



**GROUNDWATER RESOURCES ASSOCIATION
OF CALIFORNIA**

17th Annual GRA Meeting and Conference
“GROUNDWATER: Challenges to Meeting our Future Needs”

Short Course - September 24, 2008 ♦ Field Trip - September 24, 2008

Conference - September 25-26, 2008

Hilton Hotel - Costa Mesa, CA

PROGRAM AGENDA

(as of 8/19/08)

CONFERENCE CO-CHAIRS

Ted Johnson, Water Replenishment District of Southern California
 Vicki Kretsinger, Luhdorff & Scalmanini Consulting Engineers

Day 1 – Wednesday, September 24, 2008

7:00 am–5:00 pm **Registration**

8:00 am–5:00 pm **Short Course: An Introduction to Practical Statistics**
 Instructor: Dennis Helsel, Ph.D., Principal of Practical Stats

11:00 am–4:00 pm **Field Trip: Orange County Water District’s Groundwater Replenishment System**
 6:00 pm–9:00 pm **Annual Conference Dinner Meeting, organized by GRA’s Southern California Branch**
“A Framework for Groundwater Storage in Central and West Coast Sub-Basins of the Coastal Plain of Los Angeles”
 Chris Frahm, Esq., Brownstein Hyatt Farber Schreck, LLP
 William Kruse, Esq., Lagerlof, Senecal, Gosney & Kruse

Day 2 – Thursday, September 25, 2008

7:00 am–5:00 pm **Registration**

8:00–8:25 am **Conference Welcome – James F. Strandberg, GRA President**

General Session: Groundwater Challenges

Moderators: Ted Johnson, Water Replenishment District of Southern California and Vicki Kretsinger, Luhdorff & Scalmanini, Consulting Engineers

8:30–9:00 am	<i>California’s Water: Managing Change in Uncertain Times</i> Lester Snow, Director of the California Department of Water Resources
9:00–9:30 am	<i>Basin Cleanup and Role of Replenishment Water</i> Jeff Kightlinger, General Manager, Metropolitan Water District of Southern California
9:30–10:00 am	<i>Ground-Water Availability in the United States</i> William Alley, Chief, Office of Groundwater, U.S. Geological Survey

10:00–10:30 AM BREAK – Exhibit Hall

Concurrent Session 1A: Surface Water/Groundwater Interactions

Moderator: Eric Reichard, U.S. Geological Survey

Concurrent Session 1B: Watershed Water Quality Management

Moderator: Richard Laton, California State University, Fullerton

Track A

10:30–11:00 am	<i>Application of Ecohydrology in Analysis and Minimization of Development Impacts</i> Michael Donovan, Psomas
11:00–11:30 am	<i>Surface Water/Groundwater Interactions at a Riverbank Filtration System - Sonoma County, California</i> Jay Jasperse, Deputy Chief Engineer, Sonoma County Water Agency
11:30–12:00 pm	<i>Integrated Hydrologic Modeling Using GSFLOW</i> Rich Niswonger, U.S. Geological Survey

Track B

10:30–11:00 am	<i>From Man's Impacts to a Sustainable, High Quality Resource—The Challenges and Solutions to Developing a Regulatory Program to Recover and Protect Water Quality</i> Pamela Creedon, Executive Officer, Central Valley Water Regional Control Board
11:00–11:30 am	<i>Santa Ana Watershed Groundwater Management and Applications to Other Areas in California</i> Jerry Thibeault, Executive Officer, Santa Ana Regional Water Quality Control Board
11:30–12:00 pm	<i>Delineation of Saltwater Intrusion in Coastal Sandy Aquifers Using Time Domain Electromagnetic Induction and High Resolution Electric Resistivity Soundings, West Coast Basin, Los Angeles County, California</i> John Jansen, Ruekert & Mielke, Inc.

12:00–1:30 PM**LUNCH KEYNOTE PRESENTATION – *Tales of Bottled Water and French Fries: The Environmental Consequences of Groundwater Pumping***

Robert Glennon, Morris K. Udall Professor of Law and Public Policy, Rogers College of Law at the University of Arizona

Concurrent Session 2A: Groundwater Storage

Moderator: Tom McCarthy, Wildermuth Environmental

Concurrent Session 2B: Demonstrating Groundwater Supply Sufficiency &/or Reliability

Moderator: Sarah Raker, MACTEC Engineering and Consulting

Track A

1:30–2:00 pm	<i>Aquifer Storage Recovery: Meeting Water Quality Goals for Arsenic, DBPs and Nutrients</i> David Pyne, ASR Systems, LLC
2:00–2:30 pm	<i>Groundwater Assessment Study for Metropolitan Water District of Southern California</i> Kathy Kunysz, Program Manager, Groundwater Storage Issues, Metropolitan Water District of Southern California
2:30–3:00 pm	<i>Recommendations from the National Research Council's Study of Managed Underground Storage</i> Will Logan, Senior Staff Officer, National Academy of Sciences, National Research Council

