



# COLORADO

## Division of Water Resources

Department of Natural Resources

### DWR's Role in Stream Restoration Projects

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Deputy Division Engineer

Water Division 5 (Colorado River)

June 17, 2024

# Overview

- Water Administration in Colorado
  - Background on the Division of Water Resources (“DWR”)
  - Basics of prior appropriation
  - Plans for augmentation
  - Groundwater
  - Water Court
- DWR’s Duties & Authority
  - Orders
- History of DWR’s Role in Stream Restoration Projects
- DWR’s Suggestions for Proposed Projects
- Options for Projects Falling Outside of Senate Bill 23-270
- DWR Resources

# Water Administration in Colorado

# Colorado Department of Natural Resources - Divisions

[Avalanche Info](#)



[Forestry](#)



[Mining](#)



[Energy & Carbon](#)



[Parks & Wildlife](#)



[State Trust Lands](#)



[Water Conservation](#)



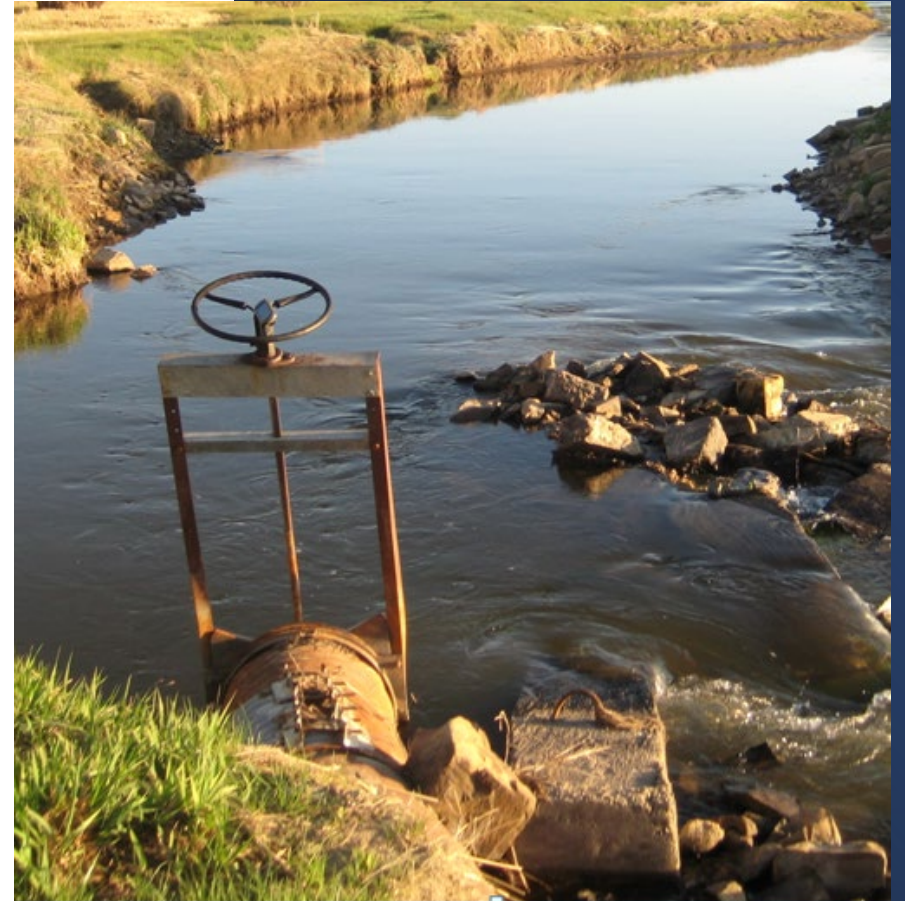
[Water Resources](#)



[dnr.colorado.gov](http://dnr.colorado.gov)

# Major Responsibilities of the Division of Water Resources

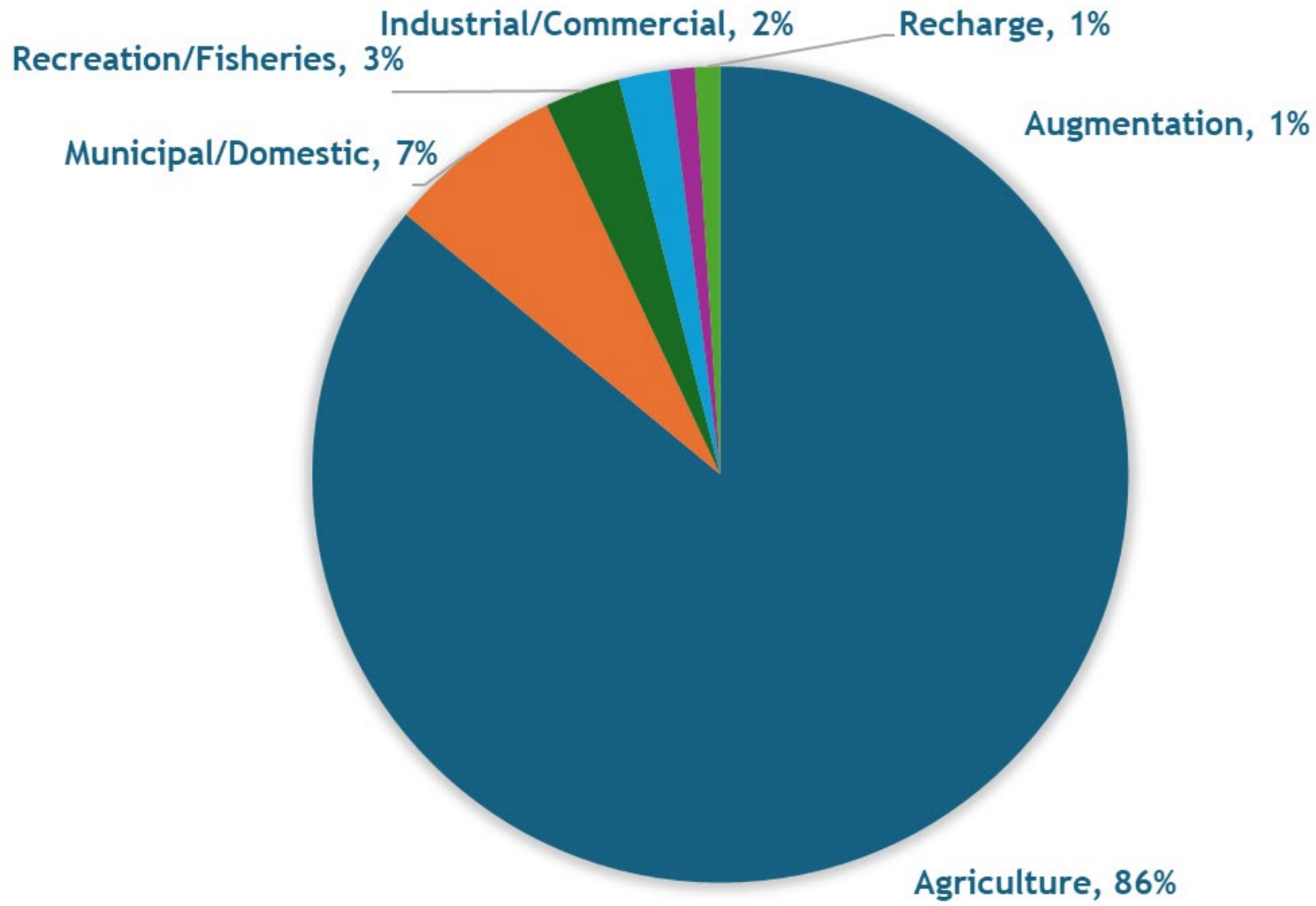
- Water Administration
- Public Safety - Well & Dam Construction Oversight
- Water Well Permitting
- Interstate Compacts
- Hydrographic Program
- Public Information Services





