

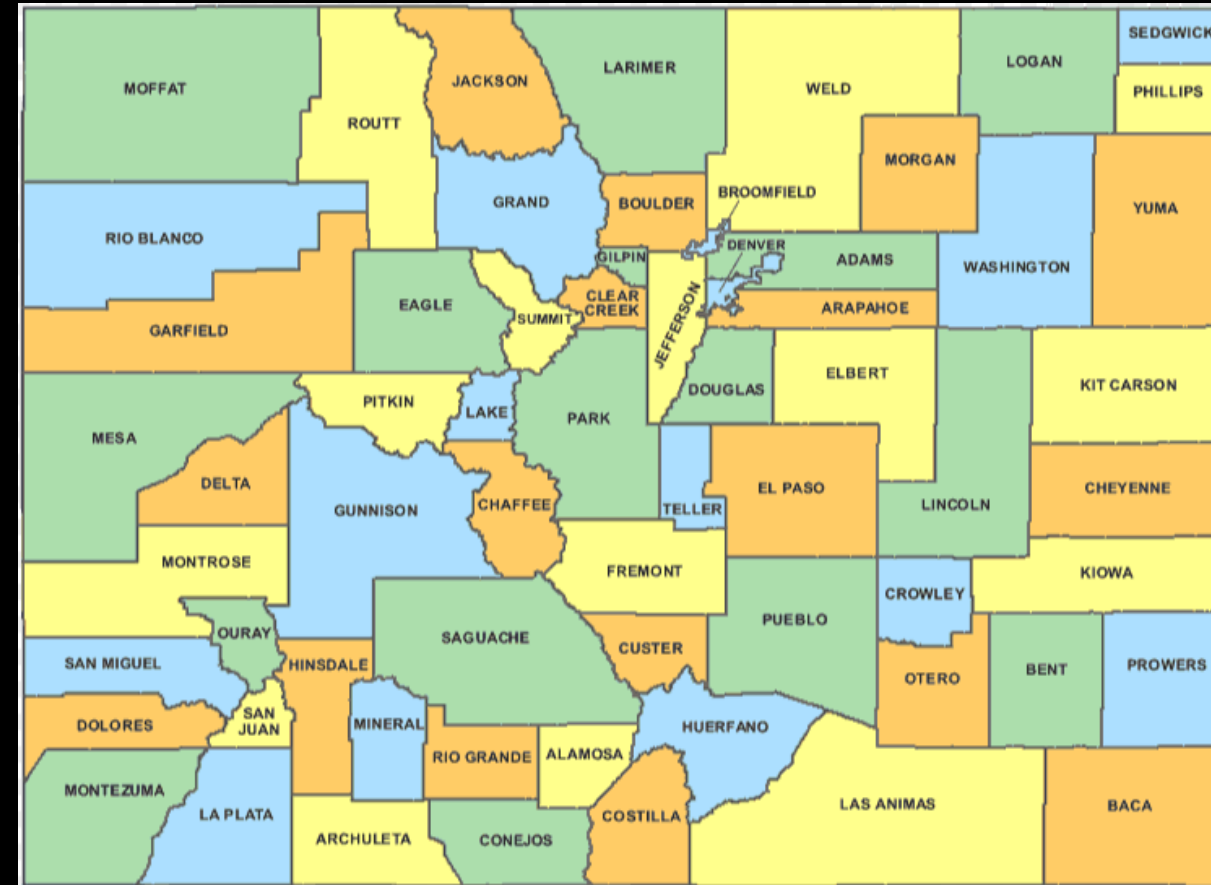
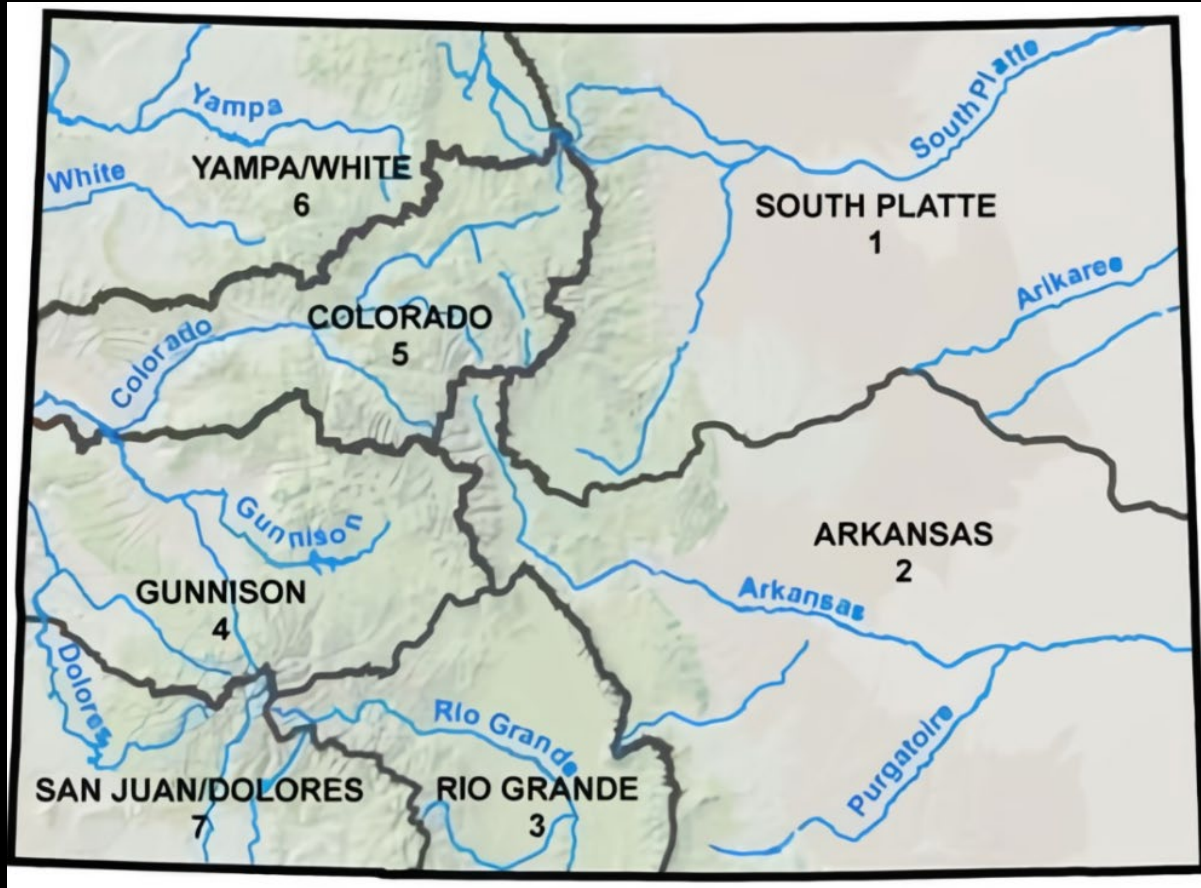


Colorado River Basin Statewide Connections

CCI Winter Conference
November 29, 2021

Kyle Whitaker
Colorado River Programs/Water Rights Manager
kwhitaker@northernwater.org

All Coloradans are Connected to the Colorado River



Colorado River "Basin"



"... all of the drainage area of the Colorado River System and all other territory within the United States of America to which the waters of the Colorado River System shall be beneficially applied."

