

MANAGING AQUIFERS

Aquifer Storage - Aquifer Recharge Ground Water's Role to Meet Future Demands Information-Exchange Forum

(An American Ground Water Trust Education Program)

Organized in partnership with the ASR Committee of the American Water Resources Association)

In Cooperation with the Colorado Ground-water Association

Denver, Colorado – March 21st 2006

Sheraton Denver West, 360 Union Boulevard, Lakewood, CO 80228

[Hotel telephone - (303) 987-2000]

(CEU credit available)

Program details and registration online at www.agwt.org/workshops.htm

This one day Denver program will bring together engineers, scientists, planners, water-resource administrators, attorneys, concerned citizens, etc. to share up-to-date information regarding the important use of ground water in meeting Colorado's water needs.

Ground Water in Colorado

● What more do we need to know about Colorado's ground water and the storage potential of its aquifers? ● The Statewide Water Supply Initiative Report – Is there an increasing role for ground water? ● How can conjunctive use make more water available by increasing water use efficiency? ● What are the concerns? What are the costs? ● How can Colorado manage its aquifers to achieve water supply sustainability? ● How can creative use of ground water augment flow to maintain surface water rights? ● Should the state-wide round-tables on water supply include discussions on the greater use of ground water and artificial recharge? ● What can be learned from the implementation of Artificial Recharge (Managed Aquifer Recharge) programs in other US states and overseas? ● Is Colorado ready for a big drought?

The Trust and Aquifer Management

Since 1999, the American Ground Water Trust has convened twelve conference programs that have featured aquifer storage. The Trust's mission focus on resource sustainability and source protection is the rationale for our continued promotion of information exchange education programs on aquifer management issues.

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 Storage – Artificial Recharge)

2005, Tampa, FL (Aquifer Storage Recovery V)

2006, Ontario CA (Managed Aquifers in Southern California) with Association of Ground Water Agencies

Who Should Attend?

...⇒ Concerned Citizens, Environmentalists, Politicians and Attorneys ...⇒ Water Management and Water Treatment Specialists ...⇒ Geologists, Hydrogeologists, Hydrologists, Engineers & Water Infrastructure Contractors ...⇒ State and Federal Agencies and Local Water Supply Regulators...⇒ Water District Managers and Municipal and Water Utility Managers ...⇒ State and County Health Officials...⇒ Technical and regulatory specialists from states with artificial recharge programs ...⇒ Landowners, Irrigators & Industry Leaders ...⇒ University research & teaching staff – from Colorado and adjacent states.

Keynote Presenter

John Rossi, Chairman, Association of Ground Water Agencies (California) and General Manager, Western Municipal Water District, Riverside, CA.

COLLABORATION AMONG USERS - THE KEY TO CONJUNCTIVE USE WATER MANAGEMENT

Ground water is a vital resource for Los Angeles and surrounding areas in southern California. Conjunctive use of surface and ground water is the management basis for many of the region's water utilities and water agencies. "Sharing" the rivers and the ground water basins has involved a process of "Regional Integration" with many different layers of collaboration among the water users. This synergy of cooperation is enabling southern California to maximize resource potential and achieve sustainability.

The collaborative process of "regional integration" among water managers evolved to address ever increasing demands, while accommodating water rights, sustaining environmental river flow needs, and providing water for aquifer recharge. California's experiences and successes in balancing water demands and availability, while recognizing legal and political realities may offer insights to strategies that could be applied to address some of Colorado's water supply issues.

Background

Western Municipal Water District extends over a 510 square mile area east of Los Angeles, it has a population of more than one-half million people, and sells approximately 60,000 acre feet of water annually. As General Manager, Mr. Rossi's duties include responsibility for the planning, direction, management, and overall supervision of the water, wastewater, and non-potable water activities and operations of the District, as well as representation for Western on the Santa Ana River, Chino Basin, and Western/San Bernardino Watermasters. Mr. Rossi is the current chair of the Association of Groundwater Agencies, which consists of fifteen of the largest groundwater basin management agencies in Southern California.

Program Details

8:15 WELCOME & INTRODUCTIONS

Aquifer Management Policy – The challenges of using ground water to meet 2030 water needs as identified by the State Water Supply Initiative (SWSI) and also provide for ground water use during drought periods

◆ Andrew Stone, Executive Director, American Ground Water Trust, Concord, NH

8:30
Technology is there - aquifers are there: Aquifer storage/recharge in Colorado; the past, present and future

◆ Peter Barkmann and Ralf Topper, Hydrogeologists, Colorado Geological Survey, Department of Natural Resources, Denver, CO

9:15 KEYNOTE PRESENTATION

Collaboration Among Users - Conjunctive Use and Water Management is Key for a Sustainable Water Supply for Southern California

◆ John Rossi, Chairman, Association of Ground Water Agencies (California) and General Manager, Western Municipal Water District, Riverside, CA.

