



**COLORADO**

Colorado Water  
Conservation Board

Department of Natural Resources



**COLORADO**

Department of Local Affairs

Division of Local Government

**Colorado Water and Land Use Planning Alliance  
Quarterly Meeting**

Wednesday, June 3<sup>rd</sup>, 2020 1:00-3:30 p.m.

Remote Zoom Meeting

**Agenda**

**12:00-1:00 p.m. Jefferson County [Webinar](#): Growing Water Smart Project (optional)**

**1:00-3:30 p.m. Colorado Water and Land Use Planning Alliance Quarterly Meeting**

**Welcome**

- Technical Troubleshooting
  - A few people had difficulties accessing the earlier webinar highlighting Jefferson County. The webinar may have hit its attendee cap; here is a [link to the webinar recording](#) on the [Resilient West website](#).
- Thank you to the Sonoran Institute for sharing their Zoom account for this first ever virtual Alliance meeting. The meeting will end at 3:30 p.m. and is being recorded (primarily for note taking purposes).

**Alliance Member Updates**

- Upon entering the Zoom meeting, everyone will be muted. Christy will unmute individual attendees to report one at a time based on the attendee list. People who are calling in via phone will have time to report after those identified in the attendee list.
- Christy Wiseman – **CO Department of Local Affairs (DOLA)**
  - It's good to see you all in this virtual format. A lot has changed since we last met in early March. First, we are meeting in the context of the global COVID-19 pandemic. DOLA employees are working from home throughout the summer. We are available for technical assistance so please reach out. Second, we are experiencing national and international action, reaction, and discussion about racial injustice in this country. I'm a planner, and as a group of American Planning Association leaders (including our own Susan Wood) articulated in their recent [statement](#), "The impact of George Floyd's death and other recent grave injustices like it must be viewed in light of the historical trauma inflicted on African American communities, including discrimination wrought by the planning profession itself, which led to structural disadvantages in housing, transportation, education and employment that last to this day." We have the power to address inequities and build more resilient communities through our land use and water

work. Thank you all for being here and please feel free to candidly share how you're doing and feeling with all of us when we go through the member updates.

- Susan Wood – **American Planning Association Colorado (APA CO) Legislative Committee**
  - (Susan Wood was not present at the meeting. Christy read an update that Susan sent in advance): On March 24, Governor Polis signed [HB20-1095](#), which links master plans to the Colorado Water Plan and in doing so helps to break down the silos of water planning and land use planning. Though not mandatory, it does provide the link to resources in the Water Plan. It also provides funding for an FTE through DOLA. However, it's unclear how the funding component will fare in the current state budget discussions.
- Russ Sands – **Colorado Water Conservation Board (CWCB)**
  - CWCB kicked off the first of four [Water Plan public listening sessions](#) this morning. This is the first update to the Water Plan so CWCB is figuring out what that looks like. The eight [Basin Implementation Plans \(BIPs\)](#) are also being updated concurrently. Brown and Caldwell are managing the process with each [Basin Roundtable](#) having selected a subcontractor (called local expert teams). CWCB is thinking about how to be more collaborative in engaging stakeholders in these dual efforts.
  - Waverly: As experts, the Alliance can contribute to the Water Plan update and shape future land use-related goals.
  - Rocky: We are at a good place with the survey of water planning throughout Colorado. We're hoping it will help create a baseline information about practice that we haven't had in the state previously.
- Kevin Reidy – **Colorado Water Conservation Board (CWCB)**
  - Waiting on the legislature to decide on various bills and what will happen with the state budget. Many conservation-oriented projects are waiting in the wings until funds are decided.
- Rocky Piro – **University of Colorado, Denver, College of Architecture and Planning**
  - Appreciate the feedback on the Colorado Water and Land Use Planning survey. Almost 90 jurisdictions have responded so far. There are jurisdictions we're trying to circle back and prompt a response from; if you have contacts please forward the survey and ask them to complete it.
  - Flo: Who did you send the survey to?
    - Rocky: We started with DRCOG databases, which mostly included planners and public works staff. We then looked at APA CO members and DOLA's database. Our cover letter asks the recipient to make sure the correct person gets the survey.
  - Flo and Torie can help connect Rocky with jurisdictions on the list.
  - Discussion of various water planning surveys (e.g., Arizona State University and Babbitt Center, CWCB, CU's survey) and potential for collaboration.
- Flo Raitano – **Denver Regional Council of Governments (DRCOG)**
  - DRCOG is working through the Federal Highway Administration (FHWA)'s [certification process](#) for metropolitan planning organizations (MPOs) that happens every four years.
  - DRCOG planning staff is working on [small-area forecasts](#) with local governments.
  - Update on DRCOG staff work plans in response to COVID.

