

South Platte Basin Background

October 20, 2010



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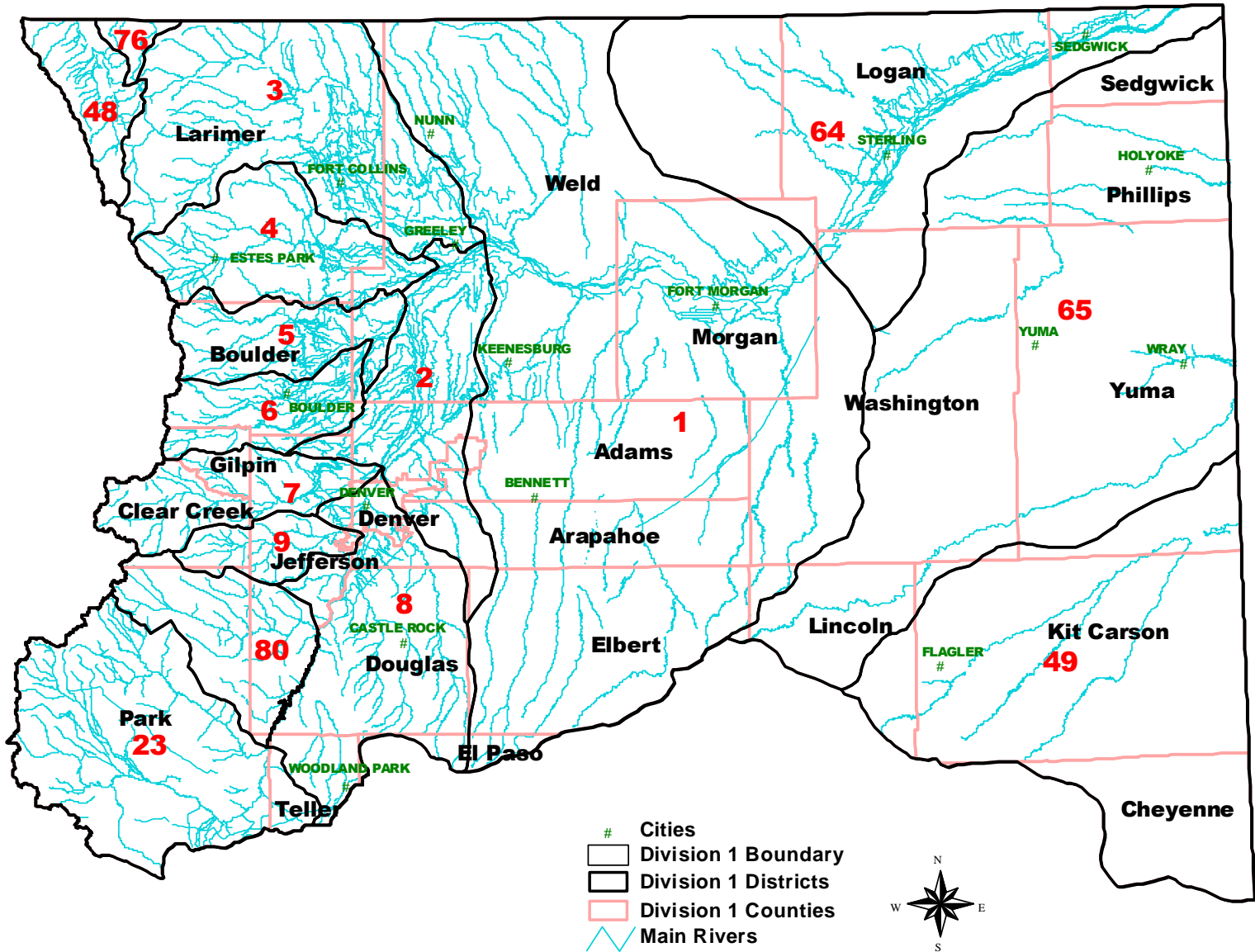
Water Resources Manager, City of Greeley

South Platte River
Upper Platte & Beaver Diversion
(Photo by Jason Smith)

19 States & Mexico Rely on Colorado Water



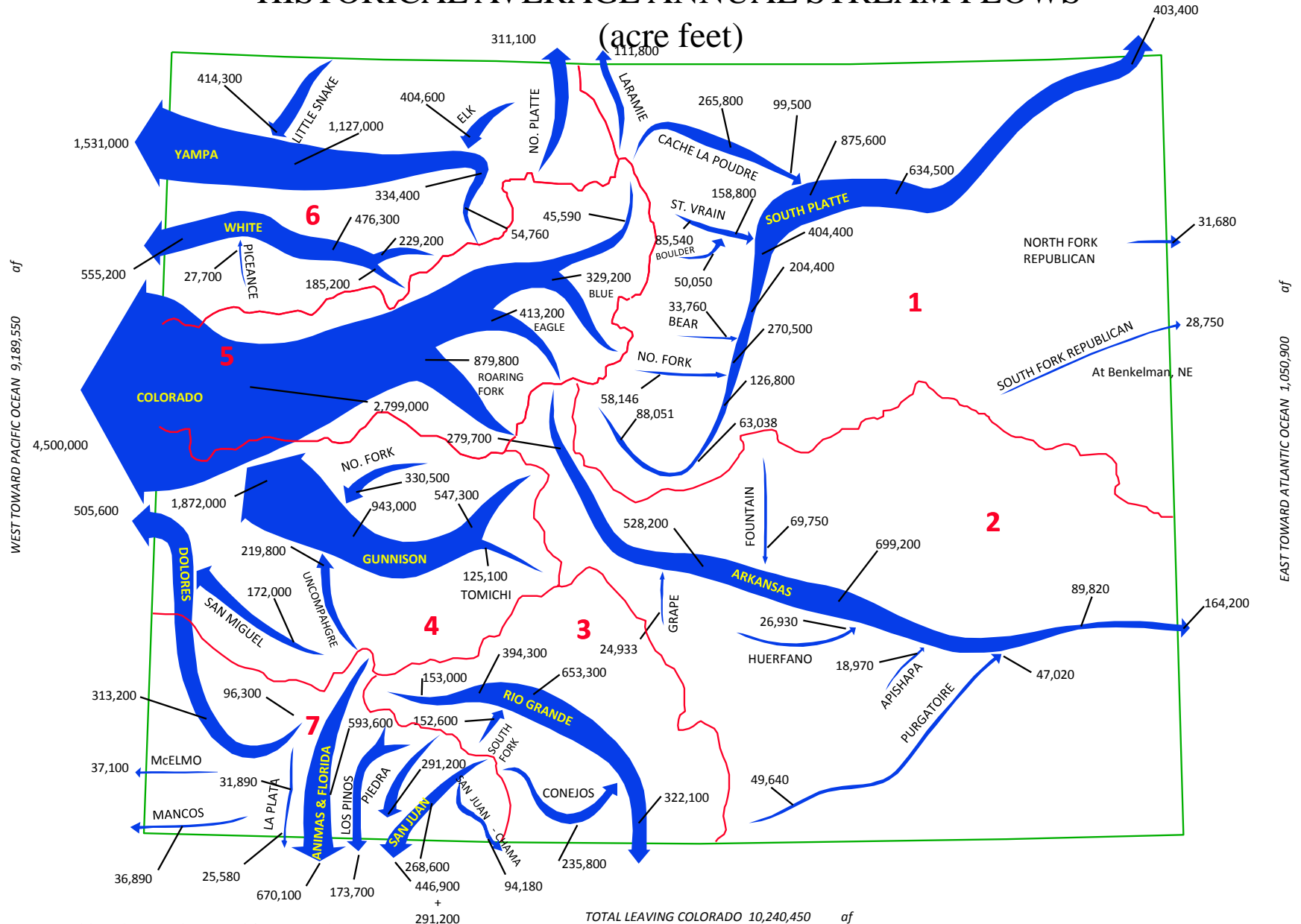
State of Colorado, Division of Water Resources, Division 1, South Platte River Drainage.