# Water Administration in Colorado

Over 173,000 water rights  
Over 105,000 structures  
Over 250,000 wells



# COLORADO TRANSBASIN DIVERSIONS

Office of the State Engineer

## TO COLORADO RIVER BASIN

- 53. Dome Creek Ditch
- 54. Stillwater Ditch
- 55. Sarvis Ditch
- 56. Climax Pipeline

## TO GUNNISON RIVER BASIN

- 46. Red Mountain Ditch
- 47. Mineral Point Ditch
- 48. Leopard Creek Ditch
- 49. Gordon Granite Creek Ditch
- 50. Nellie S. Enlargement & Ext.
- 51. Fruita Pipeline
- 52. Leon Tunnel

## TO SAN JUAN RIVER BASIN

- 38. Pine Ridge Ditch
- 39. Lightner Canal
- 40. Sellars & McClane Supply Ditch
- 41. Turkey Creek Ditch
- 42. Summit Reservoir Outlet
- 43. Dolores Tunnel
- 44. Great Cut Dike
- 45. Dove Creek Pipeline

## TO RIO GRANDE RIVER BASIN

- 30. Tarbell Ditch
- 31. Tabor Ditch
- 32. Weminuche Pass
- 33. Pine River Weminuche Pass Ditch
- 34. Williams Creek-Squaw Pass Ditch
- 35. Don La Font Ditch No. 1
- 36. Don La Font Ditch No. 2
- 37. Treasure Pass Ditch

## TO NORTH PLATTE RIVER BASIN

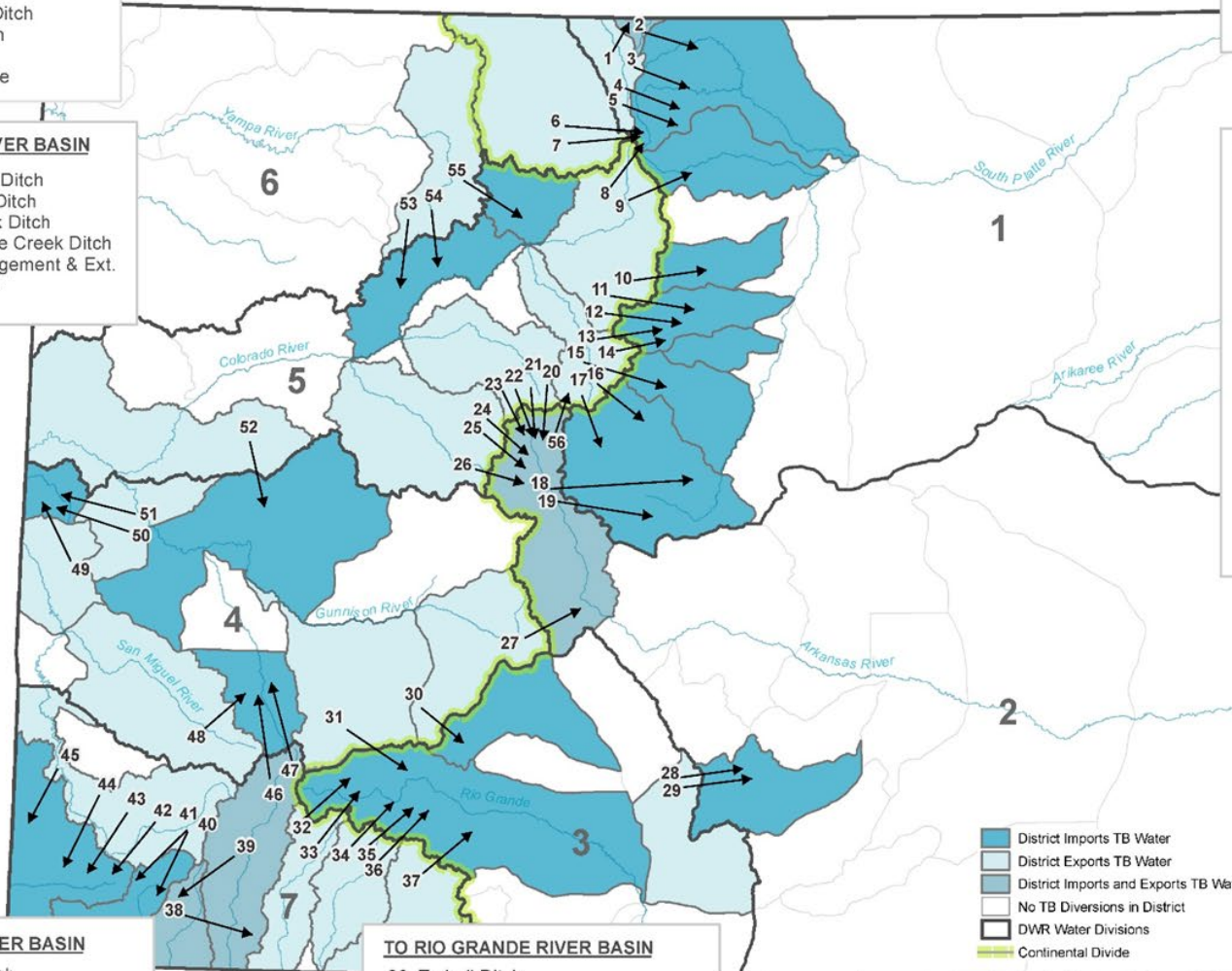
- 1. Deadman Ditch

## TO SOUTH PLATTE RIVER BASIN

- 2. Wilson Supply Ditch
- 3. Bob Creek Ditch
- 4. Laramie-Poudre Tunnel
- 5. Skyline Ditch
- 6. Cameron Pass Ditch
- 7. Michigan Ditch
- 8. Grand River Ditch
- 9. Alva B. Adams Tunnel
- 10. Moffat Tunnel
- 11. Berthoud Pass Ditch
- 12. August P. Gumlick Tunnel
- 13. Straight Creek Tunnel
- 14. Vidler Tunnel
- 15. Harold D. Roberts Tunnel
- 16. Boreas Pass Ditch
- 17. Con-Hoosier Tunnel
- 18. Woodland Park Pipeline
- 19. Homestake Joint Pipeline

