TEXAS AQUIFER CONFERENCE

American Ground Water Trust Annual Texas Groundwater Conference

"Everything aquifers and groundwater management"

Omni Austin Hotel at Southpark, 4140 Governor's Row, Austin, TX 78744

Wednesday May 3rd & Thursday May 4th 2017
Austin, Texas

Co-Sponsored by:
Texas Water Development Board

Legal, policy, management, scientific, engineering and technical issues

Continuing Education
The AGWT will issue certificates of attendance
Approved – TX Board of Professional Geologists
Approved – State Bar of TX – 3.0 CLE Hours (Sponsor #13854, Course #928000057)

Conference Sponsors

Preferred Pump

The objective of American Ground Water Trust conference programs is to showcase topical and/or controversial groundwater issues and to facilitate information sharing among landowners, groundwater end-users, regulators, management agencies, scientists, engineers, lawyers and citizens who have economic or environmental interests in water resources.

7:45 REGISTRATION Wednesday May 3

SESSION 1: 8:30am – 10:15am

8:30 – 8:45
INTRODUCTION – PRINCIPAL THEMES OF THE CONFERENCE
Andrew Stone, Executive Director, American Ground Water Trust, Concord, NH

8:45 – 9:15
REPORT ON THE 2016 TEXAS WATER ROADMAP FORUM
Rudolph Rosen, PhD. Director, Institute for Water Resources Science and Technology, Texas A&M University, San Antonio, TX

9:15 – 9:45
GROUNDWATER USE IN TEXAS IN THE NEXT DECADE: PRIORITIES, CHALLENGES AND SOLUTIONS
Robert Mace, PhD, Deputy Executive Administrator, Texas Water Development Board, Austin, TX

9:45 – 10:15
APPLYING WEB-BASED TOOLS TO SIMPLIFY DATA MANAGEMENT, ANALYSIS, AND COMMUNICATION FOR GROUNDWATER MANAGEMENT
Dave Colvin, PG, PMP, (Groundwater Group Leader) and Carolyn Nobel, PhD, PE (Technology Group Leader), Leonard Rice Engineers, Inc., Denver, CO

10:15 – 10:40 BREAK

SESSION 2: 10:40am – 11:40am

CHALLENGES IN DEVELOPING PIPELINE INFRASTRUCTURE NEEDS FOR EFFICIENT MANAGEMENT OF TEXAS GROUNDWATER AND SURFACE WATER RESOURCES

Moderator: Marc A. Rodriguez, Government Relations Consultant, Austin, TX

POTENTIAL ECONOMIC IMPACT OF DEVELOPING A PIPELINE INFRASTRUCTURE
Jon Hockenyos, President, TXP (Economic analysis and public policy consulting), Austin, TX

PIPELINES: A 21ST CENTURY SOLUTION TO TEXAS WATER NEEDS
Joseph Beal, P.E., Beal Consulting Inc., Bastrop, TX

MOVING DESALINATED GROUNDWATER TO MARKET
Michael J. Irlbeck, Business Development Director, EPCOR Water, Austin, TX

11:40am – 12:10 - Invited keynote Speaker

12:10 – 1:20 LUNCH (provided)

SESSION 3: 1:20pm – 2:50pm

GROUNDWATER LAW AND LEGAL ISSUES– UPDATE ON SELECTED CASES AND COURT DECISIONS IMPACTING GROUNDWATER MANAGEMENT IN TEXAS

Moderator: Edmond McCarthy Jr., Attorney, McCarthy & McCarthy., Austin, TX

David Lein, Attorney, Graves Dougherty Hearon & Moody, Austin, TX
Greg Ellis, Attorney, GM Ellis Law Firm PC, League City, TX
Russell Johnson, Partner, McGinnis Lochridge, Austin TX

2:50 – 3:10 BREAK

SESSION 4: 3:10pm – 4:40pm

TEXAS OIL & GAS: MEETING THE WATER NEEDS FOR THE INDUSTRY WHILE SHARING THE WATER WITH OTHER PARTS OF THE STATE ECONOMY AND ENVIRONMENT

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

GEOPHYSICS TECHNIQUES TO FIND GROUNDWATER FOR TEXAS OIL & GAS OPERATIONS
Kevin Rigsby, Manager of Geology and Geophysics, Hydro Resources, Inc., Tulsa, OK