COLORADO

HISTORICAL AVERAGE ANNUAL STREAM FLOWS

(acre feet)



South Platte Basin

Description

Total South Platte River
basin drainage area -
23,138 sq. miles

Precipitation average - 10
to 17 inches per year

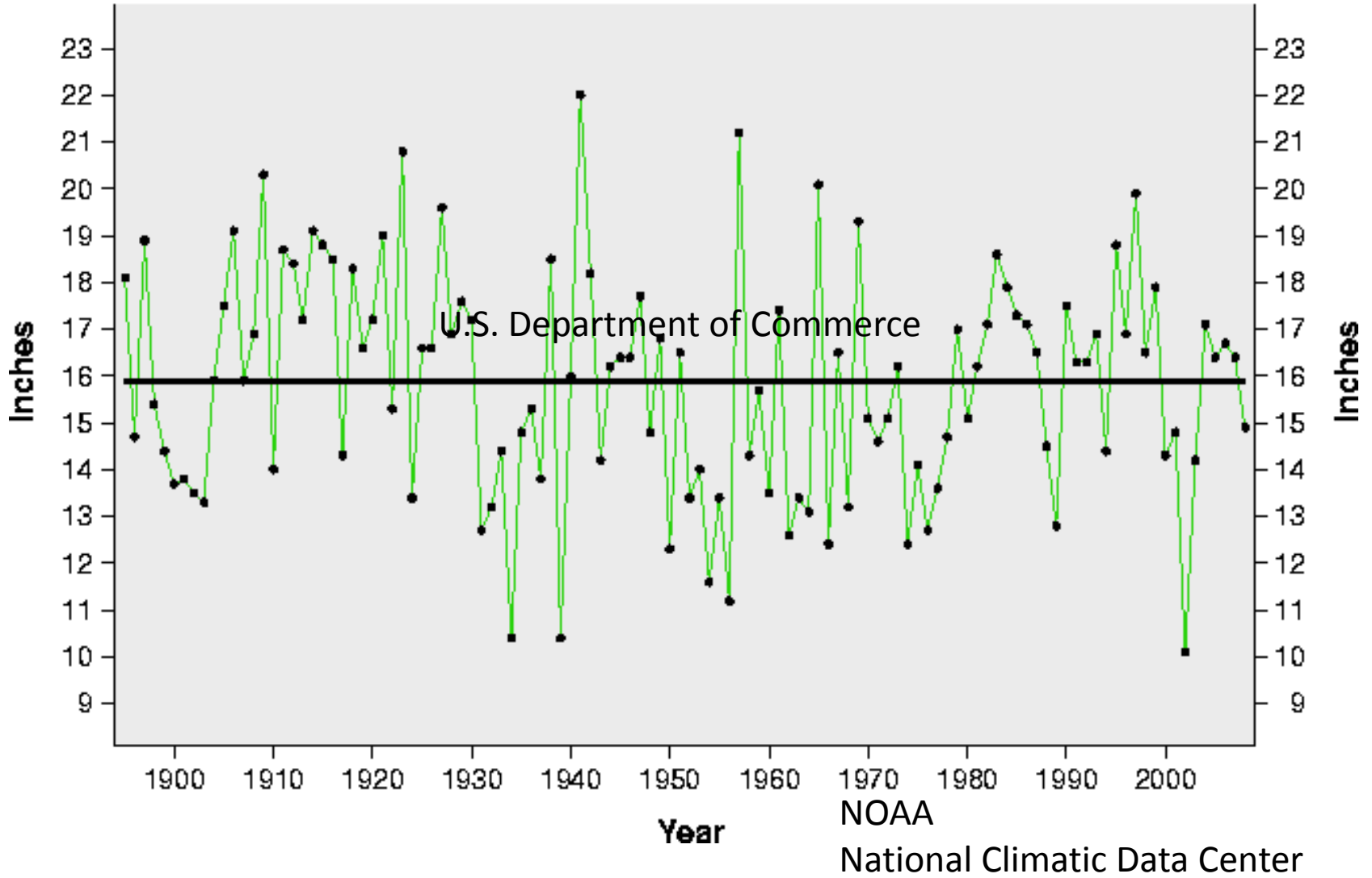
Elevation - 3,400 to 14,000
+ Ft

Irrigated acreage – 850,000
acres



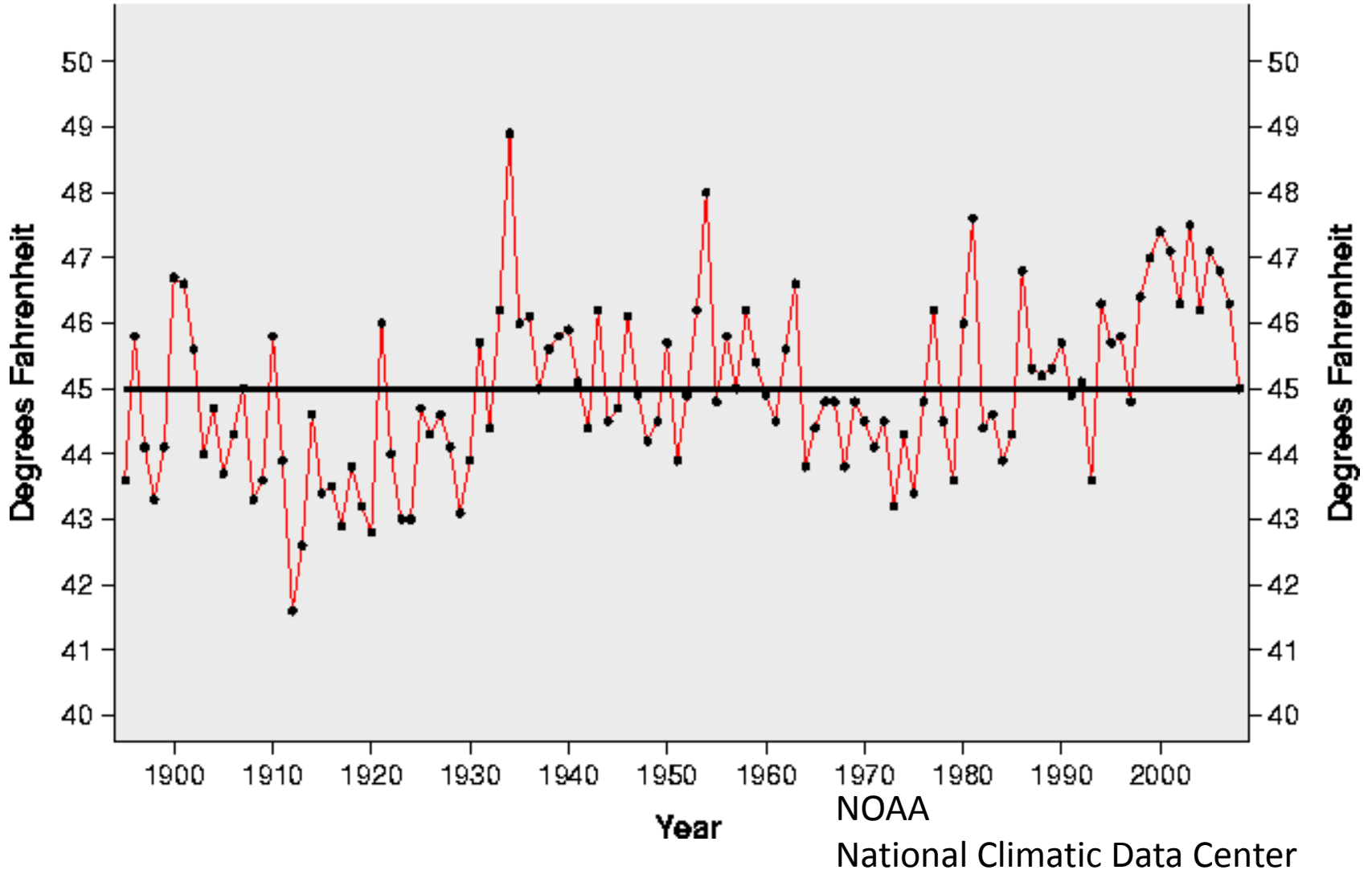