## TO ARKANSAS RIVER BASIN

- 20. Columbine Ditch
- 21. Ewing Ditch
- 22. Wurts Ditch
- 23. Homestake Tunnel
- 24. Busk-Ivanhoe Tunnel
- 25. Boustead Tunnel
- 26. Twin Lakes Tunnel
- 27. Larkspur Ditch
- 28. Hudson Ditch
- 29. Medano Ditch



- District Imports TB Water
- District Exports TB Water
- District Imports and Exports TB Water
- No TB Diversions in District
- DWR Water Divisions
- Continental Divide

*Note: DWR defines transbasin export as the release from one basin to another basin, the drainage from which does not combine with drainage from the releasing basin within the State of Colorado.*



**COLORADO**  
Division of Water Resources  
Department of Natural Resources

Updated June 2021



# 19 States and 2 Countries Rely on Colorado Water

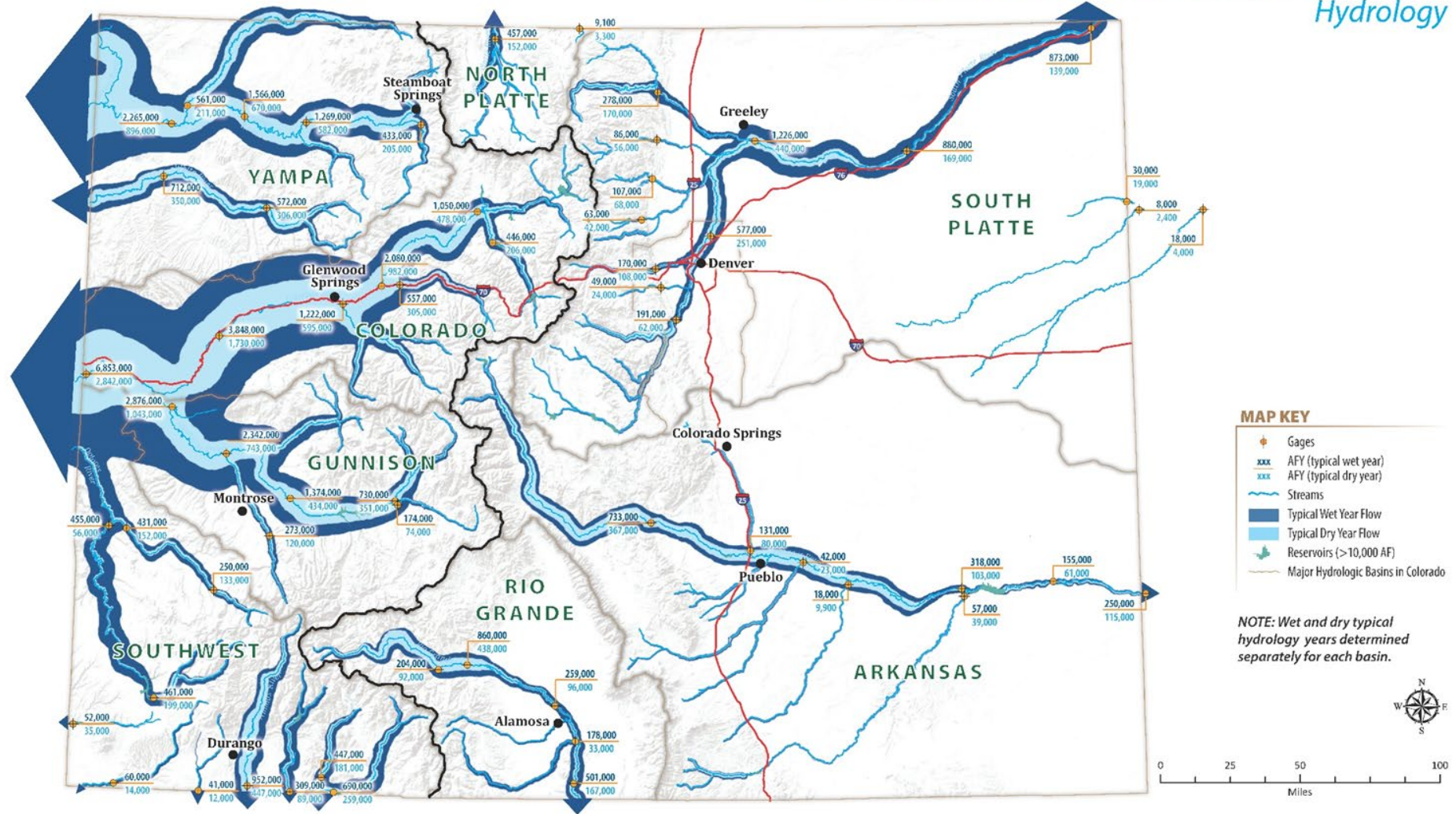


- Colorado River Compact 1922
- La Plata River Compact 1922
- South Platte River Compact 1923
- Rio Grande River Compact 1938
- Republican River Compact 1942
- Costilla Creek Compact 1944 (Rev. 1963)
- Upper Colorado River Compact 1948
- Arkansas River Compact 1948
- Animas-La Plata Project Compact 1969



# STATEWIDE

## Summary of Observed Wet-and-Dry Surface Water Hydrology



# Prior Appropriation

# Initial Water Development

Initially, surface water was used for domestic purposes and mining

Water usage predated creation of Colorado, no state constitution, no water administration

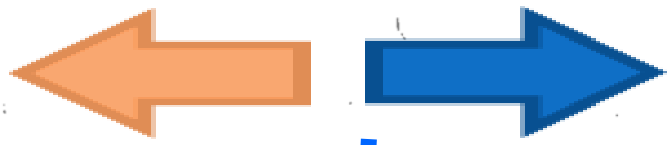
Increasing demand for finite resource led to conflict

Article XVI, Section 6, State Constitution (1876):

“The right to divert the unappropriated waters of any natural stream to **beneficial uses** shall never be denied. **Priority of appropriation** shall give the better right as between those using the water for the same purpose...”



