

Let's make better use of our water resources

MANAGED AQUIFER RECHARGE

How Texas can maximize its water resources by adopting aquifer recharge strategies for water supply storage and for water management flexibility



TEXAS (ASR)

**Aquifer
Storage
Recovery**

ASR Conference
co-sponsor:



American Ground Water Trust – Conference - July 24, 2013, Austin, Texas

NORRIS CENTER, Austin • Northcross, 2525 West Anderson Lane, Ste. 365, Austin, TX 78757

WHAT THE CONFERENCE IS ALL ABOUT

This Managed Aquifer Recharge/ Aquifer Storage Recovery program will bring together engineers, scientists, planners, water-resource managers, agency professionals and attorneys to share up-to-date information regarding the challenges, feasibility, potential, regulatory concerns and the economic & environmental benefits of water management strategies involving aquifer storage. The program will provide an opportunity for interested parties to hear about the latest progress and development in ASR from scientific, engineering, management and regulatory perspectives.

Presentations will include assessments of the success of ASR projects throughout the United States. Conference attendees can learn from these case studies about the advantages of increased water management flexibility that has resulted from the implementation of aquifer storage projects. The potential of ASR technology applications has huge significance for resource management, supply planning, and ecological restoration. The conference will address the basic economics of ASR projects in Texas and in other states where aquifer recharge is already a significant part of the portfolio of water management strategies.

AMERICAN GROUND WATER TRUST (Non-profit education organization)

Ground Water Information, Awareness & Education Since 1986..... This is what we do:

- ~ Promote efficient and effective ground water management
- ~ Communicate the environmental and economic value of ground water
- ~ Showcase ground water science and technology solutions
- ~ Increase citizen, community and decision-maker awareness
- ~ Facilitate stakeholder participation in water resource decisions

◆ The American ground Water Trust - Aquifer Storage Recovery and Related Programs ◆

Since 1999, the American Ground Water Trust has convened 35 conference programs that have featured aquifer storage. The Trust's mission-focus on resource sustainability and effective ground water management is the rationale for our promotion of information exchange programs on ground water management issues and our showcasing of aquifer storage technologies.

There is a strong ongoing need to need to **educate the public, and capture the imagination of water managers** about the economic and environmental benefits of creative use of sub-surface water resources. Ongoing drought conditions and predictions of the hydrologic implications of climate change more than justify increased attention to the benefits of managed aquifer recharge.

TEXAS WATER DEVELOPMENT BOARD (Co-sponsor of this conference)

The Texas Water Development Board's (TWDB) mission is **To provide leadership, planning, financial assistance, information, and education for the conservation and responsible development of water for Texas.** Our mission is a vital part of Texas' overall vision and its mission and goals which relate to maintaining the viability of the state's natural resources, health and economic development. To accomplish its goals of planning for the state's water resources and for providing affordable water and wastewater services, the TWDB provides water planning, data collection and dissemination, financial assistance and technical assistance services to the citizens of Texas. The tremendous population growth that the state has and will continue to experience, and the continual threat of severe drought, only intensify the need for the TWDB to accomplish its goals in an effective and efficient manner.

ASR CONFERENCE PROGRAM - WEDNESDAY JULY 24, 2013

7:15 REGISTRATION

8:00 - 8:30 **THE CHALLENGE OF COMMUNICATING SCIENCE & TECHNOLOGY TO DECISION-MAKERS**
◆ Andrew Stone, American Ground Water Trust, Concord NH

8:30 – 9:15 **THE ECONOMICS OF ASR TECHNOLOGY**
◆ David Pyne, President, ASR Systems, LLC, Gainesville, FL

9:15 - 9:45 **OPPORTUNITIES FOR ASR IN TEXAS**
◆ Robert Mace, Deputy Executive Administrator, Texas Water Development Board, Austin, TX

9:45 – 10:15 **FACTORS AFFECTING IMPLEMENTATION OF ASR PROJECTS IN TEXAS**
◆ Fred M. Blumberg, Project Manager, Malcolm Pirnie, the Water Division of ARCADIS-US Inc., Austin, TX

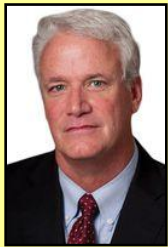
10:15 – 10:30 BREAK

10:30 – 11:00 **AQUIFER RECHARGE PROJECTS IN THE PACIFIC NORTHWEST**
◆ Jeff Barry, Principal Hydrogeologist, GSI Water Solutions, Inc., Portland, OR

11:00 – 11:30 **AQUIFER RECHARGE PROJECTS EAST OF THE MISSISSIPPI**
◆ John Jansen, Senior Managing Hydrogeologist, Cardno Entrix, Cedarburg, WI