Colorado Average Precipitation

- Actual Precipitation
- Average Precipitation



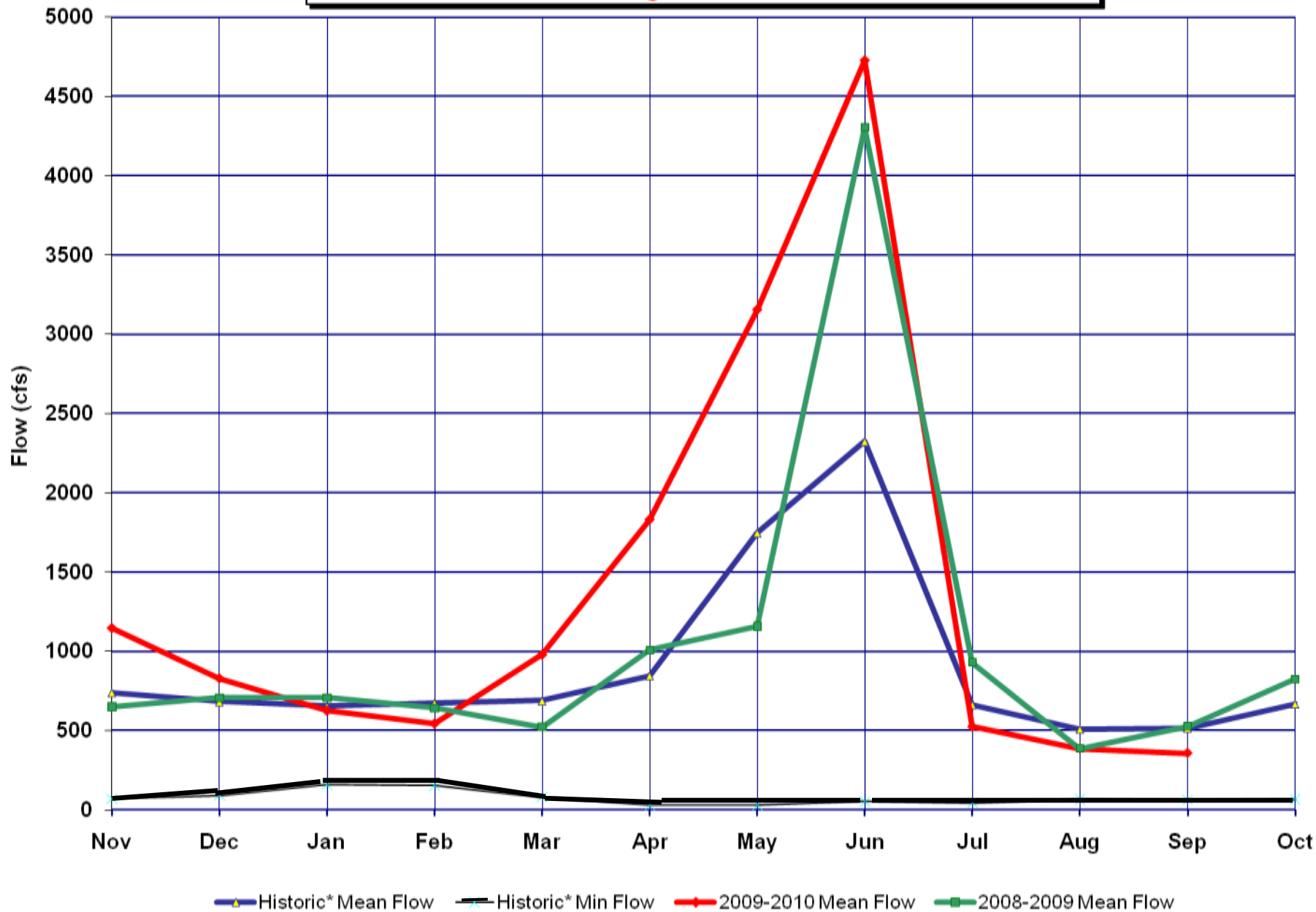
Colorado Average Temperature

- Actual Temperature
- Average Temperature



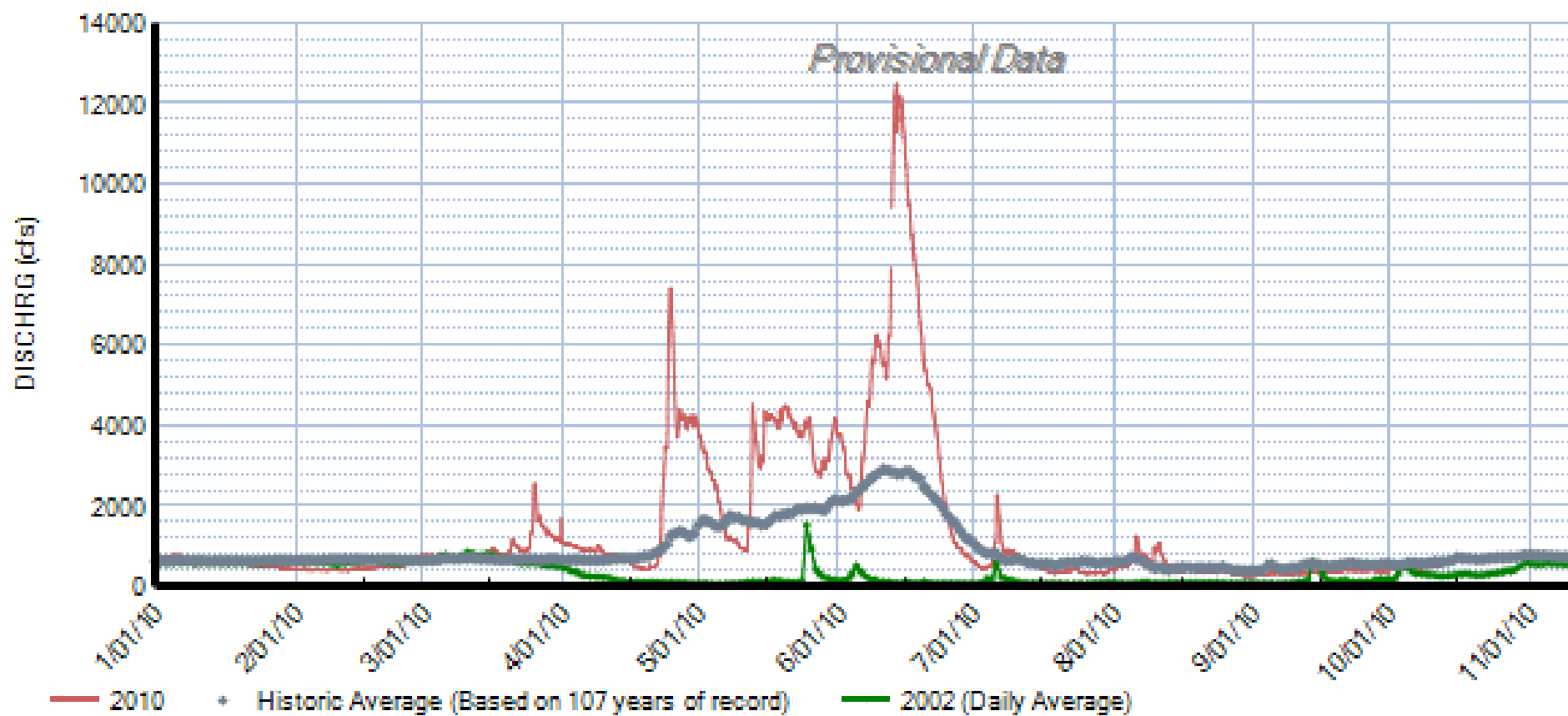
South Platte River at Kersey

Irrigation Year

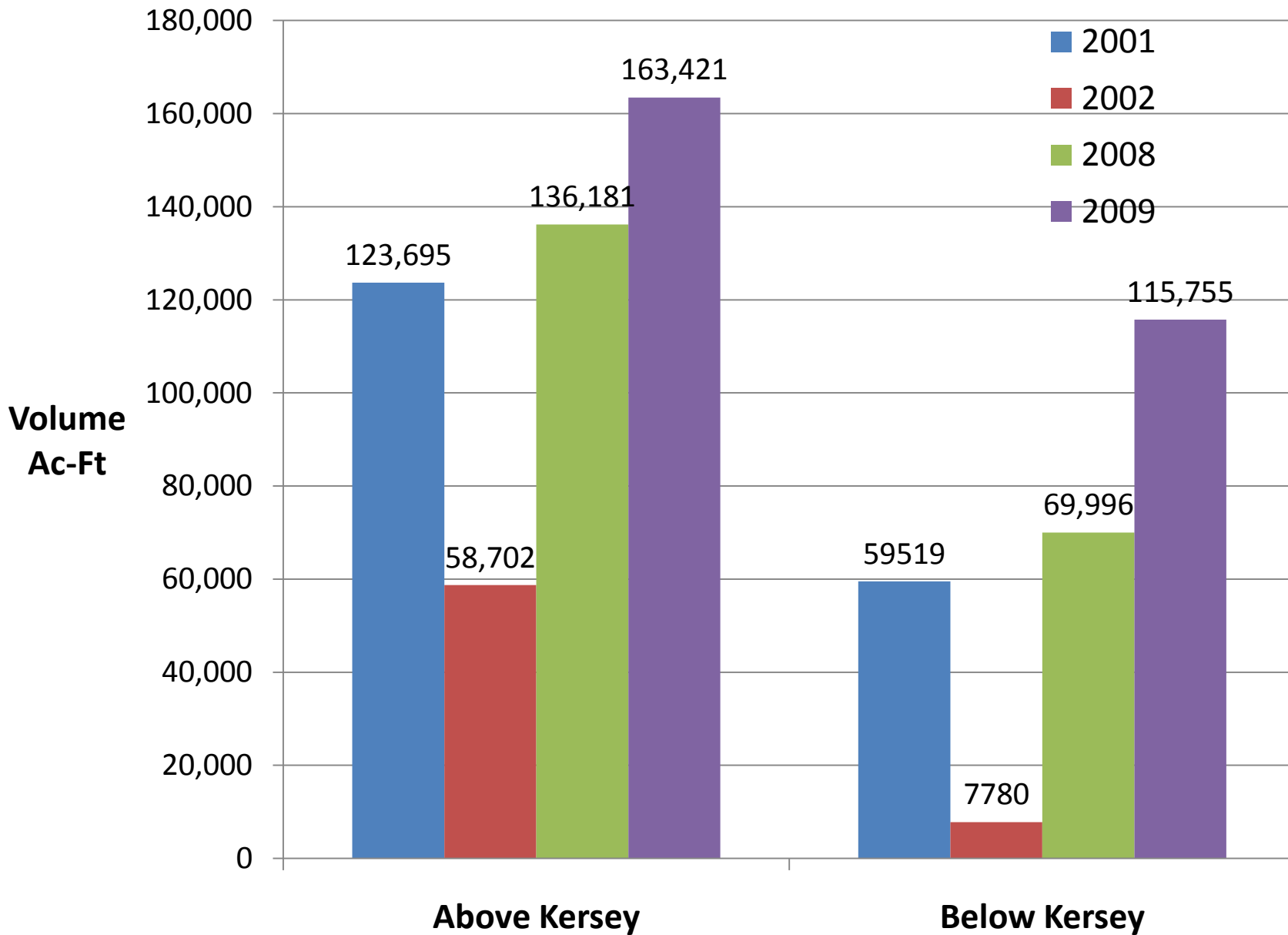


SOUTH PLATTE RIVER NEAR KERSEY (PLAKERCO)

