# Alternative Water Resources for Southern California AGWA – AGWT Annual Conference

Monday, February 11 and Tuesday, February 12, 2013 Ontario Airport Hotel, Ontario, California





### **Association of Ground Water Agencies**

### American Ground Water Trust



CalDesal

Groundwater Resources Association of California



California Groundwater Coalition





Southern California Water Utilities Association

IAH Commission – Groundwater for Decision-Makers

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**Event Sponsors:** 







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#### 8:45 – 9:45 **REGISTRATION**

#### 9:45 – 10:00 WELCOME, OPENING REMARKS

#### 10:00 – 10:30 OPENING KEYNOTE PRESENTATION

#### How much Colorado River Water is in California's Water Supply Future?

#### William Steele, Area Manager Bureau of Reclamation, Lower Colorado Region, Southern California Area Office



William "Bill" Steele oversees implementation of Reclamation's program which includes: Title XVI Reclamation Water Reuse and Recycling; desalination research; water conservation; drought assistance; planning activities covering water reuse and recycling, conjunctive use of ground and surface water resources, storm water runoff augmentation, watershed modeling to address both water quantity and quality issues, and the development of new water sources; and technical assistance to Native American Tribes.

Bill has over 40 years of experience in water resources. His Federal service has all been with Reclamation for over 33 years, with the last 11 years serving as Area Manager in Southern California. On October 28<sup>th</sup>, 2012, Bill was recognized by California State University, San Bernardino for his many years in water as their 10<sup>th</sup> recipient of their Lifetime Achievement Award in Water Resources. Bill attended college at Clemson University, SC (BS Agricultural Economics and MS Resources Economics.)

#### 10:30 - 12:30

#### Session 1– ENHANCING STORMWATER CAPTURE

In an era of ever increasing concerns about the impacts of climate change and the reliability of the State Water Project and Colorado River supplies, storm water capture is becoming increasingly important. In this session speakers will be highlighting the importance of storm water capture and dual purpose collection systems as a reliable non-traditional supply.

Moderator: Dan Arrighi, Water Resource Manager, San Gabriel Valley Water Company and Board member of Main San Gabriel Basin Watermaster, Azusa, CA

#### 10:30 - 11:00

#### Southern California Water Committee Storm Water Capture Opportunities

Richard W. Atwater, Executive Director, Southern California Water Committee, Studio City, CA

Before his appointment to the Southern California Water Committee, Mr. Atwater was Chief Executive Officer and General Manager of the Inland Empire Utilities Agency. He is the only water agency manager in California to receive the prestigious Governor's Award for Environmental and Economic Balance three times. He has testified extensively before the U.S. Congress and the California Legislature on water policy issues. In 1994 Secretary of the Interior, Bruce Babbitt awarded Mr. Atwater the Conservation Service Award, the highest citizen award for natural resources management.

#### 11:00 - 11:30

#### Strategic Planning for Recharge Using Stormwater

Mike Antos, Research Manager, Council for Watershed Health, Los Angeles, CA

Mike Antos leads the research and monitoring staff at the Council. He specializes on holistic watershed assessment, including as project manager and principal investigator of the US EPA funded *Los Angeles River Watershed Health Indicators*. Mike is also the foremost expert with US Department of Interior Bureau of Reclamation Los Angeles Basin Groundwater Augmentation Model.

#### 11:30 - 12:00

#### Santa Anita Dam Re-operation, LA County

#### Keith Lilley, Principal Engineer, County of Los Angeles Department of Public Works, Alhambra, CA

Mr. Lilley has 25 years of experience working on water resources projects as a civil engineer with the County of Los Angeles Department of Public Works. He currently oversees the direction of flood control and water conservation operations; dam safety and rehabilitation; and water conservation planning functions within Public Works' Water Resources Division.

#### 12:00 - 12:30

#### Aquifer Recharge Coordination in the Central Basin

Everett Ferguson, Senior Hydrogeologist, Water Replenishment District of Southern California, Lakewood, CA

Everett Ferguson works on projects related to aquifer replenishment, groundwater monitoring, recycled water reuse, seawater intrusion, modeling, and water quality. He holds a B.S. in Geology from CSU Fullerton and an M.B.A., is a California Professional Geologist and Certified Hydrogeologist.. He has 20 years experience in conducting and managing projects in CA, AZ, CO, MI, TX, LA, and KY. Additional experience includes remediation oversight, operation and maintenance activities, Resource Conservation and Recovery Act (RCRA) facility investigations, Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) investigations, litigation support, and potential responsible party (PRP) cost allocation.