Track B

1:30–2:00 pm	<i>Sustainable Yields of Groundwater</i> Victor Ponce, Professor, California State University, San Diego
2:00–2:30 pm	<i>Groundwater Supply Assessment in Semi-Arid Groundwater Basins</i> Vera Nelson, Eler & Kalinowski, Inc.
2:30–3:00 pm	<i>A GIS-Based Decision Support System to Determine Groundwater Availability for Santa Fe County, New Mexico</i> David Jordan, INTERA, Inc.

3:00–3:30 PM BREAK – Exhibit Hall

Concurrent Session 3A: Collegiate Groundwater Colloquium

Moderator: Jean Moran, Lawrence Livermore National Laboratory

Concurrent Session 3B: Delta Issues

Moderator: Chris Petersen, MWH Americas, Inc.

Track A

3:45–4:00 pm	<i>Evaluation of Monitoring Approaches for Natural Attenuation</i> Laura Roll, University of California, Davis
4:00–4:15 pm	<i>Stratigraphic Controls on Seawater Intrusion and Implications for Ground-Water Management, Dominguez Gap Area of Los Angeles, California</i> Adam Siade, University of California, Los Angeles
4:15–4:30 pm	<i>Budget and Hydrogeologic Model of Spring Flow at Limestone Hill, Zzyzx Desert Studies Center</i> Peggy Barthel, California State University, Fullerton
4:30–4:45 pm	<i>Geological Assessment for Groundwater Recharge Suitability and Storability in Canyon Areas of the Western San Fernando Valley, California</i> Colleen Garcia, California State University, Northridge
4:45–5:00 pm	<i>Homogenization Techniques for Reactive Transport in Porous Media</i> Ilenia Battiato, University of California, San Diego

Track B

3:30–4:00 pm	<i>Overview of the Sacramento Valley Water Management Program and Conjunctive Water Management Projects</i> Robert Niblack, California Department of Water Resources
4:00–4:30 pm	<i>Role of Delta in Central Valley Groundwater System --Results from Central Valley Groundwater Model</i> Claudia Faunt, U.S. Geological Survey
4:30–5:00 pm	<i>Subsidence Reversal Through Wetland Restoration and Carbon Sequestration Sacramento-San Joaquin River Delta</i> Roger Fujii, U.S. Geological Survey

5:00–7:00 pm

GRA PRESIDENT'S RECEPTION, EXHIBITS, AND POSTER SESSION – Exhibit Hall**Day 3 – Friday, September 26, 2008**

7:00 AM–10:00 AM

Registration**Concurrent Session 4A: Groundwater Protection and Remediation**

Moderator: Roy Herndon, Orange County Water District

Concurrent Session 4B: Recycled Water for Recharge

Moderator: Ted Johnson, Water Replenishment District of So. California

Track A

8:30–9:00 am	<i>Groundwater Protection Council Report: "A Call to Action"</i> Paul Jehn, Technical Director, Ground Water Protection Council
9:00–9:30 am	<i>Realizing Groundwater Remediation Goals</i> Chris Ross, Hargis + Associates
9:30–10:00 am	<i>MtBE's Lingering Legacy at UST Sites in Santa Ana Region</i> Ken Williams, UST Section Chief, Santa Ana Regional Water Quality Control Board

Track B

8:30–9:00 am	<i>California's Draft Criteria for Groundwater Recharge with Reclaimed Water</i> Brian Bernados, California Department of Public Health
9:00–9:30 am	<i>Recycled Water Recharge Regulations and the SWRCB</i> Gordon Innes, Regulatory Section Chief, State Water Resources Control Board
9:30–10:00 am	<i>Risk Assessment for Montebello Forebay Groundwater Recharge Program</i> Jeff Soller, Soller Environmental

10:00–10:30 am BREAK – Exhibit Hall

Concurrent Session 5A: Groundwater Protection & Remediation

Moderator: John Ungvarsky, U.S. Environmental Protection Agency

Concurrent Session 5B: Recycled Water for Recharge

Moderator: Martin Steinpress, Brown and Caldwell

Track A

10:30–11:00 am	<i>Revisiting Pump and Treat: A Case Study in Lodi</i> Duncan Austin, Senior Water Resource Engineer, Central Valley Regional Water Quality Control Board
11:00–11:30 am	<i>Application of In-Situ Chemical Treatment for Groundwater Contamination Cleanup in Los Angeles Area, California</i> Weixing Tong, Los Angeles Regional Water Quality Control Board
11:30–12:00 pm	<i>Use of Chemical Oxidation to Expedite Cleanup of a 10-Year Pump and Treat Site</i> Gary Cronk, JAG Consulting Group, Inc.