Data Source: Co. Division of Water Resources

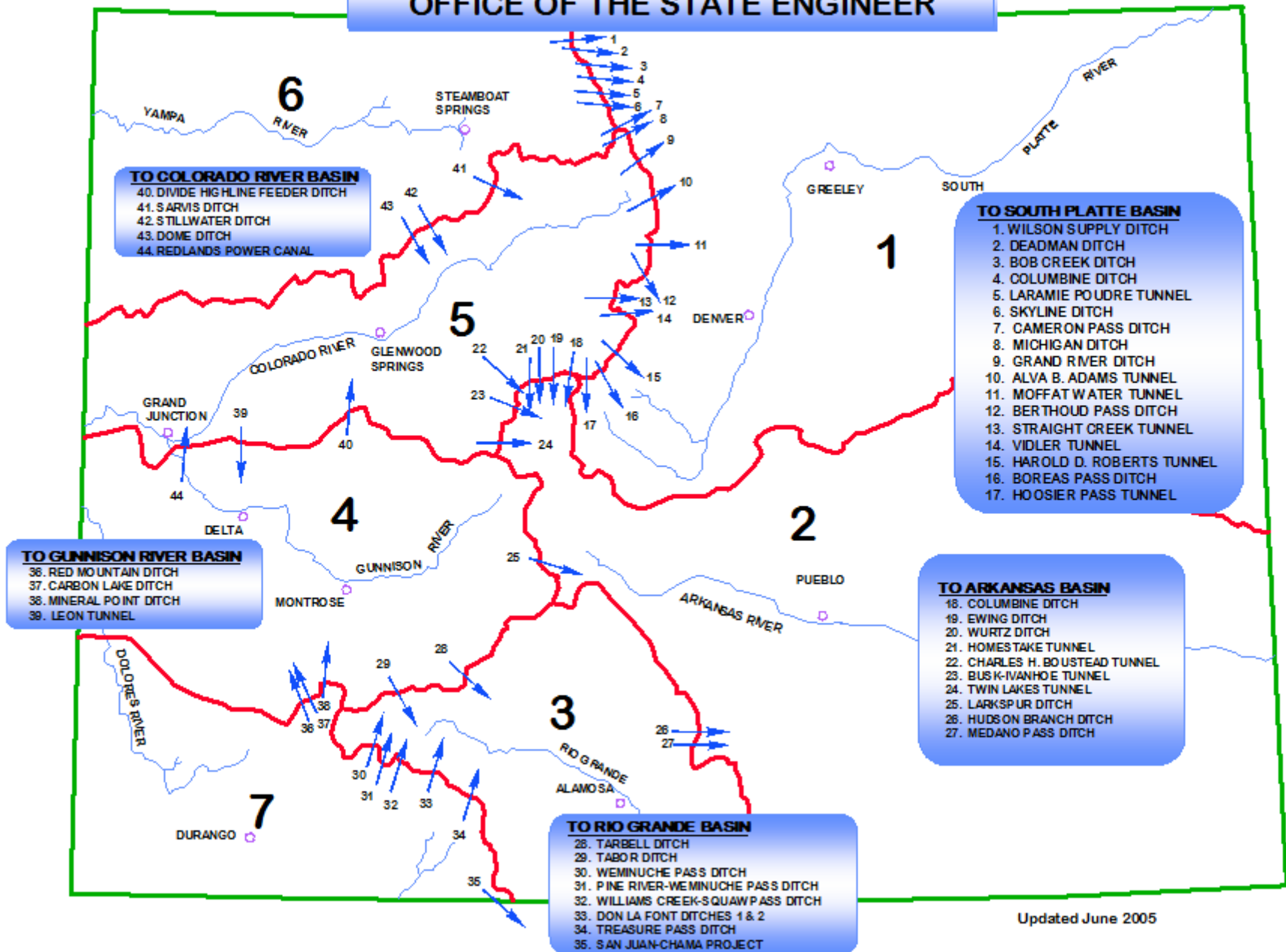


Reservoir Storage on September 30 For Select Years



TRANSMOUNTAIN DIVERSIONS

OFFICE OF THE STATE ENGINEER



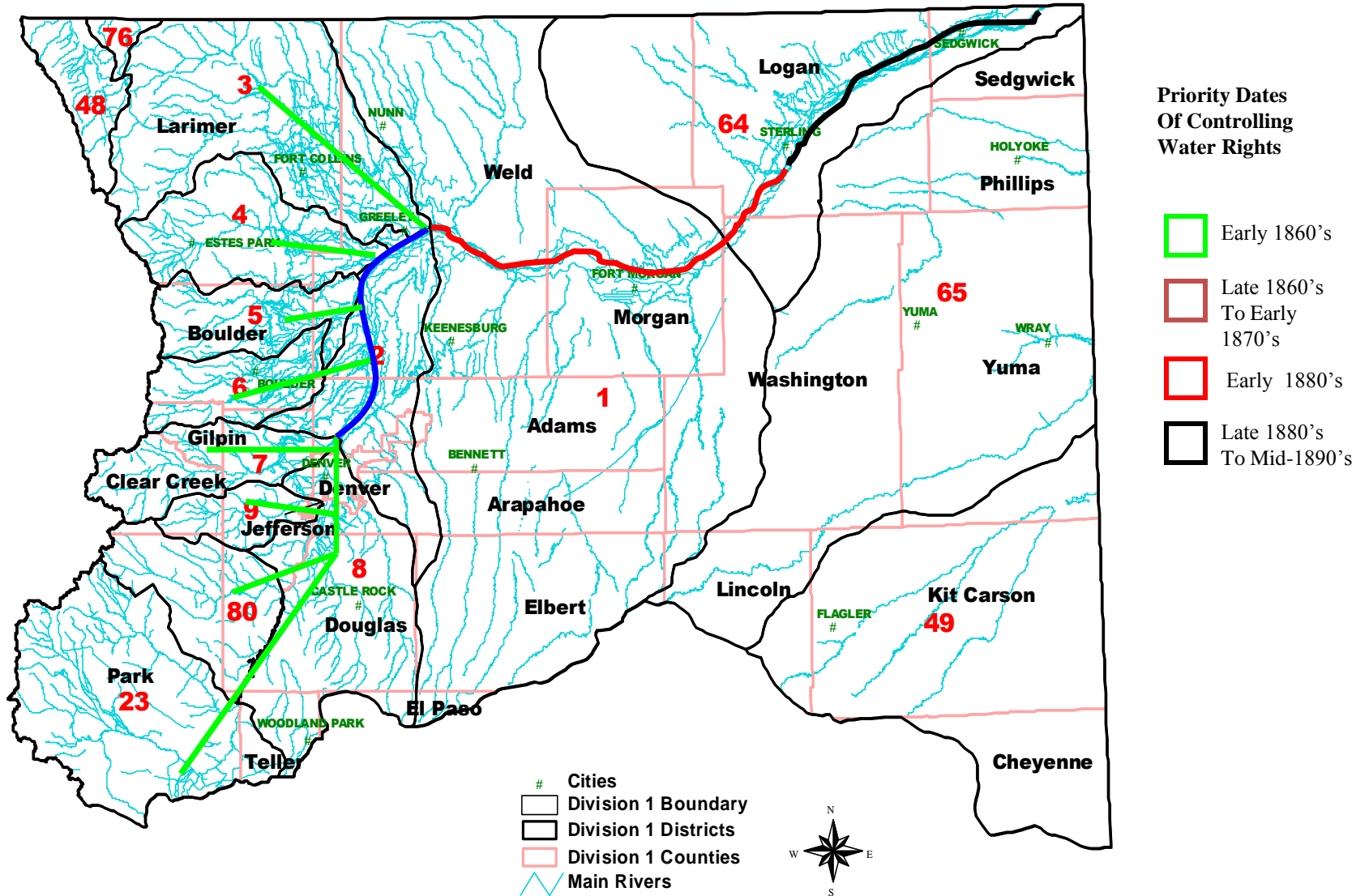
Updated June 2005

Major Imports into the Basin

Name	Recipient Stream	Average Diversions (AF)
1 Adams Tunnel	Big Thompson R.	218,142
2 Moffat Tunnel	South Platte R.	52,155
3 Roberts Tunnel	South Platte R.	53,676
4 Grand River Ditch	Cache La Poudre R.	17,685
5 Laramie-Poudre Canal	Cache La Poudre R.	18,580
6 Aurora Homestake	South Platte R.	12,382
7 Michigan Ditch	Cache La Poudre R.	3,294
8 Wilson Supply Ditch	Cache La Poudre R.	1,482

Source: CWCB South Platte Fact Sheet

State of Colorado, Division of Water Resources, Division 1, South Platte River Drainage.