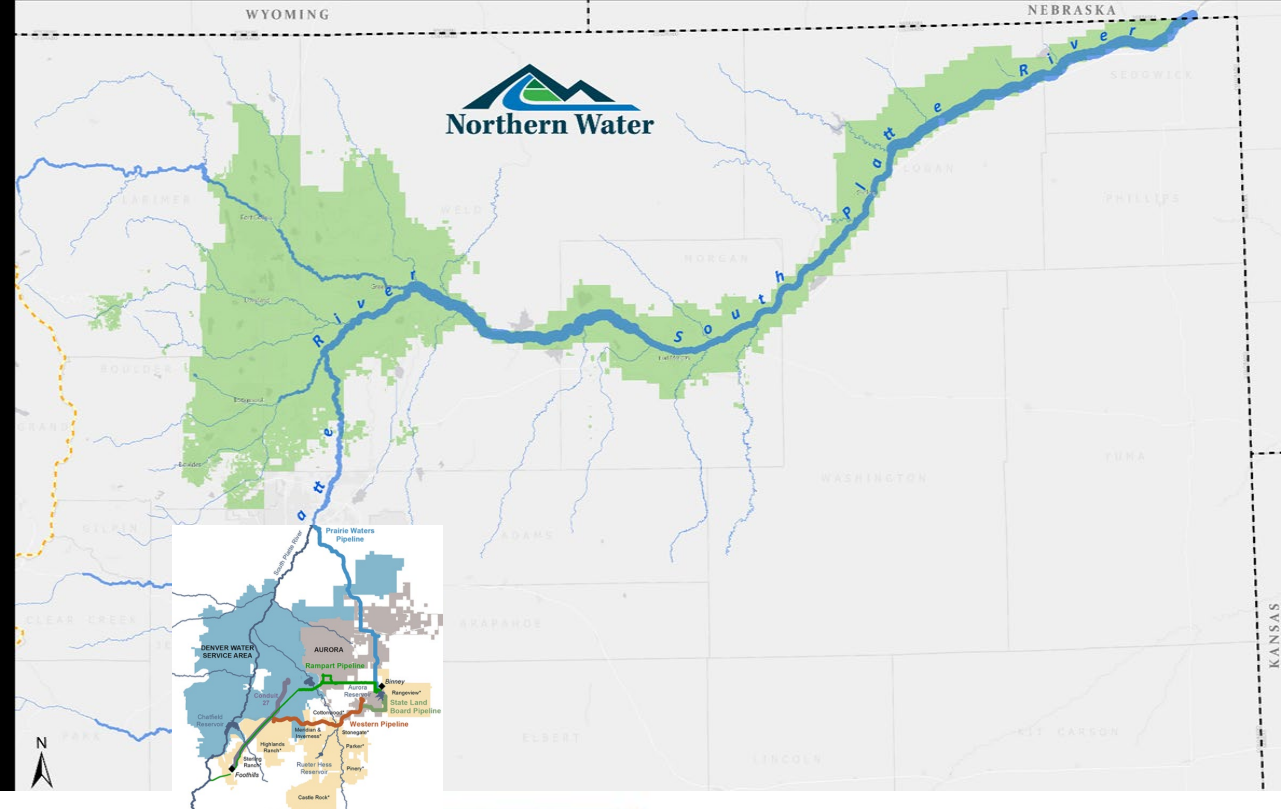
Bridging the Divide



- Agricultural Viability and Sustainability
- Water Supply availability and certainty
- Colorado River Development and Protection
- Upper Colorado River Endangered Fish Recovery
- Cooperative Projects, Agreements, Operations
- Compensatory Storage / Mitigation Components

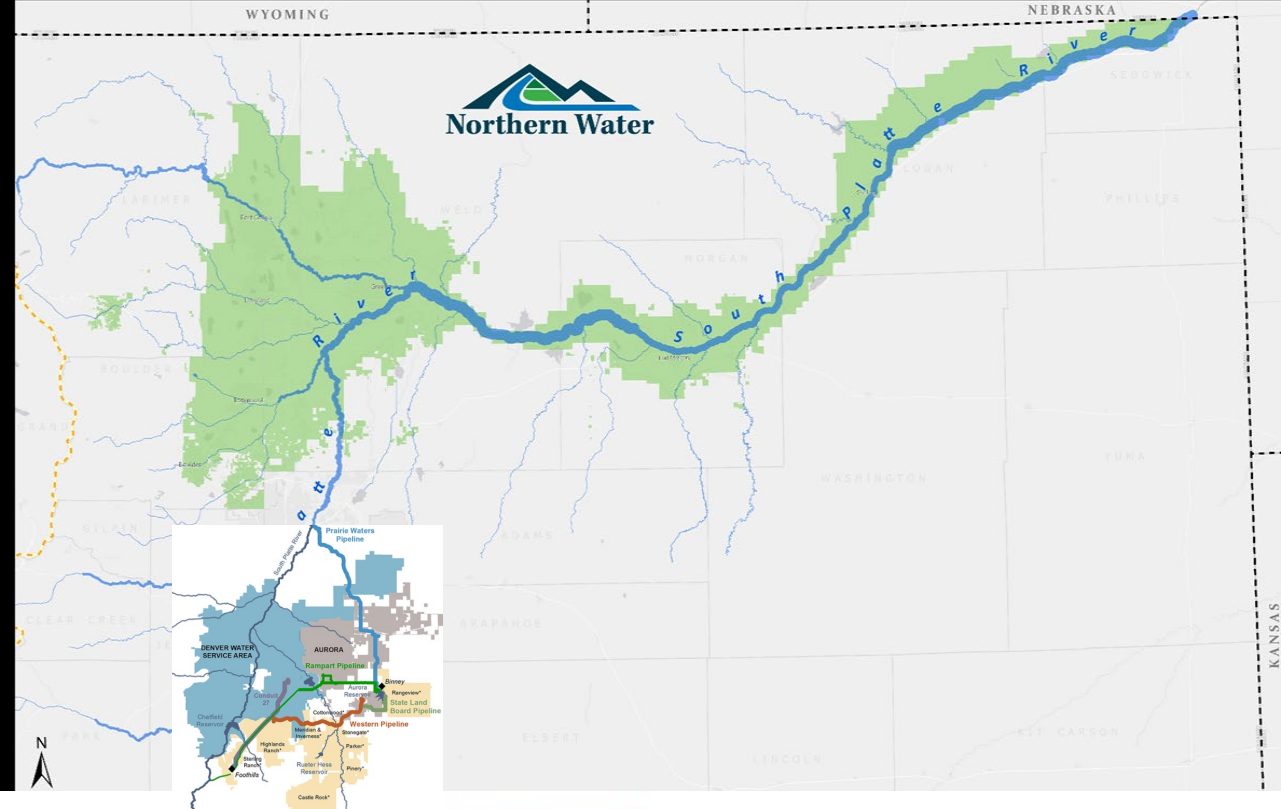
TMDs Benefits

- 25+ Counties Receive TMD Deliveries
 - ~ 20% South Platte Basin Supplies
 - ~ 15% Arkansas Basin Supplies



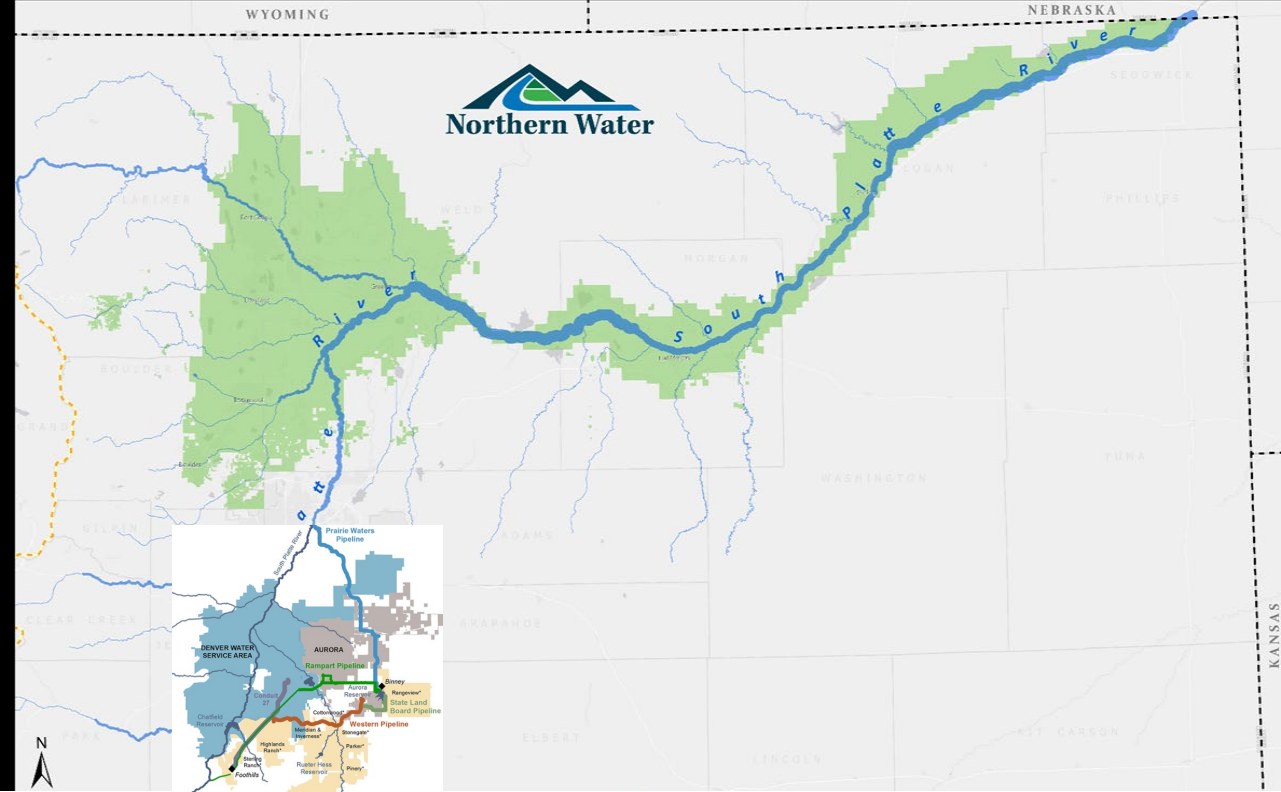
TMDs Benefits

- 25+ Counties Receive TMD Deliveries
 - ~ 20% South Platte Basin Supplies
 - ~ 15% Arkansas Basin Supplies
- Irrigated Agriculture
 - ~ 640,000 acres South Platte Basin
 - ~ 265,000 acres Arkansas Basin