11:30 – 12:00 **AQUIFER RECHARGE PROJECTS: CALIFORNIA, ARIZONA AND NEW MEXICO**
◆ Dan Stephens, President, Daniel B Stephens & Associates, Albuquerque, NM

12:00 – 1:15 LUNCH and KEYNOTE PRESENTATION



Rep. Lyle Larson, Texas House Member, District 122, San Antonio, TX

THE POTENTIAL OF ASR TO MEET FUTURE TEXAS WATER NEEDS

Lyle Larson served as San Antonio City Councilman, District 10, for two terms and as Bexar County Commissioner, Pct. 3 from 1997-2008. In 2010, Larson was elected State Representative for District 122, San Antonio. Rep. Lyle Larson serves on the Natural Resources Committee. Among this Committee's oversight responsibilities are:

- (1) *The conservation of the natural resources of Texas;*
- (2) *The control and development of land and water and land and water resources, including the taking, storing, control, and use of all water in the state, and its appropriation and allocation.*

1:15 – 1:45 **REUSE ASR: THE NEXT FRONTIER FOR TEXAS**
◆ James Dwyer, Senior Project Manager, CH2M HILL, Austin, TX

1:45 – 2:15 **ROLE OF ASR IN SAN ANTONIO WATER SYSTEM'S OPERATIONS AND LONG TERM PLANNING**
◆ Roberto Macias, Plant Manager, Twin Oaks/Aquifer Storage & Recovery Facility, SAWS, San Antonio, TX

2:15 – 2:45 **PRELIMINARY EVALUATION OF ASR IN THE EDWARDS AND TRINITY AQUIFERS NEAR NEW BRAUNFELS**
◆ Van Kelley, Sr. Vice President, & Neil Deeds, Sr. Engineer, INTERA, Inc., Austin, TX

2:45 – 3:00 BREAK

3:00 – 3:30 **RULES, REGULATIONS AND PERMITTING AUTHORITY FOR ASR PROJECTS IN TEXAS**
◆ Edmond McCarthy Jr., Attorney, Jackson, Sjoberg, McCarthy & Townsend, L.L.P., Austin, TX

3:30 – 4:15 **ASR AS A WATER MANAGEMENT TOOL IN TEXAS:
WHERE DO WE GO FROM HERE? (Panel Discussion chaired by Dr. Sharp)**
◆ John M. Sharp, Carlton Professor of Geology, Department of Geological Sciences, UT, Austin

TEXAS AQUIFER MANAGEMENT (ASR) - EXHIBIT & SPONSORSHIP OPPORTUNITIES

Exhibitors: (Table-top displays) All exhibitors will be recognized in the conference program and will be offered a complimentary full page advertisement in the conference program (black & white). Conference registration for exhibitors is required. (Exhibit table \$250)

Sponsors: We are pleased to receive event sponsorships. All sponsors will be offered a complimentary full page advertisement in the conference program (black & white). Benefits of sponsoring at the \$500 level include: distribution of company/organization literature to registrants, web-site listing as a sponsor and logo recognition in the conference program. Sponsors will also receive an electronic participant registration list. Sponsors at the \$1,000 level are also entitled to a complimentary exhibit table or one complimentary registration. Sponsors above the \$1,000 level, will receive a complimentary registration for every \$500 above \$1,000. Call the AGWT office (800 423 7748) or send an e-mail to trustinfo@agwt.org to sign-up as a sponsor or to enquire about customized sponsorship opportunities (such as sponsoring breaks or lunch).

NEARBY HOTELS: <http://norriscenters.com/austin-hotel-list/>

Norris Center, 2525 West Anderson Lane, Austin, TX 78757 (free parking for attendees)

CONFERENCE PRESENTERS

🔸 **Jeff Barry, Principal Hydrogeologist, GSI Water Solutions, Inc., Portland, OR**

Jeff Barry is GSI Business Development Director and Principal Hydrogeologist. He provides senior review of hydrogeologic and groundwater resource projects. He is an expert in aquifer storage and recovery technology. He conducts production and collector well siting, design, installation, rehabilitation, and testing, as well as dewatering projects and wellfield capacity and siting studies and permitting. Jeff is knowledgeable about state regulatory programs related to groundwater protection and water rights. He frequently presents technical concepts to regulatory and public audiences, and provides technical expertise to support permitting and litigation. He has an MS, Hydrogeology, from University of Nevada-Reno and a BS in Natural Resources Planning, from Humboldt State University. He is a Registered Geologist and a Certified Water Rights Examiner in Oregon and a Licensed Geologist and Hydrogeologist in Washington.