WATER SOURCING MANAGEMENT AND DISPOSAL FOR OIL & GAS: MEETING THE CHALLENGES, DELAWARE BASIN, WINKLER COUNTY, TX
Jeff Anderson, Technical Director - Industrial Water, Leonard Rice Engineers, Inc., Denver, CO

TEXAS OIL & GAS INDUSTRY WATER MANAGEMENT STRATEGIES
John Tintera, PG, Manager, Sebree & Tintera, LLC, Austin, TX

5:00 RECEPTION (cash bar)

7:30 – 8:30 REGISTRATION **Thursday May 4**

8:30am – 8:40am SUMMARY OF DAY ONE – INTRODUCTION TO TOPICS OF DAY TWO
Andrew Stone, Executive Director, American Ground Water Trust, Concord, NH

SESSION 5: 8:40am – 10:10am

TECHNOLOGY AND TECHNIQUES TO ASSESS, DEVELOP AND MAXIMIZE THE WATER SUPPLY POTENTIAL FROM BRACKISH AQUIFERS IN TEXAS

Moderator: Van Kelley, PG, Sr. Vice President, INTERA, Inc., Austin, TX

TRENDS IN TECHNOLOGY AND TECHNIQUES TO SECURE A RELIABLE BRACKISH GROUNDWATER PROJECT
Steven Young. PhD, PE, PG**,** Principal Geoscientist, INTERA, Austin, TX
TRENDS IN TREATMENT TECHNOLOGY FOR BRACKISH GROUNDWATER DEVELOPMENT
Justin Sutherland*,* PhD, PE, Principal Technologist, Carollo Engineers, Austin, TX
TRENDS IN DISPOSAL/REUSE OF CONCENTRATE FOR BRACKISH GROUNDWATER DEVELOPMENT
Bill Norris, PE, Principal, NorrisLeal, LLC, Harlingen, TX

10:10– 10:30 BREAK

SESSION 6: 10:30am 12:00pm

TECHNICAL AND REGULATORY ASPECTS OF ENHANCED AQUIFER RECHARGE USING SURFACE AND NEAR-SURFACE FACILITIES

Moderator: T. Neil Blandford, PG, Senior Vice President, Daniel B. Stephens & Associates, Inc., Albuquerque, NM

DISPELLING MYTHS ABOUT RECHARGE VIA SPREADING BASINS, ARROYOS ETC.
James A. Kelsey, P.G., President, Senior Geologist, Daniel B. Stephens & Associates, Inc., Albuquerque, NM
ENHANCED GROUNDWATER RECHARGE TO THE EDWARDS AQUIFER CONSIDERING WATER QUANTITY AND QUALITY – THE ANTIOCH CAVE PROJECT
Brian A. Smith, Ph.D., PG, Principal Hydrogeologist, Barton Springs/Edwards Aquifer Cons. District, Austin, TX
USE OF SPREADING BASINS FOR MANAGED AQUIFER RECHARGE – THE EL PASO EXPERIENCE
Scott Reinert, PE, PG, Water Resources Manager, El Paso, TX

11:45 – 1:00 LUNCH (provided)

SESSION 7: 1:00pm – 2:30pm

TEXAS AQUIFER STORAGE RECOVERY PROJECTS

Moderator: Fred M. Blumberg, Project Manager, ARCADIS-U.S. Inc., Austin, TX

HYDROGEOLOGIC CRITERIA FOR SELECTION OF AN ASR WELLFIELD LOCATION.
Neil Deeds, PhD, PE, Vice President, Principal Water Resources Engineer, INTERA, Inc., Austin, TX
ASR WELL DESIGN AND SELECTION OF WELL COMPONENTS BASED ON HYDROGEOLOGY
Tom Morris, Hydrologist, ASR Systems, LLC, Las Vegas, NV
DRILLING TECHNIQUES IMPORTANT FOR ASR WELLS: WITH EMPHASIS ON TEXAS
Fred Rothauge, Business Development Manager, Hydro Resources, Fort Lupton, CO
OPERATION AND PERFORMANCE OF THE TWIN OAKS ASR FACILITY WELLS
Roberto Macias, Manager of Production & Treatment Operations, San Antonio Water System, San Antonio, TX