South Platte River Compact Provisions

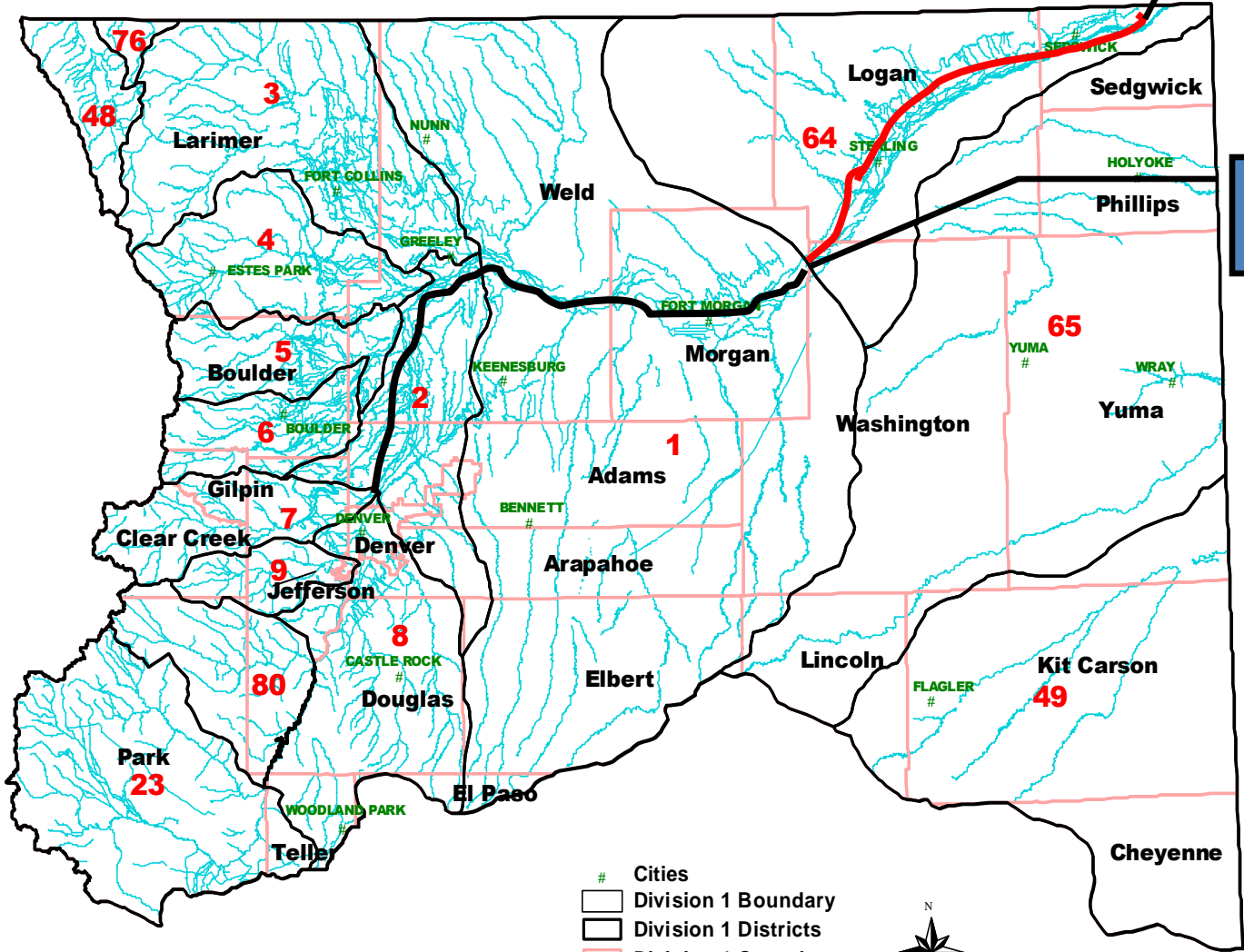
Key Definitions

- Upper Section – Portion of the South Platte in Colorado upstream of the west boundary of Washington County (***Above*** District 64)
- Lower Section – Portion of the South Platte in Colorado between the west boundary of Washington County and State Line (***District 64***)
- “Flow of the River” – The measured flow at Julesburg gage plus the inflow below that station above diversion works of Western Irrigation District in Nebraska

State of Colorado, Division of Water Resources, Division 1, South Platte River Drainage.

State Line

Washington
County Line



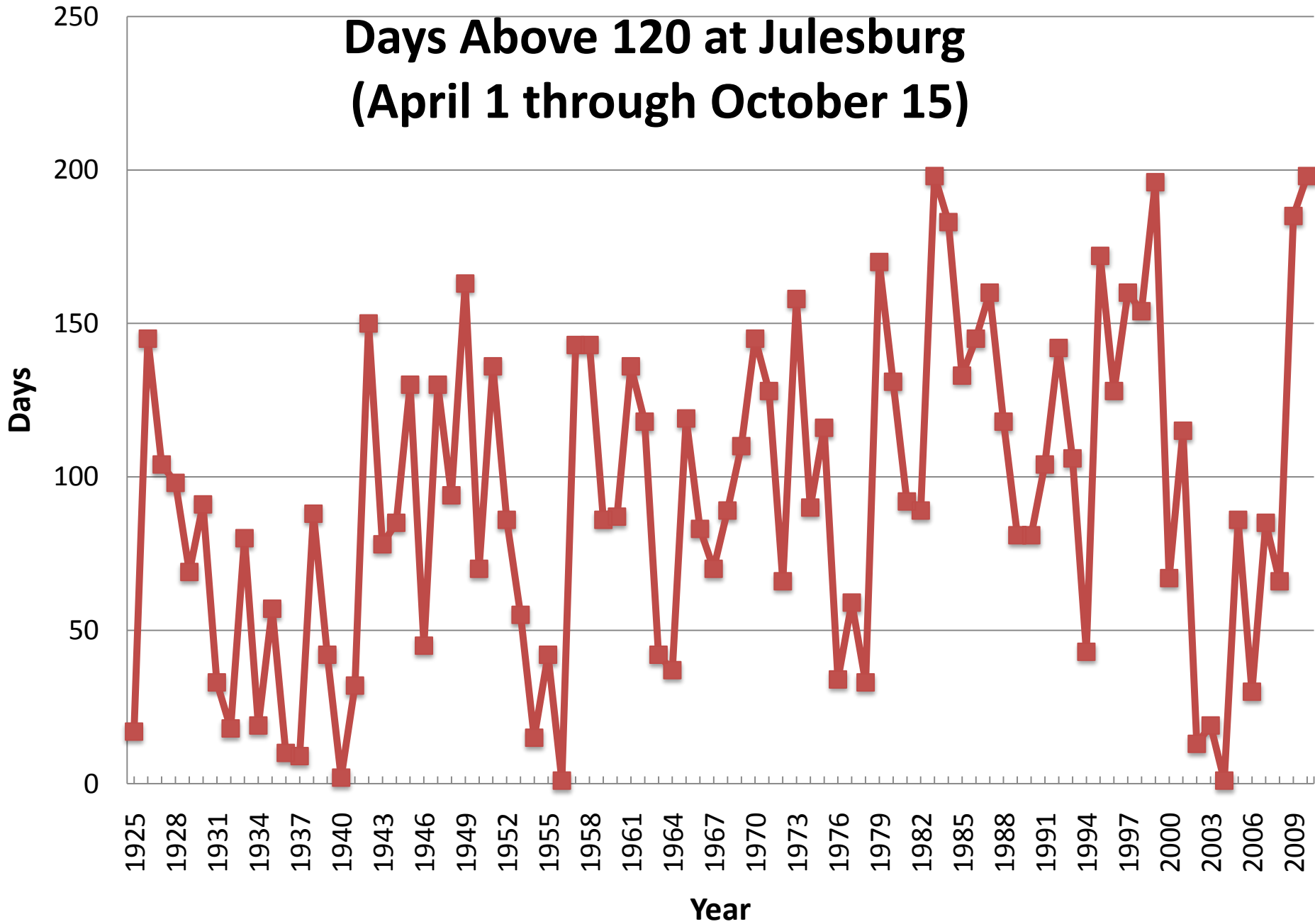
- # Cities
- Division 1 Boundary
- - - Division 1 Districts
- Division 1 Counties
- Main Rivers



Key Provisions

- Colorado has full right to the use of the flow in the Upper Section of the River.
- Colorado has full right to the use of the flow in the Lower Section of the River between October 15 and April 1.
- From April 1 to October 15, Colorado shall curtail all unaugmented uses of water junior to June 14, 1897 when the flow is less than 120 cfs at Julesburg.

