



# The Policy/Market Nexus

How Do We Make Water-Smart Growth Standard Practice?

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# ...But First!

## New Case Law on Adequate Water Supply

- **No. 18CA2454, *Hajek v. Bd. of Cty. Commr's for Boulder Cty.*** (Summary published Feb. 13, 2020)
- “Section 29-20-303, C.R.S. 2019, requires that when a local government is considering a development permit it *must review the adequacy of the proposed water supply if the development includes “new water use,” as used in section 29-20-103(1)(b), C.R.S. 2019, in an amount exceeding a defined threshold.*”



“Therefore, we conclude that the phrase “**new water use**” in section 29-20-103(1)(b) refers to the use of additional quantities of water as well as the use of a similar quantity of water for a different purpose. Thus, a “development permit” as referenced in section 29-20-303(1) includes approval of an application for a specific project where either (1) an additional use of water is required in the threshold amount set forth in section 29-20-103(b)(1) or (2) an amount of water exceeding the threshold set forth in section 29-20-103(b)(1) is to be used for a different purpose.”





## Developer Focus Group Purpose

Identify and remove barriers to making water-smart development the norm in Colorado communities and across the West.



Urban Land  
Institute  
Colorado



BABBITT CENTER  
FOR LAND AND WATER POLICY




*A Center of the Lincoln Institute of Land Policy*

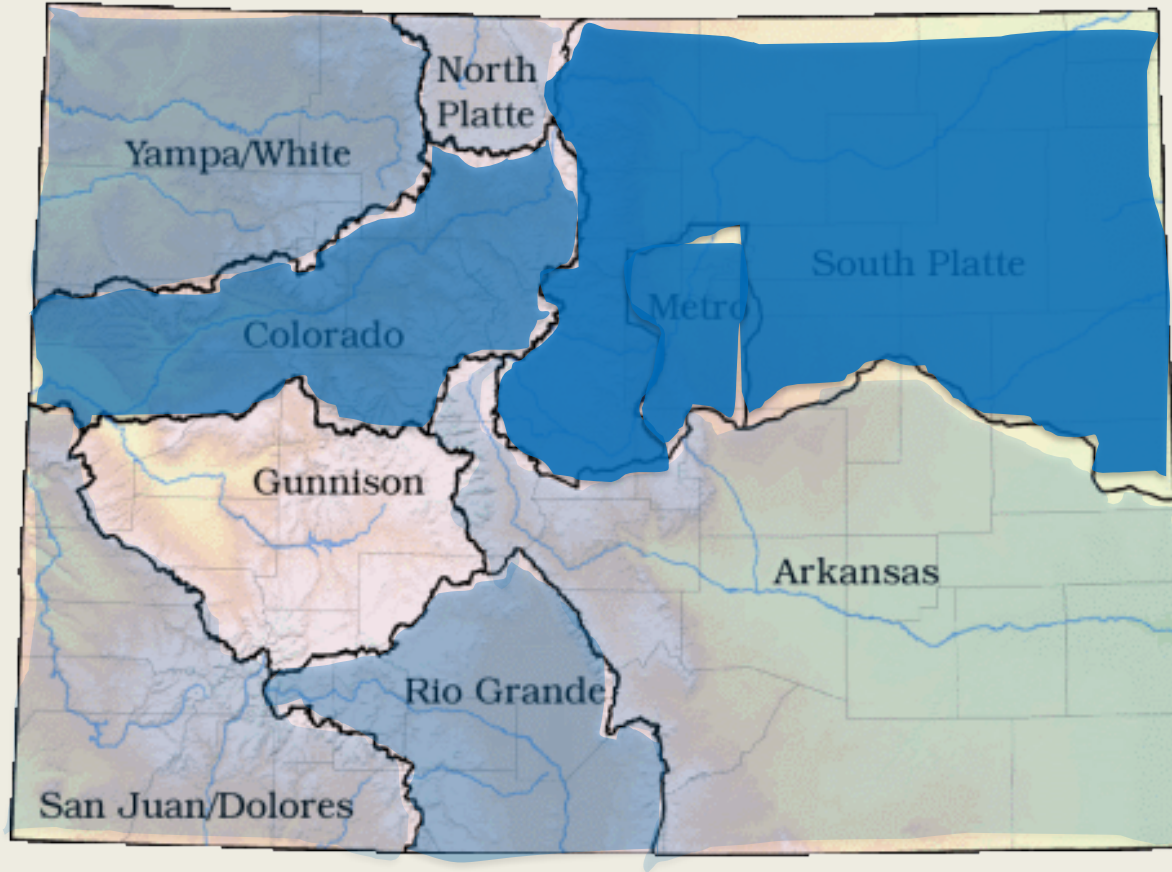


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# Where do we work?