2:30pm – 2:45 BREAK

Session 8 2:45 – 4:15

TECHNICAL ISSUES & CHALLENGES FOR WEST TEXAS (TWDB REGION 1): RESOURCEFUL AND DIVERSIFIED SOLUTIONS

Moderator: Scott Honeyfield, Principal, Parkhill Smith & Cooper, Amarillo, TX

BUILDING SUSTAINABLE WATER SUPPLY PORTFOLIOS ON THE LLANO ESTACADO
Aubrey Spear, PE. Director of Water Utilities, Lubbock, TX
OVERVIEW OF THE EL PASO WATER UTILITIES 50 YEAR WATER PLAN
Scott Reinert, PE, PG, Water Resources Manager, El Paso, TX
BORGER NORTHWEST WELL FIELD, FINDING NEW WATER TO SUPPORT MAJOR INDUSTRIAL INVESTMENT
Scott Honeyfield, PE, Principal, Parkhill Smith & Cooper, Amarillo, TX

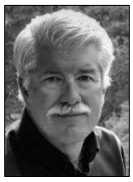
4:15pm ADJOURN

TEXAS AQUIFER CONFERENCE

American Ground Water Trust Annual TX Conference (May, 2017)

Professional background of presenters - Listed in presentation order

Rudolph Rosen, PhD, Director, Institute for Water Resources Science and Technology, TX A&M University, San Antonio, TX



Dr. Rosen is a Visiting Professor and Director of the Institute for Water Resources Science and Technology at Texas A&M University in San Antonio, a Fellow of The Meadows Center for Water and the Environment at Texas State University, and a former Research Associate at the Harte Research Institute for Gulf of Mexico Studies at Texas A&M University-Corpus Christi.

Recently Dr. Rosen directed a joint project between the Meadows Center and Harte Research Institute called H2O – Headwaters to Ocean, focused on developing ways to help students of today become engaged water savvy citizens of tomorrow.

Dr. Rosen has degrees from Penn State, South Dakota State and the University of Massachusetts. He has served in executive leadership positions in the National Wildlife Federation, Ducks Unlimited, and Safari Club International and its Foundation. He has served on over 130 nonprofit and government national and international boards, commissions and committees, and has written over 500 articles, blogs and presentations on organizations, natural resources conservation, and policy. He has often appeared before the US Congress and state legislative bodies to testify on environmental resource conservation matters.

Robert E. Mace PhD, PG, Deputy Executive Administrator, Water Science and Conservation, TWDB, Austin, TX

Dr. Robert Mace leads a department of 70 scientists, engineers, and specialists dedicated to better understanding groundwater and surface water resources; advancing water conservation and innovative water technologies such as desalination, aquifer storage and recovery, reuse, and rainwater harvesting; and better preparing Texas for floods. Prior to joining the TWDB in 1999, Mace worked for almost nine years at the Bureau of Economic Geology at The University of Texas at Austin as a hydrologist and research scientist. He has a bachelor's degree in geophysics and a master's degree in hydrology from the New Mexico Institute of Mining and Technology and a Ph.D. in hydrogeology from The University of Texas at Austin.

Dave Colvin, PG, PMP, (Groundwater Group Leader) Leonard Rice Engineers, Inc., Denver, CO

Dave Colvin serves on LRE's Board of Directors and is the Groundwater Team Leader responsible for providing technical leadership and coordination of diverse subject matter experts. He is a collaborative hydrogeologist with over 19 years' experience in groundwater services, water resources, environmental science, and project management. Dave is currently focused on riverbank filtration, soil aquifer treatment, groundwater recharge (ASR and alluvial recharge), brackish groundwater, groundwater modeling, model uncertainty analysis, expert witness testimony and integrated water resource management. He holds a B.S. in Geology from Syracuse University (1996), and an M.S. in Environmental Science and Engineering from the Colorado School of Mines (2002). Dave is a licensed Professional Geologist in Texas, Idaho, Wyoming, and Nebraska. He is a certified Project Management Professional and completed the Colorado Foundation for Water Education Water Leader training course in 2011. Dave is active with AWRA Colorado and the American Council of Engineering Companies.

Carolyn Nobel, PhD, PE, (Technology Group Leader) Leonard Rice Engineers, Inc., Denver, CO

Dr. Carolyn Nobel has over 17 years' experience in a broad range of environmental engineering consulting innovatively synthesizing science and stakeholder requirements to create and apply data-driven solutions. She has focused on leading interdisciplinary teams in quantifying and optimizing multifaceted environmental decisions through developing and integrating analytical tools such as web-based information management platforms, Geographic Information Systems (GIS), databases, and statistical analysis.

