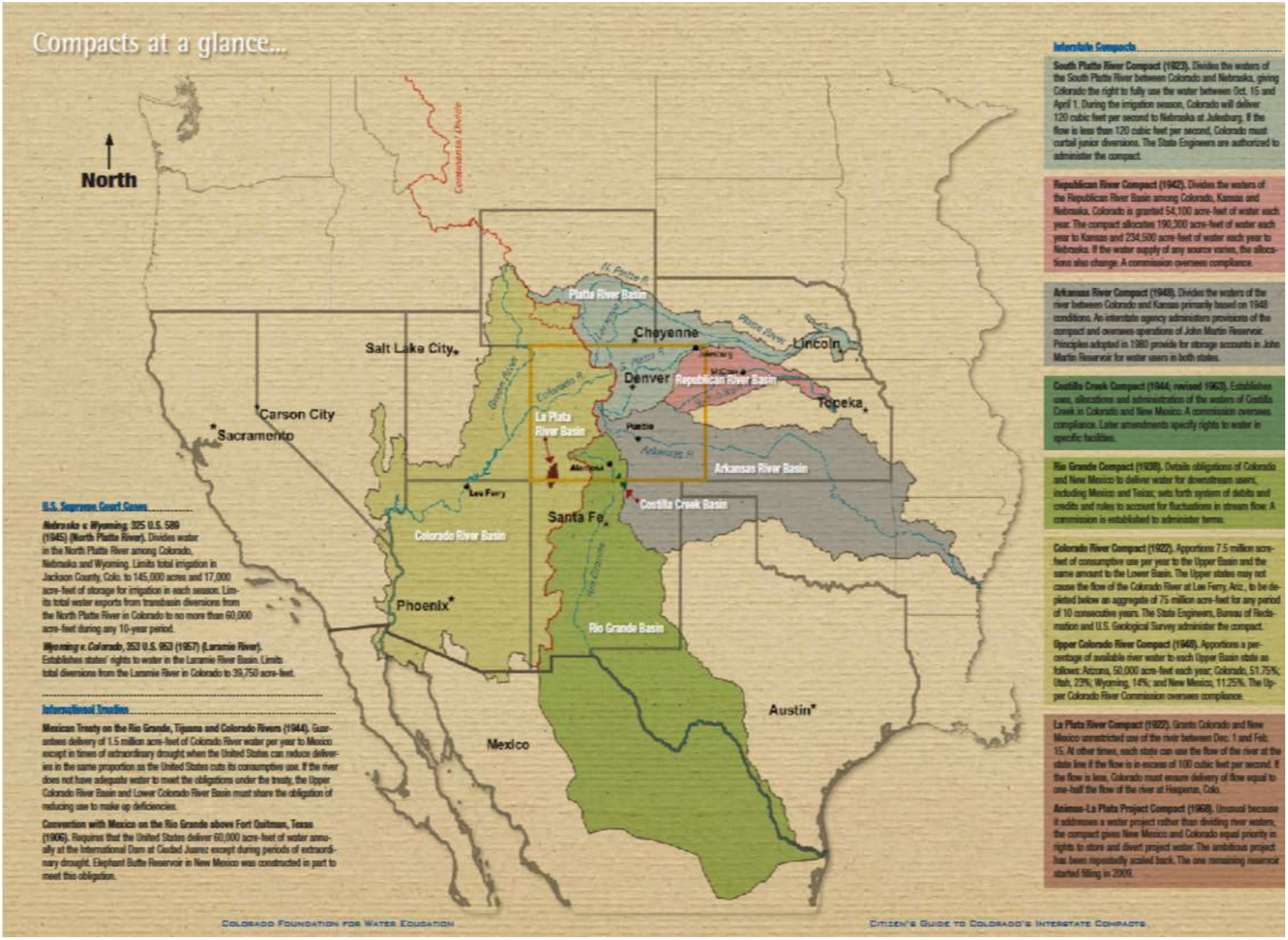
Compacts at a glance...



U.S. Supreme Court Cases

***Nebraska v. Wyoming*, 325 U.S. 589 (1945) (North Platte River).** Divides water in the North Platte River among Colorado, Nebraska and Wyoming. Limits total irrigation in Jackson County, Colo. to 145,000 acres and 17,000 acre-feet of storage for irrigation in each season. Limits total water exports from transbasin diversions from the North Platte River in Colorado to no more than 60,000 acre-feet during any 10-year period.

***Wyoming v. Colorado*, 353 U.S. 953 (1957) (Laramie River).** Establishes states' rights to water in the Laramie River Basin. Limits total diversions from the Laramie River in Colorado to 39,750 acre-feet.

International Treaties

Mexican Treaty on the Rio Grande, Tijuana and Colorado Rivers (1944). Guarantees delivery of 1.5 million acre-feet of Colorado River water per year to Mexico except in times of extraordinary drought when the United States can reduce deliveries in the same proportion as the United States cuts its consumptive use. If the river does not have adequate water to meet the obligations under the treaty, the Upper Colorado River Basin and Lower Colorado River Basin must share the obligation of reducing use to make up deficiencies.

Convention with Mexico on the Rio Grande above Fort Quitman, Texas (1906). Requires that the United States deliver 60,000 acre-feet of water annually at the International Dam at Ciudad Juarez except during periods of extraordinary drought. Elephant Butte Reservoir in New Mexico was constructed in part to meet this obligation.

Interstate Compacts

South Platte River Compact (1923). Divides the waters of the South Platte River between Colorado and Nebraska, giving Colorado the right to fully use the water between Oct. 15 and April 1. During the irrigation season, Colorado will deliver 120 cubic feet per second to Nebraska at Julesburg. If the flow is less than 120 cubic feet per second, Colorado must curtail junior diversions. The State Engineers are authorized to administer the compact.

Republican River Compact (1942). Divides the waters of the Republican River Basin among Colorado, Kansas and Nebraska. Colorado is granted 54,100 acre-feet of water each year. The compact allocates 190,300 acre-feet of water each year to Kansas and 234,500 acre-feet of water each year to Nebraska. If the water supply of any source varies, the allocations also change. A commission oversees compliance.

Arkansas River Compact (1948). Divides the waters of the river between Colorado and Kansas primarily based on 1948 conditions. An interstate agency administers provisions of the compact and oversees operations of John Martin Reservoir. Principles adopted in 1980 provide for storage accounts in John Martin Reservoir for water users in both states.

Costilla Creek Compact (1944; revised 1963). Establishes uses, allocations and administration of the waters of Costilla Creek in Colorado and New Mexico. A commission oversees compliance. Later amendments specify rights to water in specific facilities.

Rio Grande Compact (1938). Details obligations of Colorado and New Mexico to deliver water for downstream users, including Mexico and Texas; sets forth system of debits and credits and rules to account for fluctuations in stream flow. A commission is established to administer terms.

Colorado River Compact (1922). Apportions 7.5 million acre-feet of consumptive use per year to the Upper Basin and the same amount to the Lower Basin. The Upper states may not cause the flow of the Colorado River at Lee Ferry, Ariz., to be depleted below an aggregate of 75 million acre-feet for any period of 10 consecutive years. The State Engineers, Bureau of Reclamation and U.S. Geological Survey administer the compact.

Upper Colorado River Compact (1948). Apportions a percentage of available river water to each Upper Basin state as follows: Arizona, 50,000 acre-feet each year; Colorado, 51.75%; Utah, 23%; Wyoming, 14%; and New Mexico, 11.25%. The Upper Colorado River Commission oversees compliance.

La Plata River Compact (1922). Grants Colorado and New Mexico unrestricted use of the river between Dec. 1 and Feb. 15. At other times, each state can use the flow of the river at the state line if the flow is in excess of 100 cubic feet per second. If the flow is less, Colorado must ensure delivery of flow equal to one-half the flow of the river at Hesperus, Colo.

Animas-La Plata Project Compact (1968). Unusual because it addresses a water project rather than dividing river waters, the compact gives New Mexico and Colorado equal priority in rights to store and divert project water. The ambitious project has been repeatedly scaled back. The one remaining reservoir started filling in 2009.

- **Colorado Is A Headwater State**
  - Flows to 18 Downstream States
  - Uses Downstream Developed Earlier
- **Landmark Cases (U.S. Supreme Court)**
  - Kansas v. Colorado 1901
    - Arkansas River, “Equitable Apportionment”
    - Could Allocate Stream to offset advantages of other State
  - Wyoming v. Colorado 1922
    - Laramie River
    - Doctrine Prior Appropriation could be applied Interstate Basis
- **Interstate Compact**
  - Agreement Between Two or More States
    - Approved by State Legislatures
    - Approved by Congress
- **Water Compacts**
  - Establishes How States Share Water
  - Colorado party to 9 Compacts

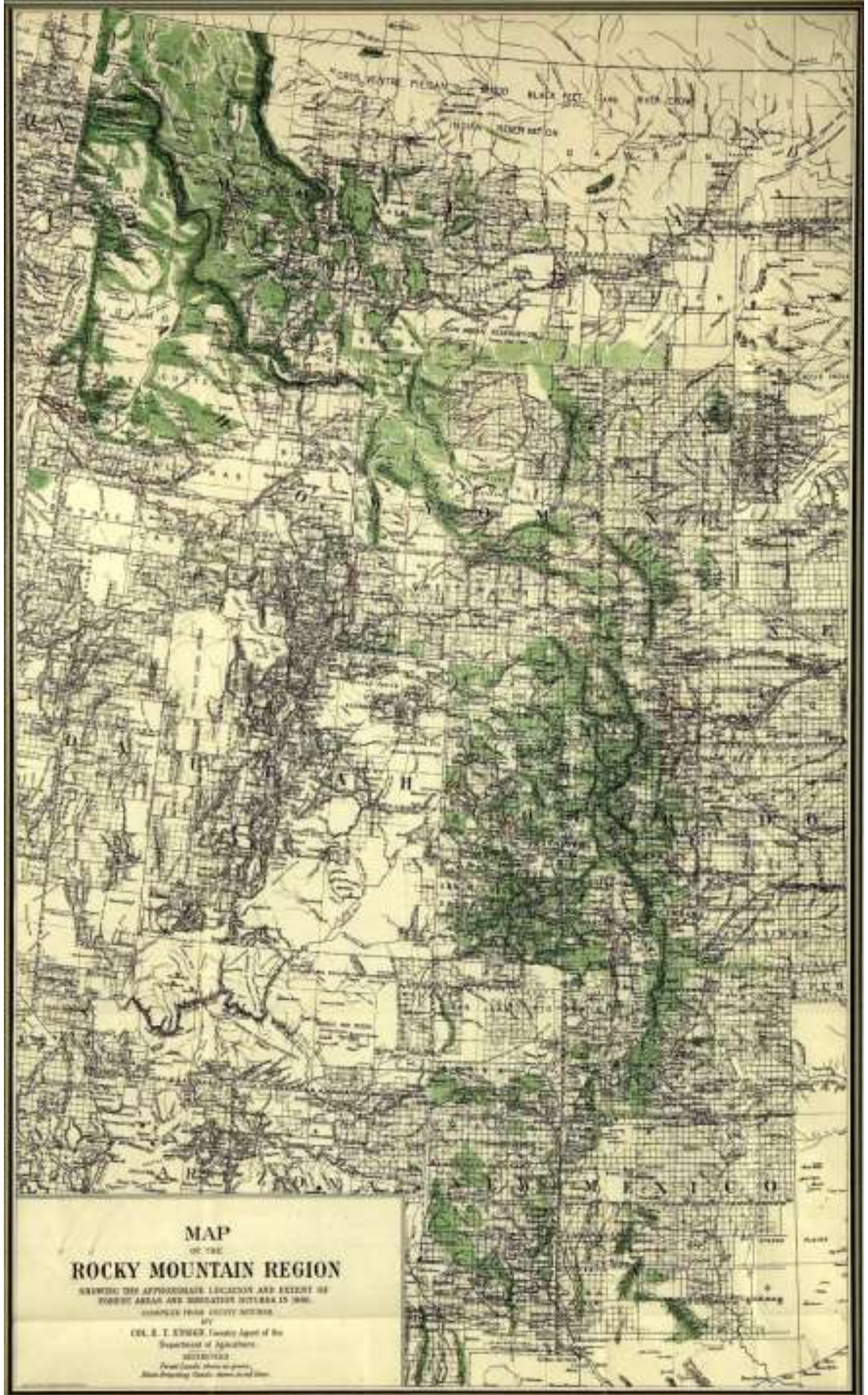
Why Interstate Compacts?