## Table:

	5 participants
	4 participants
	2 participants
	1 participant





# Water Supply/Demand Gaps by Basin

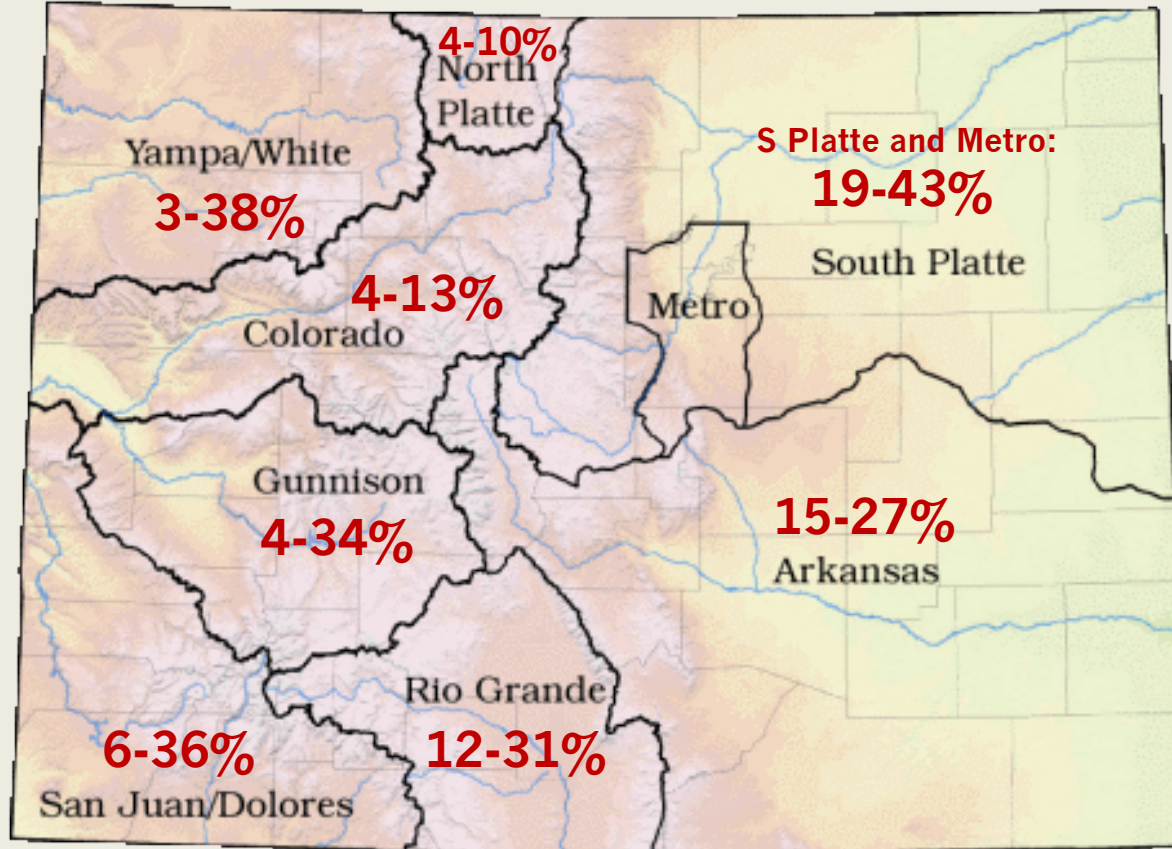
**Yampa/White:** The emerging development of **gas and oil shale resources** is affecting water demand, for both direct production and the associated **increase in municipal use**.

**Colorado:** Concerns over **impact of transbasin water rights on in basin supplies**.

**Gunnison:** Growth in the **headwaters region** will require additional water management strategies.

**San Juan/Dolores:** The Pagosa Springs-Bayfield-Durango corridor is **rapidly growing** while experiencing areas of **localized water shortages**.

