

# AMERICAN GROUND WATER TRUST

(501(c)(3) non-profit education organization)

## Annual Colorado Groundwater Conference

### “Everything aquifers and groundwater management”

Wednesday, November 20, and Thursday, November 21, 2019  
DoubleTree by Hilton-Denver 3203 Quebec Street, Denver, CO 80207



#### Continuing Education

The AGWT will issue Certificates of Attendance for professionals and additionally:  
Approved for Water & Wastewater Operators – Course #19-06506 – TUs =.35WT, .35 WWT, .35 IWT, .25 WD & .2 WC  
Approved for Regulatory Water & Regulatory Wastewater  
Approved for Water Well Construction and Pump Installation Contractors - Course #2019-01-045-A - 8 CE Hours

#### 2019 Conference Sponsors:



For information on sponsorship & exhibit opportunities, visit [www.agwt.org/events](http://www.agwt.org/events) or call 800 423 7748.

Since 2000, the American Ground Water Trust has convened 24 information-exchange & education programs in Colorado with a focus on technical and policy groundwater issues. This 2019 program is #25.

## Day 1 - Wednesday November 20



7:30 – 8:30 REGISTRATION Coffee & pastries (Exhibits)

8:30 – 8:45 INTRODUCTION  
Andrew Stone, Executive Director, American Ground Water Trust, Concord, NH

### **SESSION – WATER QUALITY IMPACTS: HARD ROCK MINING, OIL & GAS DEVELOPMENT AND IRRIGATION**

Moderator: Kelly Jayne, PE, Project Engineer, Daniel B. Stephens & Associates, Inc., Lakewood, CO

8:45 – 9:15

AN ENGINEER'S PERSPECTIVE OF ACID ROCK DRAINAGE – THE CHALLENGES AND SOME INNOVATIVE REMEDIES  
Jim Gusek, PE, Senior Project Manager, Linkan Engineering, Golden, CO

9:15 – 9:45

REGIONAL GROUNDWATER CONTAMINATION ASSOCIATED WITH EXPLORATION AND PRODUCTION OF NATURAL GAS  
Mike Wireman, (Retired) National Groundwater Expert for the US Environmental Protection Agency, and,  
President, Granite Ridge Groundwater, Boulder, CO

9:45 - 10:15

URANIUM CONCENTRATIONS IN IRRIGATION RETURN-FLOWS TO THE ARKANSAS RIVER, SOUTHEASTERN COLORADO  
Peter Barkmann, CPG, Colorado Geological Survey, Colorado School of Mines, Golden, CO

Co-author recognition: Martin Palkovic, Lesley Sebol, Lauren Broes, and Kenneth Swift Bird, Colorado Geological Survey

10:15 – 10:35 BREAK

10:35 – 11:05

THE SAN LUIS VALLEY CONFINED AQUIFER: MYTHS AND REALITIES  
Eric J. Harmon, P.E., Principal, HRS Water Consultants, Inc., Lakewood, CO

11:05 – 11:35

AN UPDATE ON REGULATORY ISSUES AFFECTING GROUNDWATER MANAGEMENT IN COLORADO  
Kevin Donegan, Senior Hydrogeologist, Colorado Division of Water Resources, Denver, CO

11:35 – 12:05

### **Keynote Presentation**

#### **EMERGING CONTAMINANTS AND OTHER GROUNDWATER QUALITY ISSUES FACING COLORADO**

**Joan Card, JD, Attorney, Culp & Kelly, LLP, Boulder, CO**

**Commissioner on the Colorado Water Quality Control Commission**



Joan is a Commissioner on the Colorado Water Quality Control Commission, the state's water quality policy-making body and a member of the AirWaterGas External Advisory Committee at the University of Colorado. She is a former member of the Western States Water Council and past Chair of that organization's Water Quality Committee, and was a member of the Colorado River Basin Salinity Control Forum and Advisory Council. She also previously served as a Board Member of the Association of State and Interstate Water Pollution Control Administrators.

Joan is a proven leader in water quality, environmental, and natural resources issues with over 20 years of combined local, state, federal, private, and non-profit experience in law, policy, and administration. She has held senior executive positions at the Region 8 office of the U.S. EPA in Denver and at the Arizona Department of Environmental Quality, where she was Director of the Water Quality Division.. Joan provides legal, policy, and agency relations services. Joan has a J.D. from the University of Montana School of Law

12:05 – 1:10 LUNCH (provided)

## Day 1 – afternoon presentations

1:10 – 3:10

### **SESSION - PER- AND POLYFLUORINATED ALKYL SUBSTANCES**

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

“110 MILLION AMERICANS HAVE SOME PFAS IN THEIR DRINKING WATER”

(Estimate From Ewg—Environmental Work Group)

What about drinking water supply in Colorado?