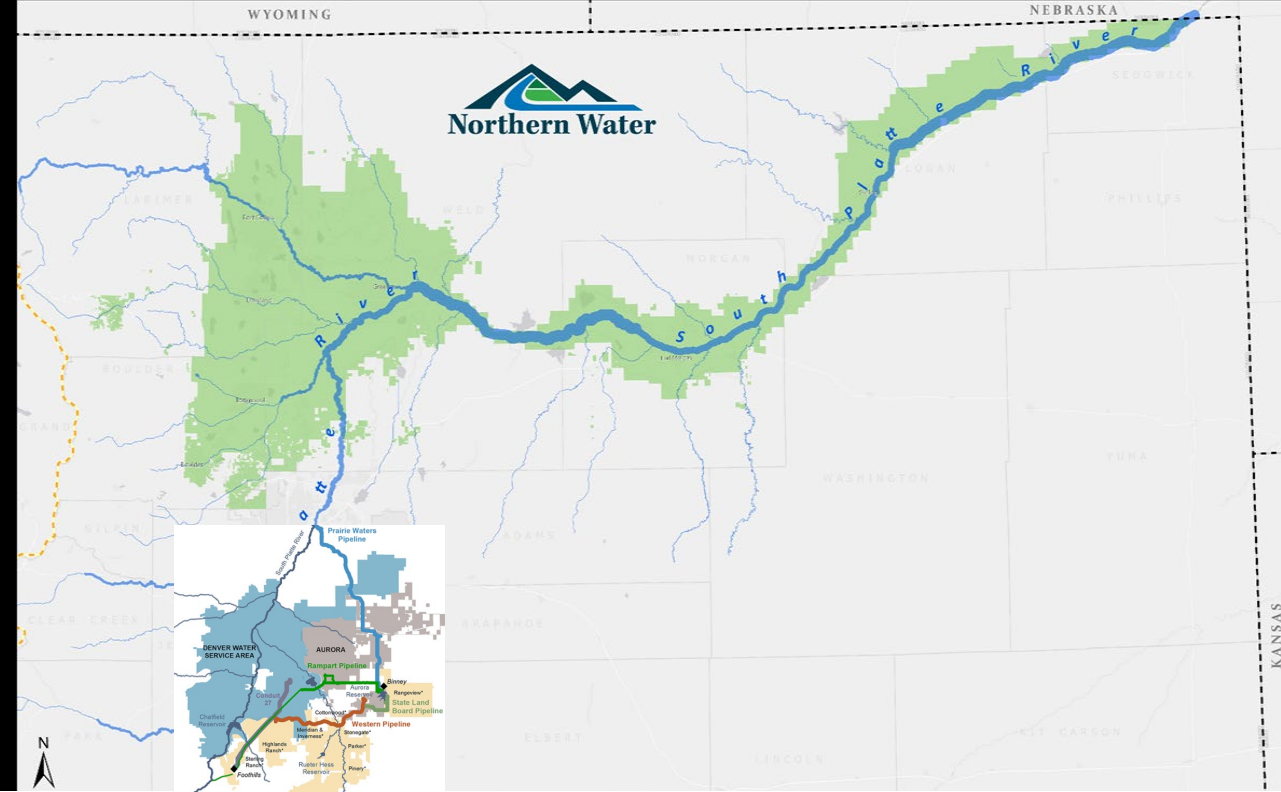
TMDs Benefits

- 25+ Counties Receive TMD Deliveries
 - ~ 20% South Platte Basin Supplies
 - ~ 15% Arkansas Basin Supplies
- Irrigated Agriculture
 - ~ 640,000 acres South Platte Basin
 - ~ 265,000 acres Arkansas Basin
- Municipal/Domestic
 - ~3 million South Platte Basin
 - ~ 900,000 Arkansas



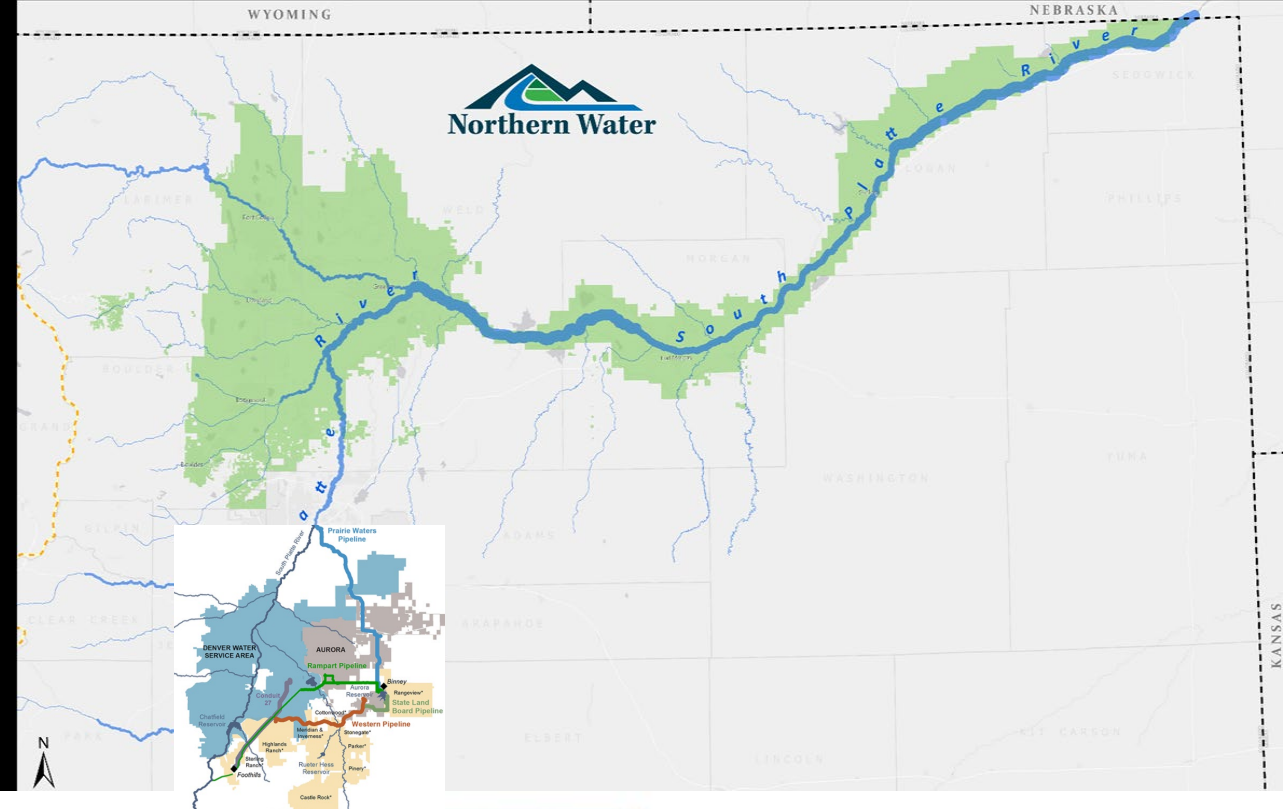
TMDs Benefits

- 25+ Counties Receive TMD Deliveries
 - ~ 20% South Platte Basin Supplies
 - ~ 15% Arkansas Basin Supplies
- Irrigated Agriculture
 - ~ 640,000 acres South Platte Basin
 - ~ 265,000 acres Arkansas Basin
- Municipal/Domestic
 - ~3 million South Platte Basin
 - ~ 900,000 Arkansas
- Recreation
 - In-River/Flowing Water
 - Flat Water



TMDs Benefits

- 25+ Counties Receive TMD Deliveries
 - ~ 20% South Platte Basin Supplies
 - ~ 15% Arkansas Basin Supplies
- Irrigated Agriculture
 - ~ 640,000 acres South Platte Basin
 - ~ 265,000 acres Arkansas Basin
- Municipal/Domestic
 - ~3 million South Platte Basin
 - ~ 900,000 Arkansas
- Recreation
 - In-River/Flowing Water
 - Flat Water
- Environmental/Ecological
 - Riparian
 - Fish & Wildlife