Prior to LRE, she was the Program Lead for an Information Management Solutions group, where she led the design and development of a suite of custom environmental management information systems.

Dr. Nobel received her BSE in civil engineering from Duke University and her MSE and PhD in civil engineering from the University of Texas at Austin. She is a registered Professional Engineer in Colorado.

Marc A. Rodriguez, Government Relations Consultant, Austin, TX

Marc's clients include Apple Computer, Bexar County, Brooks Development Authority, City of Carrizo Springs, City of San Antonio, CPS Energy, Gerson-Lehman Group, the LaMantia Family, Oracle, Precision Task Group, Plumbing, Heating, Cooling Contractors Association), San Antonio Water System , Texas Water Quality Association and, VIA Metropolitan Transit Authority.

Previously, Mr. Rodriguez worked as a government relations consultant with Lloyd, Gosselink, Blevins, Baldwin & Townsend, P.C. as the firm expert on the legislative process and advocacy. He also worked as a planner and intergovernmental relations manager for the City of San Antonio, and was vice president for governmental affairs for the Greater San Antonio Chamber of Commerce.

Mr. Rodriguez has worked on state legislative issues for the last 10 consecutive Texas state legislative sessions. He has specific expertise to address public policy issues including utility regulation, infrastructure, urban affairs and natural resources. He holds a B.A. in Urban Affairs and Sociology from the University of Pennsylvania and a Masters of Public Administration from the LBJ School of Public Affairs at The University of Texas.

Jon Hockenyos, President, TXP (Economic analysis and public policy consulting), Austin, TX

Mr. Hockenyos founded TXP while attending the LBJ School of Public Affairs at the University of Texas at Austin in 1987. Since then, TXP has successfully completed hundreds of projects for a wide variety of clients. In his role as President of the firm, Mr. Hockenyos is involved in managing the day-to-day operations of the organization, performing technical analysis, and developing strategies for clients.. He has served as a resource witness on a variety of issues in front of city councils, state legislatures, and the U.S. Congress.

Mr. Hockenyos' private sector background extends beyond TXP. He is currently a board member of American Bank of Commerce. He also served on the Board of Directors for Capital Metro (the Austin area transit authority), the Board of the ARC of the Capital Area, and the Travis County Citizen's Advisory Council. Mr. Hockenyos received a Bachelor of Arts in Philosophy from the University of Illinois and Masters of Public Affairs from the LBJ School of Public Affairs, where he has taught as an Adjunct Professor.

Joseph Beal, PE, Beal Consulting Inc., Bastrop, TX

Joseph J. Beal became Lower Colorado River Authority's eighth general manager in, 2000. He served as chief executive officer of LCRA, a Texas conservation and reclamation district with a budget of $800+ million and more than 2,200 employees. Beal joined LCRA in 1995 to lead its Water Services division, which provides water resources management, flood protection, drought management, agricultural irrigation and water and wastewater utility services. While leading LCRA he negotiated a a $100 million long–term water supply agreement with the City of Austin.

Prior to joining LCRA, Beal was senior vice president at Espey Huston & Associates, a large engineering and environmental consulting firm in Austin. Beal hasa bachelor's degree in civil engineering from Texas Tech University and a MBA from UT Austin.

Michael J. Irlbeck, Business Development Director, EPCOR Water, Austin,TX

Michael Irlbeck is the Business Development Director for EPCOR Water USA. EPCOR is one of the largest water utility companies in the Southwest U.S. and is an emerging leader in the public-private partnership (P3) space. With over $7.0 billion in assets in North America, EPCOR's core value is as an investor-operator of water and wastewater infrastructure.

Before joining EPCOR Water, Mr. Irlbeck served as the Business Development Director for Abengoa Water, where he was responsible for building the company's American P3 business. Mr. Irlbeck has been instrumental in developing private financing solutions for water projects, and was the commercial architect for the Vista Ridge Project contracted by the San Antonio Water System in 2014.

Prior to Abengoa, Mr. Irlbeck served 16 years with the U.S. Bureau of Reclamation, directing environmental restoration, construction grant assistance and water resources planning activities. Mr. Irlbeck earned a BS degree in Wildlife Fisheries Sciences from Texas A&M University.

