FACING DRIER REALITIES IN THE SOUTH PLATTE BASIN

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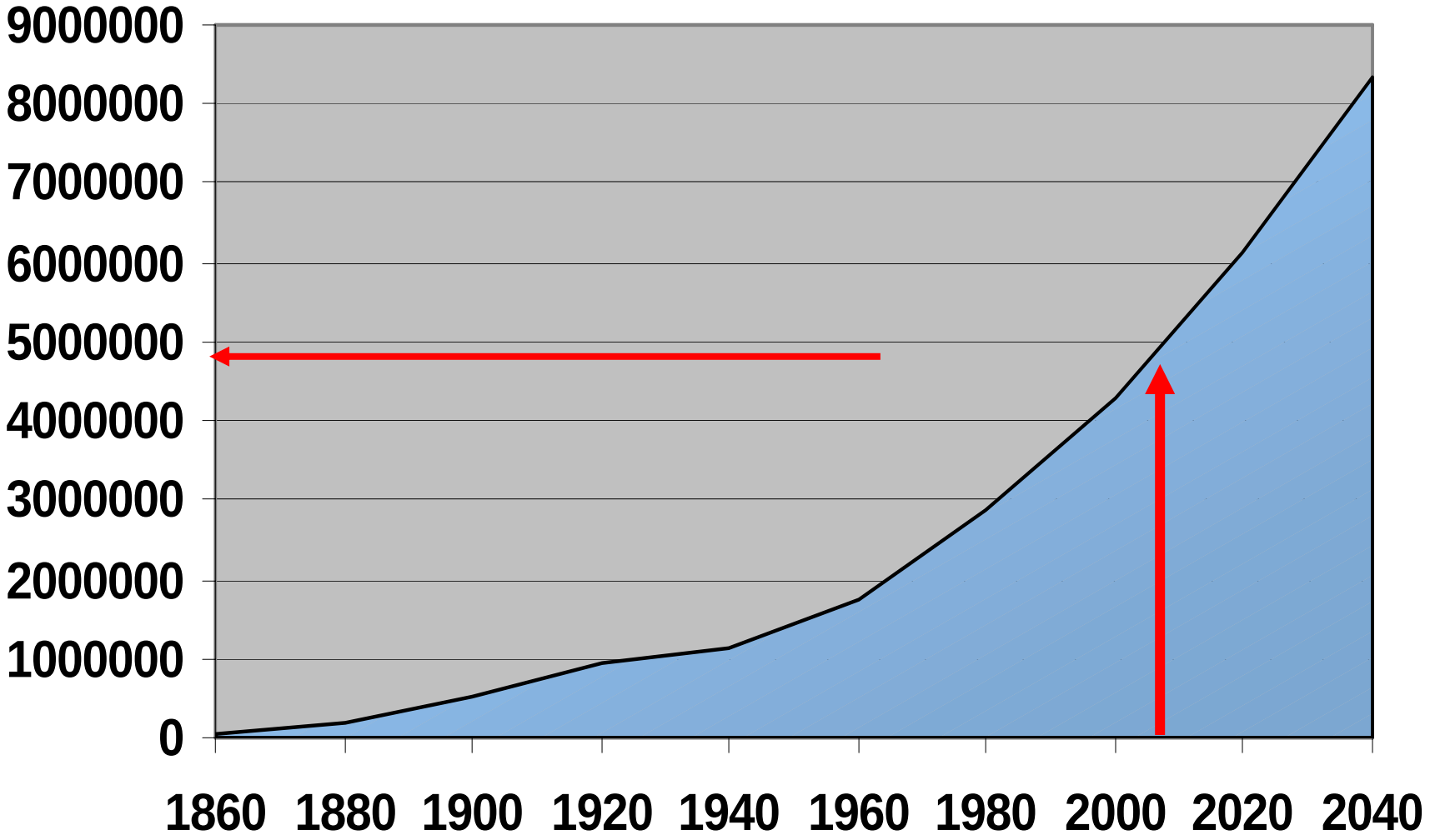