Days Above 120 at Julesburg (April 1 through October 15)





SPDSS Irrigated Acreage Irrigation Types



Flood

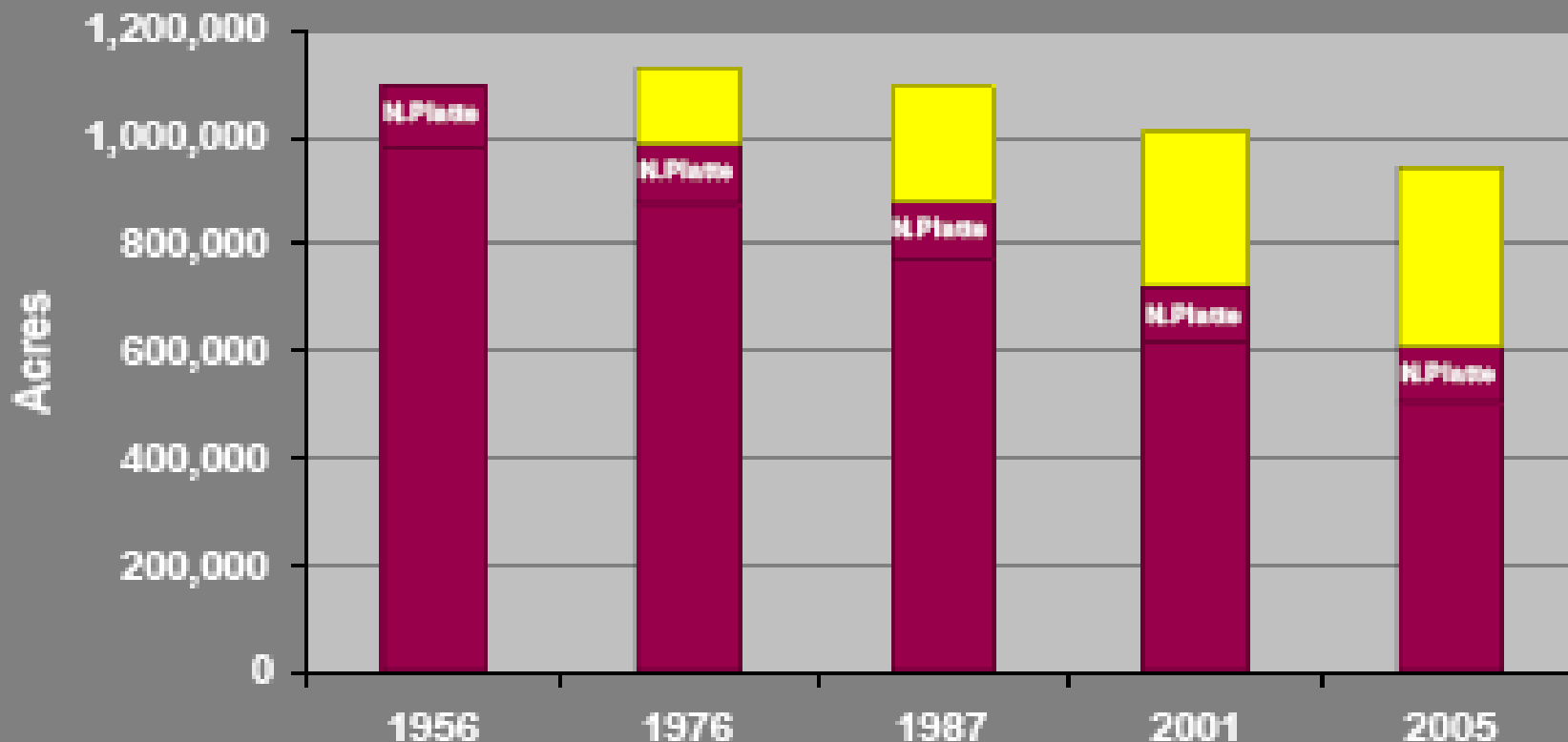


Sprinkler

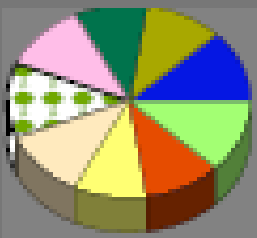
The North Platte River Basin is not displayed on the maps. In the North Platte Basin only Flood Irrigation is used.

Irrigation Type Comparison

South and North Platte River Basins



Source:
CWCB

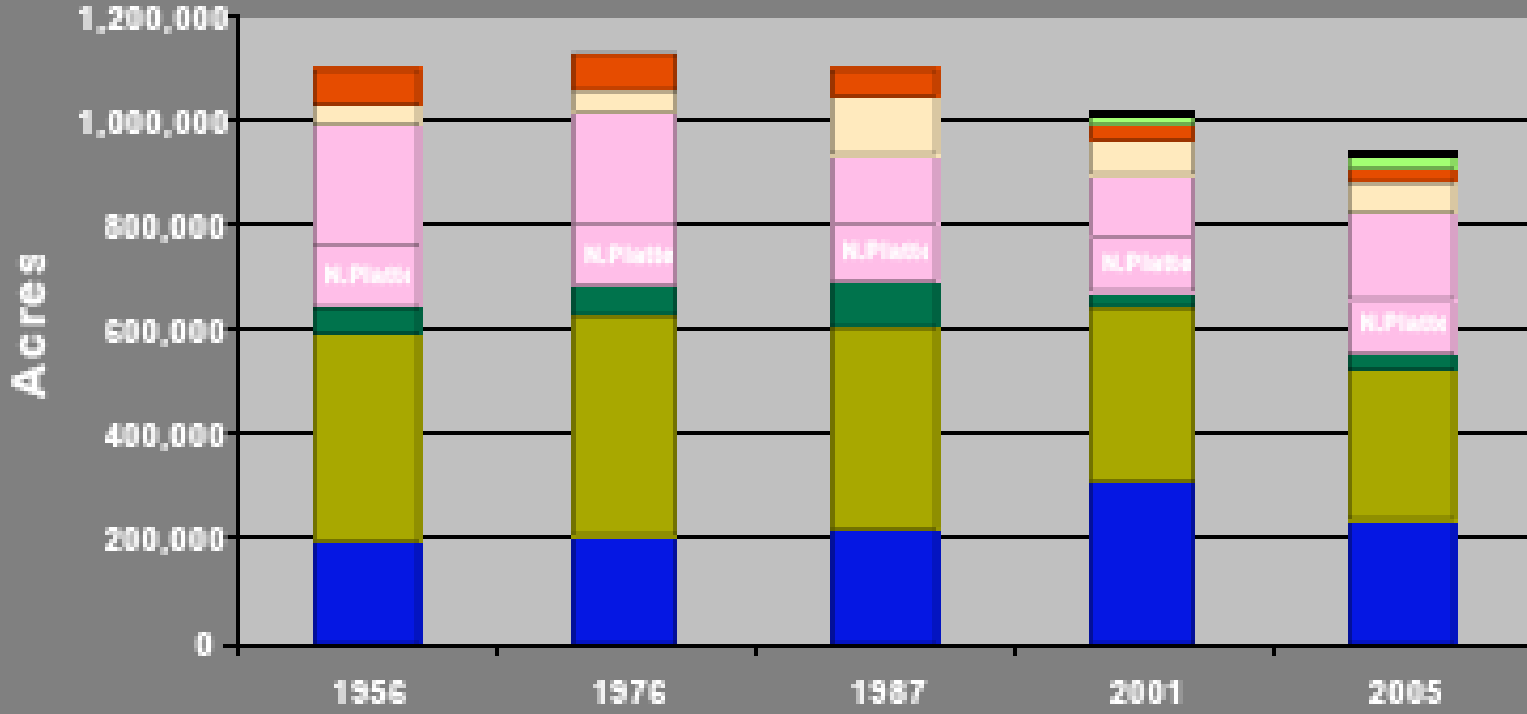


SPDSS Irrigated Acreage Crop Types

- Grass/Pasture
- Sod Farms
- Alfalfa
- Orchards
- Sugar Beets
- Corn
- Small Grains
- Vegetables
- Dry Beans

* The North Platte River Basin is not displayed on the maps. The North Platte basin only produces grass.