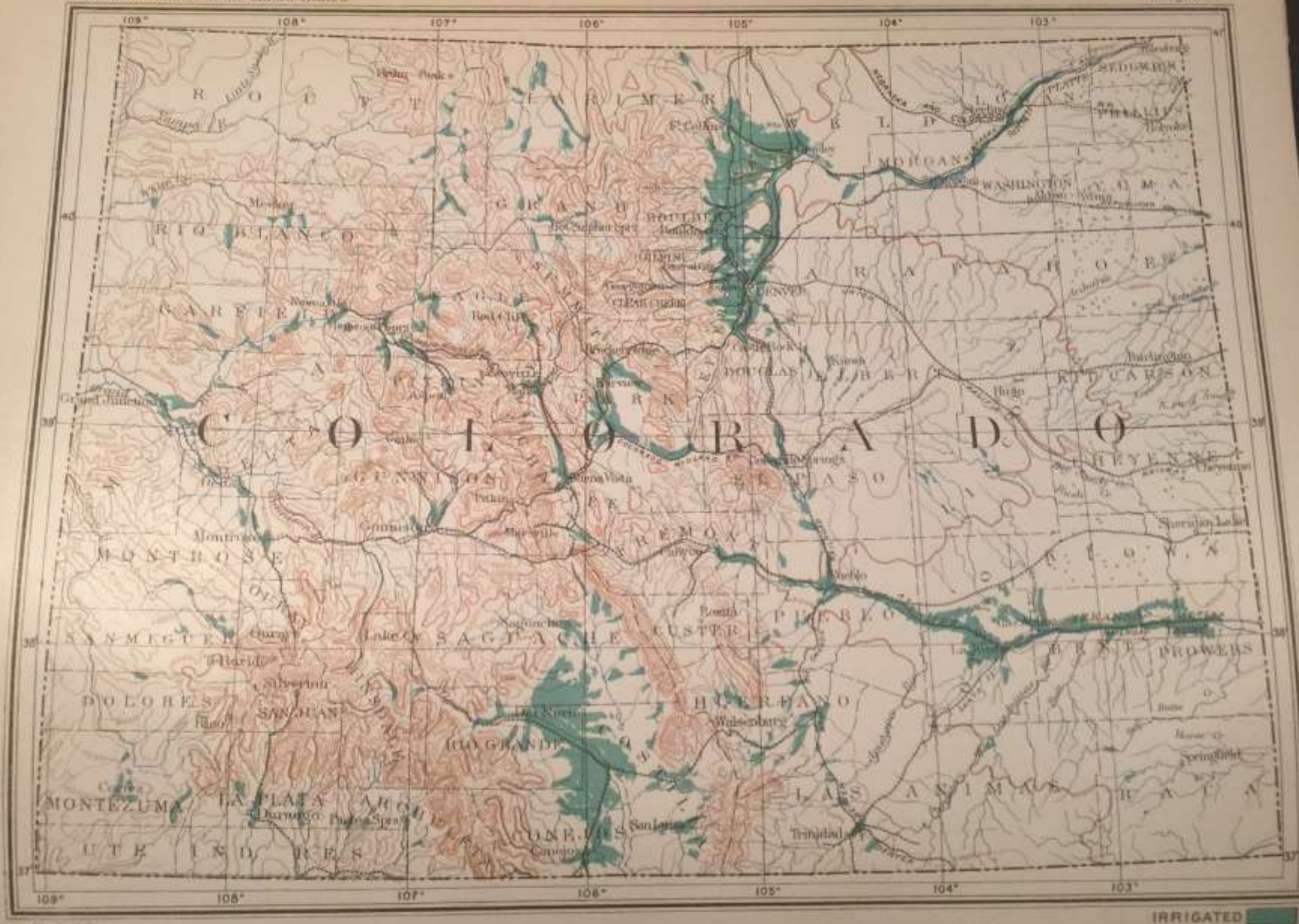
- **Interstate Compacts**
  - South Platte River Compact (1923)
  - Republican River Compact (1942)
  - Arkansas River Compact (1948)
  - Costilla Creek Compact (1944, 1963)
  - Rio Grande Compact (1938)
  - Colorado River Compact (1922)
  - Upper Colorado River Compact (1948)
  - La Plata River Compact (1922)
  - Animas-La Plata Project Compact (1968)

Nine Interstate Compacts

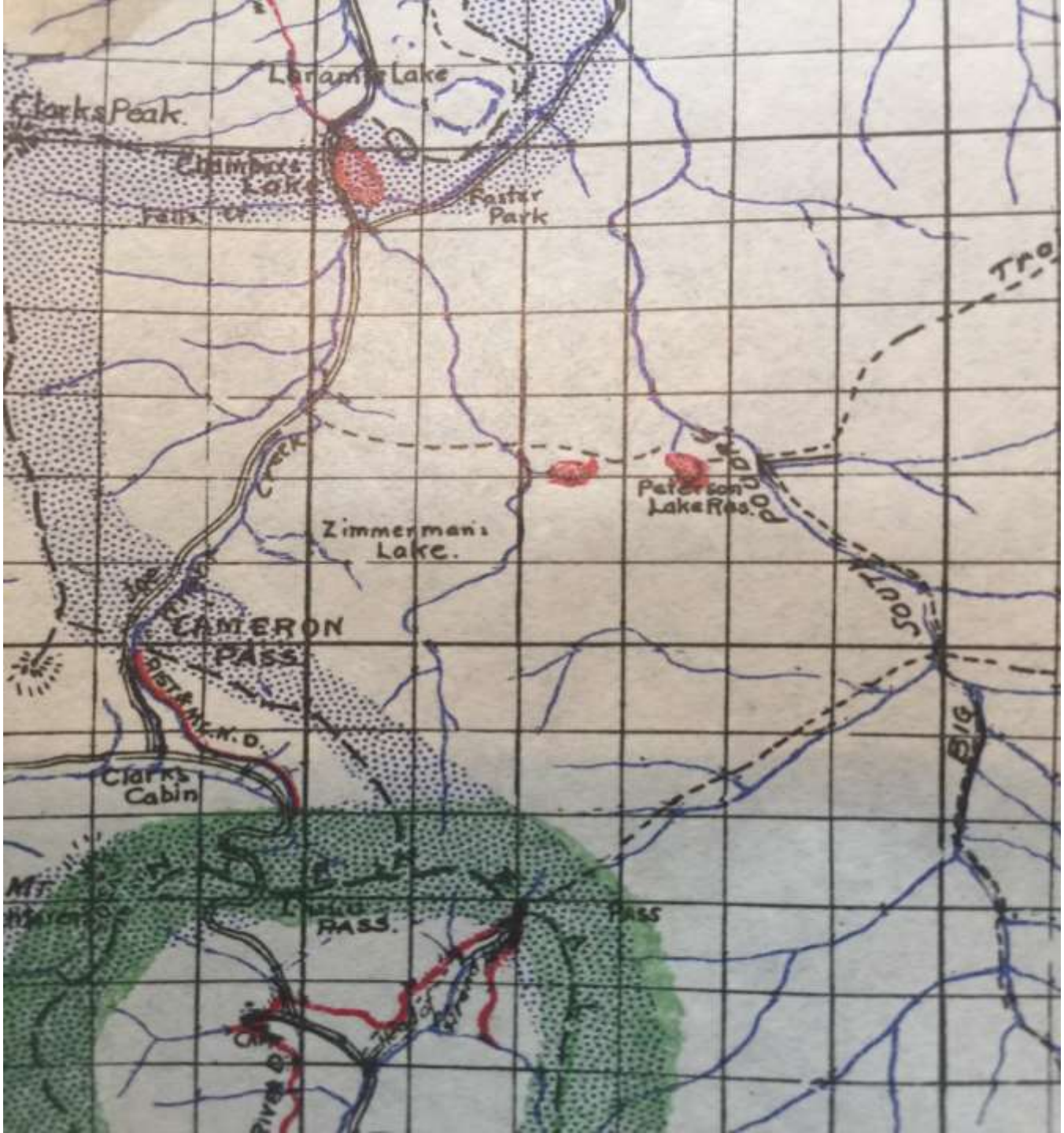
- Mexican Treaty 1944
  - Rio Grande
  - Tijuana River
  - Colorado River
    - Delivery of 1.5 Million af to Mexico
- Convention with Mexico 1906
  - Rio Grande
    - Delivery of 60,000 af