“Sin agua – no huy vida”

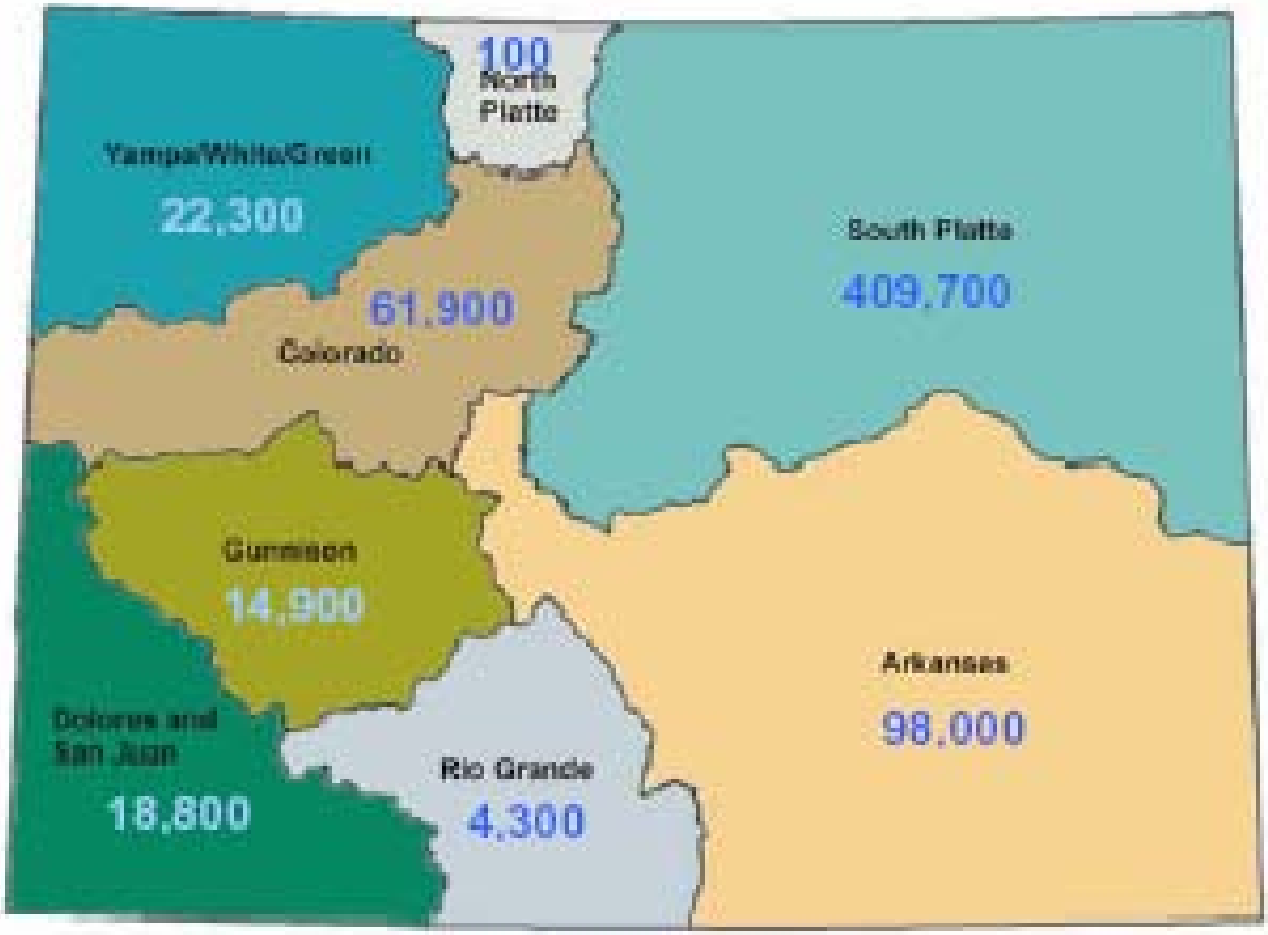
Population Growth and Increasing Needs For Water

(Developable Water Supplies Are <u>NOT</u> Where