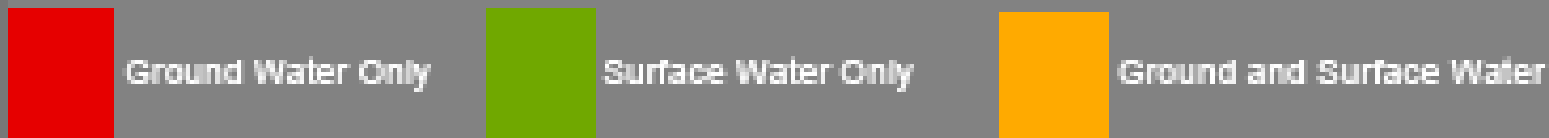
Crop Type Comparison South and North Platte River Basins



Source:
CWCB

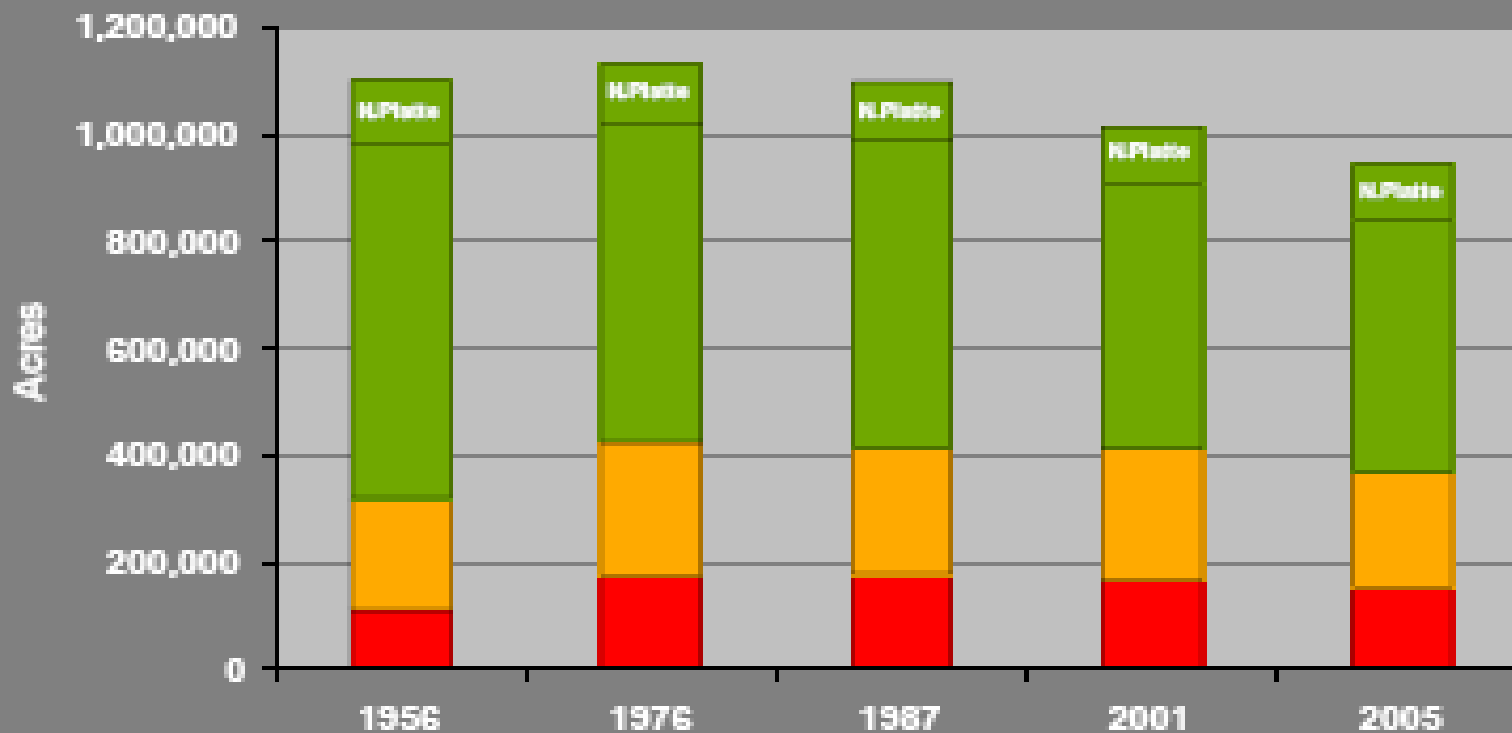


SPDSS Irrigated Acreage Water Sources



The North Platte River Basin is not displayed on the maps. The North Platte Basin is irrigated almost entirely by surface water.

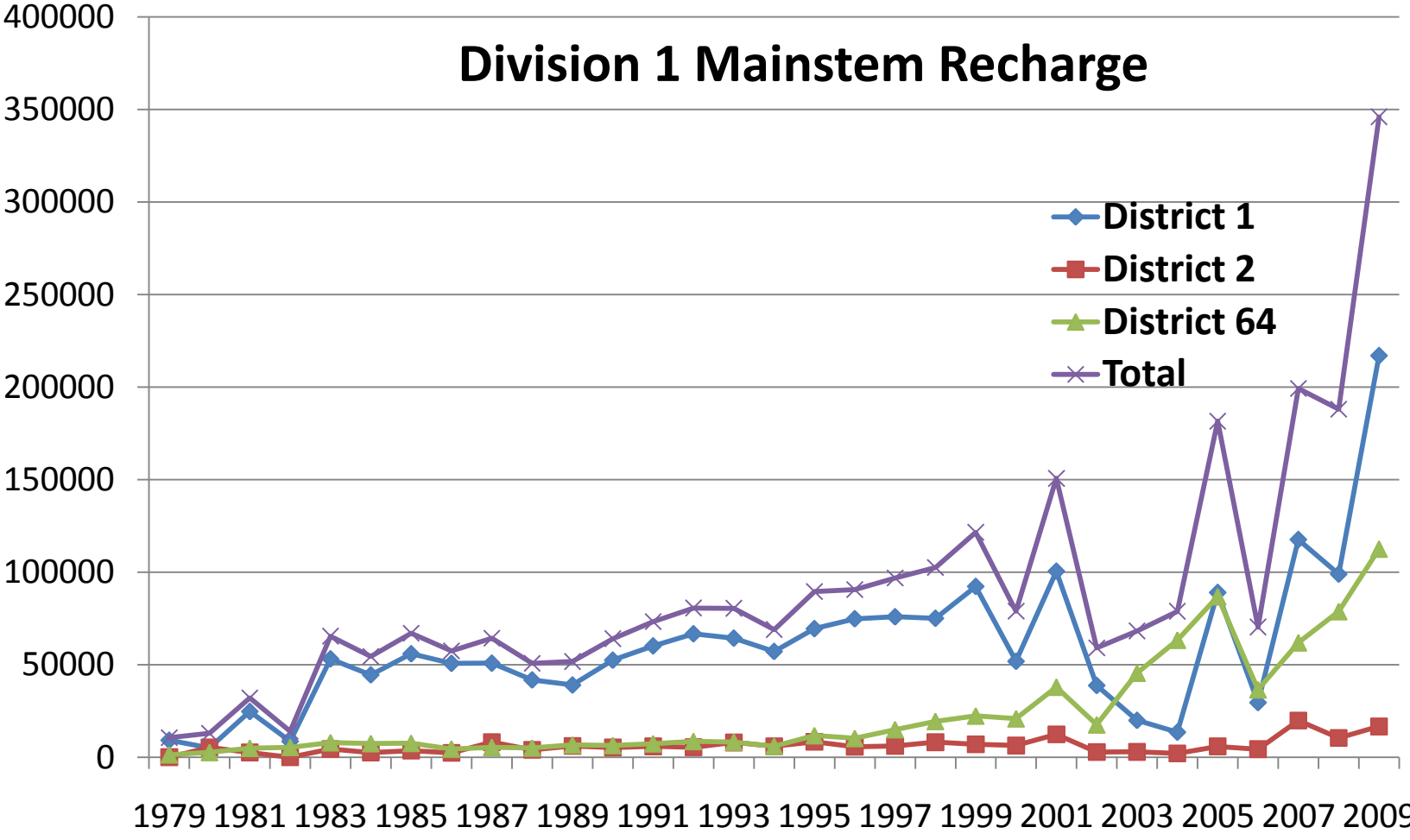
Water Source Comparison
South and North Platte River Basins



Source:
CWCB

Division 1 Mainstem Recharge

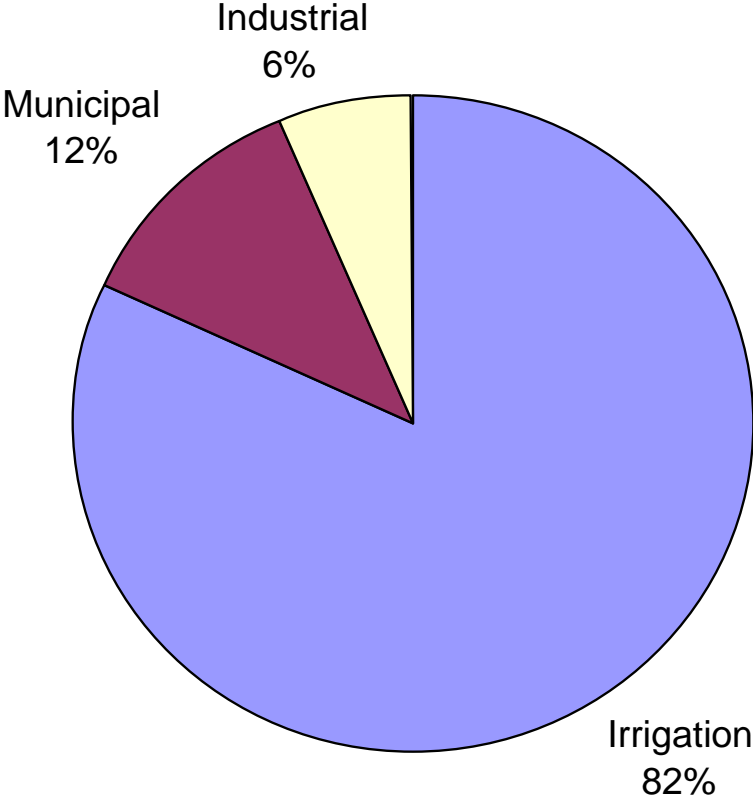
Amount
(ac-ft)



