



2019 CWC Annual Convention Workshops

January 30

Westin Westminster

Climate Science

9:00 to 11:30 am

Westminster Ballroom South

Session description being prepared by advisory committee (to be complete by Dec. 18)

Water Administration

9:00 to 11:30 am

Standley Ballroom

Perspectives of Colorado Division Engineers

Water Administration Challenges in 2018

9:00 to 11:00 am

Moderator: *Kevin Rein, Colorado State Engineer*

Panelists: *Division Engineers: Division 1 - Corey DeAngelis, Division 2 - Bill Tyner, Division 3 - Craig Cotten, Division 4 - Bob Hurford, Division 5 - Alan Martellaro, Division 6 - Erin Light, Division 7 - Rob Genualdi*

In a new format for this year, all seven Division Engineers will be on stage at the same time. Colorado State Engineer Kevin Rein will lead an Interactive discussion among panelists as well as the audience.

Colorado State Engineer and Leadership

11:00 to 11:30 am

Moderator/Speaker: *Kevin Rein, Colorado State Engineer*

Panelists: *Scott Cuthbertson, Tracy Kosloff, Mike Sullivan*

The executive leadership of the Division of Water Resources will select relevant topics to discuss with attendees.

Water Project Permitting

9:00 to 11:30 am

Cotton Creek

Overall Session Moderator: *Mark Pifher*

Fundamentals of Water Project Permitting

9:00 to 10:00 am

Presenters: *Mark Pifher, Chuck Sensiba, Troutman Sanders, LLC*

This session will focus on the fundamentals of the 404-permitting process. The presentation will cover the basics of 404 permitting, what each step of the permitting process entails, and the fundamental material necessary for navigating the permitting process.

Experiences Permitting Major Water Projects

10:00 to 10:30 am

Cotton Creek

Presenters: *Brian Werner, Norther Water, Presenter TBA*

This panel discussion will highlight two recent projects in Colorado that are working through the permitting process. This panel will provide insight into the challenges to successfully navigate the federal permitting process.

Should Colorado Consider Assumption of Permitting Authority under Section 404 of the Clean Water Act?

10:30 to 11:30 am

Lead Presenter: *John Kolanz, Otis, Bedingfield & Peters, LLC*

Panelists: *Mark Pifher, Panelists TBA*

John Kolanz will present his recent whitepaper entitled "Is it safe to Assume?" This paper analyzes the potential implications for Colorado if it were to assume permitting authority under Section 404 of the Clean Water Act. A brief reaction panel will follow John Kolanz's presentation.

Member Technical Sessions

9:00 to 11:30 am

Meadowbrook

Drone Technology and Water Do Mix!

9:00 to 9:30 am

Presenters: *Chuck Adams, 1Up Aerial Drone Services and Craig Ullmann, Applegate Group*

This session will describe how drones are being used to assist engineers, surveyors, and the U.S. Bureau of Reclamation in obtaining topographic data for use in canal rehabilitation. The Applegate Group contracted with 1Up Aerial Drone Services to collect LiDar data to develop LAS point clouds of bare earth surface data to estimate cut/fill volumes for a 15-mile long ditch lining and reshaping configuration project. Those in attendance will learn the following:

- Background on the Fruitland Irrigation Canal and challenges that the LiDAR drone assisted The Applegate Group in overcoming.
 - What is LiDAR & how did the drone augment the "boots on the ground" survey?
 - Drones (and the software they use) are no longer tinker toys and can be very useful to water rights, operations, management, engineering, and surveying large land masses.
 - Return on investment and comparison of traditional data collection methods to the drone mapping. In years past, how would The Applegate Group have collected this data if the drone was not available.
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Innovative Technology Tools:

Leveraging the Web to Gather, View and Report Water Resources Data in Colorado

9:30 to 10:00 am

Presenters: *Christine Clippinger, Leonard Rice Engineers*

Web technology can handle data in ways now that we could only imagine just five years ago. Today, more and more water users in Colorado are using the latest in web technology for stakeholder collaboration, supply and water quality visualization, water rights accounting, and more. At this workshop, we will take an in-depth look at:

- The new Arkansas Basin Water Operations Dashboard (just released!)
- The Phase 2 Metro Basin Water Quality Analysis Tool
- The upgraded Cherry Creek Basin Water Quality Portal
- The extensive United Water & Sanitation District System Monitoring Dashboard

Users, owners and developers of these tools will be on-hand at the workshop to foster a lively discussion on how the tools work, and more importantly, why they exist and how they are being used. *Bring your laptop so you can log in and try them out!* You'll also get a technical handout on how the tools work under the hood, so you can leave armed with real knowledge for putting these same underlying technologies to work for you.