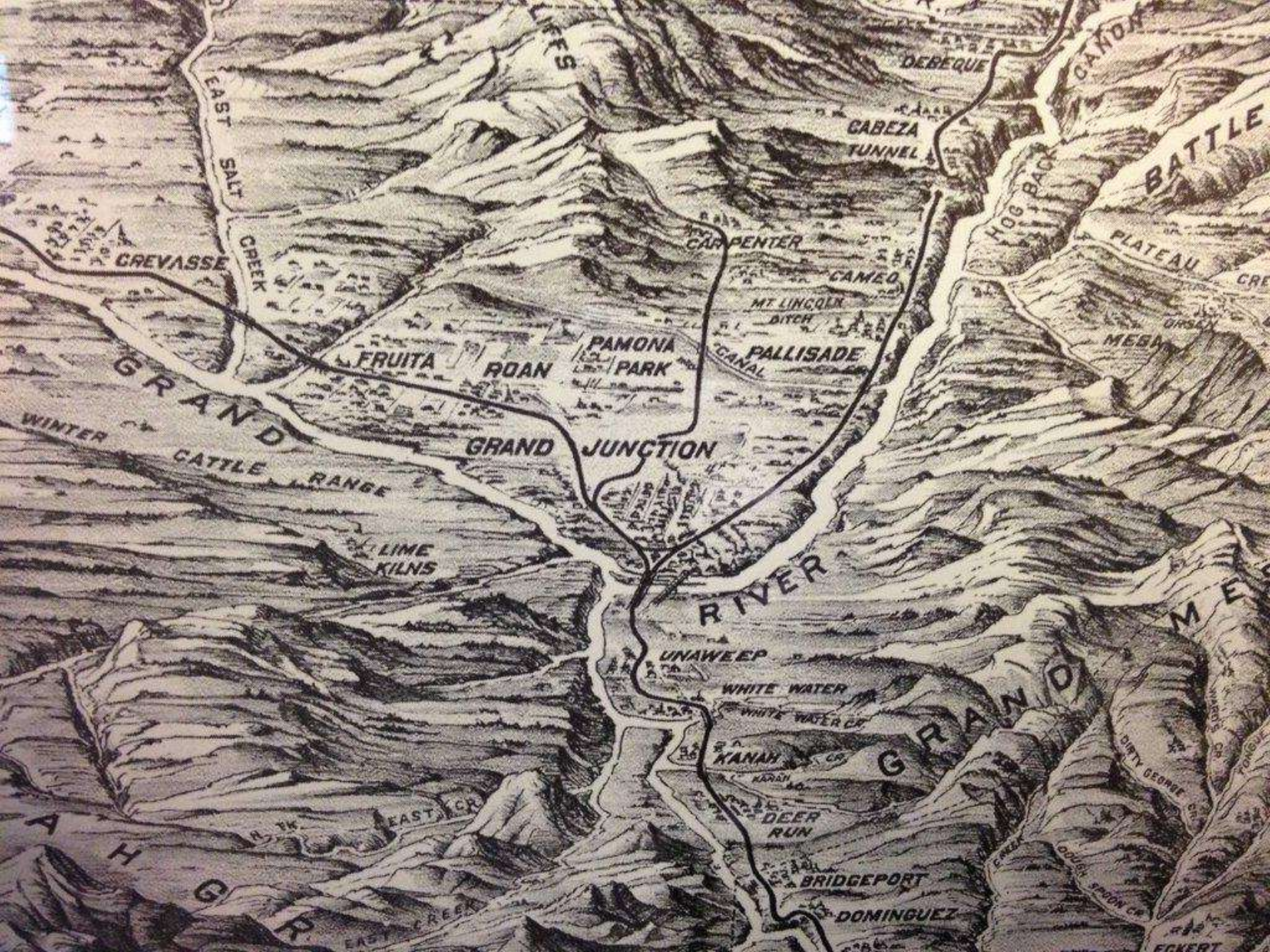
Two International Treaties


MAP
ROCKY MOUNTAIN REGION
NEW MEXICO

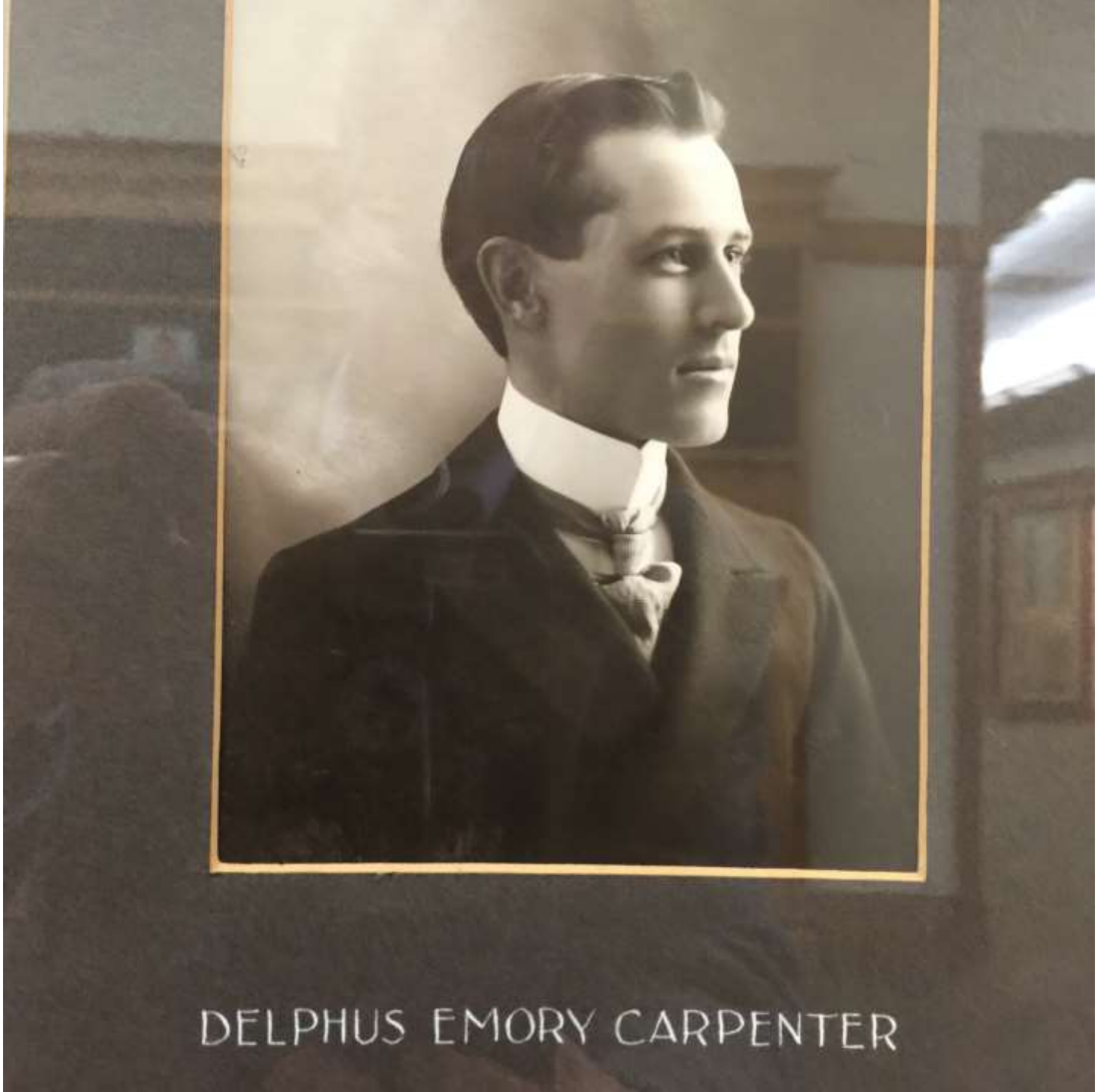


MAP OF COLORADO SHOWING AREAS IRRIGATED IN 1889.


Laramie Lake
Clarks Peak.
Chambers Lake
Falls
Foster Park
Peterson Lake Res.
Zimmerman Lake.
CAMERON PASS
Clarks Cabin
PASS.
PASS
Big

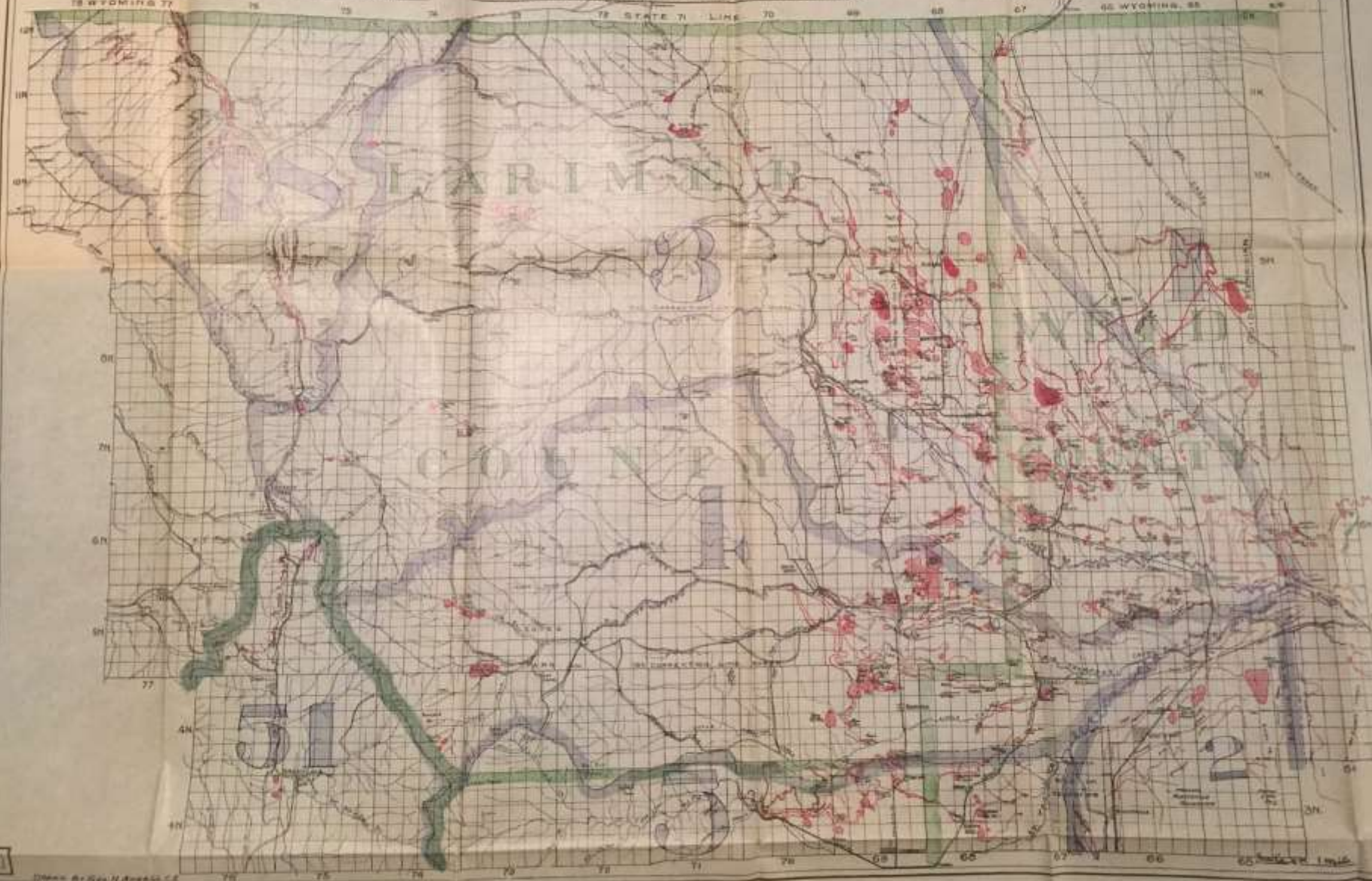


DEBEQUE
CANON
CABEZA
TUNNEL
BATTLE
HOG BACK
PLATEAU
CARPENTER
CAMEO
MT LINCOLN
DITCH
CREVASSE
EAST
SALT
CREEK
FRUITA
ROAN
PAMONA
PARK
PALLISADE
CANAL
GRAND
WINTER
CATTLE
RANGE
GRAND JUNCTION
LIME
KILNS
RIVER
UNAWEEP
WHITE WATER
WHITE WATER CR
KANAH
CR
GRAND
DEER
RUN
BRIDGEPORT
DOMINGUEZ
EAST CR
DIRTY GEORGE



DELPHUS EMORY CARPENTER

Map showing Ditches and Reservoirs
Water Districts Three, Four and Forty-Eight
Cache a la Poudre, Big and Little Thompson and Laramie Drainage
South Platte River Division
State Engineer's Office, Denver. Colorado. 1904. 5.-8 Scale



CALL OF THE WEST.

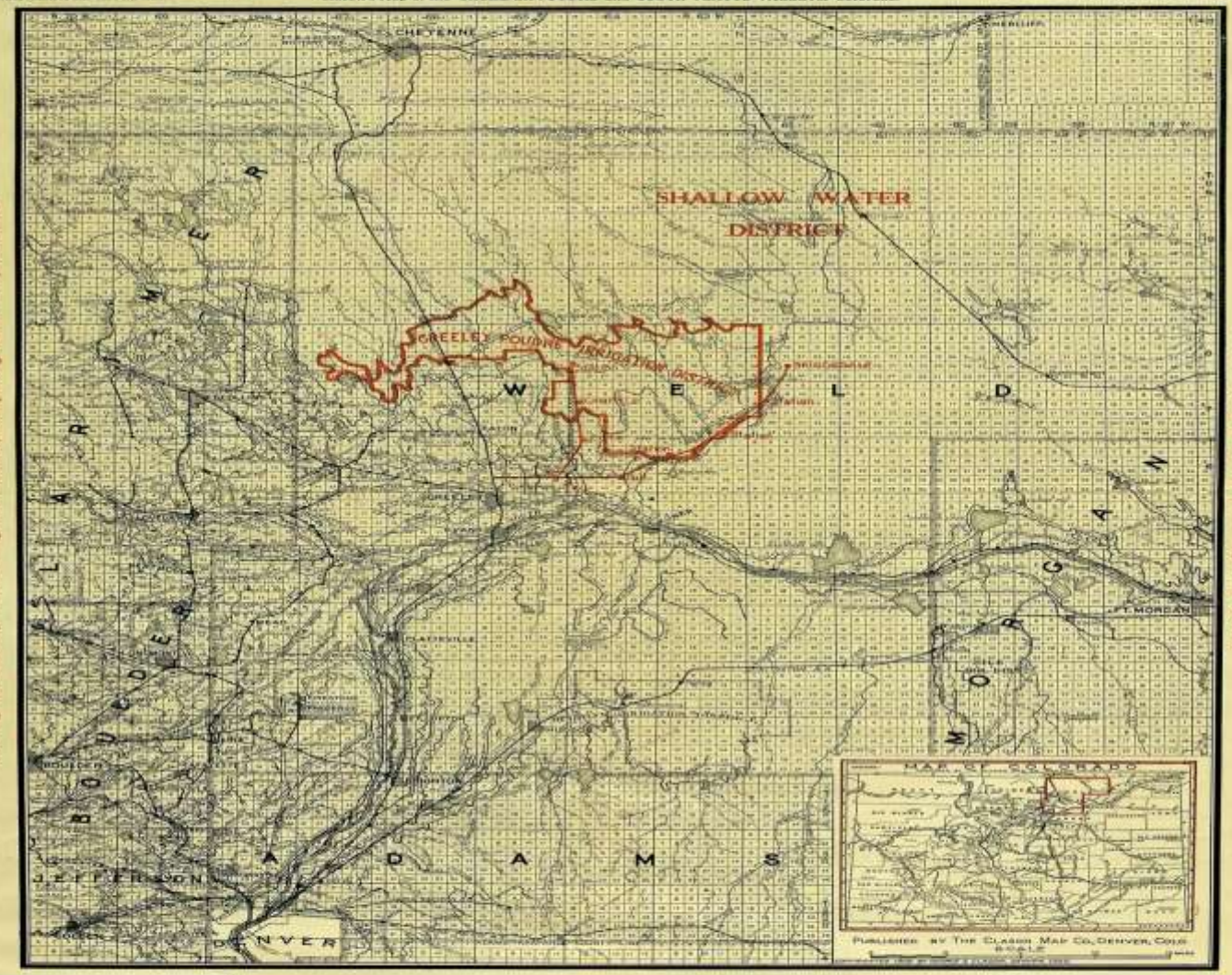
WHY DO YOU RENT? Why give the best years of your life working for some one else? Own your own farm. You can do it on payments less than the rent you are now paying.