Edmond McCarthy Jr., McCarthy & McCarthy, Austin, TX

Ed McCarthy's law 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.

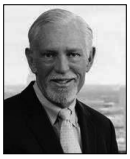
David Lein, Attorney, Graves Dougherty Hearon & Moody, Austin, TX

David's practice focuses on constitutional and commercial litigation at the trial and appellate levels. He is a member of the National Institute for Trial Advocacy faculty on which he teaches trial skills. He was admitted to bar, 2001, Texas; U.S. Supreme Court; U.S. District Court, Western District of Texas. He has a B.A., with high honors, 1992, from the University of Texas and a J.D. Cum laude from the Harvard Law School (2001)he also has a Master of Public Administration from the Harvard John F. Kennedy School of Government. (2001). From 2002-2002 he was Law Clerk to the Honorable William Wayne Justice, Senior United States District Judge for the Western District of Texas. From 2002 to 2004 he was an Associate at George & Donaldson/George & Brothers.

Greg Ellis, Attorney, GM Ellis Law Firm PC, League City, TX

A 1988 graduate of the University of Texas School of Law, Gregory M. Ellis has concentrated his practice on Texas groundwater law. He served five years as in-house general counsel for the Harris-Galveston Subsidence District, followed by seven years as the first general manager of the Edwards Aquifer Authority. Ellis started a solo practice representing groundwater conservation districts and subsidence districts in 2004. Since 2015 he has served as Board Secretary and General Counsel to the Texas Water Foundation

Russell Johnson, Partner, McGinnis Lochridge, Austin, TX



Russell Johnson has a multifaceted water law practice, with an emphasis on matters involving land use, water rights and the Endangered Species Act (ESA). His clients are generally landowners, industries, mineral owners and developers seeking to acquire, safeguard, develop or convey water resources.

Because Russ holds a B.A. in biology and chemistry, in addition to his law degree, he fully understands the technical and scientific complexities his clients face and can help them work more effectively towards achieving their goals. He is a Board Member of the Center for Water Law and Policy at Texas Tech University School of Law, as well as an adjunct professor at Texas State University teaching water policy.

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

Andrew Stone is a hydrogeology graduate from University College, London. He has over thirty five years of ground water experience in Africa and the U.S. as a university professor, ground water consultant and ground water advocate & educator. From 1990 to 2003 he taught an annual course on Groundwater Protection Policy at Antioch New England University. In recognition of his work in promoting ground water resource education in the US, he received the 1998 National Ground Water Association "Oliver Award" for outstanding contributions to the groundwater industry. In his time with the American Ground Water Trust he has convened and organized over 250 conferences, workshops and training programs on groundwater issues throughout the US

Kevin Rigsby, Senior Geologist, Hydro Resources, Oklahoma City, OK

Kevin Rigsby has 25 years professional geological and geophysical experience throughout the U.S., Gulf of Mexico, Canada, Mexico, and South America. He has extensive experience in petroleum geology, coal exploration and hydrogeological investigations. He founded the first nationwide aquifer-imaging geophysical company in the U.S. and has geophysical expertise with the MT1 and MT4 magnetotelluric systems. He has a B.S., Geology, from Oklahoma State University.

Jeff Anderson, Technical Director - Industrial Water, LRE, Denver, CO

Jeff Anderson has 30 years of experience in the water and energy fields. Jeff's skillset includes groundwater hydrology, petroleum geology, project management, and business development. He has a BS in Geological Engineering from the University of Minnesota, an MBA from California State Bakersfield, and an MS in Civil Engineering (GW Hydrology) from Colorado State University. He is a licensed PG in California and Wyoming. Jeff has worked as a petroleum geologist for Shell, and as a hydrogeologist with Walsh Environmental, Geomega and Schlumberger.

John Tintera, PG, Manager, Sebree & Tintera, LLC., Austin, TX

John Tintera is a regulatory expert and licensed geologist with a thorough knowledge of virtually all facets of upstream oil and gas exploration, production and transportation, including conventional and unconventional reservoirs. As a former Executive Director and 22-year veteran of the Railroad Commission of Texas (RRC), considered the premier oilfield regulator in the nation, John oversaw the entire regulatory process, from drilling permits to compliance inspections, oil spill response, pollution remediation and pipeline transportation.