1922 - Colorado River Compact

1944 - Mexico Treaty

1948 - Upper Colorado Basin Compact

Colorado River Basin Overview

Colorado River Allocations

1922 Colorado River Compact established Upper and Lower Basin States' allocations

UPPER BASIN STATES - 7.5 MAF

1948 Upper Colorado Basin Compact established the Upper Basin States' apportionment

LOWER BASIN STATES - 7.5 MAF

California - 4.4 MAF

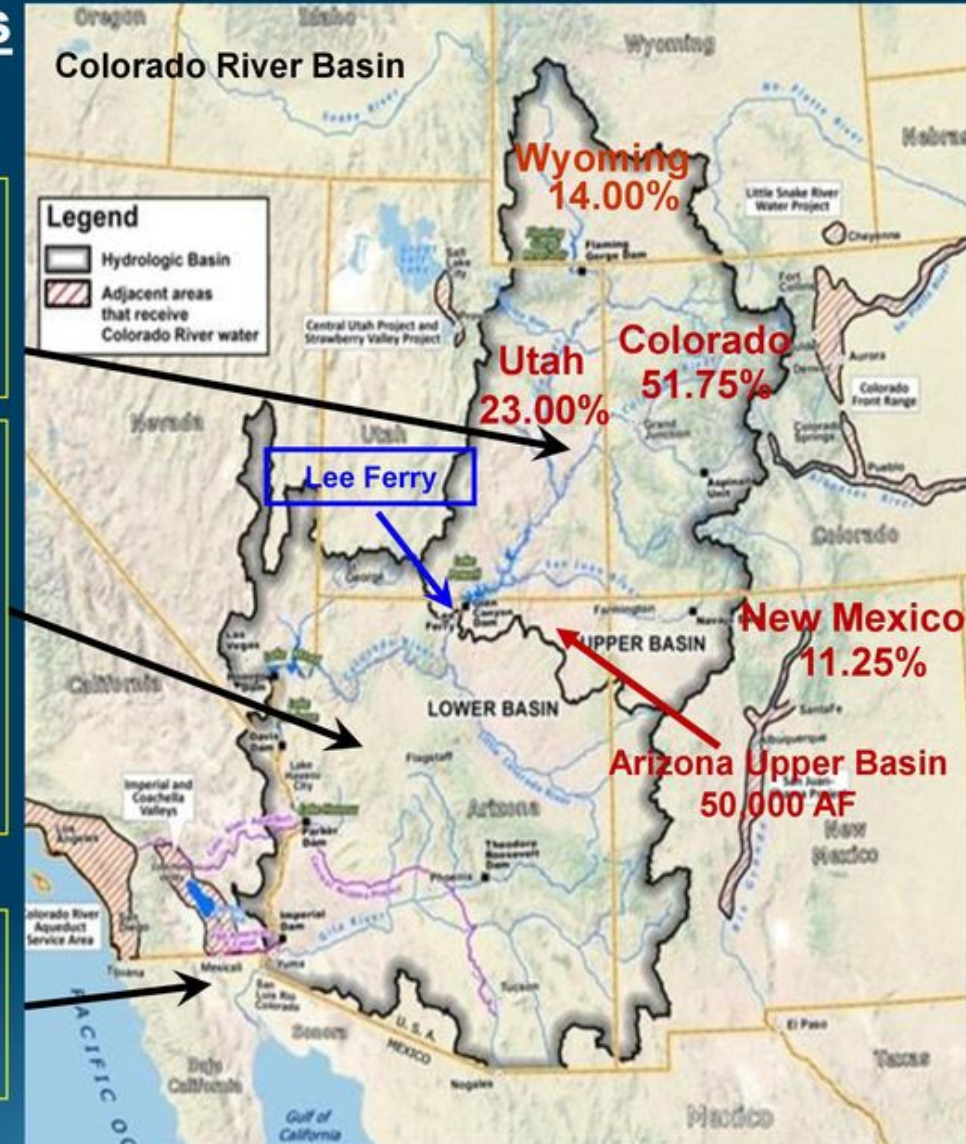
Arizona - 2.8 MAF

Nevada - 0.3 MAF

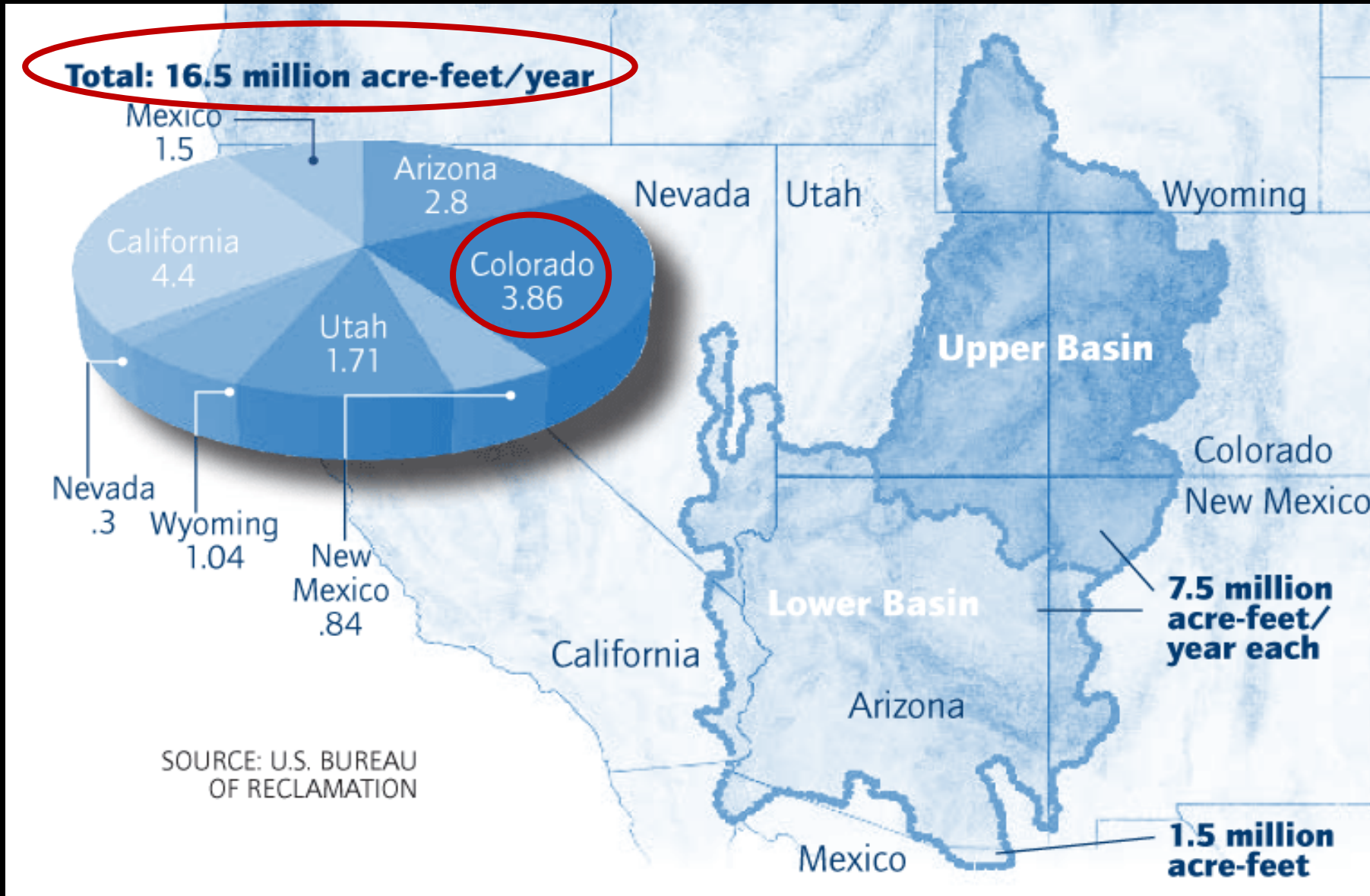
1928 Boulder Canyon Project Act established the Lower Basin States' apportionment

MEXICO - 1.5 MAF

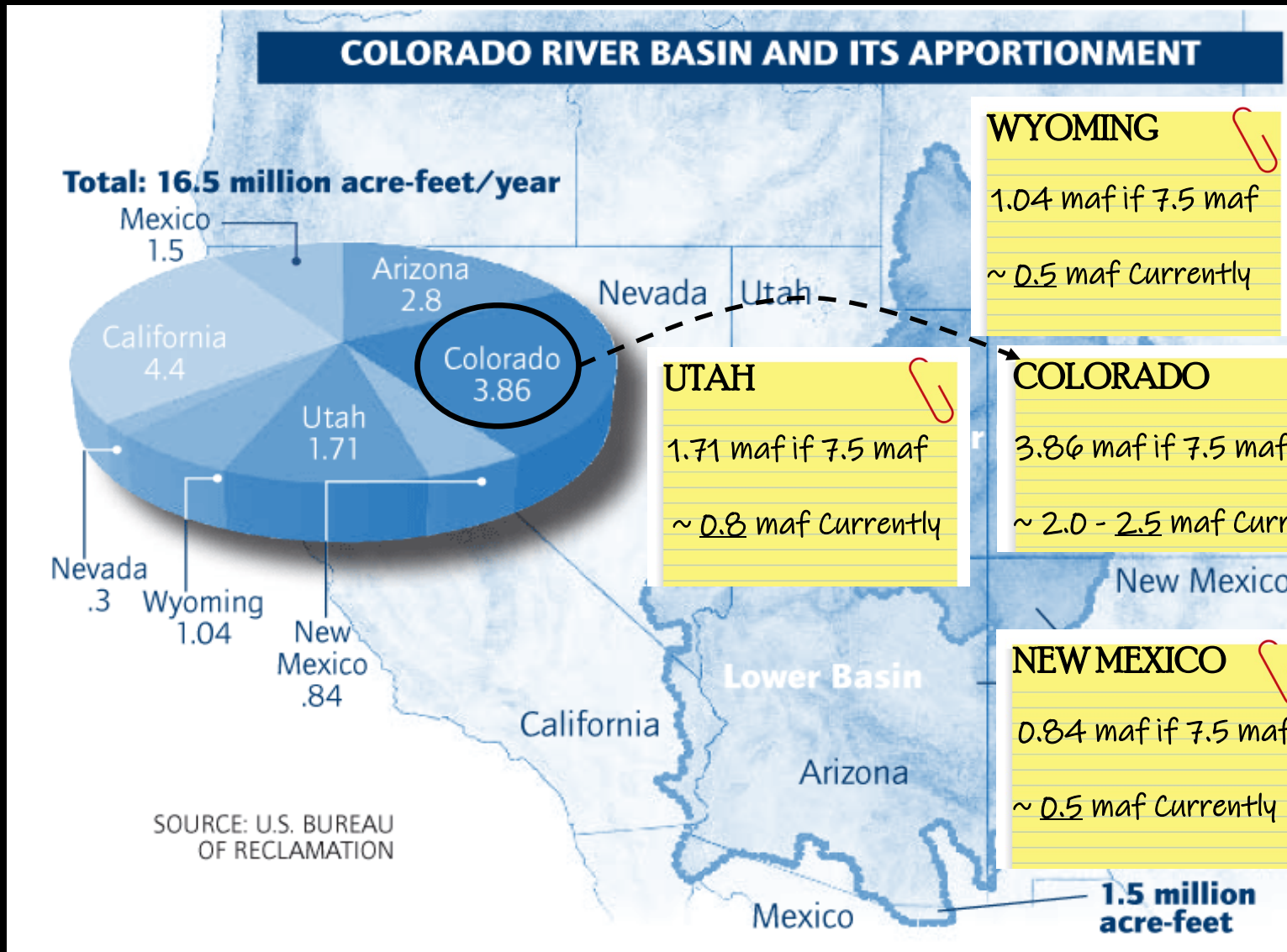
1944 Treaty with Mexico established Mexico's treaty deliveries