12:30 – 12:40	Invited Presentation:	Water Issues – Teacher Training – Student Inspiration – Career Paths
	Sherri Harris, Arlington High School, Riverside, CA	

#### 12:40 LUNCH

#### 1:45 - 3:15

#### Session 2 - GROUNDWATER REGULATION AND NEW SOURCE APPROVAL

Both state law and local ordinances govern the regulation of water sources in California. The type and level of oversight varies widely depending on the type of water resource and the County in which it is located. Where groundwater is involved, local regulation has recently assumed primacy. This panel will explore the jurisdictional variations in regulation as well as the latest innovations in groundwater management and monitoring.

#### Moderator: Scott Slater, Brownstein Hyatt Farber Schreck, Santa Barbara, CA

#### Panel Participants:

#### Paavo Ogren, Public Works Director, County of San Luis Obispo, San Luis Obispo, CA

Mr. Ogren oversees administration and operation of various water and waste water wholesale and retail facilities. The County of San Luis Obispo has been actively engaged in developing and implementing stronger water management policies. In particular, the County is currently seeking to stabilize the Paso Robles groundwater basin where falling water levels cause concern among local residents and farmers. He will discuss the County's urgency to improve management of this basin and potential challenges to increasing local regulation.

#### Dan Ferons, General Manager, Santa Margarita Water District, Mission Viejo, CA

Mr. Ferons is responsible for the administration and operations for the Santa Margarita Water District, one of the largest water retailers in Orange County. With no local groundwater resources, SMWD has been a leader in recycled water use. The District recently approved its participation in the Cadiz Project and obtained regulatory approval from the County of San Bernardino under its Desert Groundwater Ordinance. He will address the Groundwater Management Monitoring Mitigation Plan that was approved by the County and will control groundwater extractions.

#### Robert Saperstein. Brownstein Hyatt Farber Schreck, Santa Barbara, CA

For more than a decade, Mr. Saperstein has served as the Special Counsel for the City of Oxnard which produces groundwater from within the boundaries of the Fox Canyon Groundwater Management Agency in Ventura County, a special act regulatory agency with statutory powers to manage groundwater extractions. The GMA is overseen by an interest-based board that reflects various stakeholder groups. Mr. Saperstein will provide a historical perspective and identify issues and challenges facing the GMA.

3:15 – 3:30 **BREAK** 

#### 3:30 - 5:15

#### Session 3 – DESALINATION

Once dismissed as too expensive, seawater desalination is seen today as an increasingly important element of California's water supply portfolio. Thanks to recent advances in technology, turning ocean water into drinking water is not as energyintensive as it was a decade ago. And as the cost of treating and conveying water from other sources continues to rise, seawater desalination is beginning to pencil out in some coastal areas that rely on imported water supplies. Many local water agencies are looking at seawater desalination as a way to provide a more reliable supply of water during droughts and to reduce reliance on the Sacramento-San Joaquin Delta leaving water in the system for others.

Moderator: Ron Davis, Executive Director, CalDesal, Sacramento, CA

#### 3:30 – 4:15 Desalination: California's Regulatory Processes

Kevin Thomas Environmental Services Manager, RBF Consulting, Temecula, CA

Kevin is a Certified Environmental Professional and has a B.A. in Environmental Engineering from UC at Los Angeles. He has over 26 years' experience with the California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA) and regulatory permitting. He is an expert on CEQA/NEPA compliance and regulatory permitting of desalination projects and has been involved with over a dozen California desalination projects and has been involved with over a dozen California desalination projects and feasibility studies.

#### 4:15 -5:15

#### Seawater Desalination in California – The Carlsbad Project

Panel Discussion: The challenges that the Carlsbad Project faced throughout the permitting process, regulatory and legal hurdles as well as operational and financial issues.