Track B

10:30–11:00 am	<i>Soil-Aquifer Treatment Demonstrations Enhance Recharge in the Chino Groundwater Basin, Southern California</i> Andy Campbell, Inland Empire Utilities Agency
11:00–11:30 am	<i>Meeting Future Needs: Looking for Storage in Unusual Places</i> Leslie Dumas, RMC Water and Environment
11:30–12:00 pm	<i>The Groundwater Replenishment System: 70 MGD of New, Local Supply for the Orange County Groundwater Basin</i> Shivaji Deshmukh, Orange County Water District

**12:00 – 1:30 pm LUNCH – Presentation of Kevin J. Neese Award and Presentation of Lifetime Achievement Award
GRA Annual Meeting and Legislative Update**

Lunch Program:

Moderator: Stephanie Hastings, Brownstein Hyatt Farber Schreck, LLP

Awards Presentation: Stephanie Hastings and James F. Strandberg

GRA Annual Meeting: James F. Strandberg, GRA President

Legislative Update: Tim Parker, Schlumberger Water Services and Chris Frahm, Brownstein Hyatt Farber Schreck, LLP

General Session: Emerging Groundwater Issues (Panel Discussion)

Moderator: Murray Einarson, Geomatrix Consultants, Inc.

1:40 – 2:00 pm	<i>Groundwater as a Climate Solution: The Energy Intensity of Water Supply Options</i> Robert Wilkinson, Director, Water Policy Program, University of California, Santa Barbara
2:00 – 2:20 am	<i>Geological Storage of CO₂ and Potential Groundwater Impacts</i> Sally Benson, Executive Director, Global Climate and Energy Project, Stanford University
2:20 – 2:40 am	<i>Anticipating Threats to Groundwater Posed by Chemical Contaminants in Recharge Water</i> David Sedlak, Professor, University of California, Berkeley
2:40 – 3:00 pm	<i>Nanotechnologies for Groundwater Remediation and Hazardous Waste Treatment</i> Wei-xian Zhang, Director, Institute of Environmental Nanotechnology, Lehigh University

3:00 – 3:20 pm Q&A – Panel and Audience Discussion

3:20 – 3:30 PM **Closing Remarks**

POSTER PRESENTATIONS

(Available for viewing during the entire Conference)

1. *Characterizing an Artificial-Recharge Site in a Desert Environment Using Time-Domain Electromagnetics (TEM), San Diego State University (invited)*
Matt Burgess, U.S. Geological Survey
2. *New Detailed Model for El Mirage Subsurface Geology, El Mirage, CA*
Dale Dailey, California State University, Fullerton
3. *Validation of a Large Volume Most-Probable-Number Technique for US EPA Method 1601: Coliphage by a Two-Step Enrichment Procedure*
R.E. Danielson, BioVir Laboratories, Inc.
4. *Groundwater Contamination with Arsenic in the Eastern Region of Bangladesh: Source and Release Mechanism Critical and Cost-Effective Tool for Success*
Md. Abdul Halim, Kyushu University, Department of Urban and Environmental Engineering, Graduate School of Engineering
5. *Effective Management of Hexavalent Chromium During In-Situ Chemical Oxidation of Trichloroethylene with Permanganate*
Anthony Jones, ENVIRON International Corporation
6. *Groundwater Resources Evaluation of the Indian Wells Valley and New Results from AB 303 Project*
Jim Lin, Department of Water Resources
7. *From Groundwater and Aquifer Characterization to Assessing and Predicting Levee Integrity - Geophysics is a Unique*
Martin Miele, Shaw E&I
8. *Estimating Applied Irrigation for Urban Landscapes in South Coast Southern California, Using Theoretical and Conventional Means*
Eric Monzon, Southern California Resident
9. *Meeting Water Demands and Controlling Saltwater Intrusion in Southern California*
Robert Mooney, In-Situ Inc.
10. *Accelerated Remediation of Chloroform-Contaminated Soil Gas and Groundwater by 2-PHASE™ Extraction*
Christopher Ritchie, ENVIRON International Corporation
11. *Stratigraphic Analysis and Hydrogeologic Characterization of Cenozoic Strata in the Sacramento Valley Near the Sutter Buttes*
Steven Springhorn, Department of Water Resources, Central District
12. *The Geology of Spring Systems in the Vicinity of White Mountain/Silver Creek, Lucerne Valley, San Bernardino County, California*
John Velarde, California State University, Fullerton