> 25" rain/yr



< 20" rain/yr

NOT based on land ownership

Based on Priority

DROUGHT? -----> EXCLUSIVE

Based on land ownership

EQUAL rights / priority

DROUGHT? -----> SHARED

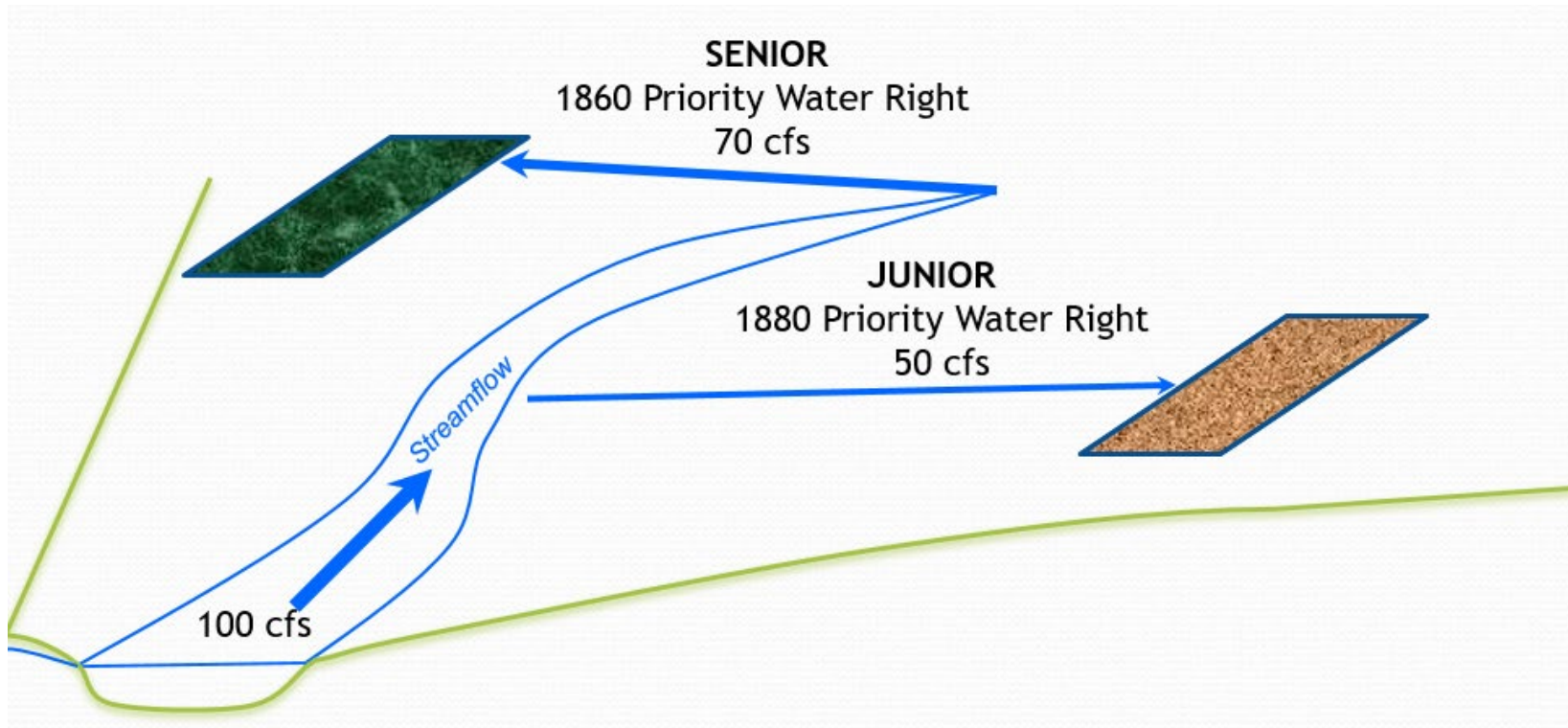
DOCTRINE RECOGNIZED

 APPROPRIATIVE

 RIPARIAN

 BOTH APPROPRIATIVE AND RIPARIAN

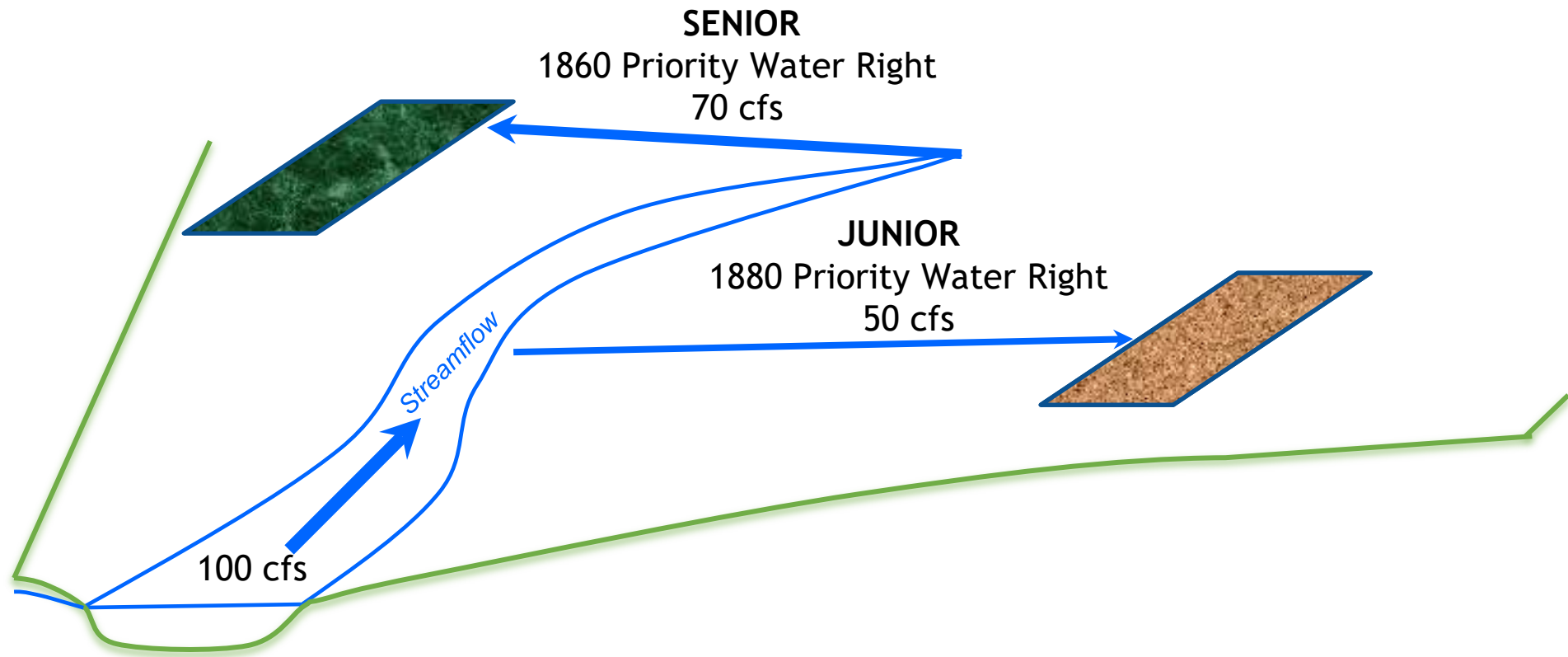
DOMINANT WATER RIGHTS DOCTRINES



- Colorado Constitution requires diversion/beneficial use of water according to priority
- Junior water rights (more recent)
  - May not divert during certain dry periods
  - Must let water pass by to senior rights unless they have an augmentation plan

Prior Appropriation System  
*“First in time, first in right”*

# Prior Appropriation in Practice



**What Happens?**  
After the “senior” 70 cfs right is fulfilled,  
there is only 30 cfs available for the “junior” water right.