#### Bob Yamada, Water Resources Manager, San Diego County Water Authority, San Diego, CA

Mr. Yamada has been with the San Diego County Water Authority since 1992. Prior to that, he worked as a civil engineering consultant for 8 years. He holds bachelors and masters degrees in Civil Engineering from San Diego State University, and is a registered civil engineer in California. Mr. Yamada is the immediate past president of the American Membrane Technology Association (AMTA), a national organization dedicated to advancing the use of membrane technology for water treatment.

#### Peter MacLaggan, Senior Vice President for Corporate Development, Poseidon Resources

MacLaggan has over 30 years of experience in water resources planning and management including development of large-scale seawater desalination projects in California. Prior to joining Poseidon, he served as Executive Director of the California Water Reuse Association, Director of Water Resources at the San Diego County Water Authority and an independent water resources consultant. Mr. MacLaggan holds a B.S. in Civil Engineering from San Diego State University and a J. D. from the University of San Diego School of Law. He is a registered civil engineer and a member of the California State Bar

#### 5:15 – 6:45 **RECEPTION - CASH-BAR**

# Brownstein Hyatt Farber I Schreck

#### **Tuesday, February 12**

#### 8:00 - 10:15

#### Session 4 – BRACKISH WATER AS A SUPPLY SOURCE

Brackish water resources offer the potential to augment water supply sources in many geographic and hydrogeologic settings. As treatment technologies associated with brackish water treatment have become more cost effective, this water resource is gaining acceptance as a key component of water supply portfolios. Several organizations in Southern California have direct experience with the implementation and long-term maintenance of desalting infrastructure associated with brackish water. Others are looking to build upon the experiences of those organizations as they start the planning, design, and ultimately the implementation phases of their own brackish water programs. This session will provide an update on the status of brackish water treatment technologies, as well as insight from experienced brackish water program operators and those in the initial phases of their programs. **Moderator: Tony Morgan, Groundwater Dept Manager, United Water Conservation District, Santa Paula, CA** 

#### 8:00 - 8:30

#### **Overview Of Brackish Water Treatment Technologies**

Brandon C. Yallaly, Associate Vice President, Carollo Engineers, Inc. Boise ID

Mr. Yallaly is an Associate Vice President and member of Carollo Engineers' desalination group. He holds BS and MS degrees in civil and environmental engineering and is a registered professional engineer in Texas, Florida, and Idaho. Mr. Yallaly's career has been focused solely on the testing, design, and commissioning of membrane systems and their supporting processes. Mr. Yallaly's projects cover the areas of surface water desalting, brackish groundwater desalting, membrane softening and color removal, energy recovery, dual-membrane systems, and concentrate disposal, including zero-liquid-discharge systems. He has served as the lead design engineer for desalination facilities in Texas, Florida, and California and has performed numerous studies, pilot and demonstration tests, facility startups, and operational audits.

#### 8:30 – 9:00 Regional Brackish Water Development Programs in Inland Areas

#### Jack Safely, Director of Water Resources, Western Municipal Water District, Riverside, CA

Jack Safely is responsible to ensure an adequate supply of high quality water for Western's service area. His duties include responsibility for the long-term planning and management of the water within the District. Mr. Safely is charged with development of Western's Integrated Regional Water Management Plan and Water Use Efficiency Master Plan efforts. These regional planning efforts set Western's long-term supply strategy. He also develops additional water supply resource projects and is the program manager for the Chino Basin Desalter Authority's Chino Desalter Phase 3 Expansion. Mr. Safely also coordinates groundwater management efforts for the Western service area

#### 9:00 - 9:30

#### Development of Brackish Groundwater Resources in Ventura County

Bryan Bondy, PG, CHG, Groundwater Manager, Calleguas Municipal Water District

Bryan Bondy serves as the agency's groundwater expert and groundwater management planning facilitator. He has a B.S. and M.S. in geological sciences with an emphasis in hydrogeology from San Diego State University and over 17 years experience in the groundwater field. He is a Professional Geologist and California Certified Hydrogeologist. CMWD is a wholesale water importer for roughly three quarters of Ventura County's residents and operates an 18 well aquifer storage and recovery facility near Moorpark, CA.