Mr. Tintera has BS and MS degrees in Geology from Michigan State University and almost 30 years of combined technical and managerial experience: 11 years as an industry petroleum geologist and 18 years as a state regulator. He has an in-depth knowledge of the state and federal regulatory framework of the E&P industry, including RCRA, CERCLA, SDW Act and OPA. In addition, Mr. Tintera has a comprehensive knowledge of environmental assessment, remediation and emergency response.

Van Kelley, PG, Senior Vice President, Intera, Austin, TX

Van Kelley's professional experience has focused on developing and applying groundwater flow and transport models to evaluate water resource management strategies and waste-management issues. In the area of water resources management, he has applied models to determine regional groundwater availability over long-term planning periods, evaluate and predict future groundwater quality, and assess the impacts of various management strategies on local and regional surface water and groundwater resources. He has managed and executed over 40 major groundwater modeling projects with budgets ranging from $10,000 to $5 million. Van also has experience in conducting hydrogeologic investigation programs, including the design, implementation, and analysis of tracer tests and deep-borehole hydraulic testing campaigns.

Steven Young, PhD, PG, Principal Geoscientist, INTERA, Austin, TX

Steven "Steve" Young has a PhD, Earth Sciences, University of Waterloo, Canada, and an MS, Environmental Engineering from Stanford University. His professional experience has focused on characterizing and solving groundwater water supply and remediation problems. He has worked on a wide-range of water development issues including characterizing groundwater resources, developing and applying groundwater models, and designing well fields for water supply. He routinely works with government and private industry to assess fresh water and brackish groundwater resources based on analysis of geophysical logs, aquifer test data, and geochemical data. Steve has worked extensively in Texas to evaluate groundwater resources in the Gulf Coast Aquifer System, the Northern Trinity Aquifer, and the Carrizo-Wilcox Aquifer. He has helped water agencies develop water resource management plans and assess groundwater resources. He is a Professional Engineer licensed in TX, TN and MA,

Justin Sutherland, PhD, Principal Technologist, Carollo Engineers, Austin, TX

Justin Sutherland earned a B.S. in chemical engineering, M.S. in environmental engineering and Ph.D. in civil engineering, all from the Missouri University of Science and Technology. He is a Principal Technologist with Carollo engineers in Austin, Texas. Mr. Sutherland has 18 years of experience in applied research, design, and regulatory issues, including desalination, water reuse, and produced water. He currently serves on the board of directors for both the Texas Desalination Association and South Central Membrane Association.

Bill Norris, PE, Principal, NorrisLeal, LLC, Harlingen, TX

Joseph W. (Bill) Norris, has more than 33 years of experience in the planning, design, and project management of municipal and industrial water and wastewater facilities. He has been involved in the research and application of advanced treatment methods of potable and reclaimed water, and has been instrumental in the expansion of brackish groundwater desalination in Texas.

He is a member of the Texas Water Conservation Association, National Society of Professional Engineers, and Texas Society of Professional Engineers. His professional activities have included serving as Director of the American Membrane Technology Association, President of the South Central Membrane Association, and Secretary-Treasurer of the Texas Desalination Association. Bill is a Licensed Professional Engineer in Texas and Oklahoma and holds an M.S. in Civil/Environmental Engineering from the University of Texas at Arlington and a B.S. in Civil Engineering, Texas A&M University.

Neil Blandford, PG, Senior VP, Daniel B. Stephens & Associates, Inc., Albuquerque, NM

Mr. Blandford specializes in numerical simulation of groundwater flow and contaminant transport; water rights analysis and water supply investigations; geostatistics and aquifer testing methods; wellhead protection area delineation; and remediation well field design. Mr. Blandford has provided expert testimony on projects involving new appropriations, water rights transfers, return flow analysis, basin adjudication, water quality issues at mine and other impacted sites, salinity encroachment, and National Resource Damage claims related to groundwater resources. He has 25 years of experience in the quantitative analysis of water resources in New Mexico, Arizona, Texas, California, and Florida. Mr. Blandford has also been integral in the development of several fate and transport computer codes for the U.S. Environmental Protection Agency.

James A. Kelsey, PG, President, Senior Geologist, Daniel B. Stephens & Associates, Inc., Albuquerque, NM

As DBS&A President, Mr. Kelsey is responsible for leading the firm and overseeing a staff of nearly 100. His technical and managerial experience include extensive fieldwork, project management, research and development, work plan and cost estimate preparation, technical reporting, and interaction with state regulatory officials.