Colorado River Apportionment

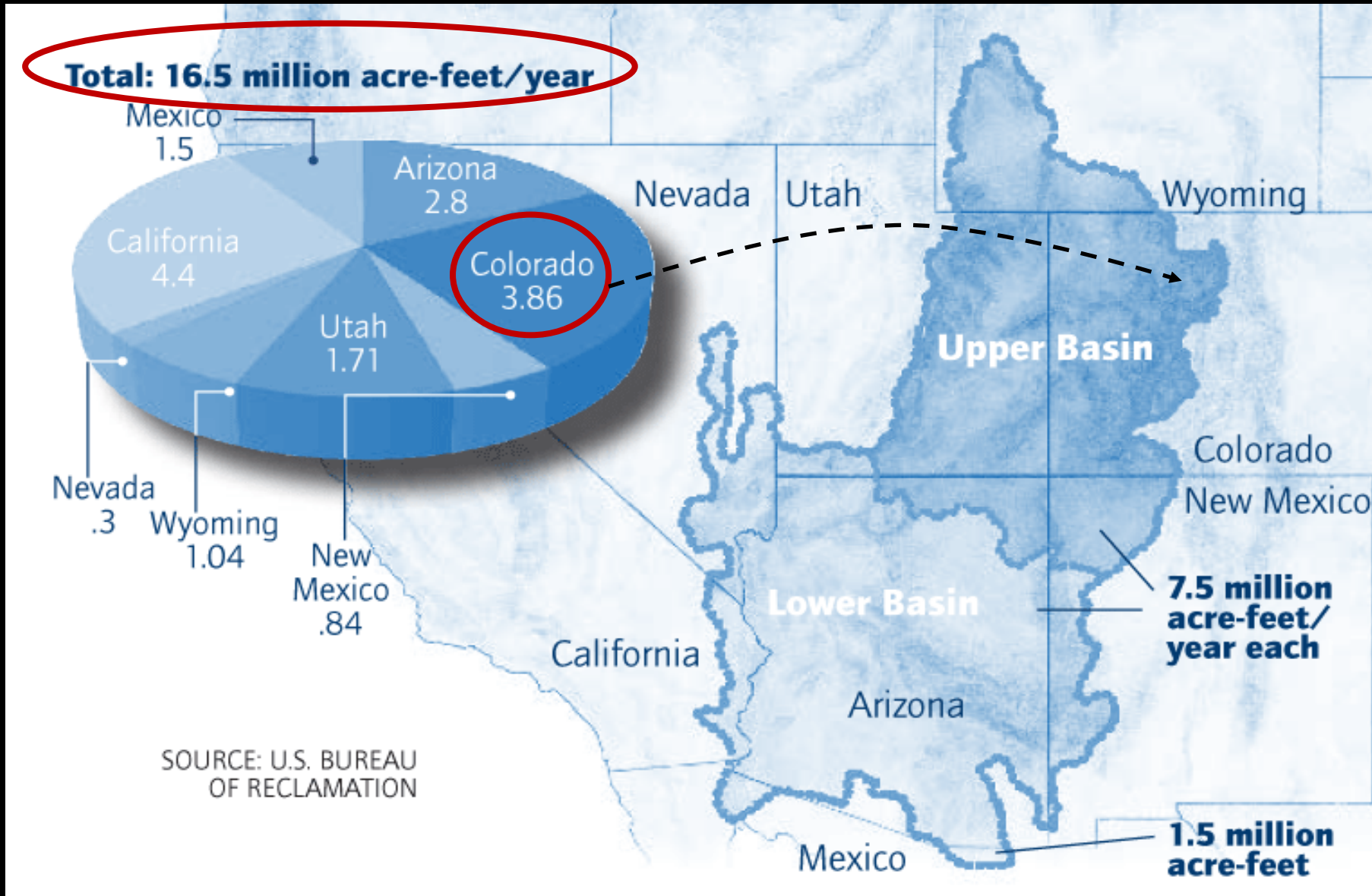


Colorado River Apportionment



State	Current Use
Colorado	2 - 2.5 maf
New Mexico	0.5 maf
Utah	0.8 maf
Wyoming	<u>0.5 maf</u>
Total	4.3 maf
	+
CRSP EVAP	<u>~ 0.2-0.4 maf</u>
	~ 4.0 - 5.0 maf/yr
	Vs.
	7.5 maf