#### 9:30 - 10:15

#### Zero Discharge Desalination Technology

#### Emily Gilbert, Membrane Product Manager, Kruger, Las Vegas, NV

Emily has been with Veolia since 2002, working in both their Kruger US and Birmingham UK offices on the Hydrotech Discfilter product and the Kruger Membrane products. Kruger is the municipal branch of Veolia Water Solutions & Technologies for the United States. Emily is a graduate of Chemical Engineering from Texas A&M University.

Zero Discharge Desalination (ZDD) is a desalination technology unparalleled in its ability to achieve high water recovery and thus sustain water resources. ZDD can be applied to reduce or eliminate the need for more costly disposal options such as deep well injection, large evaporation ponds, waste hauling or brine-line fees. ZDD is particularly suited for inland brackish groundwater treatment for potable or industrial water uses. ZDD has been evaluated at several locations including New Mexico, Texas, California and Florida. In the ZDD process, the concentrated salts rejected by a conventional RO or NF system are fed to an electrodialysis metathesis (EDM) stack comprised of ion exchange membranes, separated by thin solution compartments. The EDM acts as a "kidney," removing salts by "metathesizing," or "switching-partners," between the ions in the RO/NF waste brine and a feed sodium chloride stream.

#### 10:15 – 10:30 **BREAK**

#### 10:30 - 12:30

#### Session 5 – MANAGEMENT FLEXIBILITY TO MAXIMIZE ENVIRONMENTAL AND SOURCE WATER NEEDS

How will environmental regulation (such as Endangered Species Act) ultimately factor in to water management decisions when determining the long-range reliability of sources for direct aquifer recharge and surface spreading going forward? Session participants will share various experiences when implementing environmental requirements into real-world water management circumstances.

Moderator : Tony Zampiello, Main San Gabriel Basin Watermaster, Raymond Basin Management Board, Azusa, CA

10:30 - 11:00

#### Regional Storm Water Recharge in Santa Ana Watershed

Greg Woodside, Executive Director of Planning and Natural Resources, Orange County Water District, Fountain Valley, CA Greg Woodside oversees the Planning and Watershed Management Department and the Natural Resources Department at the Orange County Water District. He has a MS in hydrology from New Mexico Tech, and a BS from California State University, Fullerton in geology. Woodside has over 20 years of experience in water resources management and hydrogeology, including groundwater recharge, modeling, and water quality projects. Woodside is a registered geologist and certified hydrogeologist in California.

#### 11:00 - 11:30

#### The Endangered Species Act and Seven Oaks Dam

Douglas Headrick, General Manager, San Bernardino Valley Municipal Water District, San Bernardino, CA

Mr. Headrick has been involved in California water for over 20 years starting with the Santa Ana Watershed Project Authority where he administered a variety of regional water supply and computerized mapping projects. He has also managed a regional groundwater recharge operation and provided the primary technical support for the Big Bear Watermaster and San Bernardino Valley Engineering Investigation. In addition, he managed the Water and Wastewater Divisions for the City of Redlands for 7 years prior to coming to Valley District. This included the administration and operation of two surface water treatment plants and a state-of-the-art recycled water plant, which is the largest of its kind in the Western United States.

#### 11:30 - 12:00

Impact of Endangered Species Act and Environmental Regulation on Recharge Operations in Los Angeles County

#### Patricia Wood, Senior Civil Engineer, County of Los Angeles Department of Public Works, Water Resources Division Patricia Wood oversees the Facilities Section of Public Works' Water Resources Division. Part of her duties is overseeing staff who coordinate compliance with Federal, State and local environmental regulations and environmental permit acquisition for Public Works' dams, reservoir, and water conservation facility projects. Her staff's work also includes navigating changing environmental regulations, endeavoring to comply with increasing regulatory requirements while meeting the oftentimes conflicting goal of supporting the ongoing flood protection and water supply needs of Los Angeles County's 10 million residents. Ms. Wood is a licensed Professional Engineer in Civil Engineering and a Los Angeles County native and resident. She has been working for Public Works since 1985 and has over 20 years of experience in environmental compliance.

#### 12:00 - 12:30

#### Watershed Management approach to Discharge Regulations

David Kimbrough, Water Quality Manager, Pasadena Water & Power, Pasadena, CA

Dr. Kimbrough has a BS in Biology from California State University, Los Angeles and his MS and Ph.D. from the UCLA School of Public Health. He has worked for the South Coast Air Quality Management District, California Department of Health Services, Cal-OSHA, and California Department of Toxic Substances Control. He has served on committees for professional organizations such as the American Water Works Association and the Association of California Water Agencies. He chairs the Laboratory Accreditation Work Group.