🔸 **Fred M. Blumberg, Project Manager, Malcolm Pirnie, the Water Division of ARCADIS-US Inc., Austin, TX**

Mr. Blumberg leads his firm's efforts to expand and develop water supplies for clients throughout Texas. Prior to joining Malcolm Pirnie in 2007, Mr. Blumberg was deputy general manager and chief operating officer with the Guadalupe-Blanco River Authority (GBRA). During his career with GBRA, he led the operations, engineering and construction management departments. In that capacity he managed the sale of stored water from Canyon Reservoir, the application and permitting processes for GBRA's water rights, the operation and maintenance of six water treatment plants, thirteen wastewater reclamation plants, and seven hydroelectric dams. Mr. Blumberg also served as the GBRA's safety director, negotiated water supply and operating contracts, and was involved in a variety of major projects. Mr. Blumberg has both B.S. and Master of Agriculture degrees from Texas A&M University.

🔸 **Neil Deeds, Sr. Engineer INTERA, Austin, TX**

Dr. Neil Deeds has been working in Texas water resources for over a decade, specializing in modeling of hydrogeologic systems. He has developed or helped develop 10 of the Texas Water Development Board's groundwater availability models, which are used for water planning in the state. As the head of the southern groundwater division at INTERA, he has worked with many different agencies and stakeholders in Texas, including river authorities, regional water planning groups, and groundwater conservation districts.

🔸 **James Dwyer, D. WRE, P.E., Senior Project Manager, CH2M HILL, Austin, TX**

A graduate of Texas A&M University, Mr. Dwyer has worked over 26 years as a water resources engineer with CH2M HILL, an international environmental consulting firm. He has completed numerous aquifer storage/recovery (ASR) feasibility studies throughout North America and has built several systems in Texas and Florida. Besides ASR, Mr. Dwyer works on natural and constructed infiltration projects for the enhancement of aquifer recharge and natural filtration of surface water for municipal supply. In 2006, he received the Diplomate, Water Resources Engineer (D.WRE) credential from the American Academy of Water Resources Engineers for his advancement in the body of knowledge of water resources engineering.

🔸 **John Jansen, Senior Hydrogeologist, Cardno Entrix, Cedarburg, WI**

Mr. Jansen has a B.S. in Geology and a M.S. and Ph.D. in Geological Sciences with an emphasis in hydrogeology and geophysics, all from the University of Wisconsin-Milwaukee. He is the 3013 NGWA McElhiney Distinguished Lecturer in Water Well Technology and the winner of the NGWA Keith A. Anderson award from NGWA. John works on a wide variety of ground water resource issues around the country. John holds three U.S. Patents on water well related technologies and is the lead author of the chapter on borehole geophysics in the third edition of Groundwater and Wells published in 2007.

🔸 **Robert Mace, Deputy Executive Administrator, TX Water Development Board, Austin, TX**

Robert Mace is a deputy executive administrator at the Texas Water Development Board. He manages the Water Science and Conservation program area for the agency, a group of 66 folks that studies the rivers and aquifers of the state, promotes the conservation of the state's water, and pursues innovative technologies such as desalination, rainwater collection, and water reuse. He has a B.S. in geophysics and an M.S. in hydrology from the New Mexico Institute of Mining and Technology and a Ph.D. in hydrogeology from The University of Texas at Austin. He has over 20 years experience working with water in Texas; has authored or coauthored more than 200 reports, papers, and abstracts; and given more than 200 speeches on water.

🔸 **Roberto Macias, Plant Manager, Twin Oaks/Aquifer Storage & Recovery Facility, SAWS, San Antonio, TX**

Roberto Macias is a Plant Manager with the San Antonio Water System at the Twin Oaks/Aquifer Storage & Recovery Facility. He has over 30 years of experience working in the water and wastewater arenas. He has worked all over Texas, and even ventured into Mexico during a brief stint in the private sector. He is a member of the AWWA and WEF. He is a TCEQ class "A" wastewater treatment operator and a TCEQ class "B" water treatment operator.

🔸 **Edmond McCarthy Jr., Attorney, Partner, Jackson, Sjoberg, McCarthy & Townsend, L.L.P., Austin, TX**

Ed McCarthy's practice is primarily in water and natural resources. Mr. McCarthy's background is rooted in property rights and land titles, and the development of subsurface property rights, including mineral and groundwater rights. Mr. McCarthy was lead counsel on the first ASR project permitted in Texas to use state water rights, and subsequently worked on the development of legislation to codify the use of ASR as a water development resource. He also participated on an ad hoc committee to assist the predecessor agency to the Texas Commission on Environmental Quality to develop rules for ASR permitting and operations. He earned his J.D. in 1981 from St. Mary's University School of Law, and his B.A., from the University of Notre Dame in 1978.

🔸 **David Pyne, President, ASR Systems, LLC, Gainesville, FL**

David Pyne is the President of ASR Systems LLC, Gainesville, Florida. He has pioneered development of ASR technology during the past 35 years and has directed or provided technical consultant assistance during development of about half of the 100 operating ASR wellfields in the United States. He is a civil engineer with extensive national and international experience, and is the author of the first book published on ASR, the second edition of which was released in 2006. He has contributed to the development of all three operating ASR wellfields in Texas.