Be Independent - DO IT NOW.

Classon's Map of the CACHE LA POUDRE and SOUTH PLATTE VALLEYS, Colorado.

Sectional map of the best developed and most progressive irrigation county on the American Continent.

Showing the Greeley-Poudre Irrigation District, comprising about 110,000 acres.



Own a sub-irrigated farm in our shallow water district - FERTILE CROW CREEK VALLEY

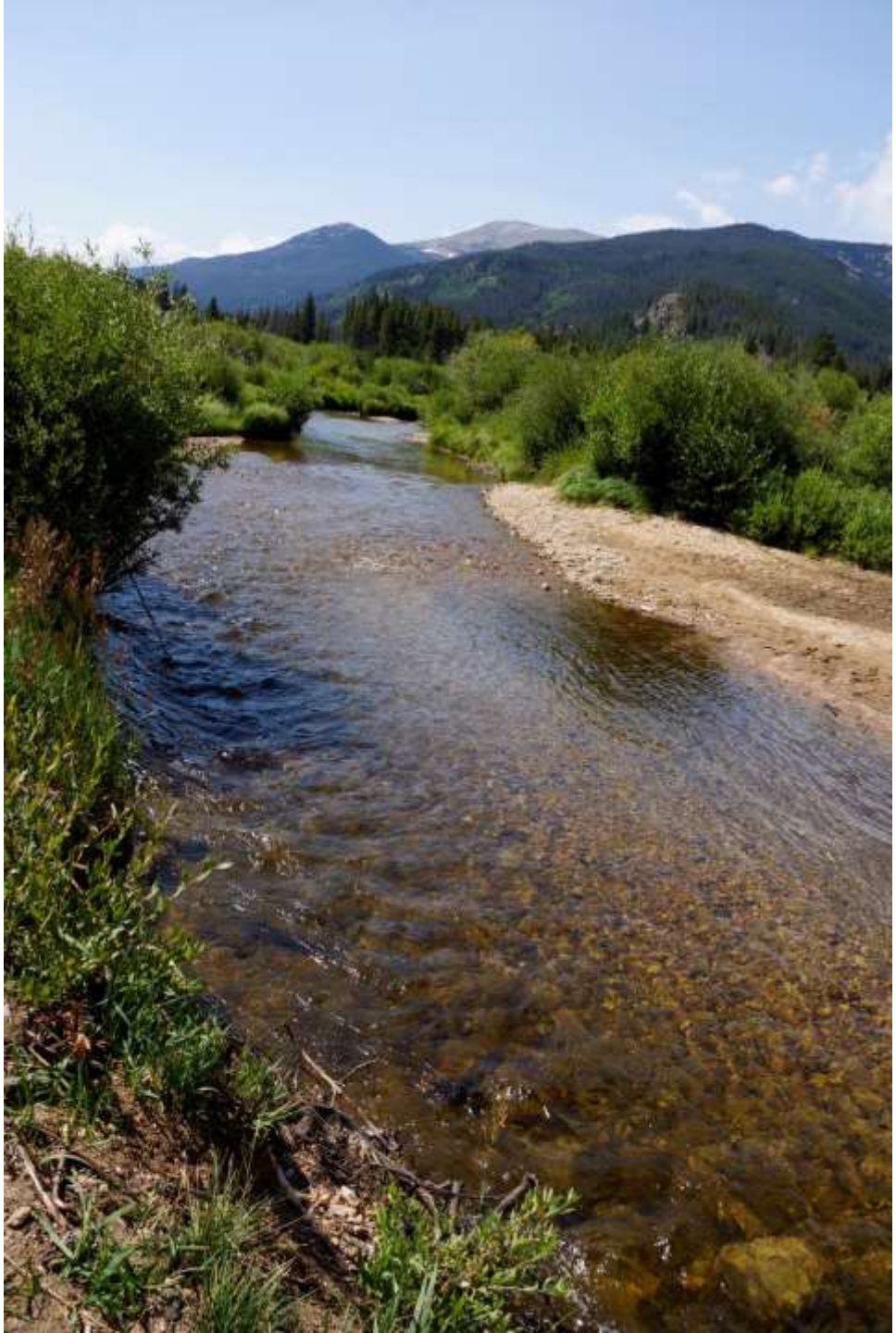
The cheapest and best water right on earth.

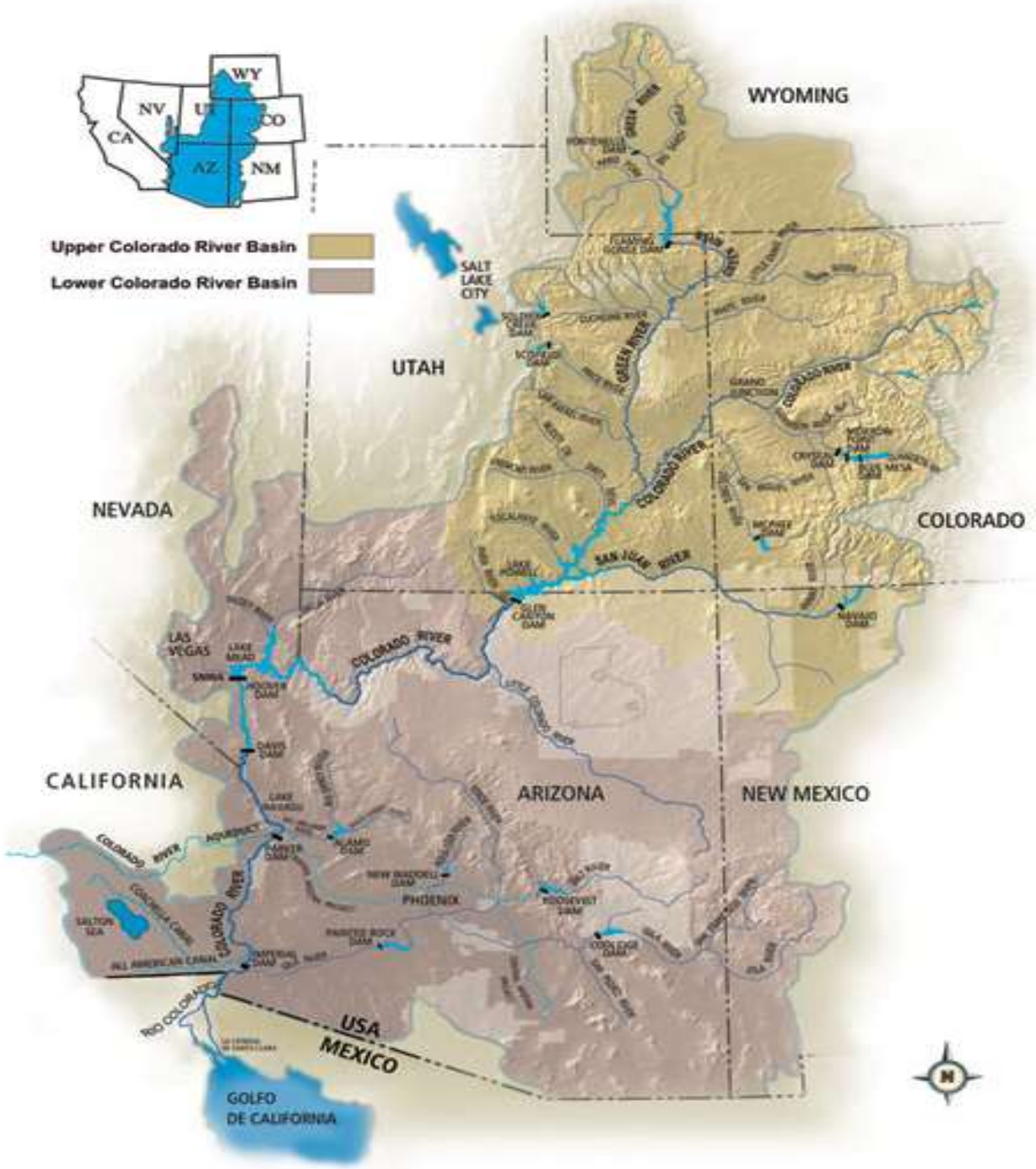
Compliments of

WILSON-PROCTOR REALTY CO.

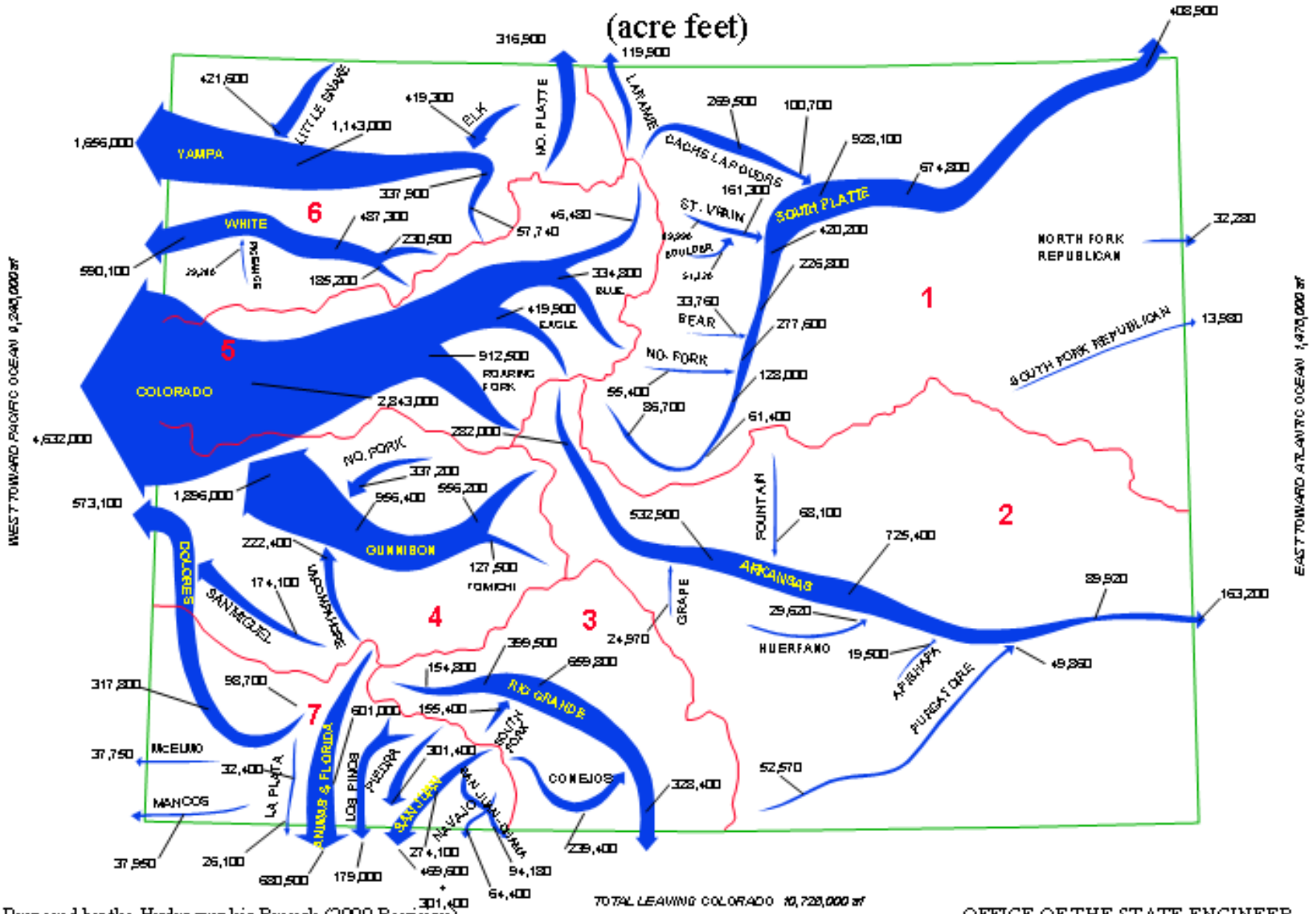
Grover, Colorado.