10:00 BREAK

10:15
The Role of Conjunctive Use and Aquifer Storage in Managing Water Resources – A Worldwide Perspective

◆ Andrew Chastain-Howley, Chair of the (AWRA) Technical Committee on ASR. President, Water Prospecting and Resource Consulting, LLC (WPRC), Fort Worth, TX

10:45
Keys to Success in Implementing Aquifer Storage Recovery Projects in Texas

◆ Bryan Smith, Project Manager, Texas Commission on Environmental Quality, Austin TX

Program Details (Continued)

- 11:15
Surface and Ground Water Options and Management Strategies to Ensure Sustainable Supply in Las Vegas, Nevada
- ◆ Tom Morris, Hydrologist, ASR Systems LLC, Las Vegas, NV
- 11:45 AWARD PRESENTATION
- Presentation by the American Ground Water Trust of an Award to Dr. Ivan Johnson in recognition of his many decades of leadership in aquifer management and artificial recharge. Dr Johnson is the Chair of the UNESCO Working Group on Managed Aquifer Recharge and Chair of the American Society of Civil Engineers, Standards Committee for Managed Aquifer Recharge.
- 12:00 LUNCH
- 1:00
“Colorado Water for the 21st Century Act” - Roundtables and the Interbasin Compact Committee created through House Bill 1177. Goals, Objectives, and Progress of the Interbasin Compact Process and the Integration of Ground and Surface Water Resources.
- ◆ Eric Hecox Manager, Office of Interbasin Compact Negotiations, Department of Natural Resources, Denver, CO
- 1:30
Issues That Have Plagued The Use Of Ground Water In The Priority System – History Since The 1950s Drought And Challenges For Future Use
- ◆ Robert Longenbaugh, Consultant Water Engineer, Lakewood, CO
- 2:00
The South Platte Decision Support System: A Regional Planning Tool – A Summary of the Ground Water Component
- ◆ Gordon McCurry, Principal, CDM, Denver, CO; Ray Alvarado, Decision Support System Manager, Colorado Water Conservation Board, Denver, CO and Andy Moore, Hydrologist Colorado Water Conservation Board, Denver, CO
- 2:30
Ground Water Pumping and the need for River Augmentation – Management & Engineering Challenges for Balancing Supply & Demand in the South Platte River Basin, Denver to the State Line
- ◆ Jon Altenhofen, Supervisory Water Resources Engineer, Northern Colorado Water Conservancy District, Loveland, CO
- 3:00 BREAK
- 3:15
Ground Water Management Through the Use of Surface Water
- ◆ Frank Jaeger, District Manager, Parker Water & Sanitation District, Parker, CO
- 3:45
River Augmentation - Case Study of a project to use Denver Basin Nontributary Ground Water to Augment the Impact of Pumping a South Platte Alluvial Well
- ◆ Timothy A. Crawford, Hydrogeologist, Bishop-Brogden Associates, Inc., Englewood, Co.
- 4:15
Colorado Springs Utilities Management Strategies: Equipping Wells For ASR And Providing Solutions To The Problem Of Arsenic In Recovered Water
- ◆ Cortney C. Brand, Sr. Project Engineer, Colorado Springs Utilities, Water Resources Department, Colorado Springs, CO
- 4:45 SUMMARY AND WRAP-UP
- ◆ Andrew Chastain-Howley, Chair of the (AWRA) Technical Committee on ASR.

American Ground Water Trust

The American Ground Water Trust is a national not-for-profit membership organization. The Trust's mission:

- ⇒ Promote groundwater protection and resource sustainability
- ⇒ Communicate the environmental and economic value of groundwater
- ⇒ Showcase groundwater science and technology solutions
- ⇒ Increase citizen, community and decision-maker awareness, and
- ⇒ Facilitate stakeholder participation in water resources decisions.

AWRA - Aquifer Storage Recovery Committee

The American Water Resources Association (AWRA) Aquifer Storage and recovery (ASR) Committee is a Technical Committee within the AWRA. The Committee is a voluntary team of ASR specialists and practitioners from throughout the United States who meet and discuss ASR topics and concerns, and initiate and organize conferences and symposia to enhance the knowledge and education of ASR within the broader water resources community.

Continuing Education

Employee Development University is a learning partner with the Trust and 0.7 CEU credits are available for conference attendees who complete the sign-in and sign-out sheet at registration and who submit an evaluation form. [Visit www.eduniv.com for more information about this CEU program.]

Registration Information

To  register Online, by  Mail or  Fax, go back to the Workshop page and click on **Register**.

To register by  Phone call (603) 228-5444.