

TEXAS AQUIFER CONFERENCE

DROUGHT AND SUPPLY UNCERTAINTY

Where to get the water – where to store the water?

Maximizing water resources by adopting aquifer recharge strategies for storage & recovery
(captured storm water, treated “used” water, desalinated brackish groundwater, oil & gas produce water)



June 2nd, 2014, Austin, Texas

Convened by: American Ground Water Trust
Co-sponsored by the Texas Water Development Board



Texas Water
Development Board

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

7:15 **REGISTRATION** (Coffee & pastries)

8:15 – 8:30 **PROGRAM INTRODUCTION: Drought and Groundwater**
Andrew Stone, Executive Director, American Ground Water Trust, Concord, NH

Session 1

8:30 – 9:00 **TEXAS WATER DEVELOPMENT BOARD PERSPECTIVE ON SOLUTIONS TO DROUGHT**
Larry French, Director of Groundwater Resources, TX Water Development Board, Austin, TX



Larry French is a director at the Texas Water Development Board. He administers and directs the activities of the Groundwater Resources Division. The Division is comprised of three sections: Monitoring, Availability Modeling, and Technical Assistance. The Groundwater Monitoring Section measures groundwater quality and levels in the major and minor aquifers in Texas. The Groundwater Availability Modeling Section develops, reviews, and uses numerical groundwater flow models to run predictive simulations for the major and minor aquifers in Texas. The Technical Assistance Section reviews groundwater conservation district management plans, reviews desired future conditions submitted by the groundwater management areas, and conducts studies on the occurrence, quantity, quality, and availability of groundwater. Larry has a B.S. in Geological Sciences from the University of California at Riverside and a M.A. in Geological Sciences from The University of Texas at Austin.

9:00- 9:30 **TEXAS GROWTH AND DROUGHT:**
REVISITING CONJUNCTIVE USE AND THE VALUE OF WET WATER
James Beach, Senior Vice President and Principal, LBG-Guyton, Austin, TX



Mr. Beach is a Professional Geoscientist with over 20 years of experience in quantitative groundwater and surface water hydrology, regional and local water resources planning, environmental assessments, numerical flow and solute transport modeling, and litigation support. Some of his most recent projects include development of brackish groundwater supplies, aquifer storage and recovery assessments, and development of new wellfields to offset recent drought impacts. Mr. Beach has consulted with municipalities, industrial and mining concerns, private landowners, groundwater districts, and government entities. James received his B.S. in Hydrology from Tarleton State University, and his M.S. in Hydrology from the New Mexico Institute of Mining & Technology.

9:30– 10:00 **FROM RETURN FLOW TO DIRECT POTABLE REUSE-**
- 50 YEAR EVOLUTION OF WATER REUSE IN TEXAS
Don Vandertulip, PE, BCEE, Principal, ARCADIS-US, Dallas, Texas



Mr. Vandertulip has over 40 years of experience in recycled water system development and implementation; master planning, and design of pump, storage and distribution systems; wastewater treatment, collection and pumping; water supply planning, treatment, storage and distribution; and program management. He recently served as technical director for the 2012 Update of EPA Guidelines for Water Reuse. Mr. Vandertulip is past-Chair, WEF Water Reuse Committee, a member, WEF Municipal Wastewater Treatment Committee, Chair, Ad Hoc WRA Graywater Policy Committee and AWWA Water Reuse and Reclaimed Water Standards Committees. Mr. Vandertulip earned a BSCE and MSE (Sanitary Engineering) from UTEP.

10:00 – 10:30 BREAK

Session 2

10:30 – 11:00 THE FEASIBILITY OF WATER SUPPLY AUGMENTATION IN TEXAS USING OIL AND GAS INDUSTRY FLOW-BACK AND PRODUCE WATER

Laura Capper, President, CAP Resources, Houston, TX



Laura Capper is one of the country's top experts on water management and water treatment technology in oil and gas markets. She has dealt directly with over two hundred companies in the water management sector and actively consults in new technologies, environmental solutions, and other sectors of upstream and midstream oil and gas product and service markets. Since 2007 she has led CAP Resources' activities in domestic and unconventional exploration and production trends and practices, water management and treatment technologies, and in environmental and waste handling practices in the oil and gas industry.