- Held virtual quarterly City and County Managers [meeting](#) in April that was extremely well attended. Utilized Microsoft Teams account to share meeting materials.
- Flo is on the board of Rocky Mountain Land Use Institute (RMLUI). RMLUI has been having virtual meetings to discuss what to do with the 2021 Western Places/Western Spaces [Conference](#) in addition to planning a [discussion series](#) about the ramifications of the pandemic on land use planning. RMLUI is also talking about ways to integrate public health in planning, taking cues from the land use and water integration work.
- Gretel Follingstad – **University of Colorado, Denver, College of Architecture and Planning**
  - Gretel has made good progress on finalizing housing typologies for use in her [dissertation](#). She has all the pieces in place to begin doing scenario planning. Research on collaborative work agreements is going well; this summer, two research assistants are helping comb through Aurora Water’s many collaborative agreements. Hopefully the report will be finished in December.
- Karen Hancock – **City of Aurora**
  - Aurora has new landscaping regulations but there is backlash from developers who think that they need turf to sell houses.
  - Aurora is struggling to work with metro districts, which overuse water. With staff from Aurora Water, Karen has been exploring ways to update service agreements. Karen researched (with the help of Mary Ann) and wrote a white paper directed to Aurora Water on potential options but there hasn’t been movement on that yet; it may have fallen in priority due to COVID.
  - Various staff have been reassigned due to COVID and Karen has new help for projects, such as doing research on wetland quality so planners can better evaluate potential development in those areas. CU is supporting the wetlands work.
  - Karen couldn’t get into the earlier webinar and as a question for Jefferson County about outdoor water use.
    - Waverly will follow up with Jefferson County to get Karen’s question answered.
- Torie Jarvis – **Northwest Colorado Council of Governments (NWCCOG) Water Quality/Quantity (QQ) Committee**
  - The [Water Savings Resource Guide and Model Standards for the Colorado Headwaters Region document](#) is complete. It offers a deep dive into these issues and examines how water topics can be different in the headwaters region (e.g., adequate water supply). Reducing indoor water demand is low hanging fruit for tourism-driven communities. QQ hasn’t started outreach yet but will begin to do so. Thank you to Gretel for her contributions to the comprehensive planning chapter. Marjo Curgus from Del Corazon Consulting was the consultant on the project.
- Austin Troy – **University of Colorado, Denver, College of Architecture and Planning**
  - As Gretel mentioned, CU’s work (with the Babbitt Center and Water Research Foundation) regarding predictions for future residential outdoor irrigation demand in Aurora is moving forward. That project includes detailed analysis of Aurora’s development pipeline. Don Elliott and Karen Hancock have helped with dissecting the development code.

- CU's curricular development is stopped due to COVID. Faculty are dealing with moving to an online environment; there hasn't been time to develop new curriculum. Gretel will be teaching an environmental resources class in the fall that heavily focuses on water.
- **Drew Beckwith – City of Westminster**
  - Westminster submitted their [Water Efficiency Plan](#) to Kevin a month and a half ago.
  - Updates to Westminster's water supply plan and comprehensive plan have been paused due to COVID, along with many public outreach efforts.
  - Water use is way up in Westminster, about 15-20% higher than normal (mostly attributed to outdoor irrigation). A lot of people are doing backyard remodels and utilizing private outdoor space because parks are closed.
- **Anne Castle – University of Colorado, Getches-Wilkinson Center**
  - It's important to make connections between larger context of what's happening in the world to our individual work. The federal government is considering economic stimulus that may include funding for water infrastructure. That could be used to improve sustainability and equity. There are places in Colorado without access to clean water.
  - Anne belongs to a group that is working to put together a statement about what stimulus legislation should consider to take into account these larger goals.
  - UNESCO puts on an [EauMega Conference](#). 2020's conference will be in Paris in December. The focus is on water, megacities, and climate change. There will be a presentation on helping megacities build water security in the face of climate change in which Denver will be highlighted.
- **Waverly Klaw – Sonoran Institute**
  - Apologies for those who weren't able to log on to the Jefferson County [webinar](#). The session was recorded and can be viewed. It was an interactive, fast-paced discussion.
  - Sonoran Institute and Brendle Group are close to finishing the [Growing Water Smart Metrics Report](#) on behalf of the Alliance. It should be published online soon.
  - Beyond Jefferson County, Sonoran is working with five other CO communities who received a Growing Water Smart (GWS) technical assistance grant after attending a GWS workshop. Boulder County is launching a roadmap for a water supply study, Evans is integrating water into their comprehensive plan update, Gunnison Valley local governments are assessing their plans and policies, Grand County is working on a drought management plan, and Summit County is working on water conservation standards in their codes.
  - Sonoran Institute is about to publish the first [California Growing Water Smart Guidebook](#). In addition to hosting an Arizona GWS workshop in February of this year, Sonoran Institute and partners are looking to pilot a workshop in California.
  - The 2020 Colorado GWS workshop originally scheduled for May will be moving to a [virtual workshop](#) this fall. Looking forward to serving the teams that applied and were accepted into the workshop.
- **Jeremy Stapleton – Sonoran Institute**
  - Sonoran Institute hosted the first Arizona GWS [workshop](#) in February. Those communities are now applying for technical assistance grants. Themes from the grant applications include: messaging, metrics, how to include a water element into comprehensive plans, and scenario planning. Communities have noted financial

concerns from COVID. Sonoran Institute wants to make the technical assistance as meaningful as possible by leveraging capacity and getting economies of scale from regional work (e.g., on creating and reporting metrics).

- **Lindsay Rogers – WaterNow Alliance**
  - Lindsay has been working with John Berggren from Western Resource Advocates to provide direct technical assistance to Colorado communities. Centennial is updating their land development code, Severance is including a water efficiency component into their comprehensive plan update, Frederick is updating their landscape ordinance, and Golden is implementing a greywater ordinance.
  - The next round of [Project Accelerator program grants](#) is open now. Any community that could benefit from this type of technical assistance is encouraged to apply.
  - WaterNow Alliance is continuing to interview water planners, elected officials, and others in Front Range communities to learn more about water and land use planning efforts (or lack thereof). Lindsay will integrate COVID into interview questions going forward.
  - WaterNow Alliance is working with CWCB on an alternative transfer methods (ATMs) outreach initiative; the first step will be a survey.
  - Lindsay is part of a team working on a Colorado-specific letter to the CO Congressional Delegation that outlines steps that can be taken in the next federal stimulus bill to help put affordability first and direct resources to low income communities.
- **Mary Ann Dickinson – Alliance for Water Efficiency (AWE)**
  - AWE launched a [Learning Landscapes Grant Program](#). AWE offers this grant program to support building or improving educational outdoor spaces that allow school-age children to experience hands-on, applied learning about the water landscapes consume. AWE Learning Landscapes Grants and Lessons were funded by the Scotts Miracle-Gro Foundation.
  - Thank you to Christy for writing an article about the Alliance for [APA's Water and Planning Network](#). Email [water@planning.org](mailto:water@planning.org) to get on the newsletter list.
  - The EauMega Conference Anne mentioned is held every two years. Two years ago, Mary Ann spoke on behalf of Chicago in a climate change panel that may have inspired 2020's conference theme. Contact Mary Ann for materials from that panel.
  - AWE is working with the Babbitt Center on a report outlining states' requirements for utility plans and whether the requirements link water and land use. Certain states, such as Colorado, will be highlighted as being more progressive in that arena.
- **Mallory Hiss – Colorado Watershed Assembly (CWA)**
  - CWA's [Inflow Newsletter](#) (published twice a month) is accepting articles on an ongoing basis. Submit your news to [inflow@coloradowater.org](mailto:inflow@coloradowater.org)
  - CWA has given out eight [Healthy Rivers Fund grants](#) throughout the state for projects and planning. CWA is developing a map overlaying 303(d) impaired waters with places that have received Healthy Rivers Fund grants.
  - CWA is surveying folks to see how to best provide the [Sustaining Colorado Watersheds Conference](#) in October.
- **Scott Winter – Colorado Springs Utilities**