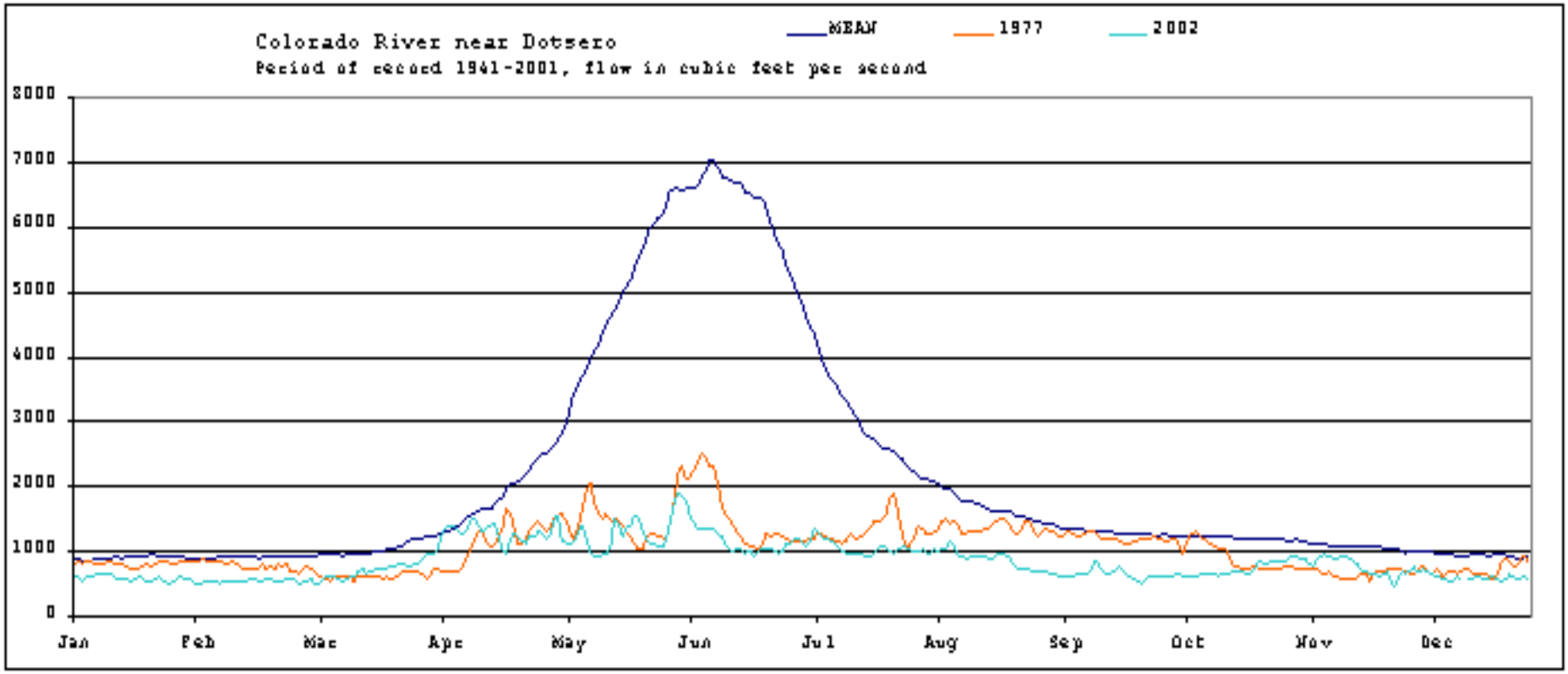
MAIN OFFICE, IRON BUILDING, DENVER.



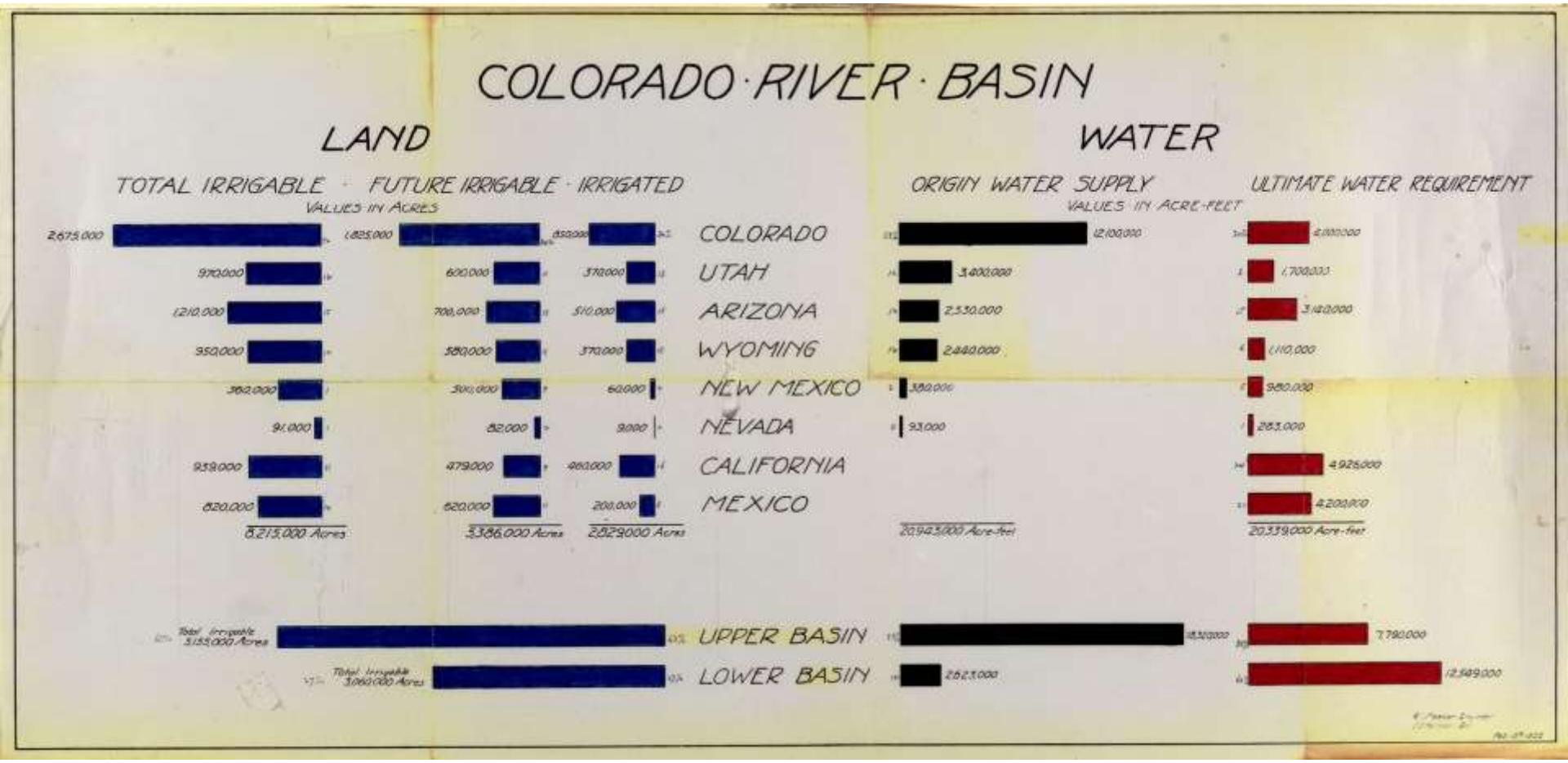

WY
NV
UT
CO
CA
AZ
NM
Upper Colorado River Basin
Lower Colorado River Basin
WYOMING
SALT LAKE CITY
UTAH
NEVADA
COLORADO
CALIFORNIA
ARIZONA
NEW MEXICO
LAS VEGAS
PHOENIX
GREEN RIVER
COLORADO RIVER
SAN JUAN RIVER
USA
MEXICO
GOLFO DE CALIFORNIA
N

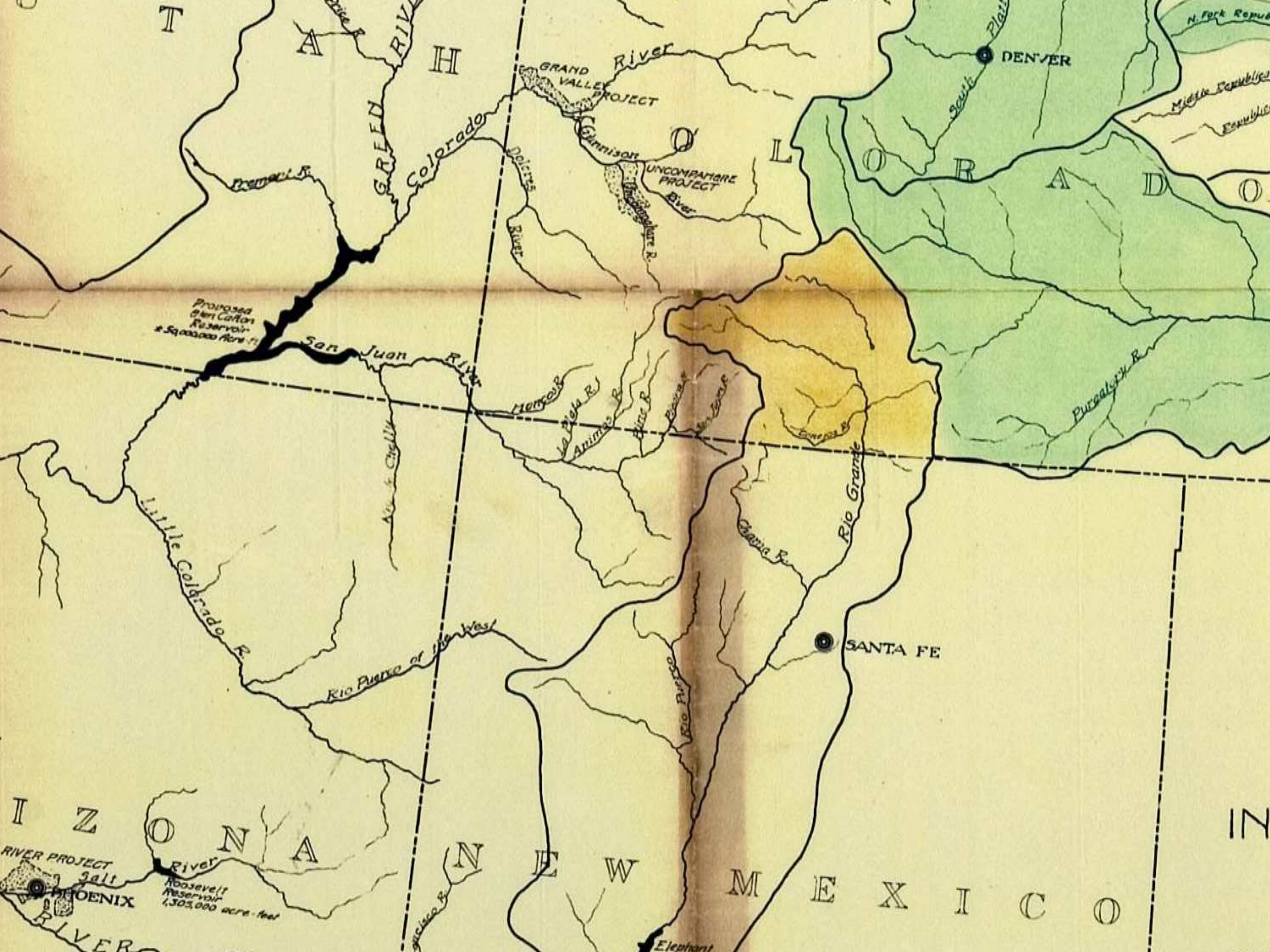
COLORADO
HISTORIC AVERAGE ANNUAL STREAM FLOWS
(acre feet)




Colorado River near Dotsero
Period of record 1941-2001, flow in cubic feet per second
MEAN
1977
2002
8000
7000
6000
5000
4000
3000
2000
1000
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec

COLORADO · RIVER · BASIN

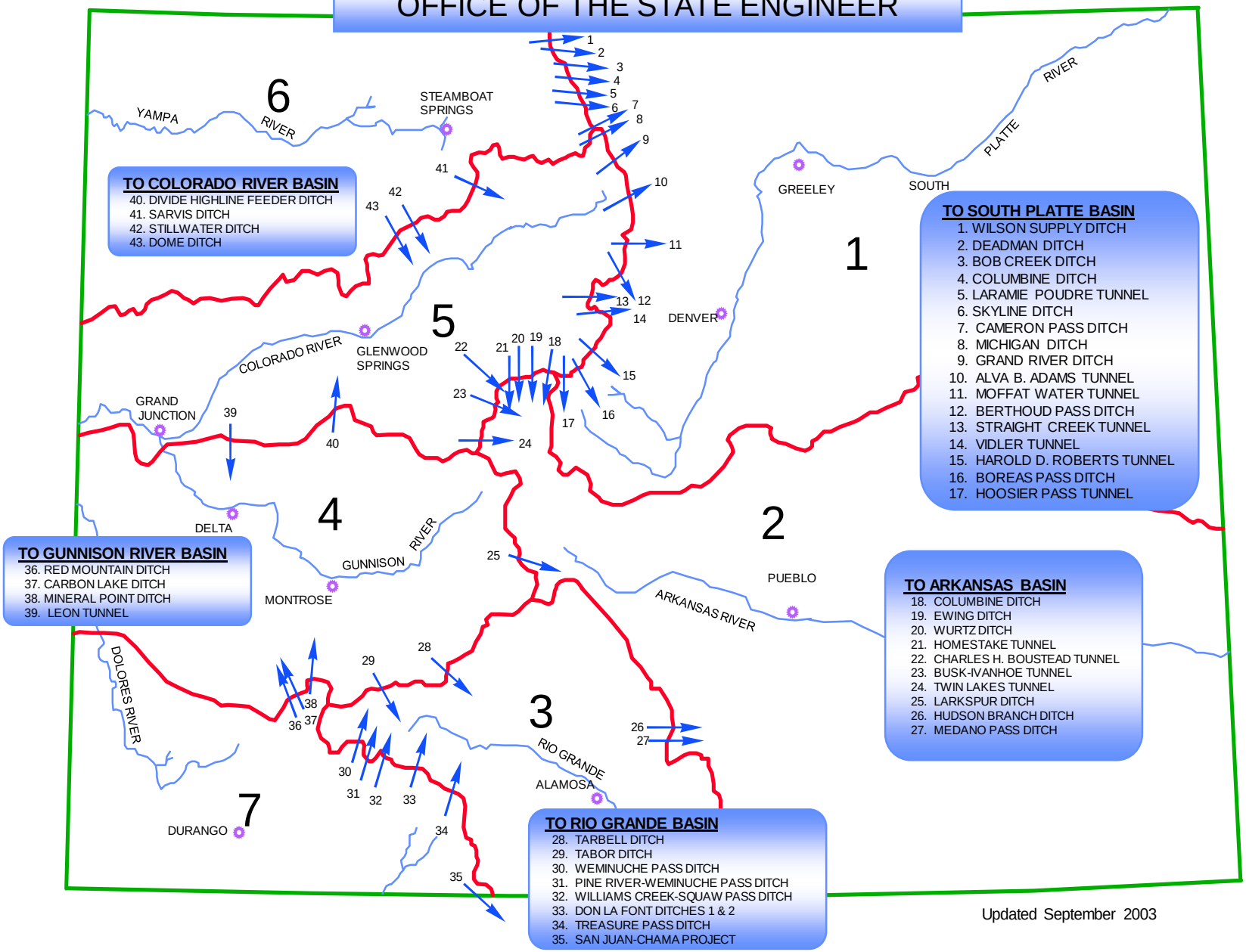




U T A H
GREEN RIVER
Colorado
Grand River
GRAND VALLEY PROJECT
Gunnison
C O L O R A D O
UNCOMPAHGRE PROJECT
River
Dolores River
Fremont R.
DENVER
South Platte
Middle Republican
Purgatory R.
Proposed Glen Cañon Reservoir
San Juan River
Mancos R.
La Plata R.
Animas R.
Pine R.
Piedra R.
Conejos R.
Rio Grande
Chama R.
SANTA FE
Little Colorado R.
Rio Puerco of the West
Rio Puerco
RIVER PROJECT
Salt River
PHOENIX
Roosevelt Reservoir 1,305,000 acre-feet
A R I Z O N A
N E W M E X I C O
Elephant


UT
NV
CA
AZ
CAPITOL REEF N.P.
St. George
Lake Powell
GLEN CANYO
Lee Ferry
GLEN CANYON DAM
Lake Mead
Las Vegas
GRAND CANYON N. P.
HOOVER DAM
UPPE
BASI
LOWER BASIN
Little Colorado River
Lake Mojave
DAVIS DAM
Needles
Flagstaff
Los Angeles
Lake Havasu
Lake Havasu City
COLORADO RIVER AQUEDUCT
PARKER DAM
COACHELLA CANAL
Salton Sea
Blythe
CENTRAL ARIZONA PROJECT
San Diego
MORELOS DIVERSION DAM
IMPERIAL DAM
Phoenix
Salt River
ROOSEVELT DAM
Tijuana
ALL-AMERICAN CANAL

TRANSMOUNTAIN DIVERSIONS
OFFICE OF THE STATE ENGINEER



TO COLORADO RIVER BASIN
- 40. DIVIDE HIGHLINE FEEDER DITCH
- 41. SARVIS DITCH
- 42. STILLWATER DITCH
- 43. DOME DITCH

TO SOUTH PLATTE BASIN
- 1. WILSON SUPPLY DITCH
- 2. DEADMAN DITCH
- 3. BOB CREEK DITCH
- 4. COLUMBINE DITCH
- 5. LARAMIE POUDRE TUNNEL
- 6. SKYLINE DITCH
- 7. CAMERON PASS DITCH
- 8. MICHIGAN DITCH
- 9. GRAND RIVER DITCH
- 10. ALVA B. ADAMS TUNNEL
- 11. MOFFAT WATER TUNNEL
- 12. BERTHOUD PASS DITCH
- 13. STRAIGHT CREEK TUNNEL
- 14. VIDLER TUNNEL
- 15. HAROLD D. ROBERTS TUNNEL
- 16. BOREAS PASS DITCH
- 17. HOOSIER PASS TUNNEL

TO GUNNISON RIVER BASIN
- 36. RED MOUNTAIN DITCH
- 37. CARBON LAKE DITCH
- 38. MINERAL POINT DITCH
- 39. LEON TUNNEL

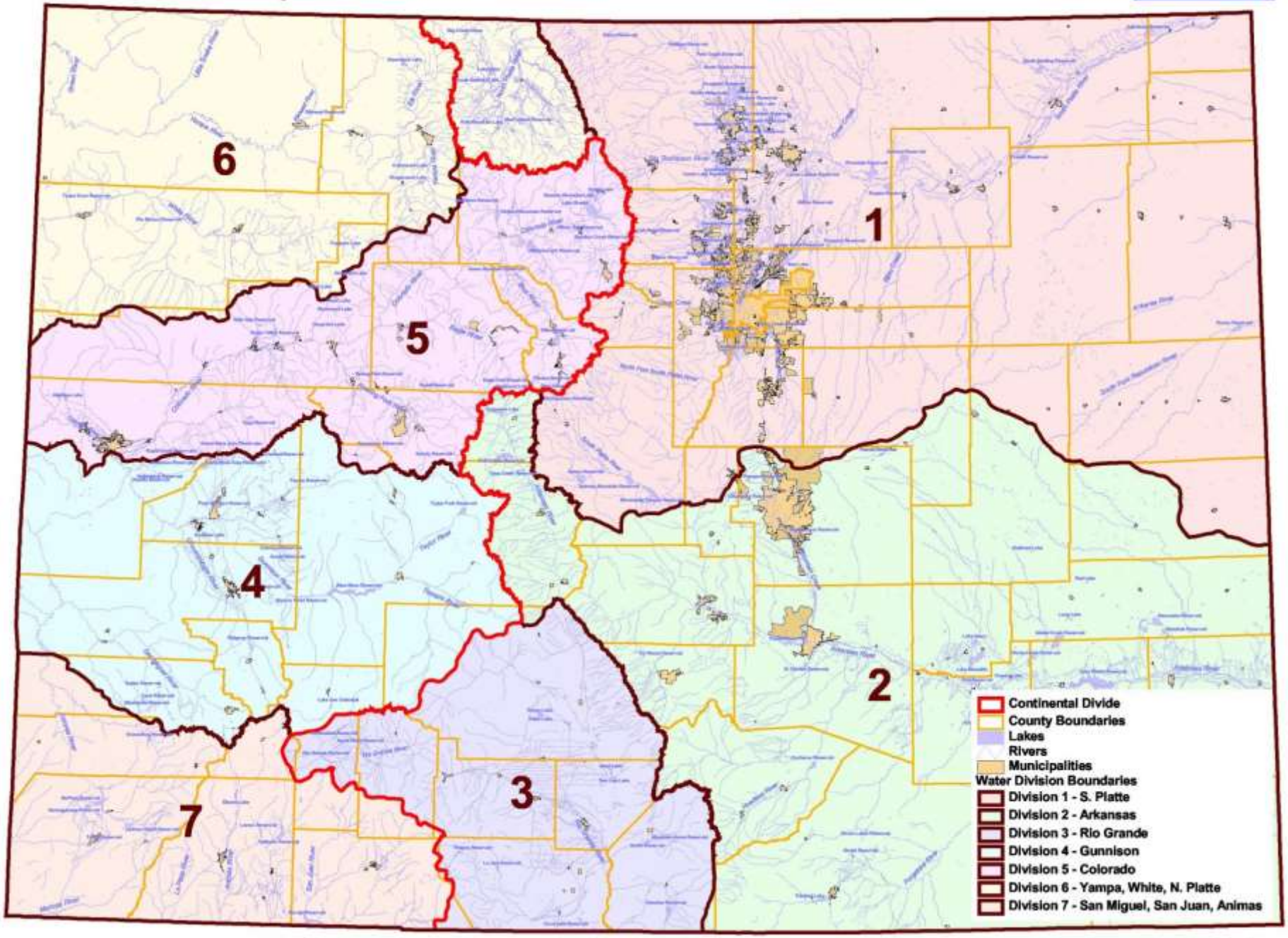
TO ARKANSAS BASIN
- 18. COLUMBINE DITCH
- 19. EWING DITCH
- 20. WURTZ DITCH
- 21. HOMESTAKE TUNNEL
- 22. CHARLES H. BOUSTEAD TUNNEL
- 23. BUSK-IVANHOE TUNNEL
- 24. TWIN LAKES TUNNEL
- 25. LARKSPUR DITCH
- 26. HUDSON BRANCH DITCH
- 27. MEDANO PASS DITCH

TO RIO GRANDE BASIN
- 28. TARBELL DITCH
- 29. TABOR DITCH
- 30. WEMINUCHE PASS DITCH
- 31. PINE RIVER-WEMINUCHE PASS DITCH
- 32. WILLIAMS CREEK-SQUAW PASS DITCH
- 33. DON LA FONT DITCHES 1 & 2
- 34. TREASURE PASS DITCH
- 35. SAN JUAN-CHAMA PROJECT

Updated September 2003

COLORADO RIVER WATER CONSERVATION DISTRICT

Water Divisions of Colorado



- Allocates Flow Colorado & New Mexico
  - Unrestricted Use Both States
    - Between Dec 1 and Feb 15
  - CO Deliver ½ Flow to NM following day
    - Upper Index Hesperus, CO
    - Lower Index Colorado-New Mexico Stateline
  - Beneficial Use, Max Delivery Requirement of 100 cfs

La Plata River Compact 1922

- Apportions 7.5 million af/yr Upper Basin (Division CO, UT, WY, NM)
- Apportions 7.5million af/yr Lower Basin (Division CA, AZ, NV)
  - Upper States cannot cause the flow at Lee Ferry, AZ to be depleted below 75 million af for 10 year period
- Mexican Allocation first from Surplus
  - Above 15 million af Colorado River
  - Splits Obligation between the basins
  - Mexican Treaty 1944 1.5 million af/yr
- Based on Consumptive Use