Arkansas Basin RiverWare Model

10:00 to 1030 am

Presenter: *Todd Vandegrift, Precision Water Resources Engineering*

A RiverWare® model has been developed that simulates the complex water resource system of the Arkansas River in Colorado from its headwaters to the state line on a daily timestep. This transparent, flexible, and detailed model explicitly simulates the major processes in the basin, including water right allocation and detailed river and reservoir operations and accounting including the Fryingpan-Arkansas Project, Winter Water Storage Program, and Pueblo Reservoir Excess Capacity accounts. The model simulates the unique and interdependent operations of numerous basin entities and water users at varying and flexible levels of detail that can be tailored to meet the needs of individual users. Modifiable driving data can be used to efficiently simulate varied hydrologic conditions (e.g., climate change hydrology, forecasted hydrologic conditions, etc.), demand scenarios, and/or operational or policy alternatives that differ from historical conditions, providing a heightened ability to answer complex water management questions in the basin. The model supports many potential water management functions, ranging from long-term planning, policy development, and water supply evaluations, to short-term operational forecasting, scheduling, accounting, and coordination between parties.

OpenCDSS – Colorado's Decision Support Systems Open Source Software Initiative

CDSS Online Tools

10:30 to 11:30 am

Presenters: *Steve Malers, Open Water Foundation, Brian MacPherson, CWCB, John Rodgers, Division of Water Resources*

The CDSS program has recently implemented an open source approach, called OpenCDSS, to migrate the CDSS software such as StateMod, StateCU, TSTool, and StateDMI to open source software projects. OpenCDSS has been challenging in some unexpected ways but is expected to increase the sustainability and usefulness of the CDSS software while enhancing opportunities for collaboration and innovation. Steve Malers of the Open Water Foundation will provide background on how the project was developed and Brian Macpherson from the State of Colorado will present the State's perspective on the project. There is an interest in establishing a user group that more directly engages CDSS software users and responds to feedback on software.

Fire, Water, and Forest Health

9:00 to 11:30 am

Lake House

The CWC Board has approved a resolution authorizing CWC participation in the Colorado Forest & Water Advocacy Alliance to jointly advocate at state and federal levels about policies, funding, and programs that support meaningful and measurable improvements in forest health and watershed resiliency. One of CWC's commitments is to host workshops such as this one to expand membership's awareness of and participation in achieving the purpose of the Alliance. This workshop will begin with a broad overview of the ecology, management, and current health of Colorado's forests. Next, we will present information on fire science – what was natural for forest fires prior to human activity. From there, some examples of restoration projects will be discussed. And then, a discussion on public concerns about active forest management. We will discuss the unique role of the Forest & Water Advocacy Alliance and present the 2019 Work Plan.

Colorado Water Congress President's Luncheon
Winter General Membership Meeting
Focus on Funding
Westminster Ballroom
12:00 to 1:30 pm

In 2018, the Gates Family Foundation and Walton Family Foundation convened an informal group of water interests including state government, municipalities and water providers, agriculture interests, conservation and recreation organizations, and business. The goal was to assess strategies for securing \$100 million in new sustainable funding to implement Colorado's Water Plan. The group explored several avenues the legislature could take to provide additional funding for water projects throughout the state. Funds might be used for healthy rivers, water quality, conservation and efficiency, productive agriculture, and infrastructure. We will review the current status of this effort. What might the next steps be for a coordinated public awareness campaign?

Climate Planning and Policy
Westminster Ballroom South
1:30 to 5:00 pm

Session description being prepared by advisory committee (to be complete by Dec. 18)

Water Law Workshop
1:30 to 3:00 pm

Westminster North
Workshop Moderator: Kevin Kinnear

The Executive Committee of the Water Law Section of the Colorado Bar Association will provide a discourse on the current litigation on the upper Arkansas River. regarding stream access. Should the public be able to walk the beds of Colorado rivers even across private land?

Colorado Water Conservation Board Director's Forum
Rebecca Mitchell, Colorado Water Conservation Board Director
1:30 to 2:30 pm
Standley Ballroom

CWCB Director Becky Mitchell will spend 60 minutes with workshop attendees. The session format will be a mix of presentation and discussion in an informal atmosphere.

2019 CWCB Instream Flow Recommendations Workshop
(Open to the public)
2:30 to 5:00 pm
Standley Ballroom

The CWCB's Stream and Lake Protection Section annual workshop provides state and federal agencies and other interested persons an opportunity to recommend stream reaches or natural lakes for inclusion in the State's Instream Flow (ISF) Program. The recommending entities will present new ISF recommendations, including the

recommendation's location and supporting preliminary data. An overview of the ISF Program, the new appropriation process, and an update of pending ISF recommendations from previous years will also be provided.