12:30 – 1:30 **LUNCH** 

#### 1:30 - 3:30

#### Session 6 – INNOVATIONS IN WATER RECYCLING

Recycled water is recognized as a growing, reliable alternative water resource in southern California. While it is a reliable resource for supply, it presents many challenges for maximizing its potential. These challenges, which include public perception, new and changing regulatory requirements, and need for advanced treatment, are being met with unique and innovative approaches and management efforts that exceed the norm of industry standards in practice. This session will provide information on several efforts including how to address the public perception issues, meeting and influencing transforming regulatory requests, and provide some examples of how advanced treatment has moved forward the ability to serve recycled water to meet certain demands.

#### Moderator: Tim Parker, Parker Groundwater, Sacramento, CA

#### 1:30 – 2:00

#### Public Perception of Recycled Water - Building Trust

Gina DePinto, Principal Communications Specialist, OCWD, Fountain Valley, CA

Gina DePinto is the Principal Communications Specialist for the Orange County Water District supporting the Director of Public Affairs by managing public and media relations efforts, and community outreach programs. Prior to joining OCWD, DePinto managed her own firm, Bylines Public Relations and Marketing.

#### 2:00 - 2:30

#### Recycling Water - Beating Mother Nature at Her Own Game

Cathy Chang, Water Quality Program Manager, Water Replenishment District of Southern California, Lakewood, CA Dr. Cathy Chang is the Water Quality Program Manager at the Water Replenishment District of Southern California. She oversees the water quality program and works on projects related to: recycled water reuse, seawater intrusion, spreading grounds, stormwater capture & recharge, and regulatory compliance. Her prior professional experiences include: the Los Angeles Regional Water Quality Control Board, Santa Monica Bay Restoration Commission, and the City of Culver City. She received her Doctorate in Environmental Science & Engineering, from University of California, Los Angeles. She is a California Professional Civil Engineer with over 15 years of experience in the water quality field.

#### 2:30 - 3:00

#### Eastern Municipal Water District Recycled Water Program

Hossein Juybari, Senior Civil Engineer — Recycled Water, Eastern Municipal Water District, Perris, CA

Eastern Municipal Water District is a public water agency and community water system that provides domestic water, wastewater collection and treatment service, and recycled water. Hossein has more than 25 years of experience in engineering, with expertise in water, wastewater, and water reuse planning and design. He is a PE, and has a BS in Irrigation and Reclamation and an MS in Engineering from Fresno State University. He was previously involved with the City of San Diego reclamation project and currently his team at EMWD is working on several key planning documents and the construction of several major recycled water facilities. Hossein has been involved with Recycled Water Programs in California for 17 years.

#### 3:00 – 3:30 San Diego's Advanced Water Purification Demonstration Project

#### Greg Wetterau, Process Design Engineer, CDM Smith, Rancho Cucamonga, CA

Greg Wetterau, PE, BCEE, is an Associate with CDM Smith and currently serves as their West Region Drinking Water Market Leader, working from Rancho Cucamonga, CA. A graduate of the University of Illinois, Urbana-Champaign, with a BS and MS in Environmental Engineering, Mr. Wetterau has been involved with membrane treatment research and facility design since 1992. He has lead or supported the design of more than 50 membrane treatment facilities throughout the world, including numerous groundwater treatment facilities. He is currently First Vice President of the American Membrane Technology Association and is past Chair of the AWWA Water Desalting Committee.

3:30 – 3:45 Conference Wrap-up

3:45 ADJOURN



#### **CONTINUING EDUCATION CREDIT FOR ATTORNEYS**

Brownstein Hyatt Farber Schreck LLP is the approved MCLE sponsor provider for this conference by The State Bar of California. Attorneys will receive 12.0 General MCLE credits for attending the AGWT/ AGWA Annual Conference (Feb 11-12, 2013) Ontario, California.