Colorado River Compact 1922

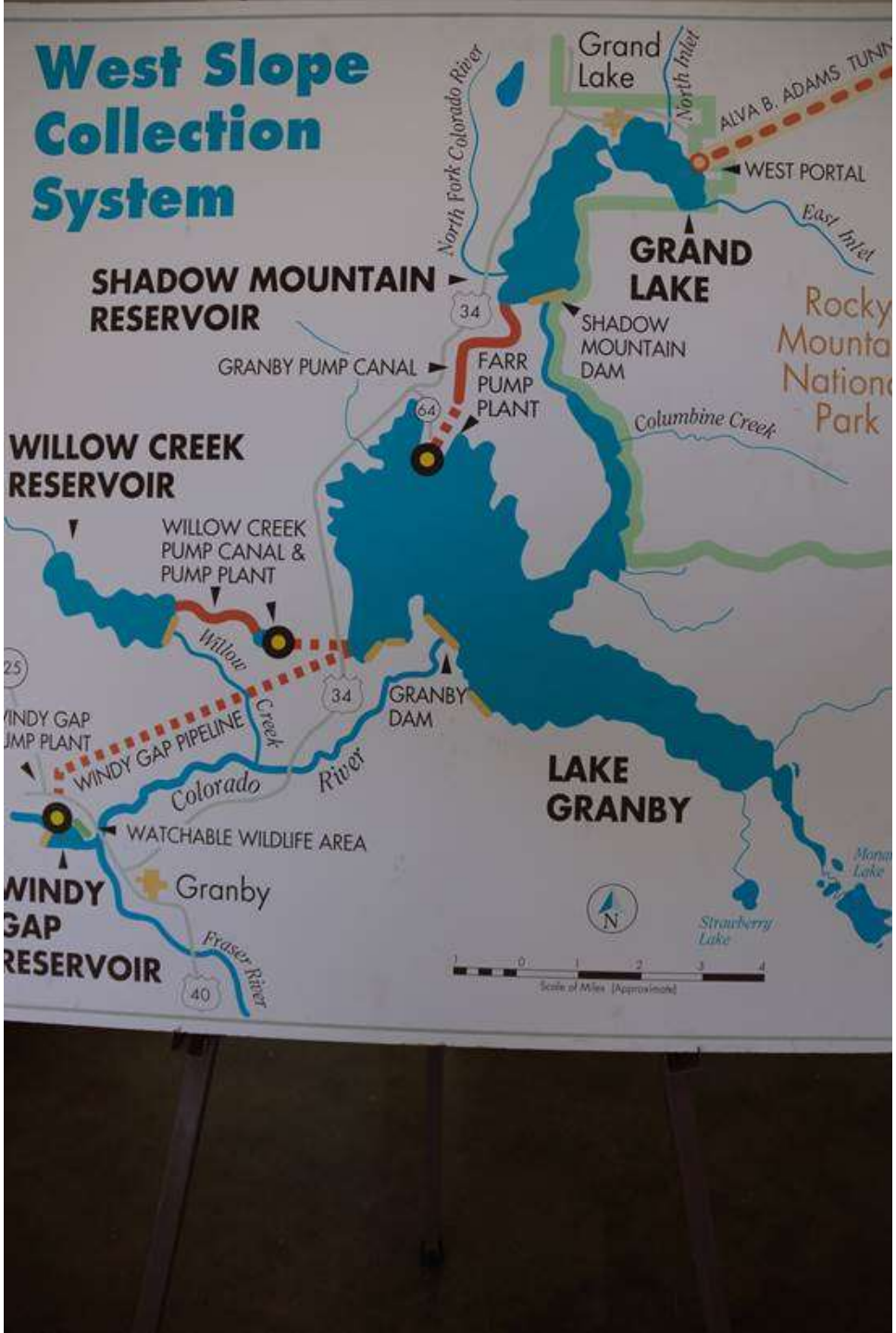
“Law of the River”

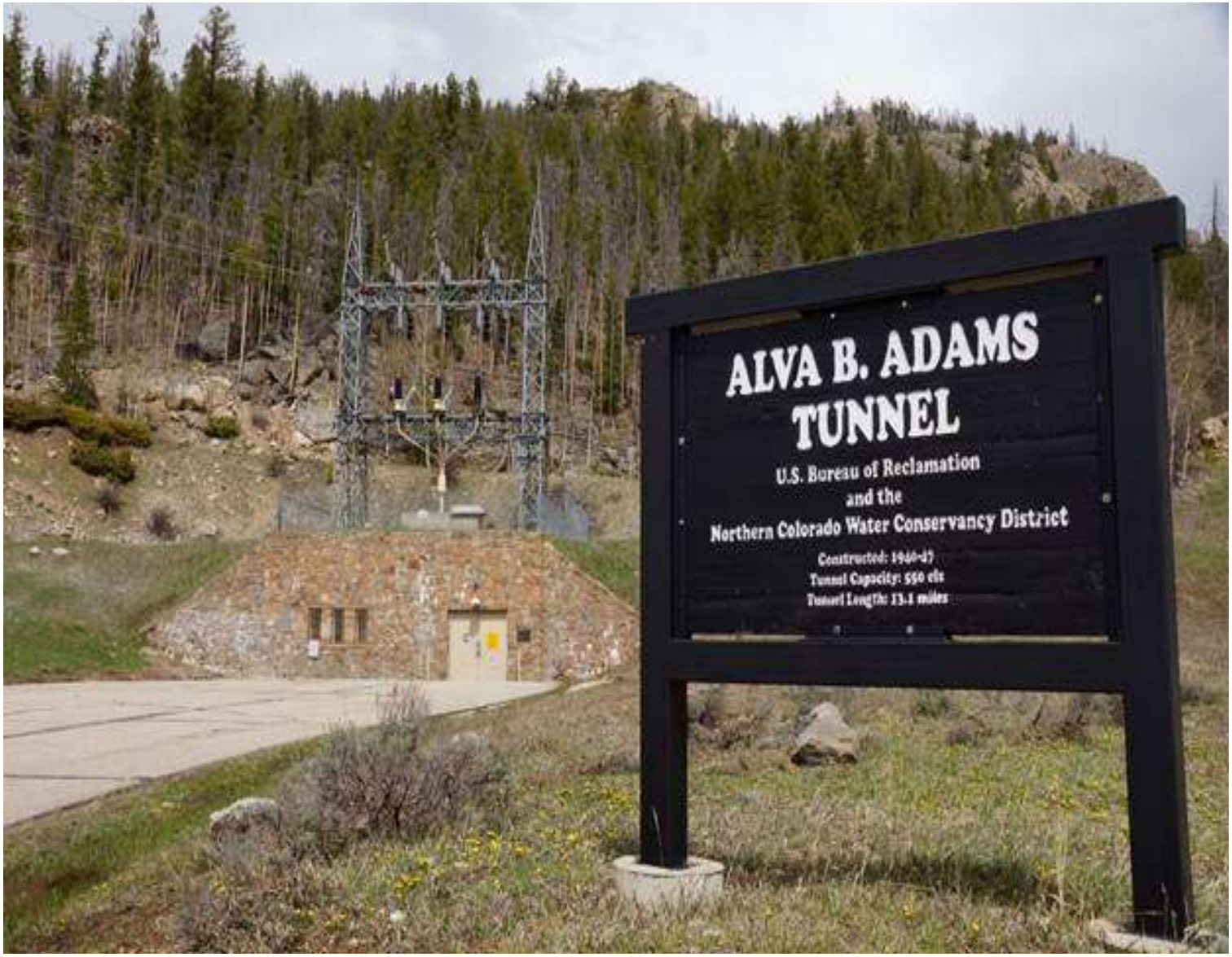
- 1922 Colorado River Basin Compact
- 1944 International Mexico Treaty
- 1948 Upper Colorado River Basin Compact
- 1928 Boulder Canyon Project Act
- 1956 Colorado River Storage & Participating Projects Act
- 1964 Decree in Arizona v. California
- 1968 Colorado River Basin Act
- 2007 Interim Guidelines
  - Coordinate Operations Lake Powell & Lake Mead
  - Lower Basin Shortages

Colorado River Hydrology

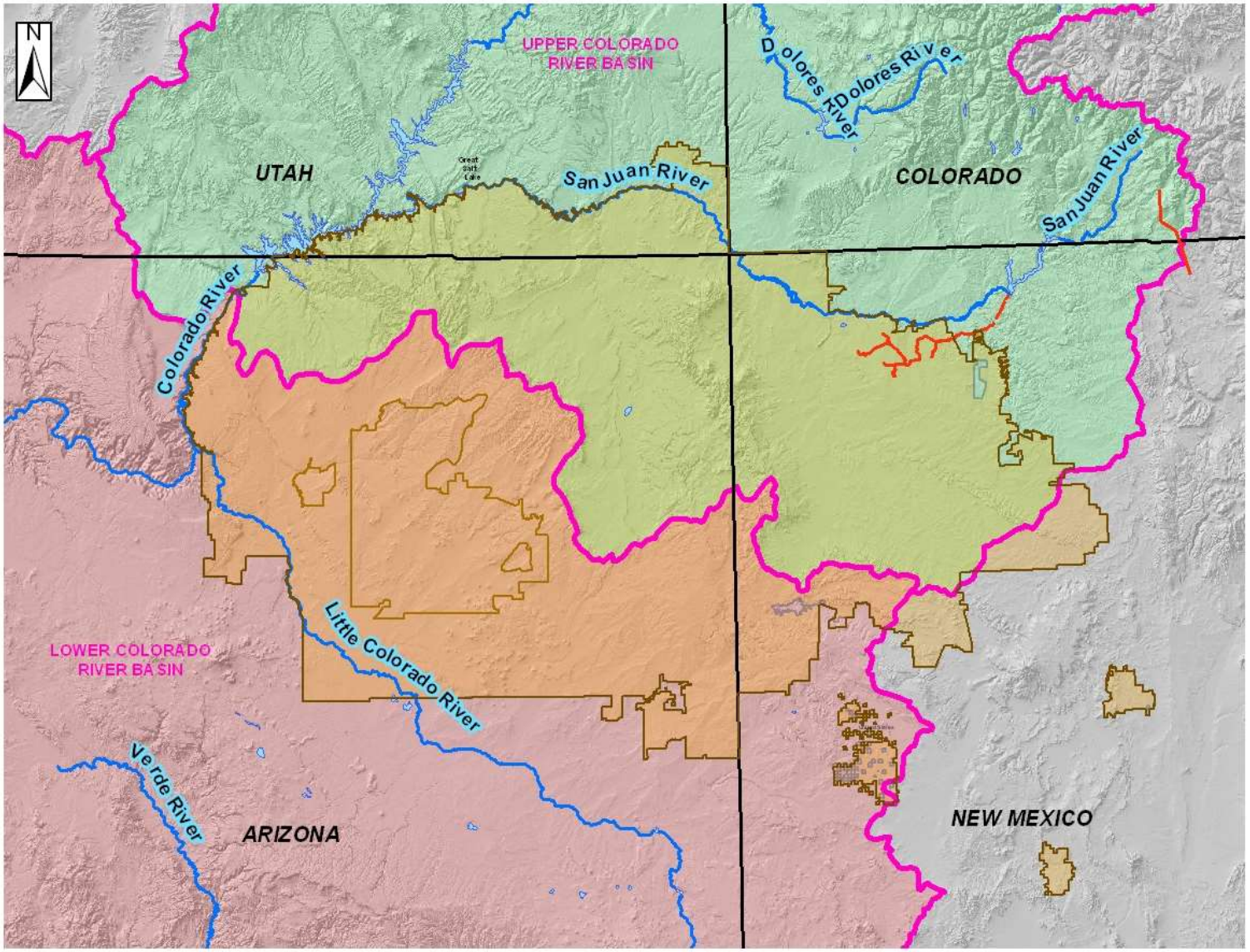
- Natural Flow at Lee Ferry 1906-2014
  - **14.8 maf/year**)
- Natural Flow at Lee Ferry 1988-2014
  - **13.2 maf/year**
- Natural Flow at Lee Ferry 2000-2014
  - **12.3 maf/year**