Mr. Kelsey oversees a wide variety of environmental projects for clients including government agencies, such as the U.S. EPA, NM Environment Department, Petroleum Storage Tank Bureau, Texas Commission on Environmental Quality, U.S. Army Corps of Engineers, Los Alamos National Laboratory, and New Mexico Department of Transportation.; cities, such as Albuquerque, Rio Rancho, and Las Cruces, NM; private-sector companies, such as Waste Management of New Mexico, Southwest Landfill, U.S. Ecology, and Freeport McMoRan; and tribal entitles, such as Pueblo of Jemez, Cherokee Nation, Hopi Tribe, Navajo Nation, Pueblo of Acoma, Pueblo of Cochiti, and Pueblo of Sandia.

Brian Smith, Ph.D, P.G., Principal Hydrogeologist, Barton Springs/Edwards Aquifer Cons. District, Austin, TX

Brian has a Bachelor's degree in geology from Rice University (1979) and a Ph.D. in geology from the University of Texas at Austin (1986). He has been exploring and studying caves since 1971, mostly in the southeastern United States, Mexico, and Puerto Rico. Since graduating from the University of Texas, he has worked on numerous environmental sites and karst studies in many parts of the U.S. and in Puerto Rico and the U.S. Virgin Islands. The Barton Springs/Edwards Aquifer Conservation District was created in 1987 with a directive to conserve, protect, and enhance the groundwater resources in its jurisdictional area.

Scott Reinert, PE, PG, Water Resources Manager, El Paso, TX

Mr. Reinert manages well drilling and equipping projects, and water resources planning for the El Paso Water Utilities. He has 25 years of experience in water resources and water supply projects as a hydrogeologist and civil engineer. Prior to joining El Paso in 1999 Mr. Reinert worked at Jacobs Engineering and Geohydrology Associates, Inc. in Albuquerque, NM. Mr. Reinert has served as project manager and lead engineer for well drilling and equipping projects with water utilities. Mr. Reinert has served as the project manager for groundwater modeling studies of the Hueco and Mesilla Bolsons. He is the Vice Chairman of Far West Texas Regional Water Planning Group which is responsible for preparing the 2016 Far West Texas Regional Water Plan. Mr. Reinert earned a bachelor's degree in geology at McMurry College and a master's degree in civil engineering from Colorado State University. He is a registered Professional Geologist and Professional Engineer in Texas and a registered Certified Scientist in New Mexico.

Fred M. Blumberg, Project Manager, ARCADIS-U.S. Inc., Austin, TX

Fred M. Blumberg is a water resources consultant with Arcadis-U.S. He has over 43 years of professional experience. His current projects include water resources planning and feasibility analysis; aquifer storage and recovery (ASR); watershed planning, management and source water protection; dam safety; and municipal and industrial water supply. Prior to joining Arcadis, Blumberg retired after 33 years of service with the Guadalupe-Blanco River Authority. When he retired, he had been the deputy general manager and chief operating officer of GBRA for 13 years. In that capacity he led all of the Authority's water resources and water rights activities, the operating divisions, and the engineering and construction management departments. Mr. Blumberg earned his BS and MAg degrees from Texas A&M University.

Neil Deeds, PhD, PE, VP, Principal Water Resources Engineer, INTERA, Inc., Austin, TX

Dr. Neil Deeds' professional experience encompasses research and applied practice in modeling and analysis of hydrologic systems, including water availability, flow, and transport. He has experience applying codes for fluid-flow modeling and well test analysis. Neil has focused on uncertainty, importance, and risk analyses as applied to physical modeling studies. Neil has been involved in more than 40 modeling projects and has served as project manager and technical lead on many water resources modeling studies, including groundwater availability models for aquifers throughout Texas. He has also served as the technical manager and technical lead in quantifying processes such as recharge, hydraulic conductivity, and surface water/groundwater interaction in support of regional and sub-regional groundwater modeling projects. Neil has lead data management and organization projects and has developed data models for several water resources projects. He is a professional engineer in the State of Texas.