# Well Administration

- Non-exempt wells are required to be administered in the priority system similar to surface water rights
- **Must wells be augmented?**
  - Why not curtail pumping similar to junior surface water rights?
- Can curtail pumping, though depletions may continue to affect the stream for days, months, or years. Injury to senior right would continue to occur...

- **Result: Plan for augmentation required**

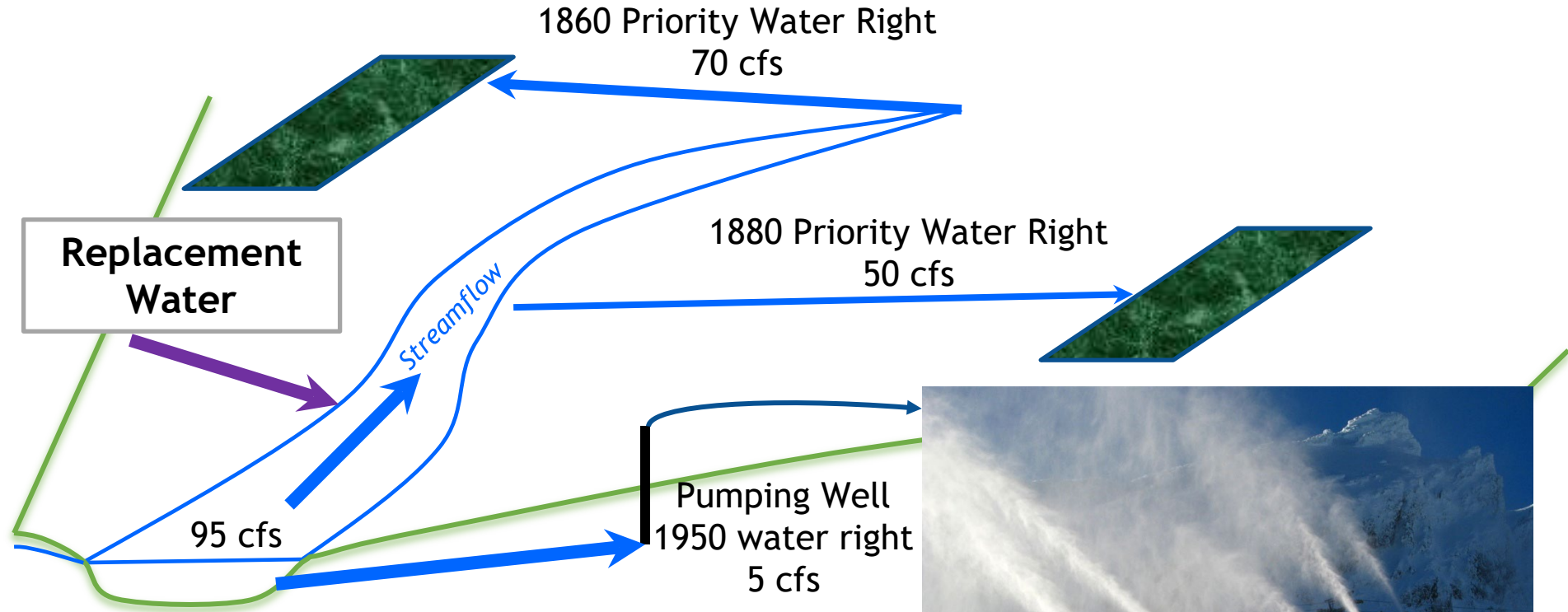




# Plans for Augmentation

- Approved by the water court
- Describes how replacement water will **offset depletions from junior water use and prevent injury to senior water users**
- Replacement water must be provided in like *time, location, and amount*
- Required in areas that are water deficient (e.g. over-appropriated)
- Potential replacement sources:
  - Reservoir decreed for augmentation/replacement
  - Changed senior right (typically crop irrigation □ augmentation)
  - Transmountain water
  - Recharge accretions

