2022 COLORADO GROUNDWATER ISSUES

An annual information-exchange conference organized by the American Ground Water Trust



Monday, November 7th 8:30am – 5:00pm (Reception 5:00-6:30pm) Tuesday, November 8th 8:30am – 4:00pm Holiday Inn Denver East, 3333 Quebec Street, Denver CO 80207 Learn about the state's water management challenges and solutions 2 Day Conference - Registration (www.agwt.org/events)



"The AGWT always assembles an impressive selection of presentations" "Each year this annual Colorado program gives background and insight to state water policy issues" "If I can only attend one conference focused on Colorado groundwater - this is the one"











WHO SHOULD SIGN-UP FOR THIS CONFERENCE?

This annual program attracts participation from Colorado's water managers, water attorneys, hydrogeologists, engineers, geologists, planners, utility operators, groundwater consultants, water treatment specialists, water well contractors, groundwater end-users, city & county government, Federal and State water agencies, regulatory authorities, environmental NGOs and interested citizens.

"I attend this program every year: it always has interesting and relevant topics" "The presentation team was successful in explaining complex science and legal issues" "Great mix of water management science, engineering, politics and policy"



CONTINUING EDUCATION

Approved for Colorado Water & Wastewater Operators-Course #22-09062, 1.3 Max TUs (see webpage for addtl details) Approved for Colorado Water Well Construction & Pump Installation Contractors-Course #2022-01-067-A, 8 Hours Certificate of attendance available for all attendees upon completion of CE Form.

American Ground Water Trust Corporate and Event Sponsors

Join these sponsors, add your company logo here. Exhibit space available. www.agwt.org/events for details



8:30 - 8:45

CURRENT AND FUTURE DROUGHT: THE LIMITATIONS AND PROMISE OF MANAGED AQUIFER RECHARGE Andrew Stone, Executive Director, American Ground Water Trust, Concord, NH

8:45 – 9:20

CLIMATE CHANGE IMPACTS ON WATER RESOURCES IN COLORADO Lauren Foster, PhD, Hydrologist, Neptune & Company Inc., Lakewood, CO

9:20 – 9:55

SUPPLY AND DEMAND CONDITIONS AND WATER MARKET DRIVERS IMPACTING MUNICIPAL GROUNDWATER PROJECTS ALONG COLORADO'S FRONT RANGE

Adam Jokerst, PE, Rocky Mountain Regional Director, WestWater Research, Fort Collins, CO

9:55 – 10:30

AN INTEGRATED FRAMEWORK FOR QUANTIFYING GROUNDWATER/SURFACE-WATER INTERACTIONS IN THE UPPER COLORADO RIVER BASIN

Connor Newman, PG, Hydrologist, Colorado Water Science Center, US Geological Survey, Lakewood, CO

10:30 – 10:50 BREAK (Networking and exhibits)

10:50 - 11:25

INTEGRATING SURFACE WATER AND GROUNDWATER SUPPLIES FOR PIKES PEAK REGIONAL WATER AUTHORITY AQUIFER RECHARGE PROJECTS Wilbur "Will" Kogor, P.E., VP. Division Manager, Forsgron Associates, Inc., Englowood, CO.

Wilbur "Will" Koger, P.E., VP, Division Manager, Forsgren Associates Inc., Englewood, CO

11:25 12:00

WATER REUSE THROUGH ALLUVIAL AQUIFER RECHARGE AND RECOVERY IN THE UPPER BLACK SQUIRREL CREEK AQUIFER

Kevin Brown, EIT, Junior Water Resource Engineer, Cherokee Metropolitan District, Colorado Springs, CO

12:00 - 12:35

THE FUTURE OF GROUNDWATER-BASED IRRIGATION AGRICULTURE IN COLORADO Greg Peterson, Executive Director, Colorado Ag Water Alliance, Littleton, CO

12:35 – 1:40 LUNCH **Sponsored by Mount Sopris Instruments** (Networking and exhibits)

1:40 – 2:15

RESPONDING TO PFAS CONTAMINATION IN COLORADO Nancy Mortvedt, Director of Client Engagement, SL Environmental Law, San Francisco, CA

2:15 – 2:50

A REVIEW OF TECHNOLOGY AND ACCEPTED PRACTICES FOR THE CLEAN-UP AND TREATMENT OF GROUNDWATER CONTAMINATION AND COMPLIANCE WITH REGULATORY REQUIREMENTS FOR THE DISPOSAL OF TOXIC RESIDUALS AnnieLu DeWitt, Water Filtration & PFAS Product Line Director for North America, Clean Harbors, Boston, ME

2:50 - 3:25

SEPARATE, CONCENTRATE, DESTROY: REMOVAL OF PFAS FROM GROUNDWATER USING FOAM FRACTIONATION, ELECTROCHEMICAL OXIDATION, AND OTHER TECHNOLOGIES Jeff Bamer, PE, Discipline Leader Remedial Design, CDM Smith, Denver, CO

3:25 - 3:40	BREAK	(Networking and exhibits)	
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3:40 - 5:00

CRYSTAL BALL PERSPECTIVES

Panel-led discussions on hydrologic, legal and political challenges for Colorado's groundwater

Panel Moderator:

• Richard Brown, Economist, Public Policy Consultant to the Colorado Water Well Contractors Association, Glendale, CO

Panelists:

- Kat Demaree, PhD, Project Manager, Climate Innovation Collaboratory, University of Colorado Boulder, CO
- Dianna Orf, Attorney, Orf & Orf, PC, Denver, CO
- Alexandra L. Davis, JD, Deputy Director Water Resources, Aurora Water, Aurora, CO