Tom Morris, Hydrologist, ASR Systems, LLC, Las Vegas, NV

Tom Morris has BS in Geology from University of Nevada, Las Vegas. He worked with the Desert Research Institute supervising deep exploratory water well drilling programs to define the Nevada hydrogeology before joining Las Vegas Valley Water District. During 15-years at the Las Vegas Valley WD he installed 80 deep groundwater wells and assisted in managing the maintenance and operation of 108 groundwater production and recharge wells with an injection capacity of over 100 million gallons per day and production capacity of close to 160 million gallons per day. Since joining ASR Systems, LLC he has evaluated and re-designed injection systems for NASA JPL and JSC, prepared horizontal directional well drilling programs, designed a 13 million gallon per day recharge and recovery wellfield and distribution piping, and helped develop the national standards for recharge technology for the American Water Works Association Research Foundation.

Fred Rothauge, Business Development Manager, Hydro Resources, Fort Lupton, CO

Fred Rothauge has over 29 years of experience in the drilling fluids industry. His experience in oil and gas, mining and water well drilling and rehabilitation industry covers a broad array of locations, drilling processes and fluid solutions. He was a co-author of Johnson Screen's 3rd edition of *Groundwater and Wells*. He is a licensed well driller/contractor in Wyoming, Utah, Arizona, South Dakota, New Mexico, Montana and Colorado. He is certified by the National Ground Water Association in air rotary drilling, mud rotary drilling, reverse circulation drilling, and water well drilling and maintenance.

Roberto Macias, Manager of Production & Treatment Operations, San Antonio Water System, San Antonio, TX

Roberto Macias is manager with the San Antonio Water System (SAWS) at the H2Oaks/Twin Oaks Aquifer Storage & Recovery Facility. He has over 33 years of experience working in the water and wastewater arenas. He has worked with all types of treatment process ranging from trickling filters to reverse osmosis. Mr. Macias 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, and he studied at University of Texas San Antonio. He is a TCEQ Class A wastewater treatment operator and a TCEQ Class B water treatment operator.

Scott Honeyfield, PE, Principal, Parkhill Smith & Cooper, Amarillo, TX

Since joining PSC in 1982, Scott Honeyfield has been involved in the conception, design, study and management of numerous major civil engineering projects. In 2000, he became a Corporate Associate and a Principal in 2007. He currently manages the Amarillo office where infrastructure projects are his specialty. He has made significant contributions to the conception, development and design of some of the region's historically largest water works projects over the last 15 years. His duties have included authoring Technical Memoranda, which have established the ground work for highly technical water works projects, followed by the design and development of construction documents for these multi-million dollar projects.

Aubrey Spear, PE, Director of Water Utilities, Lubbock, TX

Mr. Spear graduated from Texas Tech University with a BS in Civil Engineering and has a MBA. from Brigham Young University He is a licensed professional engineer and a certified professional services marketer. For 14 years he managed the Lubbock Office for Enprotec, a business and engineering consulting firm which became Enprotec / Hibbs & Todd. During his time in the private sector, he assisted numerous private and public entities to optimize their water and wastewater systems and reduce their environmental liabilities.

In 2007, Aubrey was appointed as the Director of Water Utilities for the City of Lubbock. He currently serves as chairman of the Region O Water Planning Group, as an appointee to the State's Water Conservation Advisory Council and as the liaison for the City of Lubbock with water boards and agencies. He has spent over 29 years solving complex water issues in West Texas. Mr. Spear was inducted into Texas Tech University's Civil & Environmental Engineering Academy in 2010 and named the Texas Society of Professional Engineer's South Plains Chapter Engineer of the Year in 2014. He serves on the Texas Tech Civil & Environmental Engineering Industry Advisory Council

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

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

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.

Texas Aquifer Conference endorsed by:

INTERNATIONAL ASSOCIATION OF HYDROGEOLOGISTS COMMISSION - GROUNDWATER OUTREACH TO DECISION MAKERS

Background to the Commission:

World-wide, ignorance and misunderstanding of groundwater is a major barrier to effective water resources management. Groundwater professionals need to be advocates for sensible water policy to ensure that water allocation decisions are based on hydrologic reality. The Commission plans to help IAH members and IAH national chapters promote awareness and appreciation of the value of groundwater. IAH "branded" technical information in non-technical format will be developed to assist members target their expertise among policy makers, end-users and resource managers. Science-based knowledge, effectively communicated, can support the dual objectives of sustainably maximizing the use of groundwater for economic, social and environmental benefit while protecting against overdevelopment and contamination.

"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**