Colorado River Apportionment

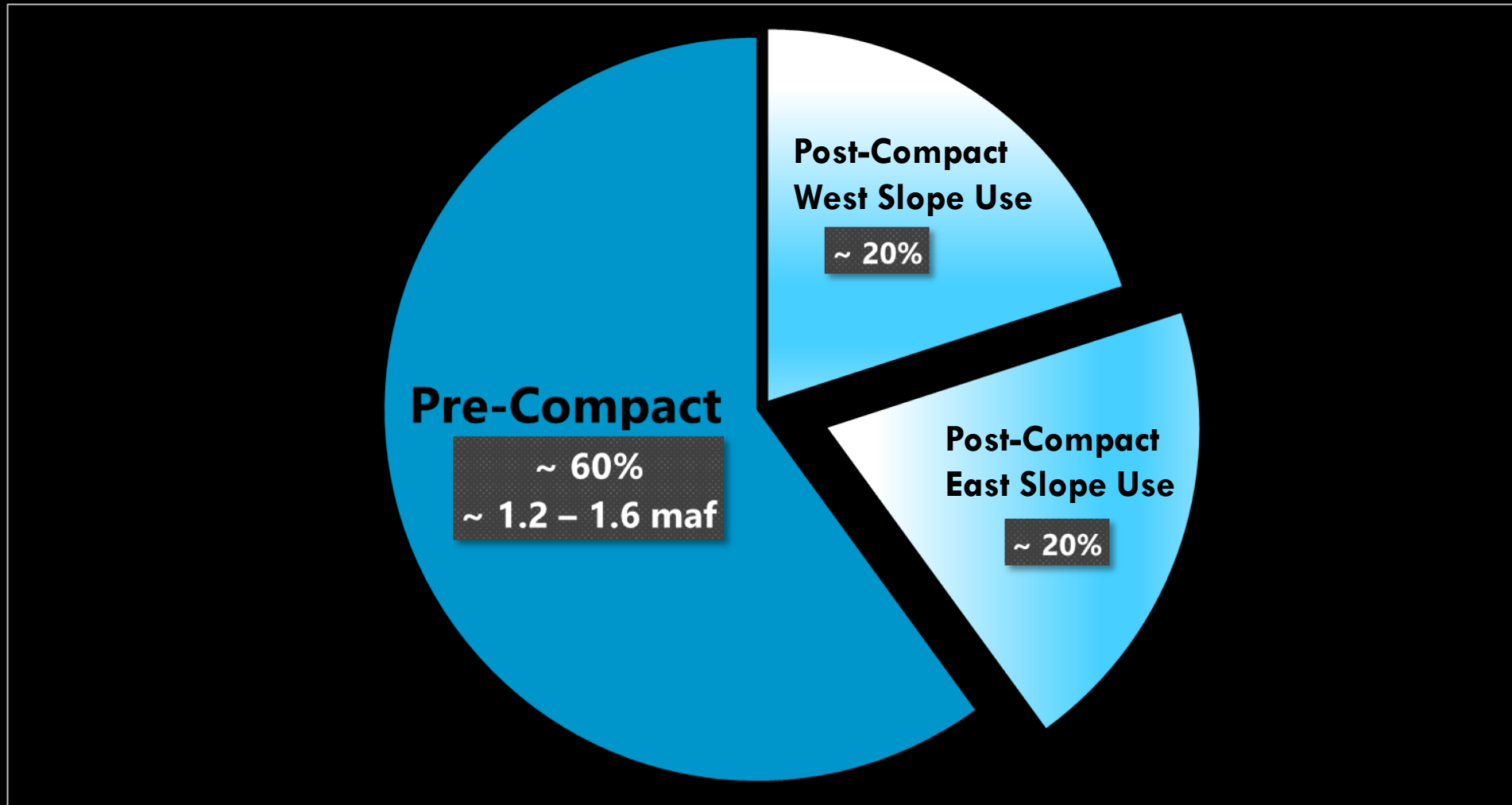


COLORADO

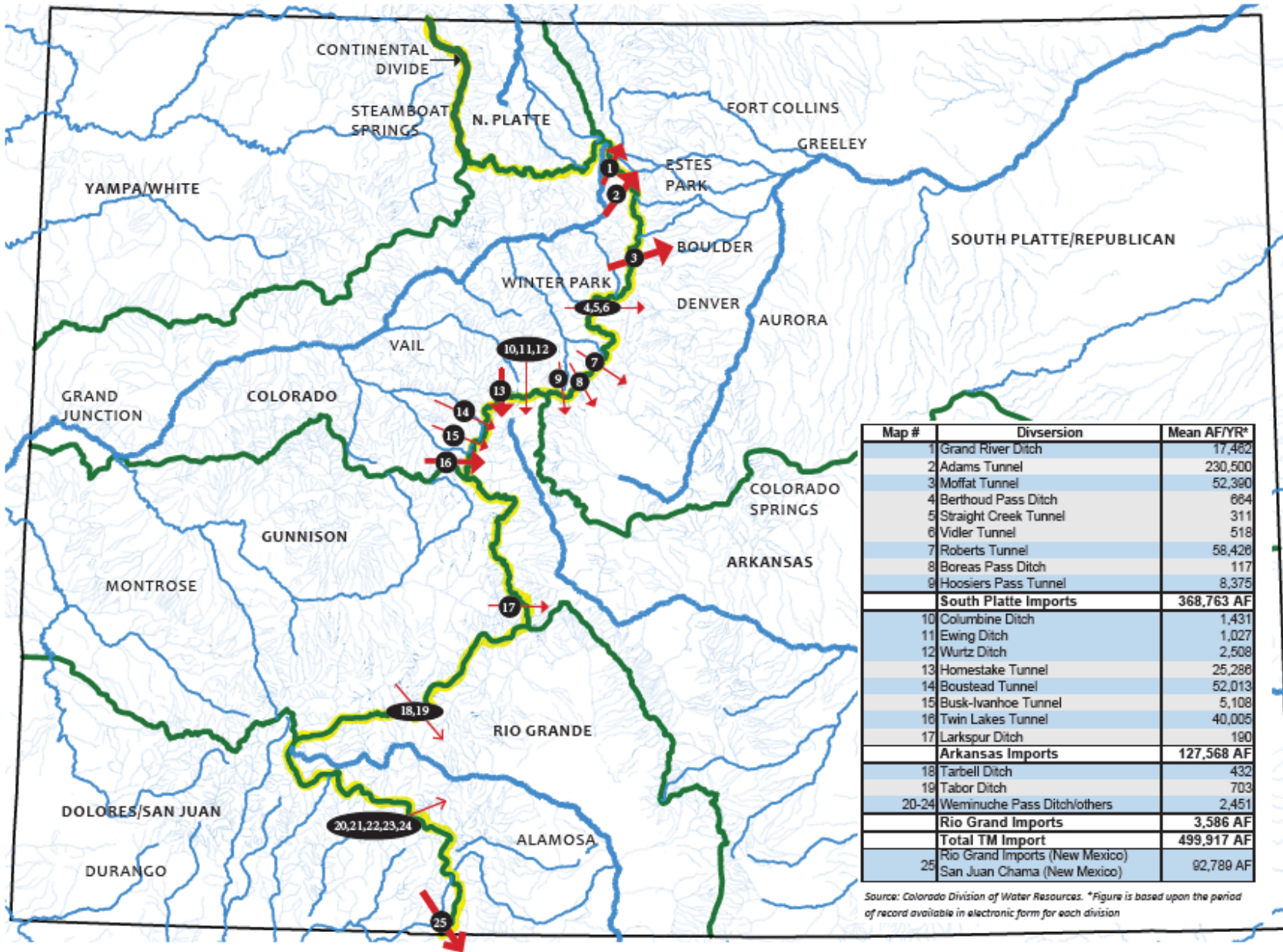
3.86 maf if 7.5 maf

~ 2.5 maf Currently

Colorado River Water Use (within Colorado)



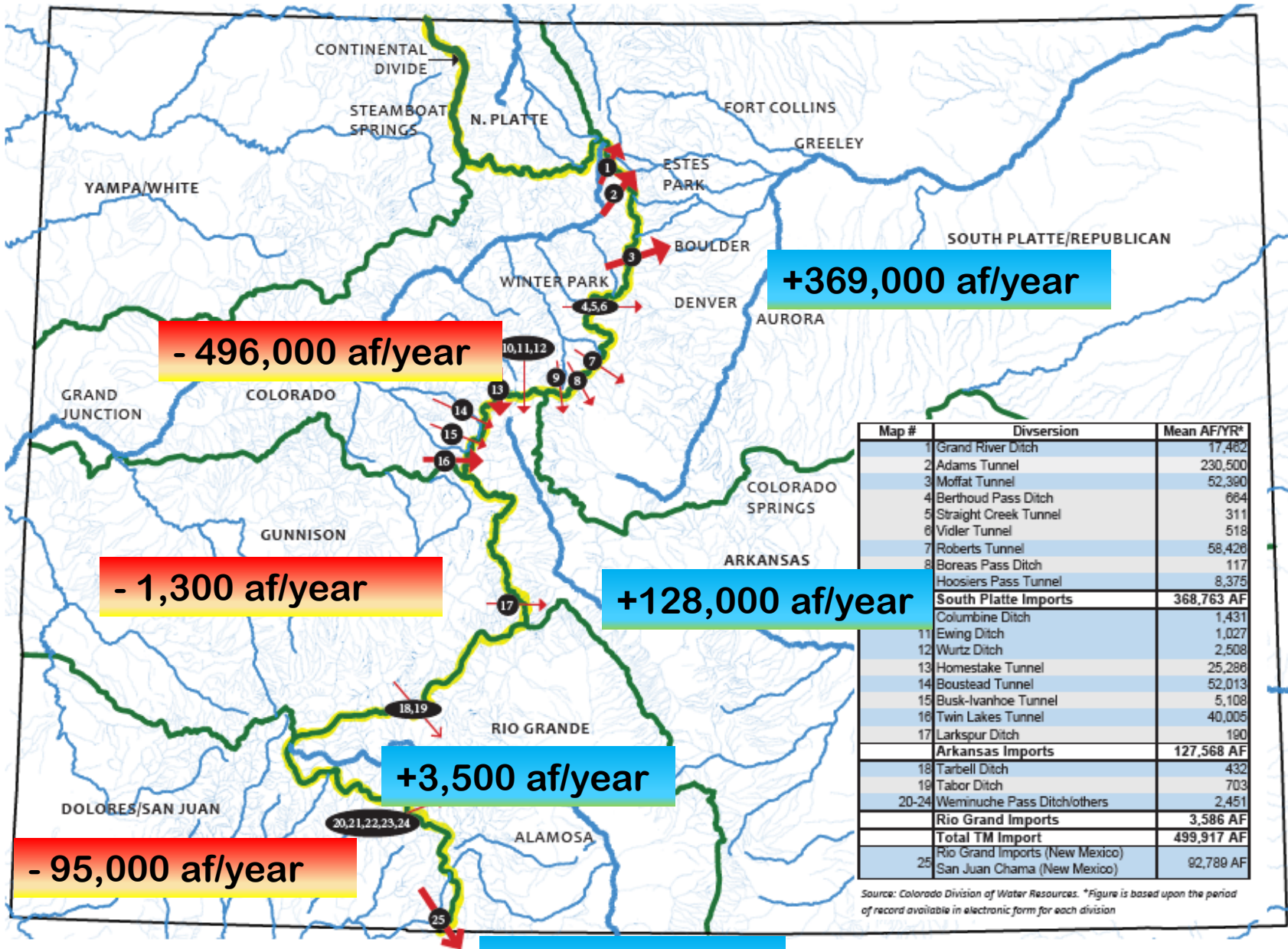
Colorado's Transmountain Diversions



Map #	Diversions	Mean AF/YR*
1	Grand River Ditch	17,462
2	Adams Tunnel	230,500
3	Moffat Tunnel	52,390
4	Berthoud Pass Ditch	664
5	Straight Creek Tunnel	311
6	Vidler Tunnel	518
7	Roberts Tunnel	58,428
8	Boreas Pass Ditch	117
9	Hoosiers Pass Tunnel	8,375
South Platte Imports		368,763 AF
10	Columbine Ditch	1,431
11	Ewing Ditch	1,027
12	Wurtz Ditch	2,508
13	Homestake Tunnel	25,286
14	Boustead Tunnel	52,013
15	Busk-Ivanhoe Tunnel	5,108
16	Twin Lakes Tunnel	40,005
17	Larkspur Ditch	190
Arkansas Imports		127,568 AF
18	Tarbell Ditch	432
19	Tabor Ditch	703
20-24	Weminuche Pass Ditch/others	2,451
Rio Grand Imports		3,586 AF
Total TM Import		499,917 AF
25	Rio Grand Imports (New Mexico) San Juan Chama (New Mexico)	92,789 AF

Source: Colorado Division of Water Resources. *Figure is based upon the period of record available in electronic form for each diversion