For the second part of the workshop CWCB staff will present the new eRAMS platform for the R2Cross modeling program. Colorado State University created and hosts eRAMS, which provides online services for sustainable management of land, water, and energy resources.

The final part of the workshop will focus on the Request for Water Acquisitions Process (Process), a partnership between the Colorado Water Trust (Water Trust) and the Colorado Water Conservation Board (CWCB). The Process provides a streamlined approach to ISF water acquisitions that preserve or improve the natural environment. Topics covered will include the Process timeline, available stream restoration and transaction tools, and the information needed to initiate water right owner participation in the Process.

Balancing Risk, Dam Safety, and Reservoir Operations

1:30 to 2:30 pm

Cotton Creek

Moderator: Bill McCormick, Colorado Division of Water Resources

The safety of dams, especially spillways, under changing climate criteria is becoming increasingly important. The new Colorado – New Mexico Regional Extreme Precipitation Study will soon be released. This information will be used as part of new rules and regulations for determining spillway adequacy for dams in these states. The goal is to create updated, broadly accepted tools and procedures for estimating extreme precipitation events for individual basins within Colorado and New Mexico. In turn, this information will be used to develop policies and rules that minimize the risk of dam failures by overtopping and ensure public safety, while at the same time allow for the most efficient use of existing and new facilities to maximize water storage potential. This workshop will give attendees a preview of this upcoming process.

DARCA Workshop

Protecting the Water Rights of Shareholders

2:30 pm to 5:00 pm

Cotton Creek

Session description being prepared by DARCA

Member Technical Sessions

1:30 to 5:00 pm

Meadowbrook

Advancing the Integration of Water and Land Use Planning in Colorado

1:30 to 2:00 pm

Presenters: *John Berggren and Amelia Nuding, Western Resource Advocates*

Communities in Colorado are increasingly integrating their land use planning and water planning processes to better manage their water resources and support a growing population. Specifically, many communities are embedding water efficiency measures into their zoning, landscape and building codes, as well as their comprehensive plans, because the development choices they make “today” will have water demand implications for decades. While numerous communities have embraced integrating these two processes, significant opportunities still remain, especially along the Front Range where populations are expected to continue to grow

and water supplies are limited. This presentation will discuss the broader policy context for integration, specific tools and techniques to further integration, and the numerous resources available to communities to support these efforts.

Water Sharing in the Arkansas Basin

2:00 to 3:00 pm

Presenters: *Alex Funk, Colorado Water Conservation Board, Bill Grasmick, Lower Arkansas Water Management Association, Abby Ortega, Colorado Springs Utilities*

With a relationship that spans decades, Colorado Springs Utilities and the Lower Arkansas Water Management Association (LAWMA) have a long history of muni-ag collaboration. In this technical session hear how these two organizations are implementing an Alternative Transfer Method to decrease two of the water supply gaps identified in the Arkansas Basin Implementation Plan (municipal and augmentation).

Energy Performance Contracting (EPC) for Water Efficiency and Water Meter Upgrades

3:00 to 3:30 pm

Presenters: *John Berggren, Western Resource Advocates, Mirka della Cava and Taylor Lewis, Co Energy Office*

While the Colorado Energy Office's Energy Performance Contract (EPC) program is best known for energy savings benefits, there are also substantial water efficiency opportunities. Public building owners can save water and money through water fixture replacements, cooling tower retrofits, and landscape improvements. Water providers can reduce water losses and increase revenue through water meter replacement/upgrade projects. By partnering with pre-qualified companies that can identify and guarantee water efficiency opportunities, the Colorado Energy Office helps to facilitate the development, financing and implementation of efficiency upgrades that routinely go unfunded. Representatives from the Energy Office will discuss this unique opportunity for increasing water efficiency, reducing water loss, and ultimately providing substantial savings for both public sector buildings and water providers.

Presentation TBA

3:30 to 4:00 pm

Presentation TBA

4:00 to 4:30 pm

Presentation TBA

4:30 to 5:00 pm

CWC Standing Committees Open House

1:30 to 5:00 pm

Windsor

The CWC has five active standing committees that work on priority issues. All committees are seeking additional participation and are reaching out for new members. Attendees may learn a little about each committee and then select the one of greatest interest. Stop by and meet the leadership; get more details on each committee's work, how you might get involved, and get your questions answered.

Annual POND Networking Event

5:00 to 7:00 pm

Westminster Ballroom North

Our POND events are designed to provide an opportunity for attendees to interact in a fun and engaging way. As always, the event is top secret up until it begins, but you can expect another unique and interactive event. We promise to challenge your knowledge of Colorado's water community and facilitate creativity and teamwork. The event is free to anyone in the water community. Drinks and appetizers will be provided.
