (Mon., Tues. and Wed.)	Yes	Yes	Yes	Registered Day Only
Exhibit Hall	Yes	Yes	Yes	Registered Day Only
Welcome Reception (Sun.)	Yes	Yes	Yes	Sunday Only Registrants
Monday Breakfast	Yes	Yes	Yes	Monday Only Registrants
Awards Luncheon (Mon.)	Yes	Yes	Yes	Monday Only Registrants
President's Reception (Mon.)	Yes	Yes	Yes	Monday Only Registrants
Tuesday Breakfast	Yes	Yes	Yes	Tuesday Only Registrants
Conference Proceedings	Yes	Yes	Yes	Yes



## 24th Annual WaterReuse Symposium Advance Registration Form

September 13, 2009 – September 16, 2009

### CONTACT INFORMATION

Full Name \_\_\_\_\_ First name as it should appear on your badge \_\_\_\_\_

Title \_\_\_\_\_ Organization \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State/Province \_\_\_\_\_ Country \_\_\_\_\_ Postal/Zip \_\_\_\_\_

Phone \_\_\_\_\_ Fax \_\_\_\_\_

E-Mail Address \_\_\_\_\_ cc: E-Mail Address \_\_\_\_\_

### ADDITIONAL INFORMATION

This is my first WaterReuse Symposium

I have the following dietary restrictions: \_\_\_\_\_

**Conference T-Shirt Size:**  Small  Medium  Large  Extra Large  None

**I am also a member of:**  AMTA  AMWA  AWWA  IWA  NACWA  PNCWA  WEF

#### How did you first hear about the 24th Annual WaterReuse Symposium?

Registration Brochure  Exhibitor/Sponsor Prospectus  Blast E-mail from WaterReuse  
 WaterReuse Website  Print Ad in a Publication  Blast E-mail from another Organization  
 Colleague  Other \_\_\_\_\_

#### Why are you attending the 24th Annual WaterReuse Symposium? (Check all that apply)

Quality Technical Program  Networking Opportunities  Education/Professional Development Hours  
 Location/Hotel  Exhibitor Opportunity  Sponsorship Opportunity  
 Speaker  Other \_\_\_\_\_

### MEAL FUNCTIONS

To assist us in providing accurate food guarantees, please check the meal functions you plan to attend.

<b>Sunday, September 13</b>	<b>Monday, September 14</b>	<b>Tuesday, September 15</b>	<b>Wednesday, September 16</b>
<input type="checkbox"/> Welcome Reception	<input type="checkbox"/> Continental Breakfast <input type="checkbox"/> Awards Luncheon <input type="checkbox"/> President's Reception	<input type="checkbox"/> Continental Breakfast	<input type="checkbox"/> Continental Breakfast

### CONCURRENT TECHNICAL SESSIONS

Sessions are included in your registration fee; there is no additional cost. Please select only one session per time slot. You are free to change your selection at any time. Detailed descriptions of each presentation are available at [www.watereuse.org/conferences/symposium/24](http://www.watereuse.org/conferences/symposium/24).

<b>Sunday, September 13</b>	<b>Monday, September 14</b>	<b>Tuesday, September 15</b>	<b>Wednesday, September 16</b>
<input type="checkbox"/> EPA Forum	<input type="checkbox"/> A1 <input type="checkbox"/> B1 <input type="checkbox"/> C1 <input type="checkbox"/> D1 <input type="checkbox"/> A2 <input type="checkbox"/> B2 <input type="checkbox"/> C2 <input type="checkbox"/> D2	<input type="checkbox"/> Early Bird Session <input type="checkbox"/> National Legislative & Water Policy Session <input type="checkbox"/> A3 <input type="checkbox"/> B3 <input type="checkbox"/> C3 <input type="checkbox"/> D3 <input type="checkbox"/> A4 <input type="checkbox"/> B4 <input type="checkbox"/> C4 <input type="checkbox"/> D4 <input type="checkbox"/> E4	<input type="checkbox"/> Early Bird Session <input type="checkbox"/> A5 <input type="checkbox"/> B5 <input type="checkbox"/> C5 <input type="checkbox"/> D5

# 24th WaterReuse annual symposium

## REGISTRATION FEES Please circle the appropriate fees that apply

Registration Rates	Before 7/20/09	Between 7/21/09-8/31/09	Onsite Registration After 8/31/09
• WaterReuse Association Members	\$500	\$550	\$600
• AWWA Members	\$500	\$550	\$600
• WEF Members	\$500	\$550	\$600
• Nonmembers	\$575	\$625	\$675
• Full Time Students (requires valid student I.D.)	\$100	\$150	\$200
• One Day Rate – Monday	\$225	\$275	\$325
• One Day Rate – Tuesday	\$225	\$275	\$325
• One Day Rate – Wednesday	\$175	\$225	\$275

### Additional Registration Fees

• WS1: Desalination 101 (Limited to 50 people).....	\$75
• WS2: Membrane Bioreactors (Limited to 50 people).....	\$75
• Golf Tournament at Foster Links Golf Course.....	\$75
• LOTT Alliance Tour (Limited to 40 people).....	\$55
• South Treatment Plant Reclaimed Water Facility and Reclaimed Water Research Garden Tour (Limited to 50 people).....	\$45
• Carnation Wastewater Treatment Facility and Reclaimed Water Wetland Enhancement Tour (Limited to 50 people).....	\$45

### Guest Tickets

• Guest at Sunday's Welcome Reception.....	\$35
Name of Guest _____	
• Guest at Monday's Awards Luncheon.....	\$30
Name of Guest _____	
• Guest at Monday's President's Reception.....	\$40
Name of Guest _____	

**PAYMENT** Full payment must accompany your advance registration form. Your signature below authorizes the WaterReuse Association to charge your credit card the total payment and acknowledges there are no refunds after August 31, 2009.

Check (payable to WaterReuse Association)     VISA     MasterCard     AMEX

Purchase Order # \_\_\_\_\_

Card Number \_\_\_\_\_ Expiration Date \_\_\_\_\_

Print Cardholder Name \_\_\_\_\_ Total Due \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

### Fax or mail completed registration forms to:

#### Fax

(703) 548-5085

Faxed registration must be accompanied by full payment.

#### Mail

WaterReuse Association  
1199 North Fairfax Street, Suite 410  
Alexandria, VA 22314

## Important Dates to Remember

July 20, 2009	Early Bird Registration Deadline
August 22, 2009	Hotel Reservation Deadline
August 31, 2009	Advance Registration Deadline
August 31, 2009	Cancellation Deadline

## Upcoming Events

### 2010 California Section Annual Conference

Paradise Point Resort & Spa  
San Diego, CA  
March 7–9, 2010

### 14th Annual Water Reuse & Desalination Research Conference

Grand Hyatt Tampa Bay  
Tampa, FL  
May 24–25, 2010

### 25th Annual WaterReuse Symposium

Omni Shoreham Hotel  
Washington, DC  
September 12–15, 2010





1199 N. Fairfax Street, Suite 410  
Alexandria, VA 22314