🔸 **Dan Stephens, Chairman and Principal Hydrologist, Daniel B Stephens & Associates, Albuquerque, NM**

Dan Stephens is a Certified Professional Hydrogeologist, his areas of interest include: hydrogeology; fate and transport; allocation; applications of numerical models; stream-aquifer interaction, artificial recharge, groundwater resource evaluations, and remediation system effectiveness analysis. In addition to his consulting work, Stephens is an Adjunct Professor of Hydrology at the University of New Mexico and an Adjunct Associate Professor of Hydrology at New Mexico Institute of Mining and Technology. Stephens received a B.S. in Geological Science from Pennsylvania State University, an M.S. in Hydrology from Stanford University, and a Ph.D. in Hydrology from the University of Arizona.

🔸 **John M. Sharp, Carlton Professor of Geology, Department of Geological Sciences, UT, Austin**

John M. (Jack) Sharp, Jr. has a Bachelor of Geological Engineering from the University of Minnesota and M.S. and Ph.D. degrees in geology from the University of Illinois. He has served as President of the Geological Society of America (GSA). His awards include GSA's Meinzer, AIH's Theis, and IAH's Presidents' awards. He is a fellow of the GSA and the Alexander von Humboldt-Stiftung. His research covers groundwater management, sedimentary basin hydrogeology, flow in fractured and carbonate rocks, thermohaline free convection, subsidence and coastal land loss, and the effects of urbanization.

🔸 **Andrew Stone, Executive Director, American Ground Water Trust, Concord NH**

Andrew Stone has over thirty five years of ground water experience in Africa and the U.S. as a university professor, consultant and ground water advocate & educator. He has experience with ground water exploration, well design and source protection in a variety of geologic environments. From 1990 to 2002, as adjunct professor, he taught an annual course on Ground Water Protection Policy in the Masters Degree Program at Antioch New England Graduate School. He is the Director of the International Association of Hydrogeologists' Commission on Groundwater for Decision Makers. Since 1998, Andrew Stone has convened thirty five AGWT conference programs related to ground water management, aquifer storage recovery, conjunctive use and water banking.

🔸 **Van Kelley, Sr. Vice President, Water Resources Services, INTERA, Austin, TX**

Mr. Van Kelley has 29 years of experience in the field of hydrogeology and water resources with much of that experience in Texas. Mr. Kelley is a Senior Vice President of INTERA and he is the manager of INTERA's Water Resources Business Unit.



American Ground Water Trust
50 Pleasant Street (Suite 2)
Concord, NH 03301



MANAGED AQUIFER RECHARGE

TEXAS (ASR) - Aquifer Storage Recovery Conference

Where: Norris Conference Center, 2525 West Anderson Lane, Austin, TX 78757

When: Wednesday, July 24th, 2013

"A nation that fails to plan intelligently for the development and protection of its precious waters will be condemned to wither because of its shortsightedness."
Lyndon B. Johnson



This is a "must attend" program for Texas water professionals

AQUIFER STORAGE RECOVERY CONFERENCE (July 24) - REGISTRATION FORM – (or register on-line at www.agwt.org)

General.....	\$265	<input type="checkbox"/>
Government employees (Federal, state, county, local).....	\$215	<input type="checkbox"/>
Employees of AGWT Corporate Members (\$250+Level)	\$200	<input type="checkbox"/>
Full-time Student (ID required)	\$100	<input type="checkbox"/>
CD (pdf versions of PowerPoint presentations – mailed post-event)	\$ 20	<input type="checkbox"/>
Exhibit Table (personal registration also required)	\$250	<input type="checkbox"/>
Registration includes handouts, coffee breaks & lunch	TOTAL \$	_____

PAYMENT: Check [payable to: American Ground Water Trust]
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Title/Position _____

Company/ Organization _____

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Phone _____ **Fax** _____ **E-Mail** _____

CANCELLATION POLICY

Cancellations received in the AGWT office by 5 pm EST 5 days prior to event will receive a full refund less \$25. For cancellation 4-2 days prior to the there is a 50 % refund. Cancellations one day prior to the start of the event or on the day of the event are considered "No Shows" and no refund will be made - (substitutions gladly accepted).

The AGWT will not cancel a program because of bad weather conditions. Except that, as the result of an event cancellation resulting from, (but not limited to) circumstances such as a state mandatory evacuation or a fire at the program facility, the Trust will reschedule the event and honor registrations as payment for the new event.

SPONSORSHIP & EXHIBITS

There are opportunities to showcase work, projects, products and services as exhibitors or event sponsors. Sponsors will receive recognition for their financial assistance. Call 800-423-7748 for more information or visit www.agwt.org