



## “Groundwater Salinity: A Groundwater Dilemma”

March 24-25, 2009  
Radisson Hotel – Sacramento, CA

### Day 1 – Tuesday, March 24, 2009

(as of 3/16/09)

**7:00 AM**                      **Registration/ Breakfast**

8:15 – 8:30 AM            **GRA Welcome & Introduction**  
James F. Strandberg, GRA President

#### **Opening Session**

Moderator: Vicki Kretsinger, Luhdorff & Scalmanini, Consulting Engineers

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8:30 – 9:00 AM            *Groundwater in the Broader Context of California Water Policy*  
Dan Dooley, Vice President, University of California Agriculture and Natural Resources

9:00 – 9:30 AM            *Salt in the Rio Grande: Where Does It Come From, Where Does It Go To?*  
Fred Philips, Hydrology Program, New Mexico Tech

9:30 – 10:00 AM        *The Dilemma of Conflicting Laws*  
John Letey, Professor Emeritus at University of California, Riverside

**10:00 – 10:30 AM**      **BREAK – Exhibit Hall**

**General Session 1 – Salinity Impacts –Trends, Sources, Distributions, and Regulatory Perspectives**

Moderator: Karl Longley, Chair, Coordinator, Water Resources Programs, California Water Institute

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- 10:30 – 11:00 AM *Impact of Salinity*  
Joe Grindstaff, CALFED
- 11:00 – 11:30 AM *Estimating the Economic Costs of Salinity in the Central Valley*  
Richard Howitt, University of California, Davis
- 11:30 – 12:00 PM *Climate Change, Groundwater Sustainability and Salinity*  
Graham Fogg, University of California, Davis

**12:00 – 1:20 PM LUNCH and KEYNOTE PRESENTATION – TBA**

**Concurrent Session 1A – Characterization**

Moderator: Jean Moran, California State University, East Bay

**Concurrent Session 1B – Regional Salinity Sources**

Moderator: Sarge Green, California Water Institute

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| 1:20-1:50 pm | <i>Adaptive Fluid Logging Experiments to Determine the Depth Distribution of Salt from Existing Groundwater Wells Beneath Seasonally Flooded Wetlands</i><br>Nigel Quinn, Lawrence Berkeley National Laboratory | 1:20-1:50 pm | <i>Ground-Water Salinity “Hot Spots” Under the Lower San Joaquin River, California</i><br>Charles Kratzer, U.S. Geological Survey                                   |
| 1:50-2:20 pm | <i>Geophysical Methods to Map Brackish and Saline Water in Aquifers</i><br>John Jansen, Aquifer Science and Technology                                                                                          | 1:50-2:20 pm | <i>Distribution, Trends, and Factors Affecting Salinity in Ground Water in the Eastern San Joaquin Valley, California</i><br>Bryant Jurgens, U.S. Geological Survey |
| 2:20-2:50 pm | <i>The Combined Use of Stable Isotopes and Major Cations and Anions to Differentiate Salinity Impacts at Wastewater Treatment and Disposal Facilities</i><br>Thomas Butler, ECO:LOGIC Engineering               | 2:20-2:50 pm | <i>Sources of High-Chloride Water to Wells, Eastern San Joaquin Ground-Water Subbasin, California</i><br>John Izbicki, U.S. Geological Survey                       |

**2:50 – 3:20 PM BREAK – Exhibit Hall**

**Concurrent Session 2A – Fate and Transport**

Moderator: Michael Steiger, Erler &amp; Kalinowski, Inc.

**Concurrent Session 2B – Regional/Political Solutions**

Moderator: Ray Tremblay, Los Angeles County Sanitation Districts

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| 3:20-3:50 pm | <i>The Hilmar SEP: A Study of the Environmental Impacts of Salinity from Food Processing on Soil and Groundwater in the Central Valley, California</i><br>Pascual Benito, University of California, Berkeley | 3:20-3:50 pm | <i>Solving the Salinity Problem in the Santa Ana Watershed</i><br>Mark Wildermuth, Wildermuth Environmental, Inc.                                                                         |
| 3:50-4:20 pm | <i>Reduced Leaching: Transport of Salts and Boron and Impacts on Groundwater Quality</i><br>Donald Suarez, U.S. Salinity Laboratory, USDA-ARS                                                                | 3:50-4:20 pm | <i>Democracy in Action: Controlling Saline Discharges Via the Ballot Box</i><br>Francisco Guerrero, Los Angeles County Sanitation Districts                                               |
| 4:20-4:50 pm | <i>Evaluation of Background Salinity Conditions and Evapoconcentration in Shallow Groundwater</i><br>Christopher Heppner, Erler & Kalinowski, Inc.                                                           | 4:20-4:50 pm | <i>Central Valley Salinity and Nutrient Management Planning: Problem, Solutions and Plan</i><br>Daniel Cozad, Integrated Planning and Management, Inc.                                    |
| 4:50-5:10 pm | <i>Modeling Saline Impacts on Water Supply: Local and Regional Case Studies</i><br>Brian Heywood, Camp, Dresser, McKee (CDM)                                                                                 | 4:50-5:10 pm | <i>A Consensus Based Approach to Groundwater Overdraft and Saline Intrusion Management in Eastern San Joaquin County</i><br>Brandon Nakagawa, San Joaquin County Water Resources Division |

**5:30 – 7:00 PM****RECEPTION - Exhibits and Poster Session****Day 2 – Wednesday, March 25, 2009****7:00 am Registration/ Breakfast****Concurrent Session 3A – Source Impacts and Source Control**