the Demand Is Growing)

Colorado's Population Growth

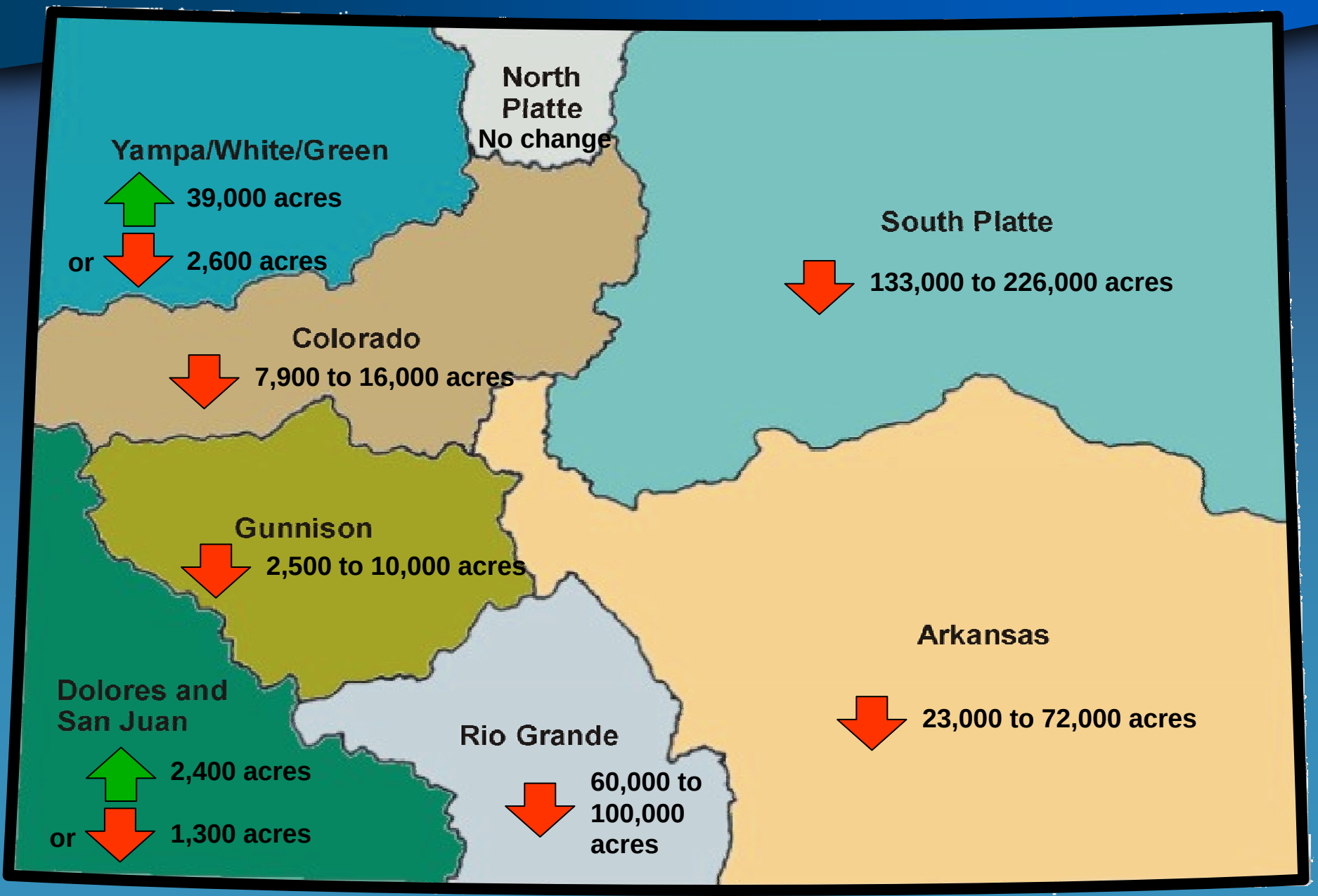


SWSI – Water Demand Forecasts