# Augmentation Plans

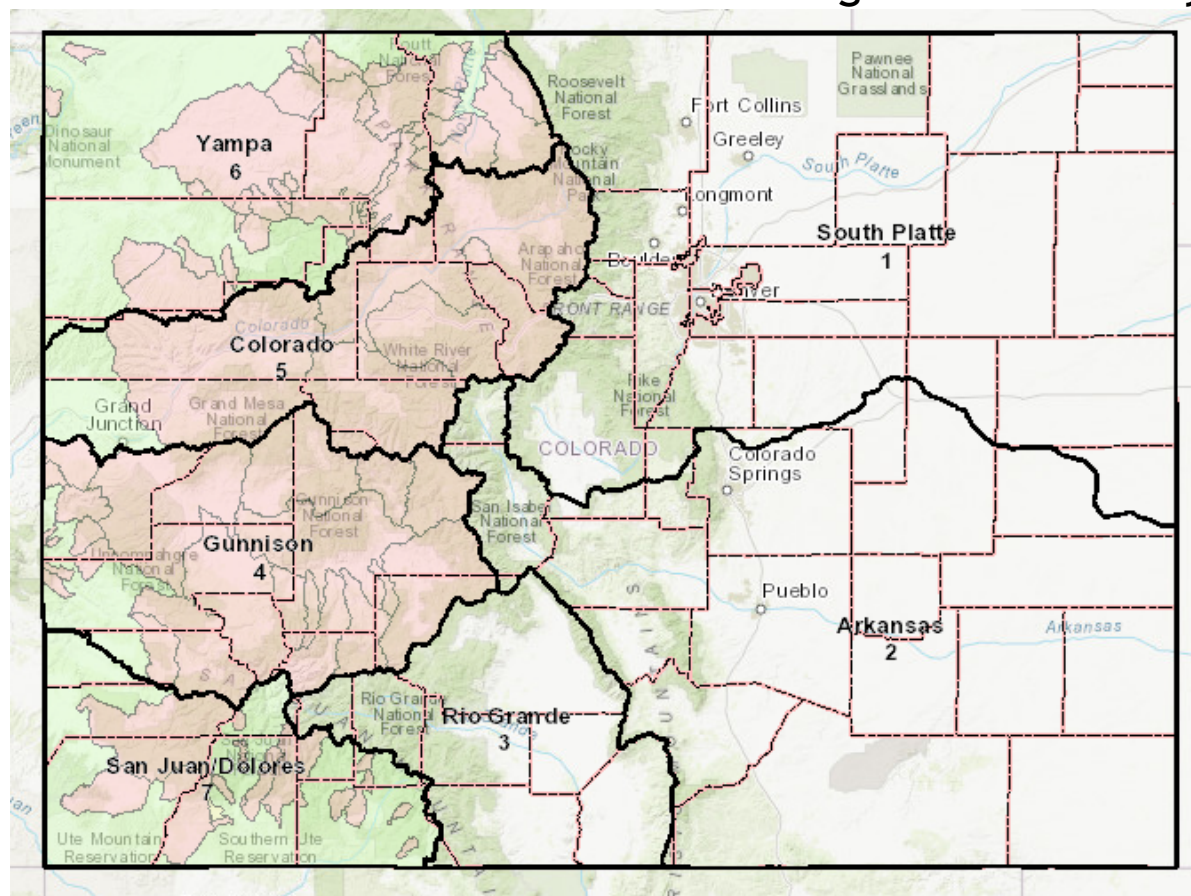


**Augmentation Plans**  
Allow water use "out of priority"  
Provide replacement water to the  
"Seniors"



# Over-Appropriated/Critical Areas

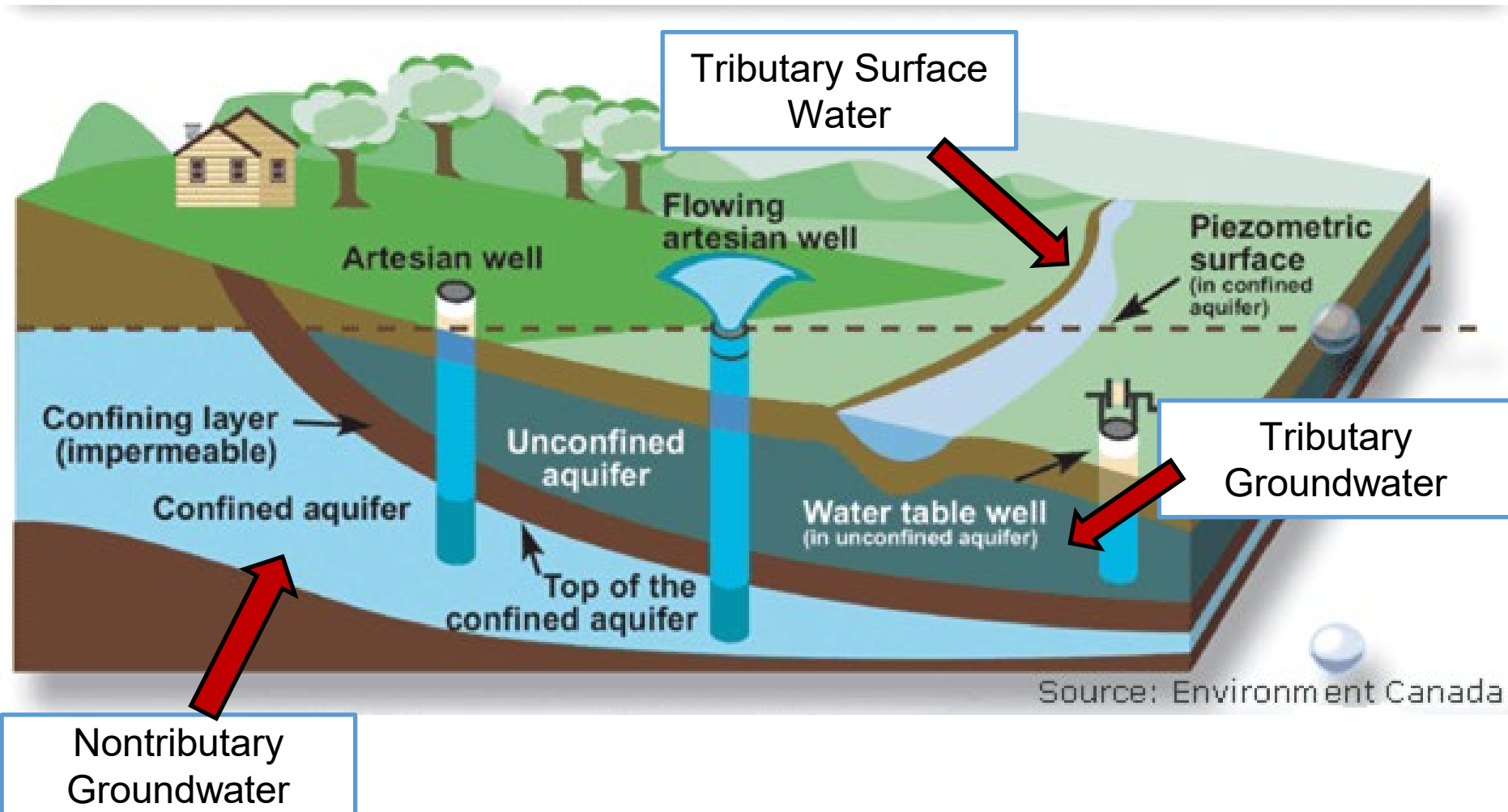
- Augmentation plans are required in over-appropriated areas
- Divisions 1, 2, and 3 are entirely over-appropriated > augmentation plans often required
- Divisions 4-7 have some areas where water right calls do not yet occur (non-critical areas)



# Groundwater

# Statutory Types of Groundwater

Administered based on location and connection to surface water



# Statutory Types of Groundwater

## Tributary: connected with surface water

- Administered in priority (senior and junior water rights)
- Non-exempt permits in overappropriated areas require an augmentation plan
- Renewable

## Nontributary: limited connection with surface water

- Nonrenewable
- Denver Basin - system of aquifers with limited connection to surface water and are not administered in priority
  - Nontributary (NT) - no augmentation plan required for non-exempt permits
  - Not-nontributary (NNT) - augmentation plan required for non-exempt permits

## Designated Groundwater: Area on eastern plains with limited surface water, has tributary, NT, and NNT water

- Administered under Designated Basin Rules by Ground Water Commission
- Subject to Ground Water Management District Rules
- Large capacity permits may require a replacement plan

# Review: What is a groundwater well?

- Traditional sense
  - Drilled and cased well that diverts/pumps groundwater
- Excavations exposing groundwater
  - C.R.S § 37-90-103(21)(a)
    - Any structure or device used for the purpose or with the effect of obtaining groundwater for beneficial use from an aquifer
  - C.R.S § 37-91-102(16)(a)
    - Any test hole or other excavation that is drilled, cored, bored, washed, fractured, driven, dug, jetted, or otherwise constructed for the purpose of location, monitoring, dewatering, observation, diversion, artificial recharge, or acquisition of groundwater for beneficial use or for conducting pumping equipment or aquifer tests
- Exception for a developed spring
  - Located at or within 50 feet of natural discharge point
  - No more than 10 feet deep
  - Conveys water by gravity into a separate sump or storage
  - Adjudicated as a surface water right