**N Platte:** Relatively small M&I demands are a reflection of...little anticipated municipal growth



**South Platte:** Substantial competition for water **increases costs to customers**; reliance on **nonrenewable groundwater** in urbanizing South Metro region; value judgements regarding **irrigated landscaping** complicate discussions about water development.

**Arkansas:** Replacement of municipal water supplies that depend on the **non-renewing Denver Basin aquifer** and declining water levels is becoming critical.


























**Rio Grande:** All cities and towns are supplied by **groundwater wells**... Growth is creating a need for **additional water supplies** and well augmentation.



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# Our Role in Future Scenarios

Figure ES.1 CWP Planning Scenarios Key Drivers Graphical Summary

A Business as Usual	B Weak Economy	C Cooperative Growth	D Adaptive Innovation	E Hot Growth
Water Supply 	Water Supply 	Water Supply 	Water Supply 	Water Supply 
Climate Status 	Climate Status 	Climate Status 	Climate Status 	Climate Status 
Social Values 	Social Values 	Social Values 	Social Values 	Social Values 
Agri. Needs 	Agri. Needs 	Agri. Needs 	Agri. Needs 	Agri. Needs 
M&I Needs 	M&I Needs 	M&I Needs 	M&I Needs 	M&I Needs 

“...planning concentrates more development in urban centers and in mountain resort communities”

“Coloradans embrace water conservation. New water-saving technologies emerge.”

“Water development controls are more restrictive and require both high water-use efficiency and environmental and recreational benefits.”



# What We Heard

## MEETING GOALS

- Barriers to implementation of water efficiency
- ✓ + Opportunities for demand mgmt in CO
- ✓ Market + make \$ off of water efficient dev.
- Best practices + lessons
- New techniques
- ✓ Governance, finances
- ✓ District-scale stormwater
- ✓ Soil sciences
- ✓ Rainwater harvesting
- ✓ Market, policy, fees
- ✓ What's stopping us?
- ✓ Innovative engineering → why smart water fits into development decision-making process
- Water reuse → how to address
  - ✓ Water budget
  - ✓ Water efficiency in a high-density environ.
  - ✓ Siting of linkages
  - ✓ Resident awareness/edu of water use

## Development Phases

- Mitigating risk
  - ↳ Code could offer clarity + create a level playing field
- Water is usually not in regulations
  - TX: water sourcing
  - NoCo: more expensive water shares
  - ↳ predict water needs → mitigate risk
  - ↳ Why potable water for irrigation?
  - Risk is way higher
  - CA, AZ: rain water
  - Economics of potable water + infra. ↑
  - Lack state leadership on gray water policy
  - Require each jurisdiction to have water plan
  - Price drives feasibility analysis
    - PIF rates, tap fees
    - Only bring H<sub>2</sub>O that plants need (not more)
    - Value water
    - Holistic approach to community dev. + plantings + soil
    - Less than 2% of smart systems are used.
    - Trade evaporative loss for onsite water use (legal issues)
    - Raise sidewalks
    - Denver: req. for submetering
    - District financing
    - Report on tap sizing (Peter Mayer?) → right-size based on design + use
    - Concern about "plug + play" engineering + landscape designs
      - Civil engineer training: get rid of water → change focus to reuse
      - Cheapest: water (engineers to make efficient)
      - Landscape design @ beginning of dev. projects (like Ari. engineers)
      - Smart water technology needed → smart watering (easy + reuse + efficient water use)
      - Harvest water in diff. project phases → pays for site improvements
      - De-watering systems → savings? reuse?
      - Inspector understanding

## For Policy Makers

- Water budget + holistic rate on back end
- Local water plans (required by state law)
- Allow water savings to pass thru to developers (incentive)
- Train city staff (esp. for preapproval mts)
  - Stormwater mgmt.
  - Conflicting policies bet depts. (one water connection depth)
  - Time + \$ to work w/ city staff
- State policy → local water plans → action plans
  - City support for reviews w/ inspectors
  - Administrative approach to reward right-sized taps
  - Infrastructure needs statewide to move water
    - Need a "CHFA" for water supply (if)
    - Not enough \$ from sports betting
  - Highlight Success Stories
    - for water efficient developments. Share data + lessons learned.
  - Pass on \$ savings to developers that save water.
  - Remove barriers to implementation + reduce requirements for redundancies.