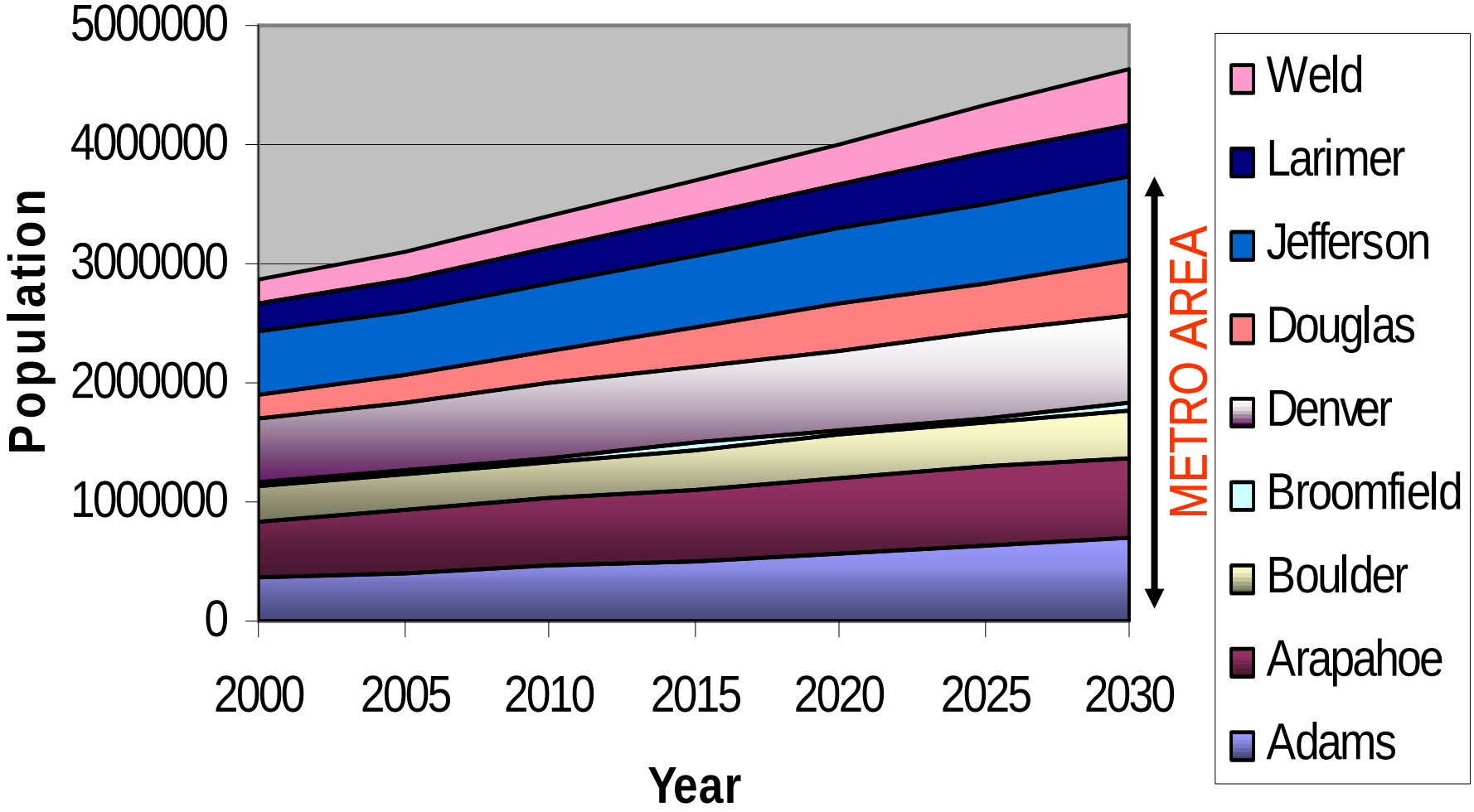


Colorado's eight major river basins and the expected increase in gross M&I water use in acre-feet per year by the year 2030.