5:00

WRAP-UP OF DAY ONE PRESENTATIONS

5:00 - 6:30 RECEPTION (Cash bar) (Networking and exhibits)



7:30 – 8:30 REGISTRATION Tuesday, November 8, 2022

8:30 – 8:40 SUMMARY OF DAY ONE PRESENTATIONS – INTRODUCTION TO DAY TWO Sara Chudnoff, PG, Hydrogeologist, American Ground Water Trust, Pinetop, AZ

8:40 – 9:15

GEOLOGIC INFLUENCES ON SALINITY IN THE SOUTH PLATTE BASIN

Lesley Sebol, PhD, Hydrogeologist, Colorado Geological Survey, Colorado School of Mines, Golden, CO Coauthor recognition: Grady O'Brien, PG, Principal Hydrogeologist, NEIRBO, Fort Collins, CO

9:15-9:50

HOW IMPROVEMENTS TO THE SOUTH PLATTE ALLUVIAL MONITORING NETWORK WILL AID WATER MANAGEMENT DECISIONS

Kevin Donegan, CPG, Senior Hydrogeologist, Hydrogeology Section, CO Division of Water Resources, Denver, CO

9:50 – 10:05 BREAK (Networking and exhibits)

10:05 - 10:40

GEOPHYSICS FOR MANAGED AQUIFER RECHARGE PROJECTS John Jansen, PG, PGp, PhD, Senior Geophysicist & Hydrogeologist, Collier Consulting, Stephenville, TX

10:40 – 11:15

STACKED DYNAMIC FLOW AND WATER CHEMISTRY PROFILING OF TEST WELLS: Delineation of flow and water chemistry to reduce the risk of constructing potable supply wells that fail based on water chemistry Noah Heller, PG, President, BESST Inc., San Rafael, CA

11:15 – 11:50 MONITORING BASIN-SCALE AQUIFER STORAGE CHANGE AND MAPPING SPECIFIC YIELD WITH REPEAT MICROGRAVITY DATA Meghan Bell, Hydrologist, USGS New Mexico Water Science, Albuquerque, NM

11:50 – 12:45 LUNCH (Networking and exhibits)

12:45 – 1:20 CITIZEN SCIENCE AND COMMUNITY ENGAGEMENT FOR EFFECTIVE GROUNDWATER PROTECTION Sara Chudnoff, PG, Hydrogeologist, American Ground Water Trust, Pinetop, AZ

1:20 – 1:55

COLORADO AGRICULTURAL WATER QUALITY PROGRAM OUTREACH AND DEMONSTRATION Christina Welch, Outreach & Research Coordinator, Agricultural Water Quality Program, CSU Extension, Fort Collins, CO

1:55 – 2:30 ENGAGING DECISION-MAKERS WITH WATER EDUCATION AND AWARENESS VIA VIDEO Christi Bode Skeie, Owner and Executive Producer, Moxiecran Media LLC, South Fork, CO

2:30 - 4:00

GROUNDWATER ALLOCATION IN THE DENVER BASIN THE IMPACTS OF THE JUNE 2022, JUDGE TODD TAYLOR DECISION

Presentations and panel discussion - 90-minute session

"I conclude that the General Assembly clearly expressed its intent that a total volumetric limit be placed on groundwater withdrawals from nontributary and Denver Basin wells—not merely an average annual rate of withdrawal. Consistent and harmonious with § 37-90-137(4)(b), Rule 8(B) of the Statewide Nontributary Groundwater Rules provides that the "allowed average annual amount of withdrawal shall be 1% of the total recoverable water." Thus, I conclude that both § 37-90-137(4)(b) and the Statewide Nontributary Groundwater Rules explicitly set a total volumetric limit on nontributary and Denver Basin wells."

Litigation determination:

Order (1) Granting the State Engineer's Motion for Determination of Two Questions of Law and (2) Denying Parker Water's and Plaintiff-Intervenors' Cross-Motion for Determination of Three Questions of Law

The Groundwater Conference Panel will discuss the for-and-against arguments of the litigation, litigation to clarify the Order and then discuss how the Parker v. Rein order will impact the future management of groundwater in the Denver Basin.

Presenters and panelists:

- Steven O. Sims, JD, Attorney, Brownstein Hyatt Farber Schreck, LLP, Denver, CO
- Lisa Darling, Executive Director, South Metro Water, Greenwood Village, CO
- Tracy Kosloff, PE, Deputy State Engineer, Colorado Division of Water Resources, Denver, CO
- Alexandra L. Davis, JD, Deputy Director Water Resources, Aurora Water, Aurora, CO

4:00 – 4:05 WRAP UP DOOR PRIZES



REGISTRATION FORM

	ado Groundwat uesday, Novem				
Holiday Inn Denver Eas					
Complete information b	elow or register on	-line at www.agwt.	org/events		
	Two Day		Dne Day		
	Nov 7 AND Nov 8	No	ov 7 OR Nov 8		
			or		
General Registration*					
AGWT Member*					
Full-Time Student* (ID required at Registration)	□ \$120		□ \$80		
Download of presentation ppts (in pdf format) (Registrant Price)	□ \$30 Attendee □ \$100 NON-Attendee				
Exhibit Table (6' table, 2 days) (personal registration also required)	□ \$300				
*Registration Includes: access to exhibits, reception,	breaks and lunch(s)				
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SPEAKER REGISTRATIO	N ONLY! - ANNUAL C	OLORADO CONFER	ENCE		
Speakers receive con	nplimentary registratior	n for the day of their p	resentation		
Speaker Presentation Date	Nov 7 🗆 🛛 🛛	Nov 8 🗆			
Attending (day not presenting)	Nov 7 🗆 \$100 I	Nov 8 🗖 \$100			
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