11:00 – 11:30 WHERE MIGHT WE GET THE WATER? -

TWDB'S BRACKISH RESOURCES AQUIFER CHARACTERIZATION SYSTEM PROGRAM.

John E. Meyer, P.G., Geologist, Conservation and Innovative Water Technologies, Water Science and Conservation, Texas Water Development Board, Austin, TX



John is a certified Professional Geoscientist in Texas and received BS and MS degrees in geology from the University of Wyoming in Laramie. John has over 28 years of professional experience including the Geological Survey of Wyoming industrial mineral program; the Research Planning Institute Texas regional stratigraphic analysis; the Railroad Commission of Texas Surface Mining Division coal and uranium permits; the Texas Commission on Environmental Quality groundwater nonpoint source and Public Drinking Water source water assessment. John currently works at the Texas Water Development Board, Innovative Water Technologies, focusing on Texas brackish groundwater resources.

11:30 – 12:00 A CONCEPTUAL APPROACH TO FLOODWATER SCALPING AS A SOURCE FOR ASR PROJECTS

David O'Rourke, PG, PE, CH2M HILL, Austin, TX



David O'Rourke is a licensed professional geologist and a professional engineer in Texas, with 25 years of experience in water resources engineering and environmental consulting. The focus of this work has been on groundwater services, but also includes surface water hydrology modeling and analysis. His background includes water supply studies, regional groundwater modeling, aquifer yield analysis, and well design. Examples of project applications include aquifer storage and recovery, collector well yield analysis, construction dewatering projects, evaluation of groundwater-surface water interaction, and hydrogeologic field investigations. Mr. O'Rourke has consulted for commercial, industrial and government clients.

12:00 – 1:15 LUNCH

(Lyle Larson - Lunch-time invited speaker)



**SMOOTHING THE PATH FOR AQUIFER RECHARGE
LEGISLATION IN THE NEXT SESSION: WHERE TEXAS IS HEADING**

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

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.*

Rep Larson introduced House Bill 3013 last session to update/revamp Texas' Aquifer Storage Recovery law.

Session 3

1:15 – 1:45

EXPANDING THE ROLE OF THE SAWS TWIN OAKS ASR TO BECOME THE PRIMARY ENDANGERED SPECIES PROTECTION ACTIVITY AT SAN MARCOS AND COMAL SPRINGS, AND THE TEXAS A&M AQUIFER STORAGE RECOVERY INITIATIVE

Dr Calvin Finch, Director, Water Conservation and Technology Center, San Antonio, TX



Dr Calvin Finch coordinates the development of projects on high priority water issues that require the attention of both Engineers and Extension Educators.. His Center, the WCTC is co-sponsored by the Texas Engineering Experiment Station, Texas Center for Applied Technology and AgriLife, Texas Water Resource Institute. Before joining the WCTC, Dr Finch served as Conservation Director and Water Resources Director at the San Antonio Water System. He represented SAWS in the successful negotiations to complete the Edwards Aquifer Habitat Conservation Plan.

1:45 – 2:15

MIRROR, MIRROR ON THE WALL, WHO'S THE FAIREST AQUIFER OF THEM ALL? LOCATING AND ASSESSING AQUIFERS SUITABLE FOR STORING EXCESS WATER

Hughbert A. Collier, Ph.D., P. G., Collier Consulting, Stephenville, TX



Dr. Collier is a hydrogeologist and the Vice President of Collier Consulting, a geoscience, environmental, and engineering firm. Hughbert has over 30 years experience in consulting, research, technical support for litigation, and lecturing throughout the country. One of his specialties is the integration of various types of data (e.g. borehole geophysical, pumping tests, cuttings, cores, and surface geophysical) for the hydrogeological characterization of aquifers, including ASR feasibility. This expertise has assisted Collier Consulting in developing wells and well fields in Texas and Florida. He has a geology degree from Mississippi State University and a Ph.D. in Geosciences from the University of Texas at Dallas.