#### **CERTIFICATE OF ATTENDANCE**



The AGWT will issue a certificate of attendance (mailed post-event) to attendees who complete the sign-in and sign-out sheets. Separate sheets for each day. [No signature – no certificate!] These certificates may be used for professions requiring proof of attendance for continuing education credit

#### After the Conference

- 1. Please leave your badge-holder on the table
- 2. If you completed an order form for CD purchase please give it to an AGWT staff-person
- 3. If you completed an individual or company AGWT membership form please give it to an AGWT staff person
- 4. If you plan to order a CD later (with check) or become an AGWT member later, don't forget to take the forms with you
- 5. ATTORNEYS don't forget to complete the MCLE documents
- 6. If you need documentary proof that you attend this event don't forget to sign-in AND sign out (both days)



#### ASSOCIATION OF GROUND WATER AGENCIES

AGWA, was formed in 1994 by a group of Southern California groundwater basin management agencies to provide a unified voice to coordinate efforts and exchange information to enhance the effective management of groundwater resources. AGWA's purpose is to create a forum for the discussion of groundwater issues for entities responsible for management of groundwater basin resources. AGWA's primary objectives are to promote:

- More effective means of enhancing management of groundwater basins,
- The reliability of existing groundwater supplies,
- The increase of basin yields and the protection and enhancement of groundwater quality



#### AMERICAN GROUND WATER TRUST

The AGWT was formed in 1986 as a non-profit education organization with the mission of promoting interest and awareness in ground water issues. Specifically, the AGWT's conference and workshop programs and educational materials:

- 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



#### CALIFORNIA GROUNDWATER COALITION

CGC was formed in 2007 as a joint endeavor of the Association of Ground Water Agencies (AGWA), the Ground Water Resources Association of California (GRA) and the American Ground Water Trust (AGWT). The Coalition's principal mission is to educate policy makers about groundwater; and promote the benefits of comprehensive groundwater management and use in legislative and other water policy arenas. The Coalition recognizes:

• Groundwater development, conjunctive use, and groundwater storage have the capability to provide increased water supply reliability for California

• Groundwater management and monitoring are essential to the successful development and protection of the state's groundwater resources for current and future generations

• New infrastructure is needed to obtain statewide benefit from groundwater resources utilization and replenishment potential.



#### SOUTHERN CALIFORNIA WATER UTILITIES ASSOCIATION

Southern California Water Utilities Association has a membership of over 400 from a wide range of water utility personnel and includes members from other utility organizations and regulatory agencies along with ancillary companies providing support services to the utilities.

The SCWUA objectives are:

- To establish a relationship and foster communications and cooperation between members and their respective agencies and companies.
- To assist in educating and advancing the professional growth of its members.
- To act as a media for the exchange of information pertinent to the water works industry.
- To promote the image of the water works profession.



#### 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, <u>effectively communicated</u>, can support the dual objectives of sustainably maximizing the use of groundwater for economic, social and environmental benefit while protecting against overdevelopment and contamination.

Andrew Stone (USA), Executive Director of the American Ground Water Trust, is the Commission Director with co-Directors Karen G. Villholth (Denmark), Senior Researcher, Geological Survey of Denmark & Greenland and José Joel Carrillo Rivera (Mexico), Professor, Universidad Nacional Autónoma de México.



#### GROUNDWATER RESOURCES ASSOCIATION OF CALIFORNIA

#### **Primary Objectives and Purpose**

- Promote professional development of scientists, engineers, and others involved in the assessment, development, quality and management of the state's groundwater resources
- Help formulate statewide policy on the development, management, and protection of the state's groundwater resources, soil and groundwater remediation, and environmental assessments
- Disseminate scientific and technical information among GRA members and those who influence policy development concerning groundwater resources
- Develop scientific educational programs that promote the understanding and implementation of groundwater assessment, protection, and management
- Facilitate the development of alternative technologies and standardization of methods to advance investigation, management, and protection of California's groundwater resources
- Develop a pro-active role with the legislature as an authority on technical groundwater issues.
- The Groundwater Resources Association assumes a leadership role in communicating the needs and values of our industry to government officials and the public. Through GRA you can help influence the future groundwater policy of the State of California.



Western continues to expand local, secure water supplies to customers through innovative means and collaborative partnerships, including the desalting of brackish groundwater.