- Colorado Springs Utilities has submitted edits and revisions to the city's zoning code overhaul (especially regarding landscaping). The code update is on an aggressive timeline, scheduled to be done in early 2021.
- Developing standards on water use by land use type (i.e., benchmarks). Not sure whether those will make it into the code, but they will be useful for utility planning purposes.
- Utilities staff have been looking at daily water use for each rate class since COVID restrictions started. There were big reductions early on (before the irrigation season) in commercial indoor use. Residential use went up. Now that irrigation season is here, outdoor water use is up more than expected just given hot weather. It will be interesting to see patterns as we move forward.

#### **WaterReuse Colorado Presentation by Austa Parker**

- Austa is the 2020 WaterReuse Colorado President and an environmental engineer at Denver Water. Austa works with Laura Belanger of Western Resource Advocates on reuse advocacy (Laura could not attend today's meeting).
- See attached slides for presentation.
- Direct potable reuse (DPR) reports and technical memos can be found on [WaterReuse Colorado's website](#).

#### **Alliance Member Updates (Continued)**

- Frank Kinder – **Northern Water**
  - Northern Water has three allottees in the upcoming Growing Water Smart [workshop](#).
- Ally Mazurek – **Northern Water**
  - Ally is new to Northern Water, coming from a background in facilities and operations as well as water conservation programming. Ally was previously a Program Manager at [Resource Central](#).
- Marianne Eppig – **Urban Land Use Institute Colorado (ULI Colorado)**
  - ULI does [technical advisory services \(TAP\)](#) around Colorado, pairing volunteer expert ULI members with communities in need. Marianne is currently preparing a report for Eagle County about water quality and access issues in West Edwards.
  - ULI Colorado is partnering with DRCOG to provide a match program for communities who cannot afford a whole technical advisory panel. There is still one spot open. Projects can cover all types of land use, sustainability, and resilience topics.
- KC McFerson – **CO Department of Local Affairs (DOLA)**
  - The Colorado Resiliency Office is launching an [Adaptations and Futures webinar series](#) to focus on real-time topics and actionable advice from communities around the state. The [first webinar](#) covered how to put together local recovery teams. The next webinar will cover budgeting strategies for challenging times.
  - It's important to keep water at front of mind even with COVID going on. If anyone has ideas on ways to incorporate that into this series let KC know. Webinars will be every two weeks (with the potential for mini-webinars) and ideally feature local government speakers.
- Jeff Tejral – **Denver Water**

- A [pilot project](#) that includes Lennar Homes, Greyter Water Systems, Denver Water and CWCB will install greywater systems in 40 new homes in Denver's Stapleton neighborhood. The builders will break ground later this month. Denver Water had to work through Denver's engineering standards and codes to be able to accommodate these new systems. Denver Water expects 20-30% less water use from this pilot. Greywater from showers and sinks will be used to fill toilets. Denver Water is working to see if the greywater can be used for landscape irrigation as well; due to seasonality there isn't a great need right now but that could change in the future as there are changes in precipitation patterns due to climate change.
- Denver Water is working with Lakewood planners on sustainability initiatives, such as implementing more green codes.
- Check out this interesting article "[Pandemics have fueled the rise of mega-corporations—and they'll do it again](#)".
- Denver Water's [Slow Jam the Water Rules](#) throwback video to 2017 featuring Jeff Tejral.
- Faith Sternlieb – **Lincoln Institute of Land Policy, Babbitt Center for Land and Water Policy**
  - Save the date for the American Water Resources Association (AWRA) 2021 Land and Water Policy [Specialty Conference](#) July 19 - 21, 2021 at the Hyatt Regency Tech Center in Denver. The first technical program committee meeting was this week; "Connecting Land and Water for Healthy Communities" was chosen as the conference title. The planning team will look to Alliance members for contributions of panels, sessions, etc. This conference will most likely have a virtual component as well. Please send Faith ideas for the host committee (e.g., tours, field trips). Anne Castle could present a session on outcomes from the EauMega conference in December.
  - The Babbitt Center is publishing their [CO River StoryMap: The Hardest Working River in the West](#) soon.
  - The Babbitt Center recently released a [promotion video](#) about their work.
  - The Babbitt Center and Sonoran Institute are working on a video about the Growing Water Smart program.
  - The Babbitt Center is looking to engage on work about agricultural futures. Particularly, on efforts at preserving prime agricultural land while facilitating ag-urban partnerships. They are also interested in the land aspects of such arrangements and the ability to maximize/increase ecosystem services related to any retired agricultural lands.
  - The Babbitt Center started work with the Palmer Land Trust around the Bessemer Ditch, researching innovating concepts related to land value and attracting private capital to facilitate these efforts. They are working to convene some of the leading experts in this area, both in Colorado and the greater CO River Basin.
  - The Babbitt Center sent out an RFP for the [indicators project](#). The indicators project is the next phase of work started by the StoryMap. The Babbitt Center received multiple quality proposals and selected a team out of the University of Arizona. The academic team will create a framework for developing a set of basin-wide indicators on water and land use. This phase should be completed by December.
- Dianne Criswell – **Special District Association of Colorado (SDA)**
  - Dianne is representing SDA at the meeting because Ann Terry and Michael Valdez are busy with the legislative session. There is no report from SDA.



