

# Aquifer Storage Recovery V

(Aquifers, regulations, arsenic and other water quality issues)

Holiday Inn Busch Gardens Tampa, Florida - Thursday, October 20<sup>th</sup> 2005

Science, Technology, Management and Policy

American Ground Water Trust



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US Geological Survey  
Florida Geological Survey

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## Background

The Trust's annual Florida ASR Conferences provide an opportunity for all interested parties to hear about the latest progress and development in ASR from scientific, engineering, management and regulatory perspectives. The future of ASR technology applications in Florida has huge significance for resource management, development planning, and ecological restoration.

This event will bring together the state's engineers, scientists, planners, water-resource managers, attorneys, concerned citizens, etc. to share up-to-date information regarding the challenges, feasibility, potential, regulatory concerns and the economic & environmental benefits of aquifer management strategies involving artificial recharge/ aquifer storage.

The Trust's is a non-profit organization. Its educational mission has a focus on resource sustainability and source protection. Since 1999, the American Ground Water Trust has convened ten conference programs that have featured aquifer storage:

- 1999, Phoenix, AZ (Water Banking, Conjunctive Use and Artificial recharge)
- 2000, Ontario, CA (Innovations in Artificial Recharge) with Assn. of Groundwater Agencies
- 2001, 2002, 2003 Orlando, FL (Aquifer Storage Recovery I, II and III)
- 2001, Ontario, CA (Conjunctive Use: Experiences & Frontiers) with Assn. of Groundwater Agencies
- 2001, Chicago, IL (Alluvial Aquifers: Options for Development)
- 2003, Denver, CO (Water Management Strategies)
- 2004, Tampa, FL (Aquifer Storage Recovery IV) with FL Geol. Survey & Hydrogeology Consortium
- 2004, Denver, CO (Aquifer Recharge: Focus on Denver Basin Aquifers)

# CONFERENCE PROGRAM

8:30 **Welcome**

Andrew Stone, American Ground Water Trust

**SESSION CHAIR:** Ann Tihansky, US Geological Survey

8:40

💧 **ASR site selection considerations using GIS matrix overlays**

Chris Brown, Senior Engineer Steve, Sutterfield, Planner, Michael W Fies, Senior Hydrogeologist  
US Army Corps of Engineers, Jacksonville, FL

9:00

💧 **Borehole geophysics and sequence stratigraphy: Key methods for developing reliable high-resolution hydrogeologic frameworks for modeling Florida aquifers**

Kevin Cunningham, Hydrologist  
USGS, Miami, FL

9:20

💧 **Hydrogeologic Framework for a Regional ASR System**

Emily Richardson, Lead Hydrogeologist  
South Florida Water Management District, West Palm Beach, FL

9:40

💧 **Evaluation of geologic structures and aquifer geometry in the Lake Okeechobee area using seismic reflection**

Michael W. Fies, Senior Hydrogeologist and Steve Myers, Geologist  
US Army Corps of Engineers, Jacksonville, FL

10:00

💧 **Keynote speaker**

**South Florida's Perspective on the future of ASR**

Chip Merriam, Deputy Executive Director  
South Florida Water Management District, West Palm Beach, FL

10:30

**BREAK**

**SESSION CHAIR:** Mark McNeal, CH2M Hill, Tampa, FL

10:50

💧 **Peace River Enhanced Geochemical Monitoring Program**

Susan Hochuli, Water Resources Planner  
Peace River/ Manasota Regional Water Supply Authority, and  
Mark McNeal, Manager, Hydrogeologic Sciences  
CH2M Hill, Tampa, FL

11:10

💧 **Ecotoxicological effects of recovered ASR water using Caloosahatchee River Pilot Project Ground Water: Phase 1-Screening-Level Method Development**

Isabel Johnson, Sciences Group Leader and Jonathan E. Shaw, P.G., Senior Consultant,  
Golder Associates Inc. Gainesville and Boca Raton, FL

11:30

💧 **Update on the Hillsboro ASR Pilot Project**

Bob Verrastro, Project Manager  
South Florida Water Management District, West Palm Beach, FL

11:50

💧 **City of Tampa: Geochemical changes using ozonated water for recharge**

Mark McNeal, Manager, Hydrogeologic Sciences  
CH2M Hill, Tampa, FL

12:10

◆ **ASR for Florida utilities in an uncertain regulatory environment**

John Kaufman, Water Resources Manager, & Mark Chandler, Senior Engineer  
Montgomery Watson Harza, Fort Lauderdale, FL

12:30 – 1:20

**LUNCH**

**SESSION CHAIR:** Jonathan Arthur, Florida Geological Survey

1:20

◆ **The behavior of arsenic and other metals in bench-scale leaching studies that simulate ASR conditions**

Jonathan D. Arthur, Assistant State Geologist  
FDEP/Florida Geological Survey, Tallahassee, FL

1:45

◆ **Geochemical Models to Interpret Water-Quality Data During ASR Cycle Tests**

June Mirecki, Hydrogeochemist  
US Army Engineer Research & Development Center, Vicksburg, MS

2:10

◆ **Arsenic Mobilization In Florida's Aquifers During ASR Cycles - A Basic Perspective**

Mark Pearce, Vice President  
Water Resources Solutions, Cape Coral, FL

**SESSION CHAIR:** David Pyne, ASR Systems

2:35

◆ **Well or Aquifer? - Where ASR water quality compliance should be measured**

David Pyne, President  
ASR Systems, Gainesville, FL

3:00

**BREAK**

3:15

◆ **ASR implementation: quality issues now emerging from darkness to enlightenment**

Don Ellison, ASR Projects Coordinator  
South West Florida Water Management District, Brooksville, FL

3:40

◆ **Federal Perspective on Injection well regulations**

Bill Bates, Geologist, Underground Injection Control Branch  
USEPA REGION 5, Chicago, IL

4:05

◆ **Florida Regulatory Update**

Richard Deuerling, Underground Injection Control Program  
Florida DEP, Tallahassee, FL

4:30

**WRAP-UP AND ADJOURN**