- *Sources: Basin Study, Natural Flow Data Base

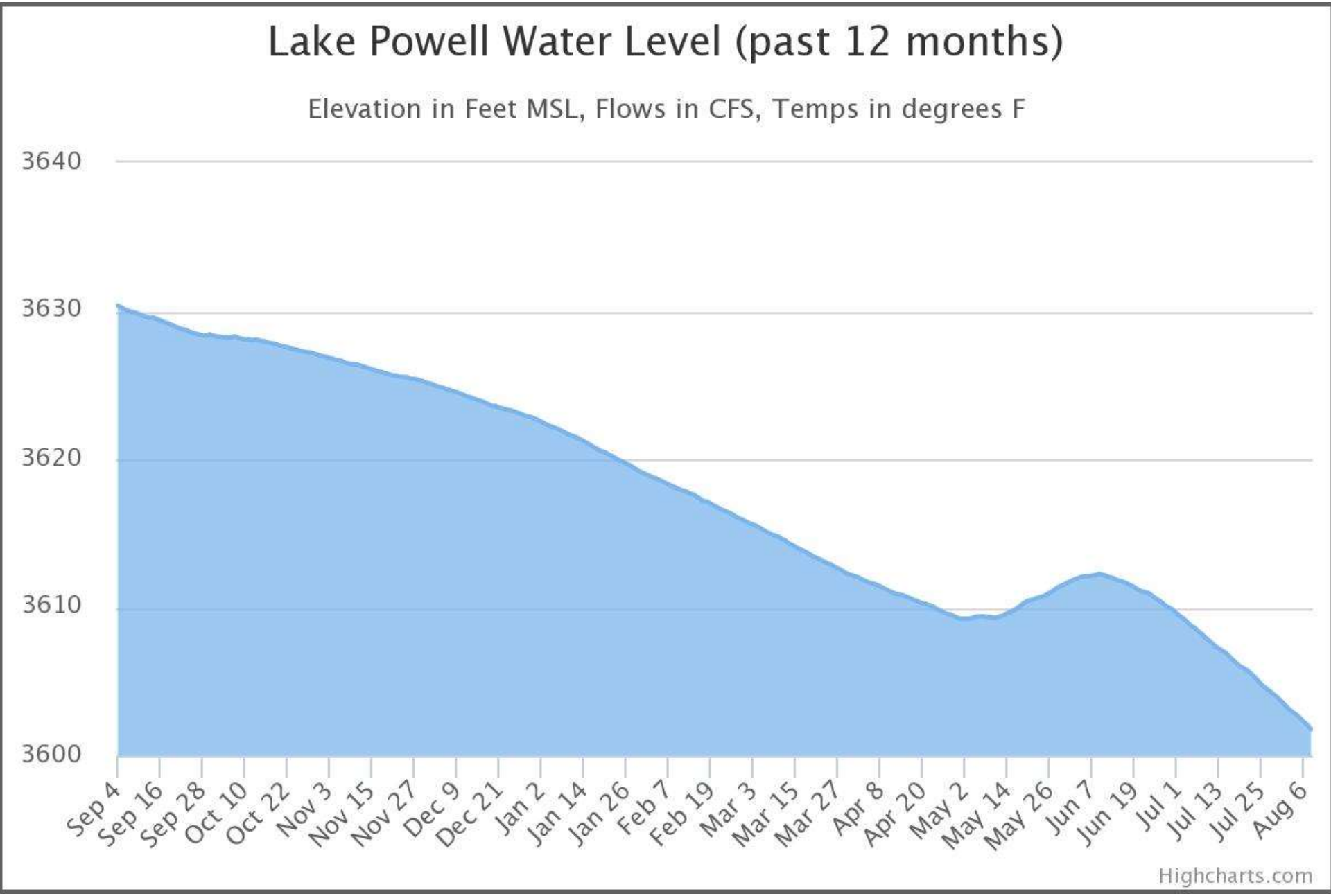

West Slope Collection System
Grand Lake
North Fork Colorado River
North Inlet
ALVA B. ADAMS TUNN
WEST PORTAL
East Inlet
GRAND LAKE
SHADOW MOUNTAIN RESERVOIR
34
SHADOW MOUNTAIN DAM
Rocky Mountain National Park
GRANBY PUMP CANAL
FARR PUMP PLANT
64
Columbine Creek
WILLOW CREEK RESERVOIR
WILLOW CREEK PUMP CANAL & PUMP PLANT
Willow Creek
25
34
GRANBY DAM
WINDY GAP PUMP PLANT
WINDY GAP PIPELINE
Colorado River
LAKE GRANBY
WATCHABLE WILDLIFE AREA
Granby
WINDY GAP RESERVOIR
Fraser River
40
Strawberry Lake
N
Scale of Miles (Approximate)

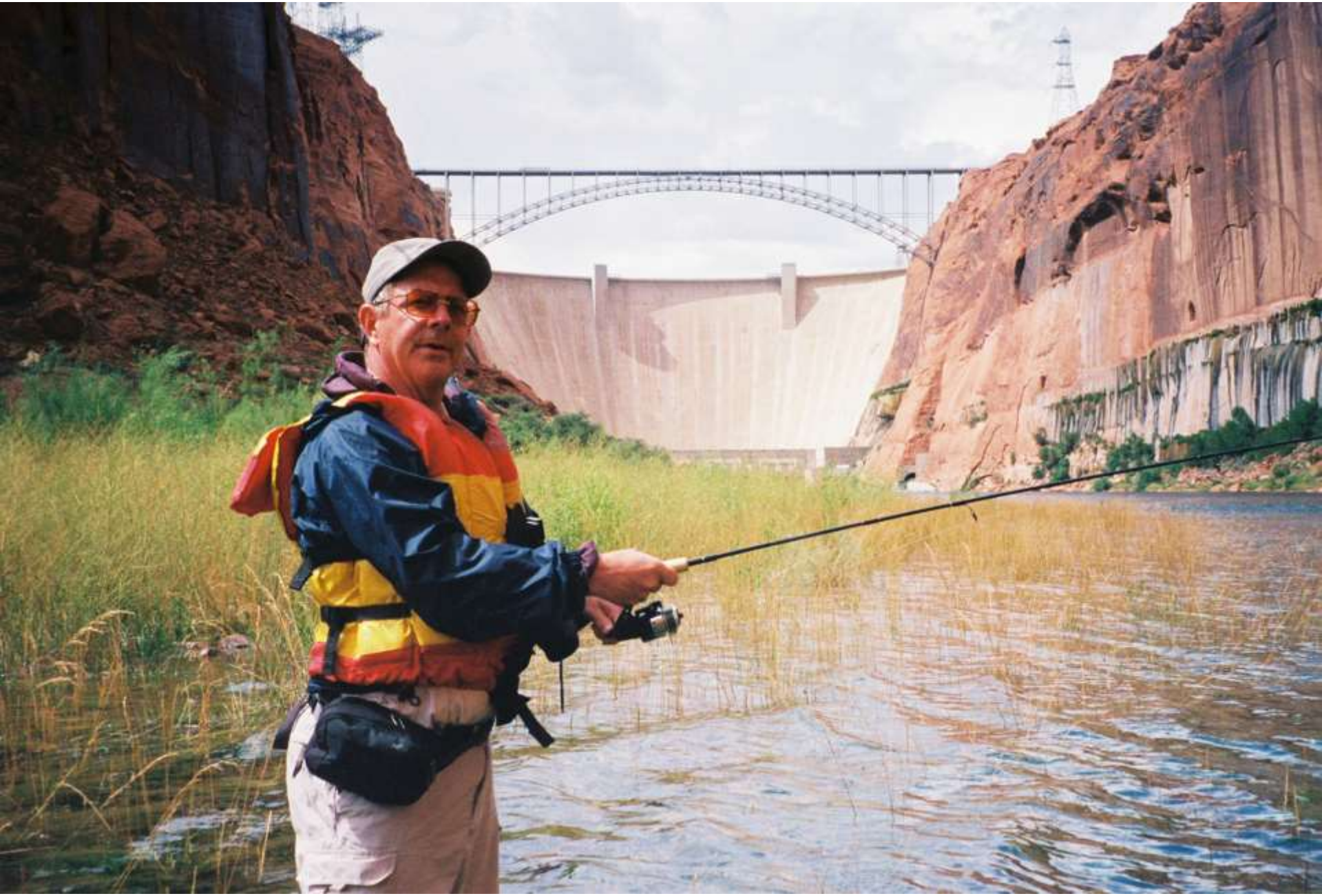

ALVA B. ADAMS
TUNNEL
U.S. Bureau of Reclamation
and the
Northern Colorado Water Conservancy District
Constructed: 1940-47
Tunnel Capacity: 550 cfs
Tunnel Length: 13.1 miles


MT
ELBERT
PUMPED-
STORAGE
POWERPLANT
FRYINGPAN-
ARKANSAS
PROJECT


N
UPPER COLORADO
RIVER BASIN
UTAH
San Juan River
Dolores River
Dolores River
COLORADO
San Juan River
Colorado River
Little Colorado River
LOWER COLORADO
RIVER BASIN
Verde River
ARIZONA
NEW MEXICO


holiday


Lake Powell Water Level (past 12 months)
Elevation in Feet MSL, Flows in CFS, Temps in degrees F
3640
3630
3620
3610
3600
Sep 4
Sep 16
Sep 28
Oct 10
Oct 22
Nov 3
Nov 15
Nov 27
Dec 9
Dec 21
Jan 2
Jan 14
Jan 26
Feb 7
Feb 19
Mar 3
Mar 15
Mar 27
Apr 8
Apr 20
May 2
May 14
May 26
Jun 7
Jun 19
Jul 1
Jul 13
Jul 25
Aug 6
Highcharts.com



Razorback Sucker Fish


CL 2352 AT


WILDERNESS RIVER ADVENTURES


Hoover Dam
C45-300-021094

“Law of the River”

- 1922 Colorado River Basin Compact
- 1944 International Mexico Treaty
- 1948 Upper Colorado River Basin Compact
- 1928 Boulder Canyon Project Act
- 1956 Colorado River Storage & Participating Projects Act
- 1964 Decree in Arizona v. California
- 1968 Colorado River Basin Act
- 2007 Interim Guidelines
  - Coordinate Operations Lake Powell & Lake Mead
  - Lower Basin Shortages

Current Conditions

- Lake Powell is currently at 3598’ (11.4 MAF, **47%**); Lake Mead is at 1079’ (9.9 MAF, **38%)**
- Reclamation operations are in the Upper Elevation Balancing Tier (9.0 MAF release for 2018).
- August 2018 24-Month Study, operations for **2019** are in the Upper Balancing Tier (8.23-9.0 MAF release, but can be adjusted April 2018)
- Lake Powell Min Power Pool 3490’
- Contingency Plan Possible Critical Elevation 3525’
- Power Production and Las Vegas water supply (Lake Mead) could be at risk during drought conditions

Balancing Tier Interim Guidelines

Lake Powell		
Elevation (feet)	**Operation According to the Interim Guidelines**	**Live Storage (maf)[1]**
3,700	**Equalization Tier** Equalize, avoid spills or release 8.23 maf	**24.3**
3,636 - 3,666 (2008-2026)	**Upper Elevation Balancing Tier[3]** Release 8.23 maf; if Lake Mead < 1,075 feet, balance contents with a min/max release of 7.0 and 9.0 maf	**15.5 - 19.3** (2008-2026)
3,575	**Mid-Elevation Release Tier** Release 7.48 maf; if Lake Mead < 1,025 feet, release 8.23 maf	**9.5**
3,525	**Lower Elevation Balancing Tier** Balance contents with a min/max release of 7.0 and 9.5 maf	**5.9**
3,490		**4.0**
3,370		**0**

Lake Mead		
Elevation (feet)	**Operation According to the Interim Guidelines**	**Live Storage (maf)[1]**
1,220	**Flood Control Surplus or Quantified Surplus Condition** Deliver > 7.5 maf	**25.9**
1,200 (approx.)[2]	**Domestic Surplus or ICS Surplus Condition** Deliver > 7.5 maf	**22.9** (approx.)[2]
1,145	**Normal or ICS Surplus Condition** Deliver ≥ 7.5 maf	**15.9**
1,105		**11.9**
1,075	**Shortage Condition** Deliver 7.167[4] maf	**9.4**
1,050	**Shortage Condition** Deliver 7.083[5] maf	**7.5**
1,025	**Shortage Condition** Deliver 7.0[5] maf Further measures may be undertaken[7]	**5.8**
1,000		**4.3**
895		**0**


CALIFORNIA
ARIZONA
BAJA CALIFORNIA
SONORA
COLORADO RIVER
ALL AMERICAN CANAL
Calexico
Mexicali
Yuma
MORELOS CAN
CENTRAL CANAL
San Luis
WELTON MOHAWK BYPASS DRAIN
GULF OF CALIFORNIA