## Alliance Work Planning

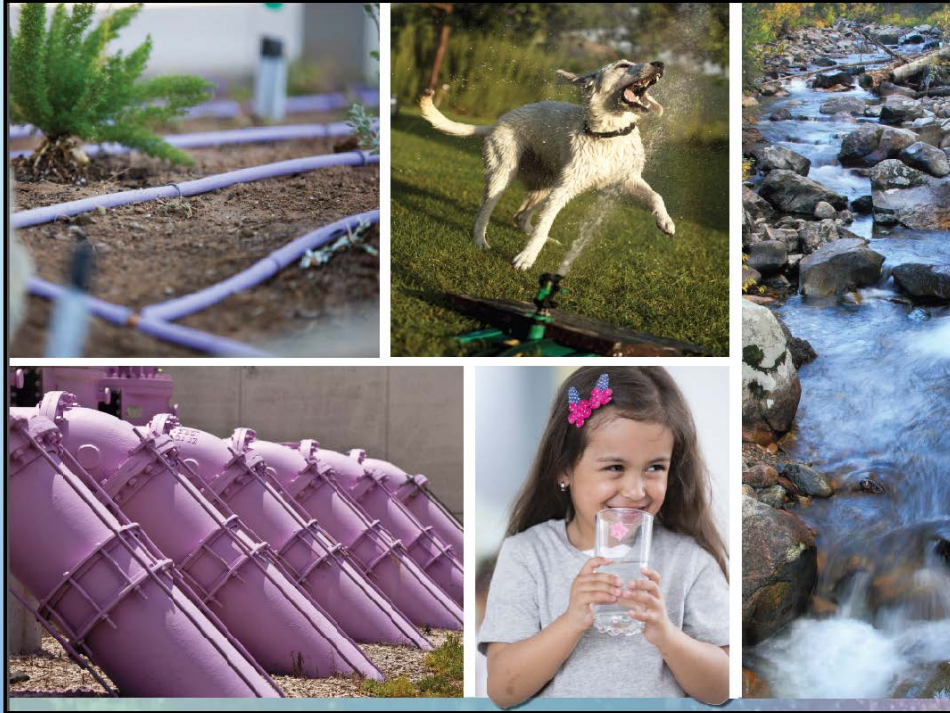
- Brainstorm: How might COVID-19 affect land use and/or water demand?
  - Did not have time for a full discussion, but many meeting attendees noted COVID impacts in their reports.
  - Rocky: It's too early to say what impacts will be. I am concerned about the narrative that density is at fault. In the U.S., the statistics do not support that. There is more of a racial and socio-economic component to infection rates.
    - Christy: Yes, highly dense cities in other countries (such as Southeast Asia) have handled quarantine better and are seeing lower infection rates than many parts of the U.S. I also have been enjoying NewCities' [The Big Rethink webinar series](#), which looks at how COVID might impact various aspects of the built environment.
  - Rocky: Work environments and people not going into traditional offices may be the biggest lasting impact we see from this.
- Draft Course Book Review
  - Christy is developing a course book that outlines a sequential series of actions for local governments to follow. The intended audience is local government staff (especially planners). The goal is not to create an all-encompassing compendium of resources, but to distill all of the resources out there into a short crash course of accessible information and action items. The current draft is a framework in Google Docs. Christy shared the current draft and explained the draft's structure.
  - Jeremy: What are next steps for the draft?
    - Christy: The goal is to have the document be owned by DOLA and live on the DOLA website, after getting Alliance member feedback. This would be a first-step handoff to jurisdictions who contact DOLA for technical assistance. It will be helpful for communities who have limited time to do background reading and need to know the highest value actions to pursue.
  - Drew: Erin Rugland with the Babbitt Center is working on something similar. Reach out to her to connect and make sure the efforts are coordinated.
  - Waverly: Talk to Erin about the overall framework and how to align the class categories. I am willing to help and review this.

## Wrap-up and Next Steps

- Announcements
  - Christy will send a follow up email with links and action items that were mentioned in the meeting.
- Next Meeting Date: Wednesday, September 9<sup>th</sup>, 2020
  - The meeting will focus on the Water Plan update.