1:10 – 1:40

PFAS IN GROUNDWATER – ORIGINS, SOURCES, AND ACTIONS BY LOCAL & STATE AGENCIES

Viraj deSilva, PhD, PE, BCEE, Wastewater Treatment Director, SCS Engineers, Tampa, FL

1:40 – 2:10

PFAS TESTING: LABORATORY METHODS, TARGET ANALYTES, SCREENING LEVELS AND SAMPLING PROTOCOLS

Taryn McKnight, Product Manager, Eurofins TestAmerica, West Sacramento, CA

2:10 – 2:40

TREATMENT OPTIONS FOR PFAS REMOVAL FROM WATER: HOW THEY WORK AND WHAT THEY COST

Cathy Swanson, Groundwater Remediation Specialist, Purolite Corporation, Fullerton, CA

2:40 – 3:10

HEALTH RISKS AND COLORADO STATE AGENCY RESPONSES/ACTIONS RELATED TO ENSURING DRINKING WATER SAFETY

David Dani, Emerging Contaminants Coordinator, CO Department of Public Health and Environment, Denver, CO

3:10 – 3:30

BREAK

3:30 - 5:00

### **SESSION – AQUIFER STORAGE RECOVERY IN COLORADO**

Moderator: Shaden Musleh, PE, Principal Water Resources Engineer, Intera, Boulder, CO

3:30 – 4:00

DEMONSTRATING DOMINION AND CONTROL: MOVING FROM BLACK MAGIC TO UNDERSTANDABLE SCIENCE

Dave Colvin, PG, PMP, Groundwater Team Leader, LRE Water, Denver, CO

4:00 – 4:30

THE CASE FOR REGIONAL ASR IN COLORADO

John Kaufman, PG, CPG, General Manager, Centennial Water and Sanitation District, Highlands Ranch, CO

4:30 – 5:00

GROUNDWATER MODELLING OPTIONS FOR ASR PROJECTS

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

5:00 – 6:30

RECEPTION (cash bar) – (Network with attendees, presenters and exhibitors)



## Day 2 – Thursday November 21



7:30 – 8:30 REGISTRATION (Exhibits)

8:30 – 8:35

RECAP OF DAY ONE AND INTRODUCTION TO DAY TWO

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

8:35 – 9:05

USING GEOPHYSICS TO SITE AQUIFER RECHARGE PROJECTS IN FOREBAY ZONES IN THE ROCKY MOUNTAINS

John Jansen, PG, PGp, PhD, Senior Geophysicist/Hydrogeologist, Collier Geophysics, West Bend, WI

9:05 – 9:35

THE USE OF DRONES FOR GROUNDWATER INVESTIGATIONS IN COLORADO

Ron Bell, President, International Geophysics, Inc., Denver, CO

9:35 – 10:05

CHARACTERIZING GROUNDWATER POTENTIAL: MAPPING THE UPPER PIERRE AQUIFER AND OTHER BEDROCK AQUIFERS

Theresa Jehn Delaport, President, Quantum Water Consulting, Lakewood, CO

10:05 – 10:25 BREAK

10:25 – 12:30

### SESSION - THE ELUSIVE GROUNDWATER SUSTAINABILITY OBJECTIVE

#### SUSTAINABLE GROUNDWATER PUMPING

The California approach and the Colorado approach

Moderator: Leila C. Behnampour, Attorney, Somach, Simmons & Dunn, Boulder, CO

Presenters:

GROUNDWATER SUSTAINABILITY POLICY AND IMPLEMENTATION IN CALIFORNIA: SUSTAINABLE GROUNDWATER MANAGEMENT ACT (SGMA)

Aaron Ferguson, JD, Attorney, Shareholder, Somach, Simmons & Dunn, Sacramento, CA

GROUNDWATER SUSTAINABILITY PLANNING: ENGINEERING SOLUTIONS FOR SUSTAINABLE MANAGEMENT OF GROUNDWATER – LESSONS LEARNED FROM CALIFORNIA

Abhishek Singh, PhD, PE, Manager - California Operations, Senior Water Resources Engineer, INTERA Inc., Torrance, CA

GROUNDWATER SUSTAINABILITY POLICY AND IMPLEMENTATION IN COLORADO: OGALLALA WATER COORDINATED AGRICULTURE PROJECT (OGALLALA CAP)

Amy Kremen, OWCAP Project Manager, Colorado State University, Fort Collins, CO

GROUNDWATER SUSTAINABILITY AND MUNICIPAL WATER SUPPLY PLANNING

Alexandra Davis, JD, Deputy Director Water Resources, Aurora Water, Aurora, CO

12:30 – 1:40 LUNCH (provided)

## Day 2 – afternoon presentations

(No formal break – refreshments available all afternoon)

1:40 – 2:10

**ROLE OF ASR IN COLORADO'S WATER MANAGEMENT TOOL-BOX**

Joshua S. Godwin, Geohydrologist, Aurora Water, Aurora, CO

2:10 – 2:40

**HOW MARKET-BASED PROGRAMS ARE USED TO BETTER MANAGE GROUNDWATER**

Brett Bovee, Rocky Mountain Regional Director, West Water Research, Fort Collins, CO

2:40 – 3:10

**GROUNDWATER MANAGEMENT CHALLENGES AT THE LOCAL LEVEL**

Lisa Thompson, JD, Attorney, Shareholder, Trout Raley, Denver, CO

3:10– 4:10

Panel discussion:

### **WATER LEGISLATION EXPECTED OR NEEDED FOR THE 2020 SESSION**

Moderator: Alyson Scott, JD, Attorney, Lawrence Jones Custer Grasmick LLP, Johnstown, CO

Rod Lenz, President of the Republican River Water Conservation District, Wray, CO

Representative Lori Saine, Colorado House District 63, Weld County

As has been to practice in previous Colorado Groundwater Conferences, the panel will be conducted as a Q & A Session with questions from the conference audience about groundwater management issues in Colorado, the effectiveness of current legislation and new legislation initiatives proposed for 2020.

4:10

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