Source: Colorado
Division of Water
Resources

Changing Use

1980



2005

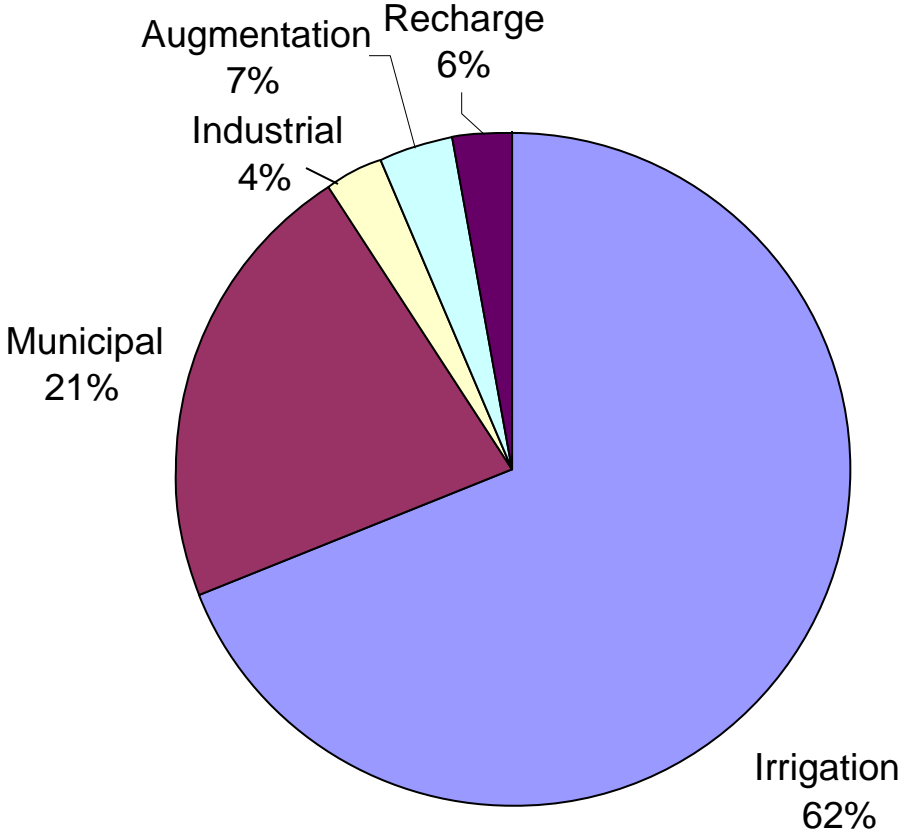


Table 2-2. Population Projections by River Basin

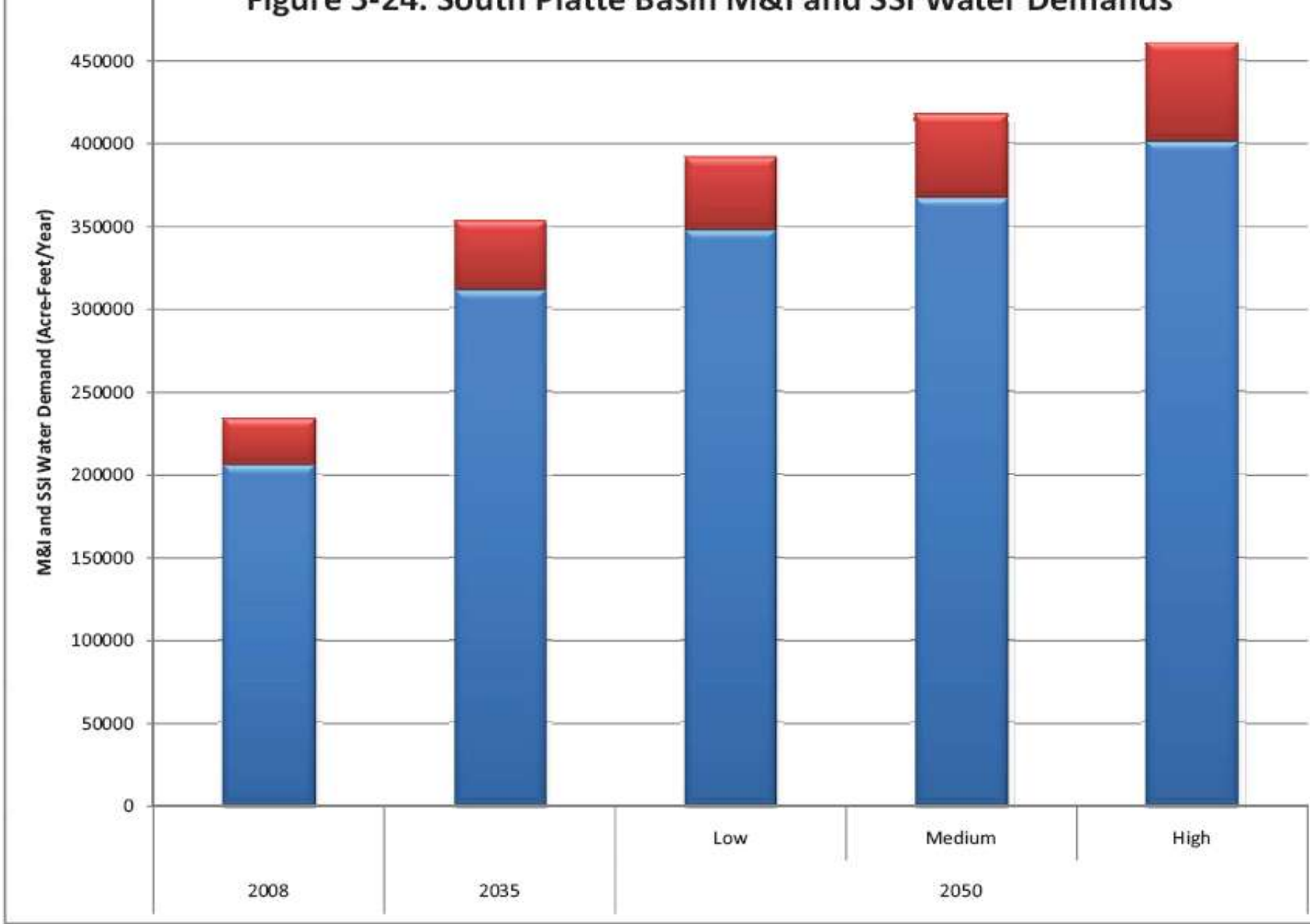
Basin	2008	2035	Percent Change 2008 to 2035	Percent Average Annual Growth Rate	2050		
					Low	Medium	High
Arkansas	948,000	1,451,000	53	1.6	1,581,000	1,688,000	1,841,000
Colorado	307,000	558,000	82	2.2	661,000	725,000	832,000
Gunnison	105,000	184,000	75	2.1	208,000	220,000	240,000
Metro	2,513,000	3,622,000	44	1.4	4,018,000	4,144,000	4,534,000
North Platte	1,500	1,800	20	0.7	2,000	2,200	2,500
Rio Grande	50,000	88,000	36	1.2	74,000	80,000	87,000
South Platte	977,000	1,622,000	66	1.9	1,808,000	1,902,000	2,005,000
Southwest	105,000	185,000	76	2.1	204,000	224,000	249,000
Yampa-White	45,000	81,000	80	2.1	94,000	117,000	153,000
TOTAL	5,051,500	7,772,800	54	1.6	8,648,000	9,102,200	10,543,500

Population (Millions)

Basin	2008	2035	2050 Med
Metro	2.5	3.6	4.1
South Platte	1.0	1.6	1.9

Colorado Water Conservation Board
 State of Colorado
 2050 Municipal & Industrial Water Use Projections

Figure 3-24. South Platte Basin M&I and SSI Water Demands



Trends in the South Platte Basin

- Drought!
- Increased Vegetation in Channel Due to Low Flow Conditions
- Increased Municipal Demand
- Changes to Municipal Use
- Expanded Use Questions with Change Cases
- Recovery of Reusable Supply by Metro Entities
- Lining of Gravel Pits (pumping from or exchange to cities)
- Installation of Center Pivots
- Decline in Irrigated Acreage
- More Intensive Use of Agricultural Reservoirs

Trends in the South Platte Basin

- Winter Time Calls (No More Gentleman's Agreement)
- More Irrigation Calls Since "Costly" to Pump Wells
- Increased Amount of Recharge
- Expanded Use of Technology (Data Logger, Telemetry)
- Increased Water Accounting Scrutiny and Potential Well Measurement Rules
- Invasive Species Issues
- Endangered Species Issues and Federal Requirements for Projects



South Platte River near Strontia Springs
(Photo by Claudia Engelmann)