# Water Reuse in Colorado: 2020 Update



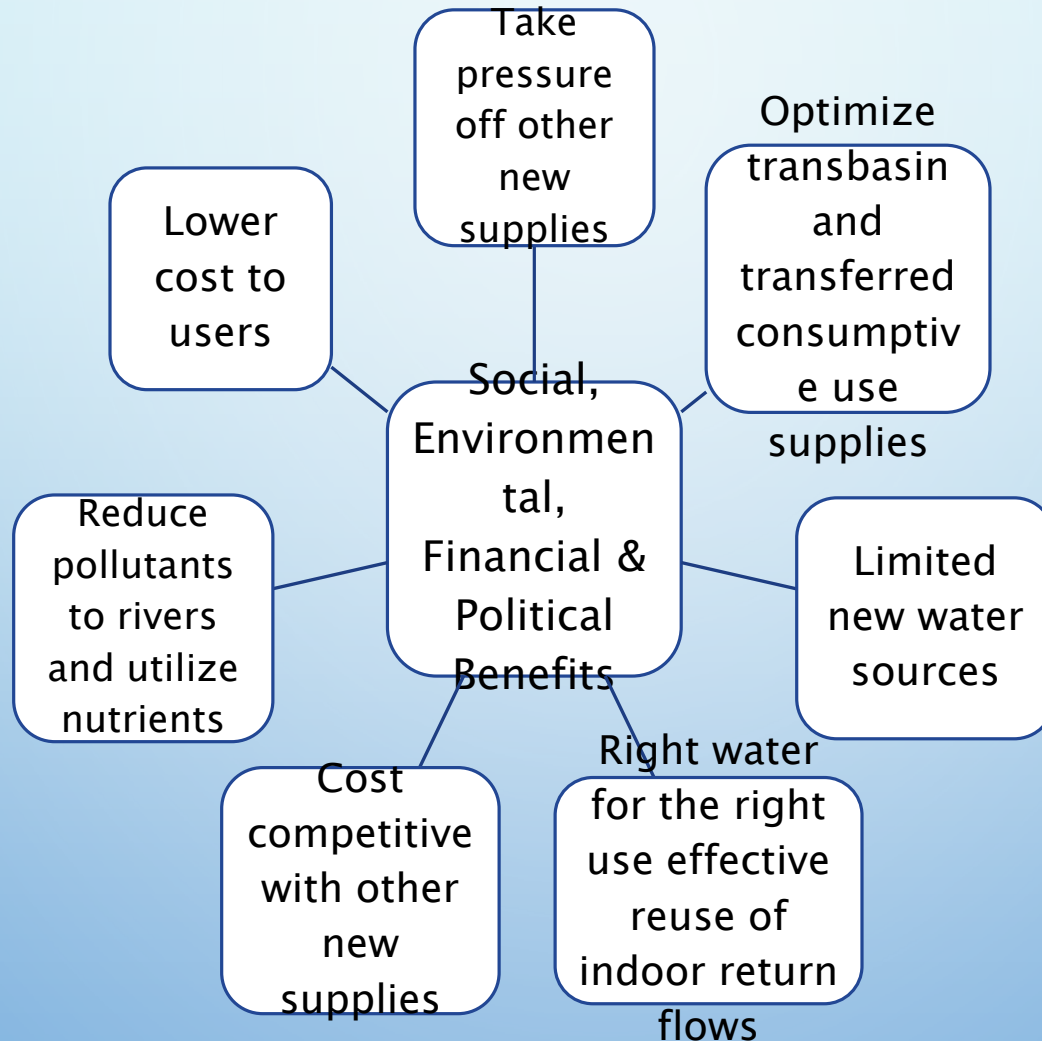
CO Water & Land Use Planning  
Alliance  
June 3, 2020

*Austa Parker, PhD*  
2020 WRCO President  
Environmental Engineer,  
Water Resource Efficiency  
Denver Water

*Laura Belanger*  
Western Resource Advocates



# Some of the Reasons to Reuse Water



Water can be treated to meet the water quality & safety needs of any intended use.

# Current Drivers and Opportunities for Reuse



Colorado  
Water Plan

Return flow  
availability

Public  
sentiment



# **Non-Potable Reuse (Reclaimed Water) in Colorado**

# Reclaimed Water Basics

## Source

- Wastewater that has been treated to meet permit limitations then further treated by a reclaimed water treatment facility to meet specific water quality standards

## Regulation

- WQCC Regulation 84 governs reclaimed water

## Water Savings

- ~16,000 AF/year potable water saved with non-potable reuse in CO

## Delivery

- Delivered in separate purple pipe distribution systems

## Water Use Profile

- Seasonal landscape irrigation makes up the majority of consumption





# Reclaimed Water History & Future

2000  
New Reg 84:  
landscape  
irrigation



2005  
Reg 84:  
expanded  
irrigation

2018  
*Legislation*  
Reg 84:  
toilet  
flushing  
and  
localized  
systems

2020  
Upcoming  
Reg 84:  
oil and  
gas  
productio  
n and  
developm  
ent



2004  
Reg 84:  
cooling  
towers,  
industrial  
and  
commercial

2013  
Reg 84:  
commercial  
laundries  
and car  
washes



2019  
Reg 84:  
edible  
[food]  
crops and



# **Potable Reuse (Purified Water) in Colorado**



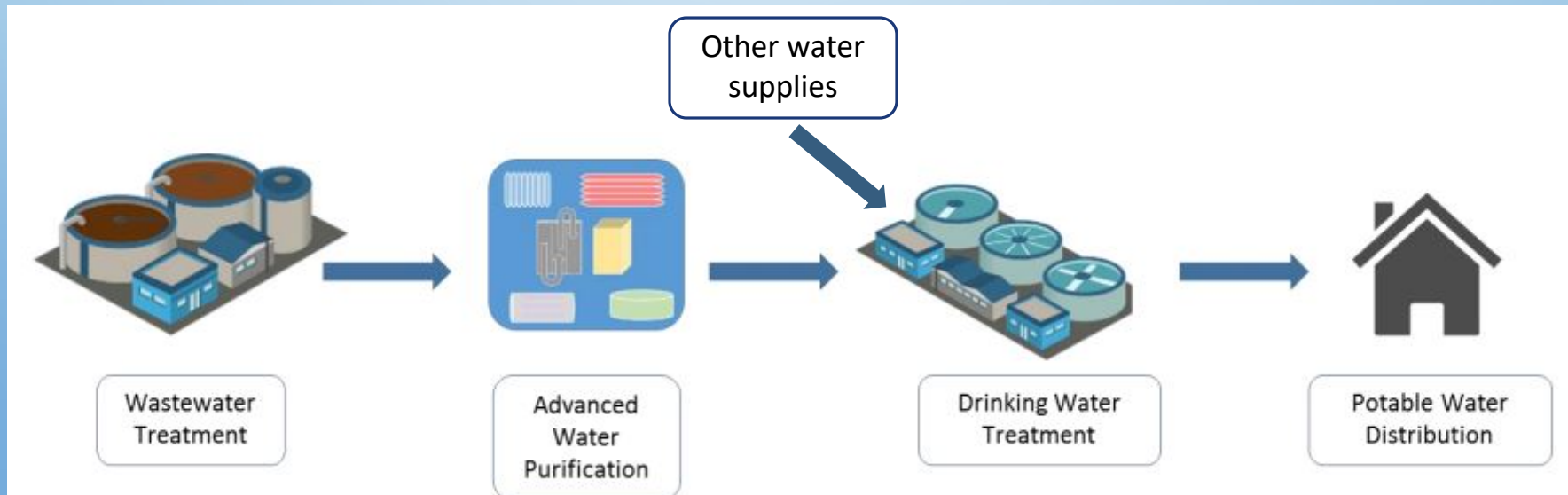
# Potable Reuse in Colorado

Today

Unacknowledged or Indirect  
Potable Reuse (IPR)