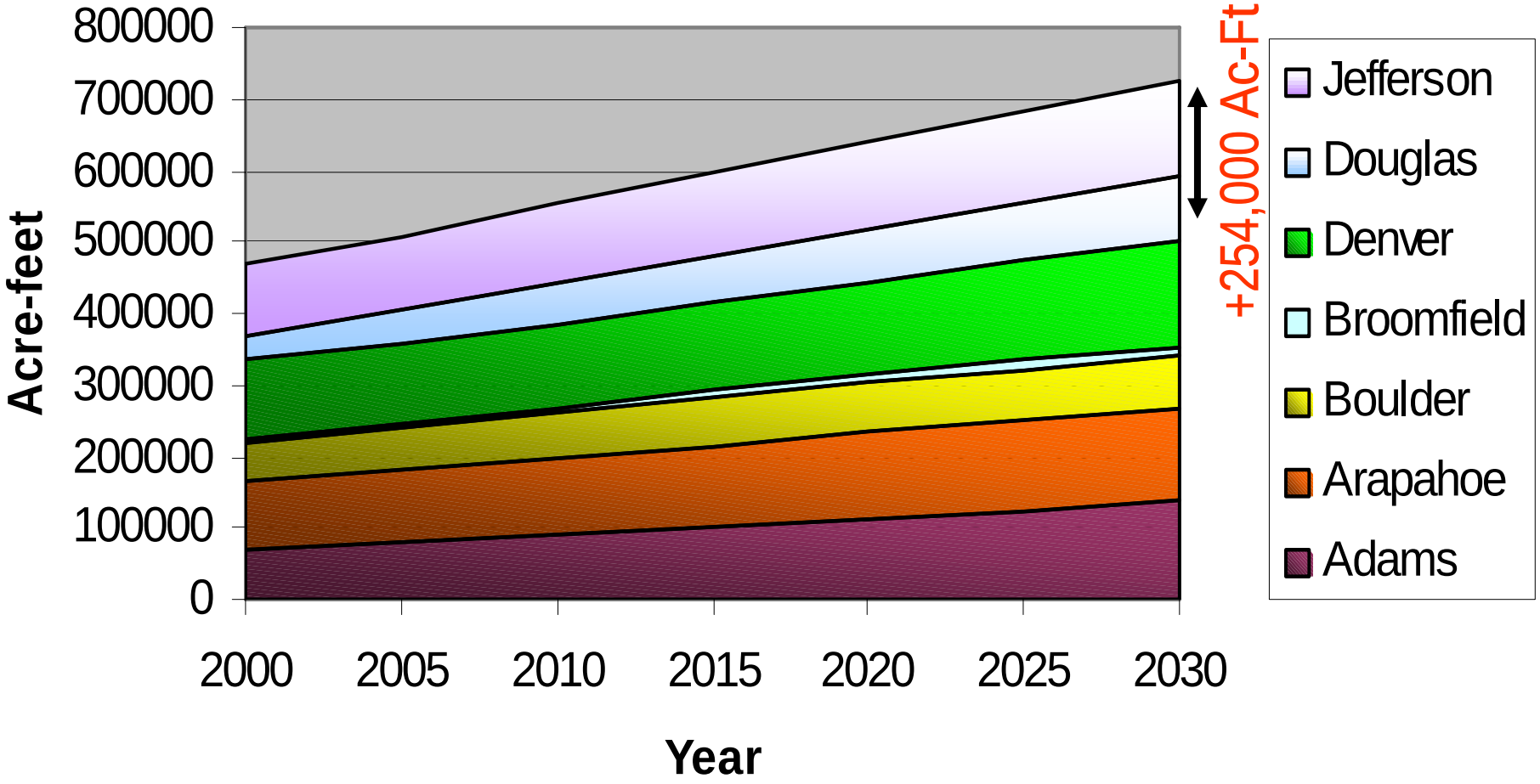
Potential Changes in Irrigated Acres (2000-2030)