A regional partnership, the Chino Desalters, once fully expanded, will provide enough drinking water for more than 1.5 million people in the Inland Empire. Key partners in the Chino Desalter Authority (CDA), of which Western is the lead agency, are the Inland Empire Utilities Agency (IEUA), Jurupa Community Services District and the city of Chino. Other collaborative agencies and beneficiaries are the cities of Ontario, Norco, Chino and Chino Hills as well as the Santa Ana River Water Company.

To date, Western, in partnership with IEUA and the CDA, has secured more than \$70 million in state and federal grants, including a historic \$51 million grant from the California Department of Public Health.

Expected completion of the \$130 million project is 2015.



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Layne Christensen Company, headquartered in Mission Woods, KS, was established in 1996, through the acquisition of Christensen Boyles Corporation and Boyles Brothers Drilling Company by Layne, Inc.(established in 1882). Layne Christensen Company exemplifies the capabilities and expertise of an industry leader with more than two hundred years cumulative experience, operating more than 80 integrated offices worldwide, staffed with over 4,500 permanent employees.

Layne Christensen Company provides drilling and related services through three key divisions:

Water Infrastructure Mineral Exploration Energy

Our Water Infrastructure group most closely represents the historical origins of Layne, Inc., which began with Mahlon Layne's water wells and has evolved into a full line of water-related products and services. Offering hydrological studies and engineering, water well design and drilling, water and wastewater treatment facility design and construction, filtration media products, sewer rehabilitation, and more, our Water Infrastructure team delivers a full spectrum of water services.

Within the Water Infrastructure group, Layne Geoconstruction is a leader in the ground improvement and specialty foundation construction industry. Geoconstruction focuses primarily on serving the heavy civil construction market, delivering ground modification and specialized structural support. As our expertise in this area has grown through strategic acquisitions, Layne's story as an organization has changed — our history now includes a much broader range of services that add value by building upon the needs of the various markets we serve.

Layne Christensen's Mineral Exploration team is built upon the expertise developed by Elmore and Page Boyles, two brothers who pioneered drilling technology that has served the mineral exploration and mining industry since the late 19th century. Today, Layne Christensen Mineral Exploration deploys more than 150 rigs worldwide to provide advanced drilling services to major mining companies seeking copper, gold, iron ore, and more.

The Layne Energy group is a developer of unconventional shale and natural gas plays. A more recent element of Layne's portfolio, Layne Energy specializes in coal bed methane and shale gas, making an abundant fuel source available to the domestic market. While our history has been more focused on finding and producing water and minerals, Layne Energy represents opportunity in Layne Christensen's future.

Who we are today is a reflection of our deep history — one that values integrity, hard work and doing the right thing. Where we go tomorrow will be shaped by our history and defined by the opportunities we create.

# CADIZ – Proud to be a sponsor of the Annual AGWA / AGWT Conference



Founded in 1983, Cadiz Inc. is a publicly-held California company that owns 70 sq. miles of land and water rights in eastern San Bernardino County including an organic farm in the Cadiz Valley growing lemons, grapes and assorted vegetables. The Company also is developing the Cadiz Valley Water Project in partnership with Southern California water agencies. Cadiz abides by a "Green Compact" to sustainably manage its properties and has pledged to implement its projects without harm to the environment. Cadiz is dedicated to safe and sustainable management of the groundwater basin through the project's approved Groundwater Management, Monitoring, and Mitigation Plan which will be independently overseen by the County of San Bernardino and the Santa Margarita Water District.

## rincon

Rincon Consultants, Inc. Environmental Scientists Planners Engineers

Rincon Consultants, Inc. is certified as a Small Business Enterprise (SBE # 4417) by the State of California's Department of General Services.

#### **Professional Services**

- Watershed Management and Planning
- Regulatory Compliance and Permitting
- Environmental Sciences and Impact Evaluation
- CEQA / NEPA Documentation & Technical Studies
- Biological and Cultural Resources Assessment
- Environmental Restoration
- Construction Management and Mitigation Monitoring
- Site Assessment and Remediation
- Geological and Seismic Studies
- Greenhouse Gas Emissions Inventories, Verification and Monitoring
- Alternative Energy Expertise

## Welcome AGWA-AGWT Conference Participants