Future

Direct Potable Reuse (DPR) No  
“environmental barrier”



# Direct Potable Reuse (DPR)

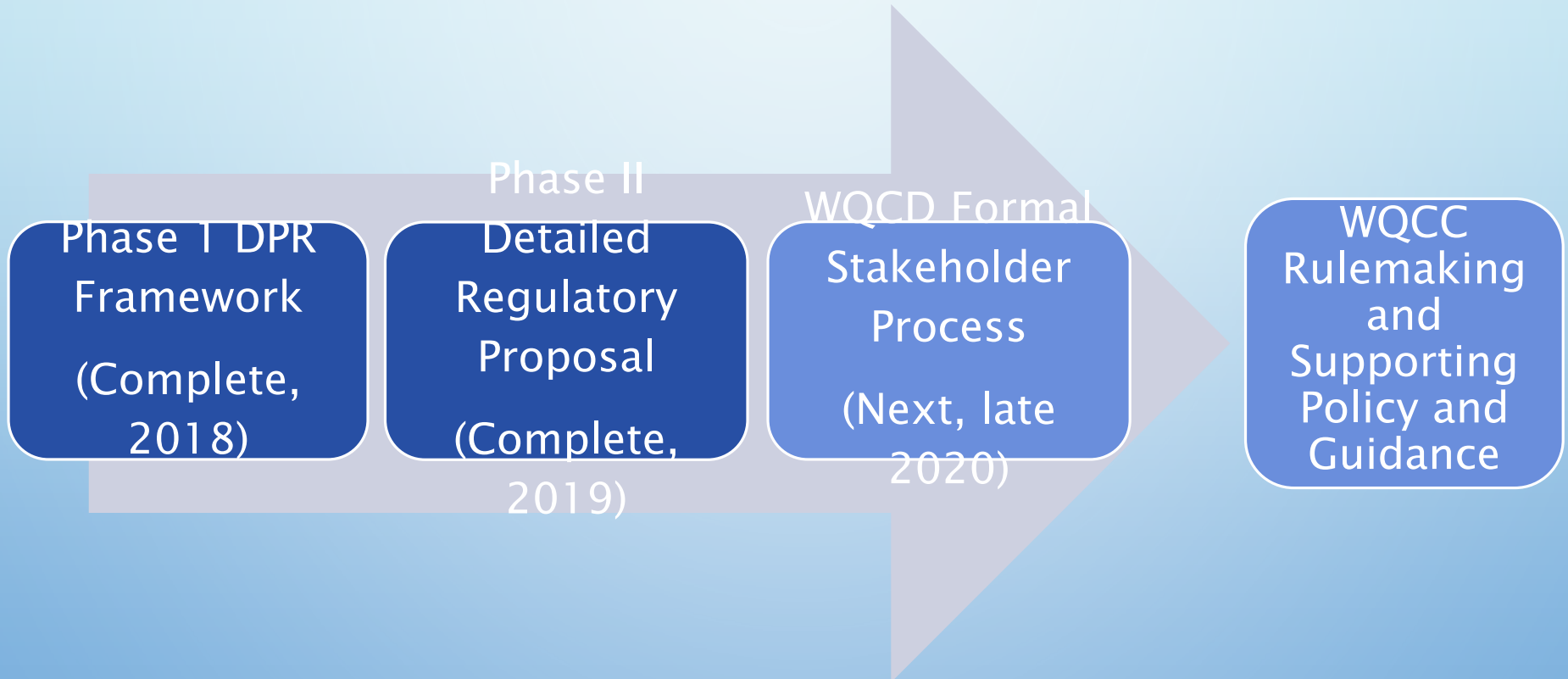


## Purified Water

- Safe, high-quality, drinking water supply

- Use for anything, anytime, anywhere
- Avoid transit losses
- Decreased pumping & transmission costs
- Does not require purple pipe infrastructure
- Increasingly stringent discharge standards → high quality treated effluent