Colorado's Transmountain Diversions



Map #	Diversions	Mean AF/YR*
1	Grand River Ditch	17,462
2	Adams Tunnel	230,500
3	Moffat Tunnel	52,390
4	Berthoud Pass Ditch	664
5	Straight Creek Tunnel	311
6	Vidler Tunnel	518
7	Roberts Tunnel	58,428
8	Boreas Pass Ditch	117
	Hoosiers Pass Tunnel	8,375
	South Platte Imports	368,763 AF
	Columbine Ditch	1,431
11	Ewing Ditch	1,027
12	Wurtz Ditch	2,508
13	Homestake Tunnel	25,286
14	Boustead Tunnel	52,013
15	Busk-Ivanhoe Tunnel	5,108
16	Twin Lakes Tunnel	40,005
17	Larkspur Ditch	190
	Arkansas Imports	127,568 AF
18	Tarbell Ditch	432
19	Tabor Ditch	703
20-24	Weminuche Pass Ditch/others	2,451
	Rio Grand Imports	3,586 AF
	Total TM Import	499,917 AF
	Rio Grand Imports (New Mexico)	
25	San Juan Chama (New Mexico)	92,789 AF

Source: Colorado Division of Water Resources. *Figure is based upon the period of record available in electronic form for each diversion

South Platte Flows

CBT/WG + 230,000

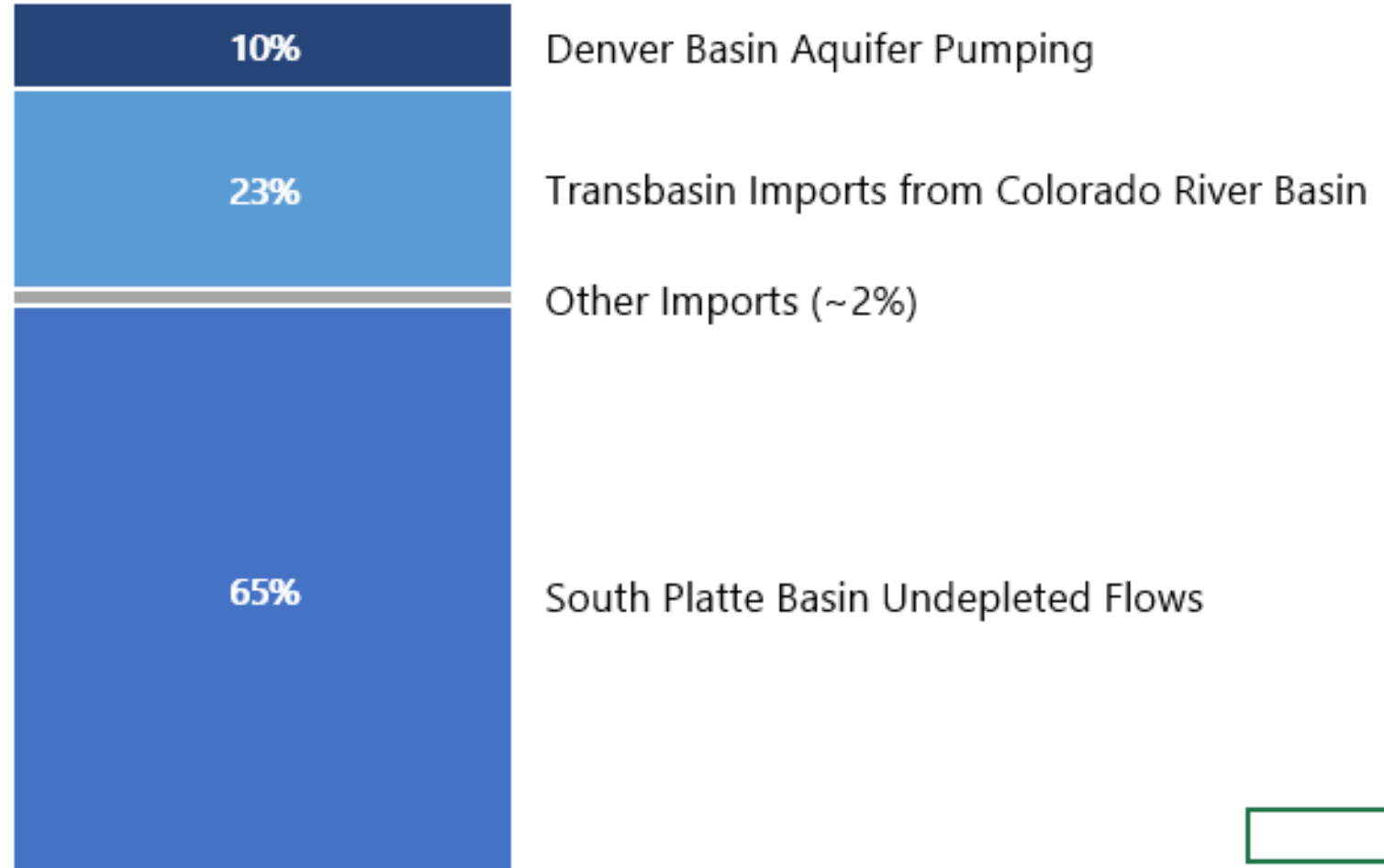
Denver Water + 110,000 af/year

WSSC + 17,000 af/year

Others + 22,000 af/year

Total + 369,000 af/year

South Platte Basin Supply



South Platte Flows

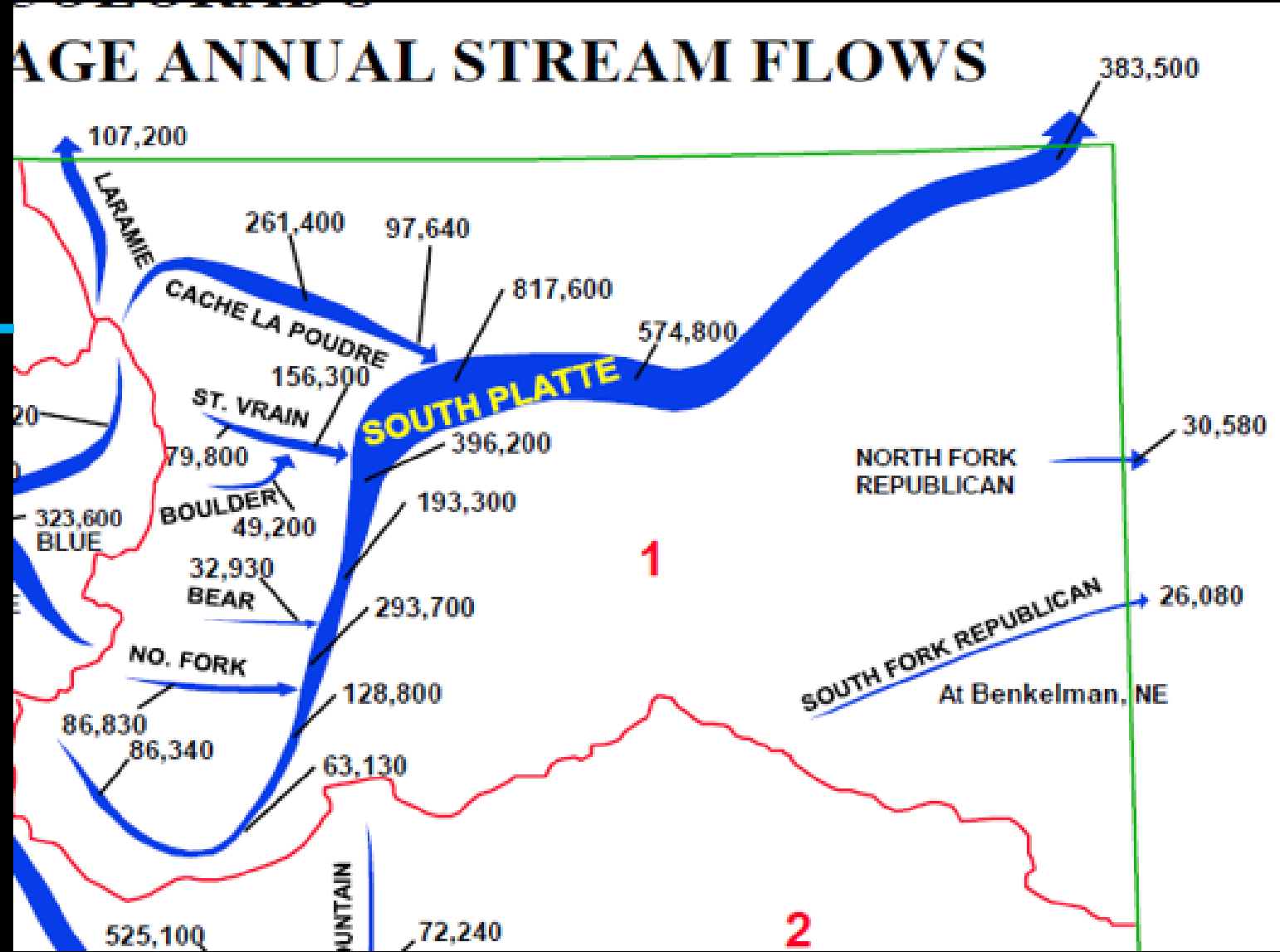
CBT/WG + 230,000

Denver Water + 110,000 af/year

WSSC + 17,000 af/year

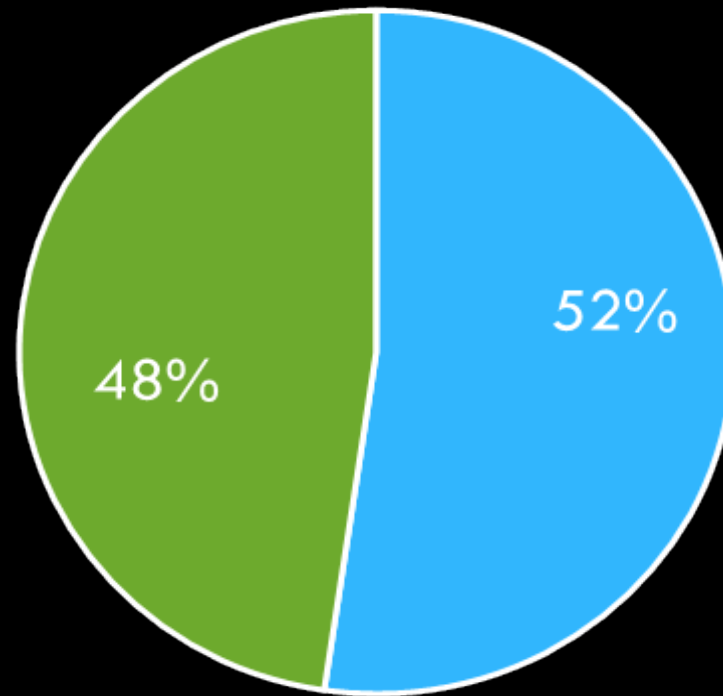
Others + 22,000 af/year

Total + 369,000 af/year



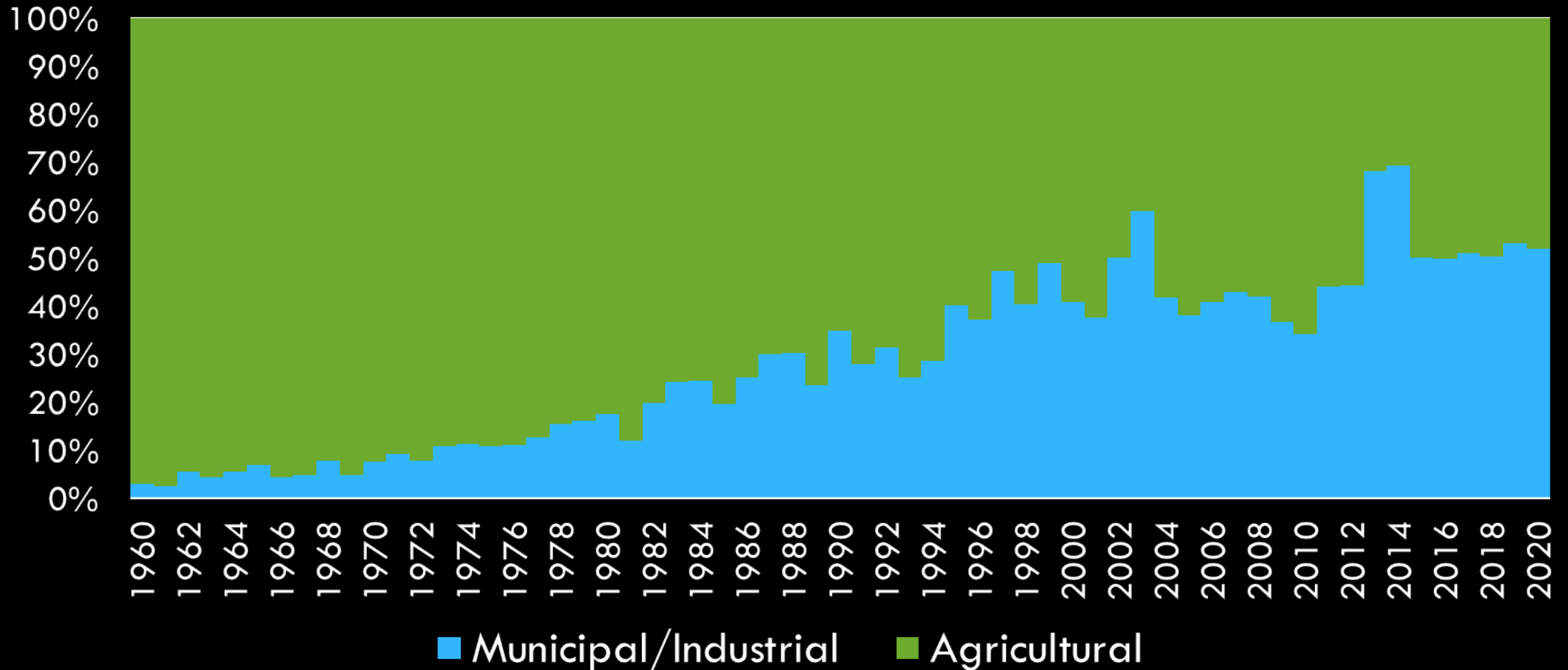
2020 C-BT Delivery Summary by Use

Water Year (AF)



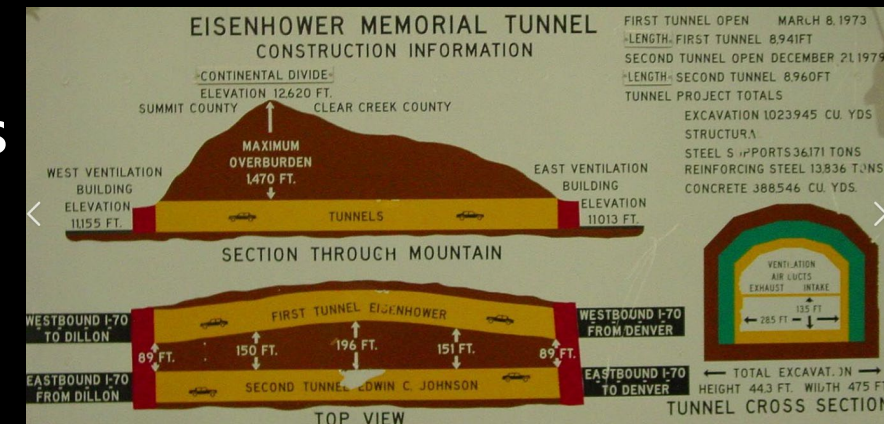
■ Municipal/Industrial (est.) ■ Agricultural (est.)

C-BT Deliveries to Ag and M&I



Bridging the Divide

- Agricultural Viability and Sustainability
- Water Supply availability and certainty
- Colorado River Development and Protection
- Upper Colorado River Endangered Fish Recovery