## SOLUTIONS

- Change water law to allow trading system to avoid evaporative loss
  - ↳ plug + rain water reuse
  - ↳ get to keep anything that didn't otherwise go into watershed
  - ↳ Strict landscaping rules: how to amend + fertilize soil
  - ↳ Give a water budget
  - ↳ Water requirement based on development type (like green building ordinance) → allow flexibility on method of implementation
  - ↳ Municipalities could certify landscapers // annual reporting
- Municipalities
  - Soil amendment
  - Plantings
  - Water use
  - Integrate smart technology
- Tap sizes: conservation tap pays → right-size for development type + use (metering by individual unit) → not shared metering
  - Metering: allow property managers to know where water is being used
  - Allow tenants to pay their own water bills? (pair w/ lower rents?)
  - Change to net use
    - Grey: evaporation (not recapture or release to watershed)
    - Line item in HOA budget for maintenance
- Slow traffic, offer transit solutions, create density around amenities → smart land + water use → cluster infrastructure + prices around open space
- District-scale stormwater mgmt.
  - State sets + county enforces
- Engineering upfront to maintain water on site
  - ↳ Allow market to lead water savings/efficiency (not just water utilities)
  - ↳ Rebates for water savings from local govt.
  - ↳ Bring environmental sciences back into engineering programs.
- "It pays to use less water."



# Building Water-Smart Communities

## Design Phase

### Challenges

During schematic design, developers often don't place emphasis on water efficiency in the same way that they emphasize energy efficiency.

### Opportunities

Local governments allocate resource staff to reach out to developers at the conceptual stage to present water-saving options.



# Building Water-Smart Communities:

## Governmental Leadership

### Challenges

Governmental leadership on water sustainability and water-wise development is lacking.

Conflicting policies between government departments.

Building inspectors who have different opinions than development review approval results in wasted time and change orders.

### Opportunities

Want state direction encouraging local jurisdictions to be more aggressive and innovative in their water conservation policies.

Review and reconcile opposing policies.

Ensure consistency across all phases of process. Cross-training.

# Building Water-Smart Communities:

## Landscaping

### Challenges

Expensive, potable water is being used to irrigate landscaping.

Landscaping is using more water than necessary.

### Opportunities

Increase use of harvested/untreated water. More rainwater harvesting test sites.

Allow and encourage the use of greywater.

Use xeric, native, and drought-tolerant plants (and ensure nurseries provide them).

Use efficient irrigation systems.

# Building Water-Smart Communities:

## Long-Term Efficiency

### Challenges

Water efficiency measures are not carried through post-occupancy.

### Opportunities

Utilize single unit metering/submetering on multifamily buildings; separately meter indoor and outdoor uses.

Require irrigation commissioning to ensure proper installation and function.

Train building managers in water-efficient technology.





# Building Water-Smart Communities: Water Supply

## Challenges

More water than needed is being required for dedication, which increases costs and disincentivizes water efficiency.

## Opportunities

Offer conservation taps or other smaller tap size.

Offer an alternative approach in which innovative designs may result in lower water dedication amounts.



# Next Steps



Save the Date: Thursday, April 9, 2020  
afternoon event + Happy Hour



***Planner Roundtable: Opportunities for Change***



Hosted by APA Colorado Sustainability  
Committee, Sonoran Institute



We will invite you via sign-in sheet – provide  
your email address



# 2020 COLORADO PLANNING CONFERENCE

SEPTEMBER 30 - OCTOBER 2 2020

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**R.I.S.E. Colorado:**

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# Summer Land & Water Policy Conference

## #AWRA2021

This conference brings together multi-disciplinary stakeholders, organizations, and professions to address the design, integration, and implementation of the programs necessary to better connect land and water planning and policy.

Attendees will come away with an understanding and strengthened connections across the disciplines and professions critical to water and community sustainability.

**SAVE THE DATE**  
July 19-21, 2021

Hyatt Regency Denver  
Tech Center  
7800 E Tufts Ave  
Denver, CO 80237

Join your fellow water resource industry professionals at the AWRA 2021 Summer Conference.

### **REGISTRATION**

[www.awra.org](http://www.awra.org)  
AWRA members save on all conference registration rates.



# Shared Vision • Collaboration • Innovation



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“Hands grasping an elusive water circle”

# Thank You!

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