# WaterReuse Colorado's Multi-Phase DPR Project



# Collaborative: National and Local Expertise

Colorado Water Conservation Board

CDPHE Water Quality Control Division

Basin Roundtables: Metro, **South Platte**, Colorado, North Platte

WaterReuse Colorado

WaterReuse Association

Water Research Foundation

National Water Research Institute

Western Resource Advocates

Denver Water

City of Aurora

Town of Castle Rock

South Metro Water Supply Authority

Centennial Water & Sanitation District

Plum Creek Water Reclamation Authority

Colorado Springs Utilities

Meridian Metropolitan District

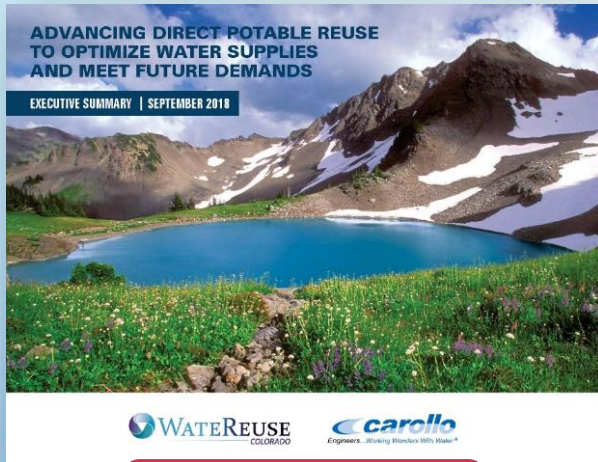
Carollo Engineers

MSK Consulting

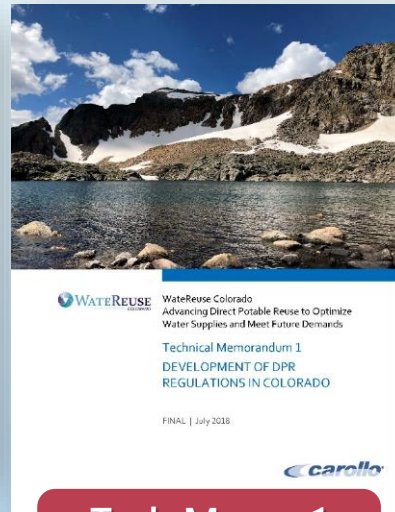
Stantec

Jacobs

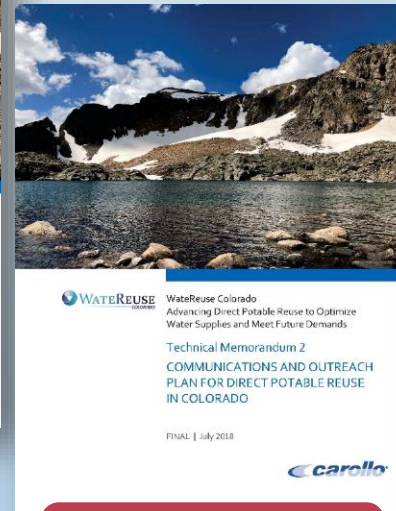
# WaterReuse Colorado DPR Project: Phase I Results (2018)



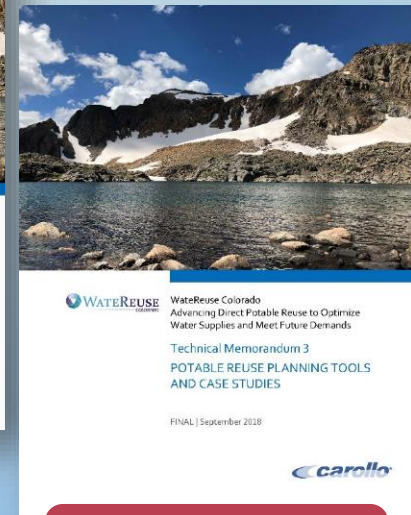
Executive  
Summary



Tech Memo 1  
Reg Framework



Tech Memo 2  
Outreach



Tech Memo 3  
Planning Tools

Available at

<https://watereuse.org/sections/watereuse-colorado/>

# Phase I: Identified 11 Critical Categories for DPR Regulation

## Phase I: Framework and High Level Recommendations

1. Definitions/Terminology
2. Source Control
3. Wastewater Treatment
4. Pathogen Disinfection/Removal
5. Chemical Pollutants
6. Advanced Treatment Processes
7. Monitoring Requirements
8. Reporting
9. Facility operations/ certification programs
10. Education and outreach
11. Technical, Managerial & Financial (TMF) capacity

## PHASE II: Details

**NWRI** | National  
Water Research  
Institute  
Expert Advisory  
Panel

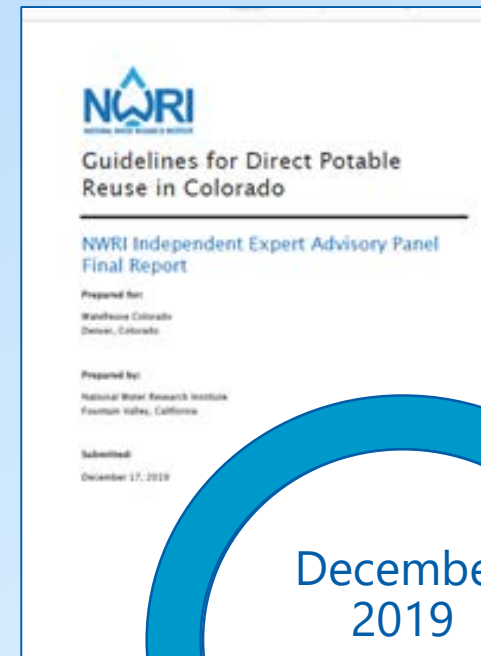




# WateReuse Colorado's DPR Project Phase II

- National and Local Expertise

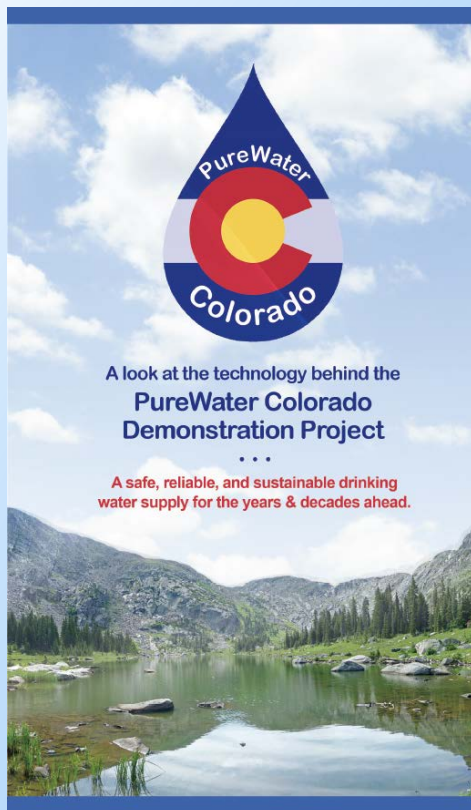
- NWRI Independent Advisory Panel of Colorado and national experts
- Colorado stakeholders
- WQCD & CWCB