- Cooperative Projects, Agreements, Operations
 - CRCA (Colorado River Cooperative Agreement)
 - Eagle River MOU Project
- Compensatory Storage / Mitigation Components
 - Green Mountain Reservoir & Colorado-Big Thompson
 - Windy Gap Project & Woford Reservoir
 - Fry-Ark Project & Ruedi Reservoir



Water Conservancy District Act (1937)

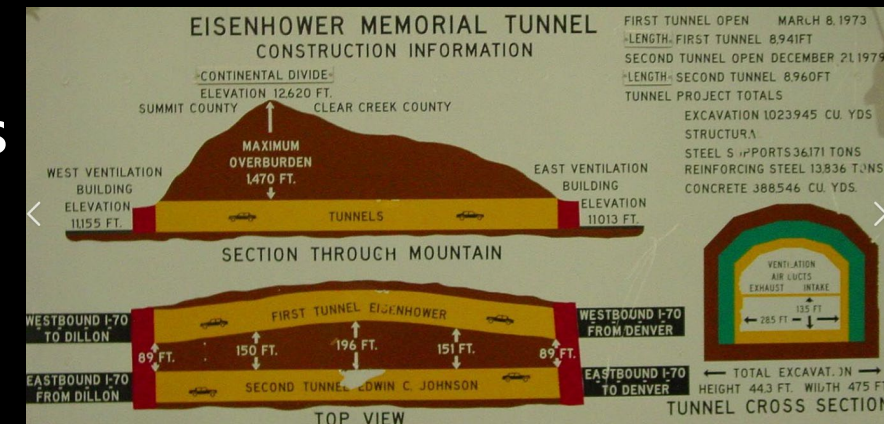
C.R.S. § 37-45-118 (In part)

Any works or facilities planned and designed for the exportation of water from the natural basin of the Colorado river and its tributaries in Colorado, by any district.... *Any such works or facilities shall be designed, constructed, and operated in such manner that the present appropriations of water and, in addition thereto, prospective uses of water for irrigation and other beneficial consumptive use... within the natural basin of the Colorado river in the state of Colorado...will not be impaired nor increased in cost at the expense of the water users...* The facilities and other means for the accomplishment of said purpose shall be incorporated in and made part of any project plans for the exportation of water from said natural basin in Colorado.

(Mitigation Measures)

Bridging the Divide

- Agricultural Viability and Sustainability
- Water Supply availability and certainty
- Colorado River Development and Protection
- Upper Colorado River Endangered Fish Recovery
- Cooperative Projects, Agreements, Operations
 - CRCA (Colorado River Cooperative Agreement)
 - Eagle River MOU Project
- Compensatory Storage / Mitigation Components
 - Green Mountain Reservoir & Colorado-Big Thompson
 - Windy Gap Project & Woford Reservoir
 - Fry-Ark Project & Ruedi Reservoir



Questions & Discussion