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

**Concurrent Session 3B – Regulatory and Policy Issues**

Moderator: Rudy Schnagl, Central Valley Regional Water Quality Control Board

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| 8:10-8:40 am | <i>Dairy Impacts on Groundwater Salinity – A Regional Comparison</i><br>Thomas Harter, University of California, Davis | 8:10-8:40 am | <i>Bay Delta Water Quality Control Plan: Southern Delta Salinity</i><br>Les Grober, State Water Resources Control Board |
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| 8:40-9:10 am  | <i>Controlling Salinity Discharges from a Rendering Facility</i><br>Michael Steiger, Erler & Kalinowski, Inc.                                              | 8:40-9:10 am  | <i>Collaborative Regulation: The CV-SALTS Initiative and Salinity Regulation in the Central Valley</i><br>Ken Landau, Assistant E.O., Central Valley Regional Water Quality Control Board |
| 9:10-9:40 am  | <i>Municipal Wastewater Salinity Regulatory Compliance in an Agricultural Setting: A Million Dollar Question??</i><br>Joe DiGiorgio, ECO:LOGIC Engineering | 9:10-9:40 am  | <i>City of Tracy's Approach to Delta Salinity Requirements</i><br>Steve Bayley, City of Tracy                                                                                             |
| 9:40-10:10 am | <i>Brackish Groundwater as a Resource</i><br>James Beach, Leggette, Brashears and Graham, Inc.                                                             | 9:40-10:10 am | <i>SWRCB Resolution 68-16: The Ambient Water Quality Dilemma</i><br>Gary Carlton, Kennedy-Jenks                                                                                           |

**10:10-10:30 am      BREAK – Exhibit Hall**

**Concurrent Session 4A – Technologies**

Moderator: Jose Faria, Department of Water Resources

**Concurrent Session 4B – Wetland and River Salt Measurement and Management**

Moderator: Andrew Chang, UC Center for Water Resources

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| 10:30-11:00 am | <i>Integrated on-Farm Drainage Management: A Salt and Shallow Water Table Management Technique for Irrigated Lands</i><br>John Diener, Red Rock Ranch | 10:30-11:00 am | <i>Salt Dynamics in Isolated, Freshwater Wetlands</i><br>Kate Huckelbridge, University of California, Berkeley                                                                                                                    |
| 11:00-11:30 am | <i>One Water District, Three Desalination Projects</i><br>Michael Garrod, Sweetwater Authority                                                        | 11:00-11:30 am | <i>Investigating the Dynamics of Managed Wetland Ecosystems in the GEA: Relating Soil Salinity, Micro-Topography, and Vegetation Productivity</i><br>Patrick Rahilly, UC Merced, School of Engineering, Grasslands Water District |
| 11:30-12:00 pm | <i>Boron Occurrence and Treatment in Israel</i><br>Rami Keren, Professor, Volcani Center, Israel                                                      | 11:30-12:00 pm | <i>Lagrangian Sensor Network for Monitoring in the San Joaquin – Sacramento Delta</i><br>Andrew Tinka, University of California, Berkeley                                                                                         |

**12:00 – 1:20 PM      LUNCH**

## **General Session 2 – Saline Drainage/Seawater Intrusion**

Moderator: Andrew Chang, UC Center for Water Resources

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- 1:20 – 1:50 pm      *Assessment of Seawater Intrusion Potential from Seal Level Rise and Pumping in Coastal Aquifers of California*  
Hugo Loáiciga, University of California, Santa Barbara
- 1:50 – 2:20 pm      *Forages for Saline Drainage Water Management*  
Steven Kaffka, Director, Center for Integrated Farming Systems, University of California, Davis
- 2:20 – 2:45 pm      *Large Scale Utilization of Saline Groundwater for Development and Irrigation of Pistachios Interplanted with Cotton*  
Blake Sanden, UCCE Irrigation, Soils & Agronomy Advisor, Kern County
- 2:45-3:00 pm      BREAK – Exhibit Hall**

## **General Session 3 – Panel Discussion – What is the Future for Salinity Management?**

Moderator: Karl Longley, Chair, Coordinator, Water Resources Programs, California Water Institute

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- 3:00-4:00 pm      Panelists:  
Jonathan Bishop, Chief Deputy, State Water Resources Control Board  
Kamyar Guivetchi, Department of Water Resources  
Michael Hightower, Sandia National Laboratory (National Perspective on Desalination of Brackish Groundwater)  
Bobbi Larson, Central Valley Salinity Coalition
- 4:00 pm              Q&A with Panel
- 4:30 pm              Closing Remarks

## POSTER PRESENTATIONS

(Available for viewing during the entire Conference)

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*Evaluating the Effects of Soil Amendments on Physical and Chemical Properties of a Saline-sodic Soil*

Sharon Benes, Department of Plant Science, California State University, Fresno

*Selenium Incorporation and Performance of Beef Cattle Grazing Pastures Irrigated with Saline-sodic Drainage Water*

Sharon Benes, Department of Plant Science, California State University, Fresno

*Groundwater Salinity Investigation Beneath and West of the Sharpe Army Depot, Lathrop, California: Where is the Eastern San Joaquin County "Saline Front"?*

Jeff Brown, URS Corporation

*Verifying the Use of Specific Conductance as a Surrogate for Chloride in Seawater Matrices*

Robert Mooney, In-Situ Inc.

*Interactive Guide to Management of Salinity in Landscaping Irrigated with Recycled Water*

Bahman Sheikh, Water Reuse Consultant