December  
2019

*Final Report sent  
to CDPHE*





# PureWater Colorado Momentum Continues!

Continues DPR outreach from Denver Water/WRCO 2018 PureWater Colorado Project

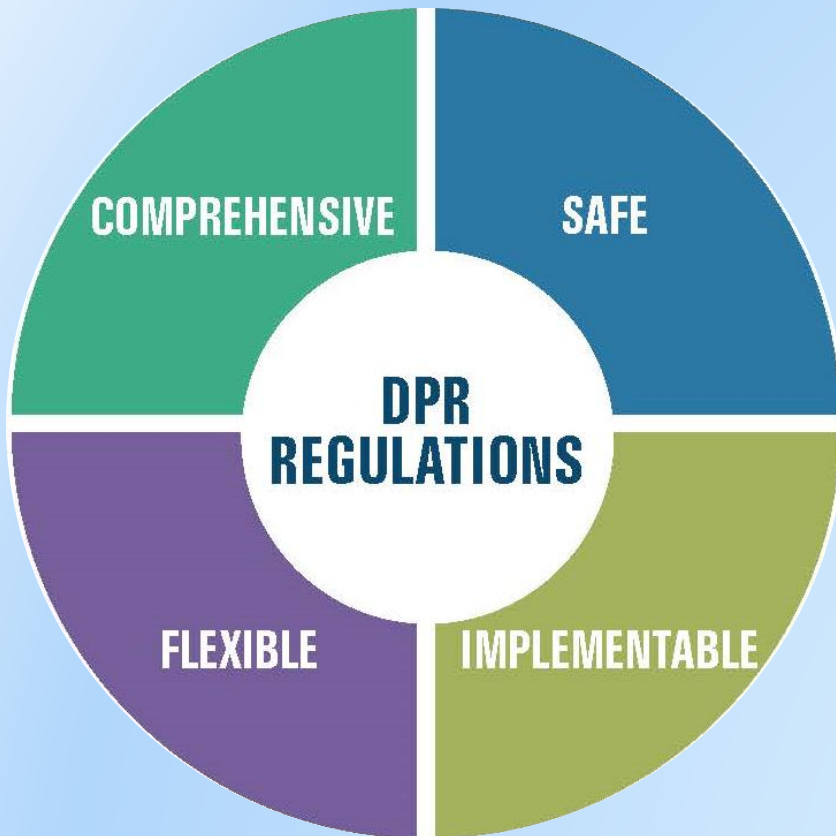
Colorado Springs Utilities, Colorado School of Mines and Carollo Engineers Project. Support from CWCB, WRCO, others

Facility and purified water beverages for outreach/education

Statewide resource for purified water projects

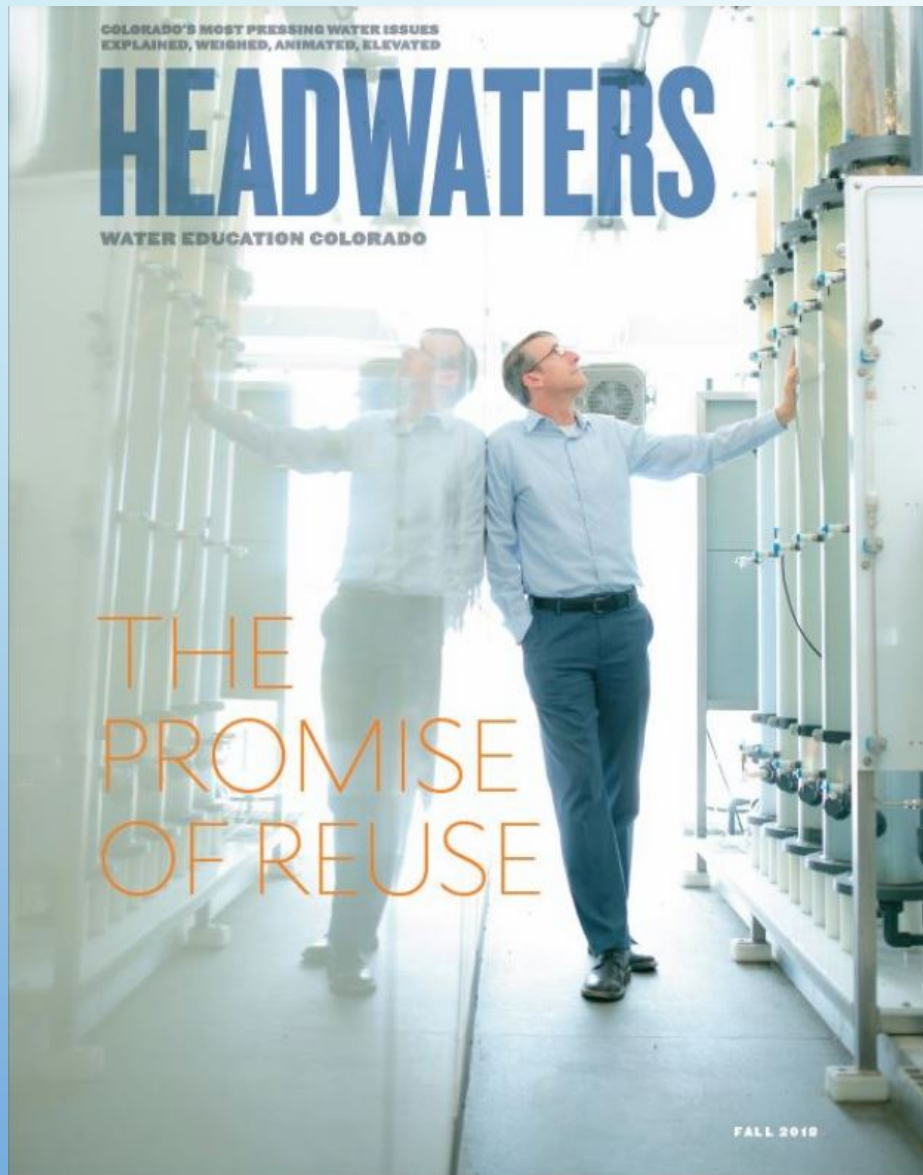


# Next Steps for Colorado DPR Regulations



## Next Steps

- WQCD stakeholder work beginning ~November 2020
- WQCC rulemaking and policy and guidance finalization (2022?)



WaterReuse Association's  
Annual Symposium is in  
~~Denver~~ **VIRTUAL** this year.

Save the date:  
September 13 – 16, 2020  
[watereuse.org](http://watereuse.org)

Thank You  
Questions?



[austa.parker@denverwater.org](mailto:austa.parker@denverwater.org)  
[laura@westernresources.org](mailto:laura@westernresources.org)