# Water Court



# Water Court

- Colorado's court system *just* for surface water (rivers, ditches, springs, reservoirs) and groundwater
- 7 Water Courts in Colorado
- Approves decrees for:
  - Water Rights
  - Changes of Water Right
  - Plans for Augmentation
  - Storage Rights
  - Exchanges

[www.courts.state.co.us/Courts/Water/Index.cfm](http://www.courts.state.co.us/Courts/Water/Index.cfm)



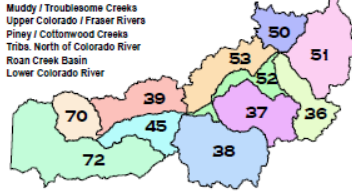
# COLORADO BASINS

Colorado Map scale: 1:5,000,000  
Individual District scale: 1:3,500,000

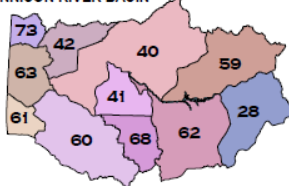
District District Name

- 36 Blue River Basin
- 37 Eagle River Basin
- 38 Roaring Fork River Basin
- 39 Rifle / Elk / Parachute Creeks
- 45 Divide Creek
- 50 Muddy / Troublesome Creeks
- 51 Upper Colorado / Fraser Rivers
- 52 Piney / Cottonwood Creeks
- 53 Tribe, North of Colorado River
- 70 Roan Creek Basin
- 72 Lower Colorado River

## COLORADO RIVER BASIN



## GUNNISON RIVER BASIN



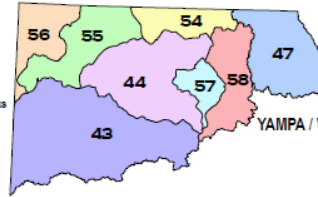
District District Name

- 28 Tomichi Creek
- 40 North Fork / Tribes
- 41 Lower Uncompahgre River
- 42 Lower Gunnison River
- 59 East River Basin
- 60 San Miguel River Basin
- 61 Paradox Creek
- 62 Upper Gunnison River
- 63 Dolores River Basin
- 68 Upper Uncompahgre River
- 73 Little Dolores River



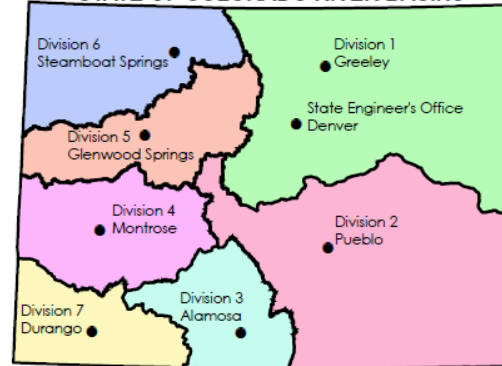
District District Name

- 43 White River Basin
- 44 Lower Yampa River
- 47 North Platte River Basin
- 54 Stater / Timberlake Creeks
- 55 Little Snake River
- 56 Green River Basin
- 57 Middle Yampa River
- 58 Upper Yampa River

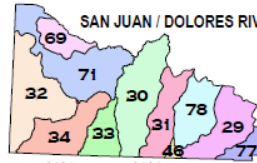


## YAMPA / WHITE RIVER BASIN

## STATE OF COLORADO RIVER BASINS



## SAN JUAN / DOLORES RIVER BASIN

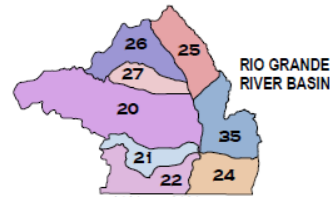


District District Name

- 29 San Juan River Basin
- 30 Animas River Basin
- 31 Los Pinos River Basin
- 32 McElmo Creek Basin
- 33 La Plata River Basin
- 34 Mancos River Basin
- 46 Navajo Reservoir
- 69 Disappointment Creek Basin
- 71 West Dolores Creek / Tribes
- 77 Navajo River Basin
- 78 Piedra River Basin

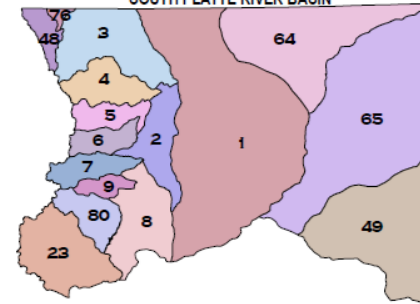
District District Name

- 20 Rio Grande
- 21 Alamosa La Jara
- 22 Conejos River
- 24 Culebra Creek
- 25 San Luis Creek
- 26 Saguache Creek
- 27 Carnero Creek
- 35 Trinchera Creek



## RIO GRANDE RIVER BASIN

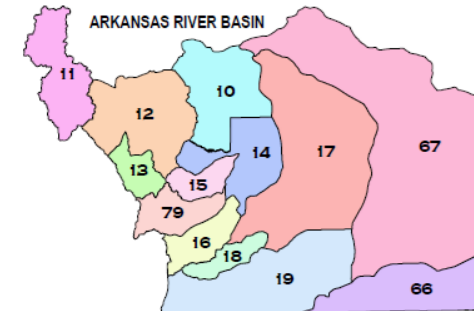
## SOUTH PLATTE RIVER BASIN



District District Name District District Name

- |   |                                      |
|---|--------------------------------------|
| 1 South Platte: Greeley to Balzac       | 9 Bear Creek                         |
| 2 South Platte: Denver Gage to Greeley  | 23 Upper South Platte                |
| 3 Cache La Poudre River                 | 48 Laransie River                    |
| 4 Big Thompson River                    | 49 Republican River                  |
| 5 St. Vrain Creek                       | 64 South Platte: Balzac to Stateline |
| 6 Boulder Creek                         | 65 Arikaree River                    |
| 7 Clear Creek                           | 76 Sand Creek                        |
| 8 South Platte: Cheesman to Denver Gage | 80 North Fork of South Platte        |

## ARKANSAS RIVER BASIN



District District Name District District Name

- |                                   |                                      |
|-----------------------------------|--------------------------------------|
| 10 Fountain Creek                 | 17 Arkansas: Fowler to Las Animas    |
| 11 Arkansas: Headwaters to Salida | 18 Aghshaga River                    |
| 12 Arkansas: Salida to Portland   | 19 Purgatoire River                  |
| 13 Wet Mountain Valley            | 66 Cimarron River Basin              |
| 14 Arkansas: Portland to Fowler   | 67 Arkansas: Las Animas to Stateline |
| 15 Saint Charles                  | 79 Huerfano River                    |
| 16 Cucharas River                 |                                      |

# Water Divisions

# Summary

## **Water Court**

- Adjudicatory body for water rights outside of designated basins (e.g. grants water rights)
- 1 Water Court in each Division (7 Courts total)