2:15 – 2:45

TRANS-PECOS PERMANENT WATER RESERVE (TPPWR) DEVELOPMENT PROJECT.

Ken Ortega, Project Development Manager, Aquifer Group LLC, Fredericksburg, TX



Ken has over 30 years experience in the water industry involved in engineering, water treatment, project development, business management and interaction with political entities related to water and government planning. He has also provided professional consulting services to private and public clients in all areas of sustainable infrastructure and renewable energy planning, financing, design, construction, operations & maintenance, and programmatic level management. Ken was the founder of BASE Water Resources Consulting & Management, LLC as well as SumLogic, LLC. Aquifer Group has evaluated large areas of the central and western United States and northern Mexico for aquifer recharge and groundwater sustainability.

2:45 – 3:00

BREAK

3:00 – 3:30 **ASR FEASIBILITY STUDIES: A CASE STUDY ILLUSTRATING DESIRED OUTCOMES**
Fred M. Blumberg, Project Manager, 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/ARCADIS 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. For the last 7 years, he has been involved in a variety of water resources projects related to ASR, water supply planning, dam investigations and watershed masterplanning. Mr. Blumberg has both B.S. and Master of Agriculture degrees from Texas A&M University.

3:30 – 4:00 **THE EVOLUTION OF HB 3013 (relating to the underground storage of water for later retrieval and beneficial use): RECOMMENDED CHANGES FOR THE NEXT LEGISLATIVE SESSION**
Bill Mullican, CDM Smith, Pflugerville, TX



Bill Mullican, CDM Smith, previously worked at the Texas Water Development Board serving as Director for Water Resources Planning with the primary responsibility for implementing Regional and State Water Planning as mandated by Senate Bill 1. As Deputy Executive Administrator for the Office of Planning his areas of responsibility included data collection, environmental programs and research and planning fund management. Bill is a leading authority on state water planning and has assisted other states in establishing statewide water planning initiatives. In 2005, Governor Rick Perry appointed Bill to the Rehabilitation Council of Texas and in 2007 the, US EPA Administrator appointed Bill to the National Advisory Council for Environmental Policy and Technology. Bill graduated from Texas Tech with a B.S. in Broadfield Science Education and in 1981 with a M.S. in Geology. Prior to joining the Texas Water Development Board, he was Research Associate at the Bureau of Economic Geology at the University of Texas at Austin.

4:00 – 4:30 **RULES, REGULATIONS AND PERMITS: ASSESSMENT OF CONSTRAINTS ON ASR IMPLEMENTATION**
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.

4:30 – 4:40 **WRAP UP AND ADJOURN**

↓ **SCROLL DOWN FOR REGISTRATION INFORMATION** ↓

NEARBY HOTELS: <http://norriscenters.com/austin-hotel-list/>
Norris Center, 2525 West Anderson Lane, Austin, TX 78757 (free parking for attendees)

AQUIFER STORAGE RECOVERY CONFERENCE (June 2nd) - REGISTRATION FORM – (or register on-line at www.agwt.org)

General..... (walk-in + 25%)	\$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 of presentations) (Registrant Price) (mailed post-event)	\$ 30	<input type="checkbox"/>
Exhibit Table (personal registration also required)	\$250	<input type="checkbox"/>
Registration includes handouts, coffee breaks & lunch	TOTAL \$	_____

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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 AGWT 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

Mail: American Ground Water Trust, 50 Pleasant Street, Concord, NH 03301 - **Fax:** (603) 228-6557; - **Phone:** (800) 423-7748;
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