## **Division of Water Resources (DWR)**

- a.k.a. State Engineer's Office (SEO)
- Administers water rights by overseeing diversions, issuing well permits, enforcement actions, involvement in water court cases
- State Engineer, Division Engineer, & Staff (engineers, technicians, and water commissioners)
- 7 Divisions: 7 Division Office + 1 Denver Office

# DWR's Duties & Authority

# Colorado Revised Statutes

## Duties - C.R.S. § 37-92-501

*The state engineer and the division engineers shall administer, distribute, and regulate the waters of the state in accordance with the constitution of the state of Colorado, the provisions of this article and other applicable laws, and written instructions and orders of the state engineer, in conformity with such constitution and laws.*

## Authority - C.R.S. § 37-92-502

*The state engineer or the division engineers shall issue to the owners or users of water rights and to the users of waters of the state such orders as are necessary to implement the provisions of section 37-92-501, including, but not limited to, the orders specified in subsections (2) to (7) of this section. If such orders are given orally, they shall be confirmed promptly in writing.*

# Types of Orders

## C.R.S. § § 37-92-502(2) - 37-92-502(7)

- **Waste** - *Each division engineer shall order the total or partial discontinuance of any diversion in his division to the extent that the water being diverted is not necessary for application to a beneficial use*
- **Injury** - *He shall also order the total or partial discontinuance of any diversion in his division to the extent that the water being diverted is required by persons entitled to use water under water rights having senior priorities, but no such discontinuance shall be ordered unless the diversion is causing or will cause material injury to such water rights having senior priorities*
- **Storage** - *Each division engineer shall order the release from storage of any water he finds to have been illegally or improperly stored and shall make such orders as are necessary to insure that such released waters are delivered to those owners or users of water rights who are entitled to the same and to insure that the release will not cause damage*
- **Measurement/Reporting** - *The state engineer and the division engineers have authority to order any owner or user of a water right to install and maintain at such owner's or user's expense necessary meters, gauges, or other measuring devices and to report at reasonable times to the appropriate division engineer the readings of such meters, gauges, or other measuring devices.*
- **Permit Access to Private Property** - *The state engineer and the division engineers and their duly authorized assistants and staff have the authority and duty to enter upon, and to order any person to permit the entry upon, private property at any reasonable time to inspect the various means or proposed means of diversion, transportation, and storage and the uses to which water is being, or is proposed to be, put and to read meters, gauges, and other measuring devices*
- **Dams/Obstructions** - *The state engineer, division engineer, and their duly authorized assistants have the power and duty to issue orders so that the streams of the state may be kept clear of unnecessary dams or other obstructions which may restrict or impede the flow of water to the water users of the state*

# History of DWR's Role in Stream Restoration Projects

# Background & History

- Referrals usually come from the US Army Corps of Engineers
  - The purpose of these projects tend to be for stream restoration or to create wetland credits (ie wetland mitigation bank)
  - DWR does not have a statutory responsibility to review these types of projects, but does provide a response for information purposes
- Pre-2019: “Footprint” approach
  - In order to prevent injury, the restoration/mitigation project must not expand beyond the original stream or wetland area or “footprint”
- Post-2019: Duties and authority to administer under C.R.S. §§ 37-92-501 and 37-92-502
  - Describe if the project will require DWR to issue an order, particularly to (1) curtail a diversion that is causing material injury, (2) release water that has been illegally or improperly stored, and (3) clear streams of unnecessary dams and obstructions that restrict or impede the flow of water
  - Note that any project element exposing groundwater should not be constructed without first obtaining a well permit (which requires a plan for augmentation or substitute water supply plan in over-appropriated areas)
- Post-August 2023: Statutory changes added by Senate Bill 23-270 [C.R.S. § 37-92-602(9)]



# Senate Bill 23-270 [C.R.S. § 37-92-602(9)]

- The following do not cause material injury and are not considered an unnecessary dam or obstruction
  - “Stream Restoration Project” that has obtained applicable permits, is under construction, or completed by August 1, 2023
  - “Minor Stream Restoration Activity”
- “Stream Restoration Project”
  - Within a natural stream
  - For wildfire mitigation, flood mitigation, bank stabilization, water quality protection or restoration, habitat/species/ecosystem restoration, source water protection, infrastructure protection, or sediment/erosion management
- “Minor Stream Restoration Activity”
  - **Stabilization of banks of natural streams** that does not cause water level to exceed ordinary high water mark and may incidentally increase surface area
  - **Grading** along stream that does not result in diversion/collection of water or exposure of GW
  - **Stabilization of banks of ephemeral/intermittent streams**
  - **Daylighting** a natural stream
  - **Reducing surface area of natural stream**
  - **Installing structures/reconstructing a channel** after wildfire or flood

# DWR's Suggestions for Proposed Projects

- Contact us early in the conceptual stage of design
  - Contact your local Division Office (<https://dwr.colorado.gov/division-offices>) to initiate informal discussions about project location, concepts
- Contact us for formal review/comment
  - Contact the State Engineer's Office (<https://dwr.state.co.us/Portal/dwr/AskDWR>)
    - Topic = Water Administration
    - Office = Main Office
    - Subject = Stream Restoration Project Referral
  - While not statutorily required, DWR will review the project proposal and consider, based on the range of conditions in the vicinity of the project site, and comment if the project may require the Division Engineer to issue an order
  - DWR will provide a written response that should not be considered an official approval or denial of the project (DWR does not have permitting authority over such projects)
- Consider project elements that are unlikely to trigger orders from the Division Engineer
  - Grading along the stream channel that does not result in out-of-priority diversions or grading at any location that does not expose groundwater or collect/concentrate stormwater
  - Vegetation management (such as planting or removal), including a legal water supply necessary to irrigate new plants for establishment
  - Fencing out animals/management of grazing activities
  - Those that meet the definition of a minor stream restoration activity in C.R.S. § 37-92-602(9)(b)(I)
- Visit DWR's Pond Management & Restoration Projects website
  - <https://dwr.colorado.gov/services/water-administration/pond-management-restoration-projects>

# Options for Projects Falling Outside of Senate Bill 23-270

- If a component of a project may result in material injury to water rights (does not fall under the allowance provided by Senate Bill 23-270 or any other future statutory allowance), consider the following options
  - Plan for augmentation (approved by the Water Court)
  - Substitute water supply plan (approved by the State Engineer's Office)
  - Administrative Exchange (approved by the Division Engineer's Office)
  - Limit surface diversions to "Free River" conditions (no downstream call)
  - Limit project components to those that will not result in material injury to water rights (fall under the allowance provided by Senate Bill 23-270 or any other future statutory allowance)
  - Locations where water is not considered to be over-appropriated

# DWR Resources



Website:

<https://dwr.colorado.gov>



AskDWR Online Form:

<https://dwr.state.co.us/portal/dwr/askdwr>



Records Section:  
(303) 866-3581



Ground Water Information Desk:  
(303) 866-3587



In person meetings by appointment

Questions?