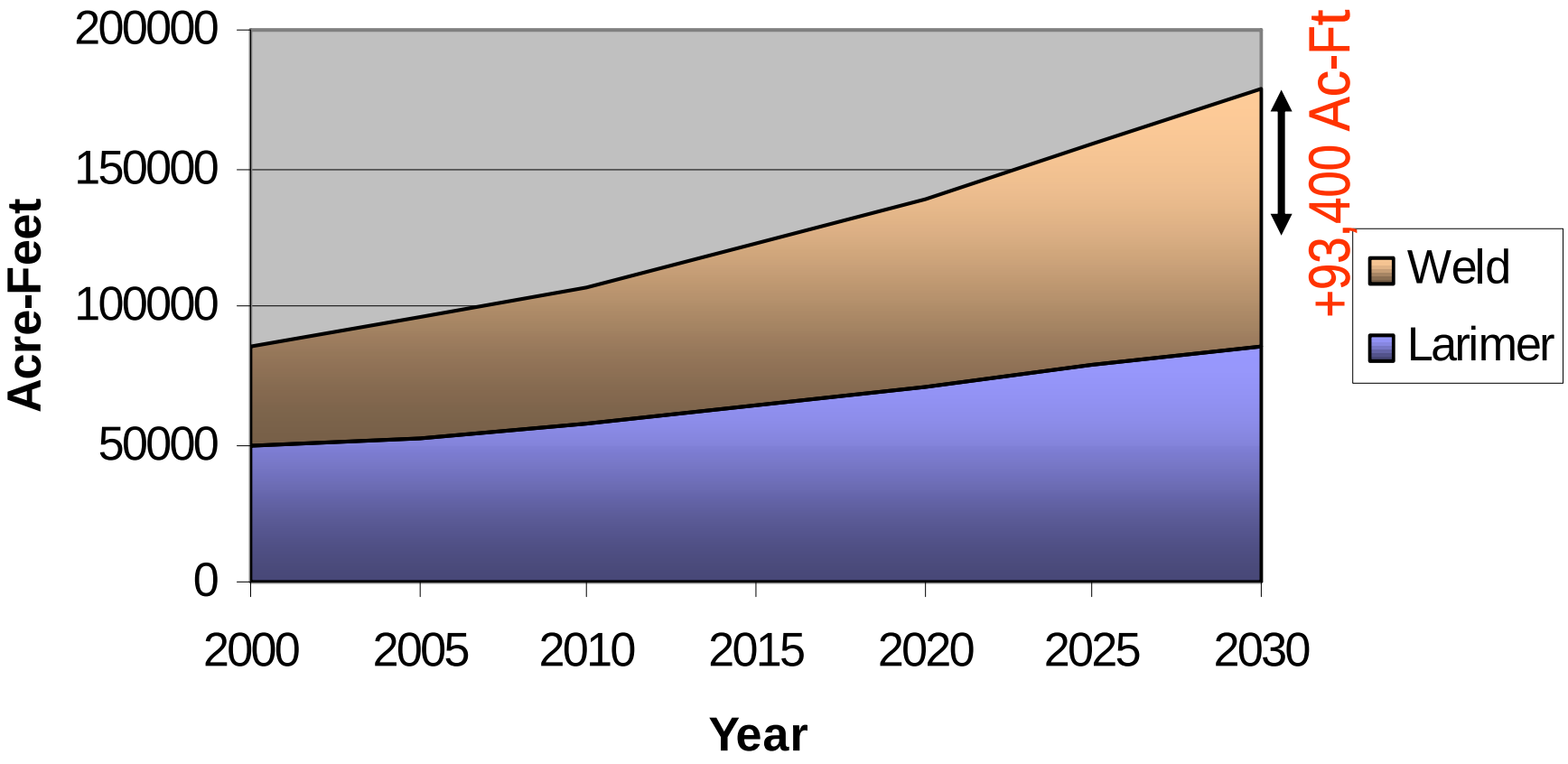
Population Growth - South Platte Basin



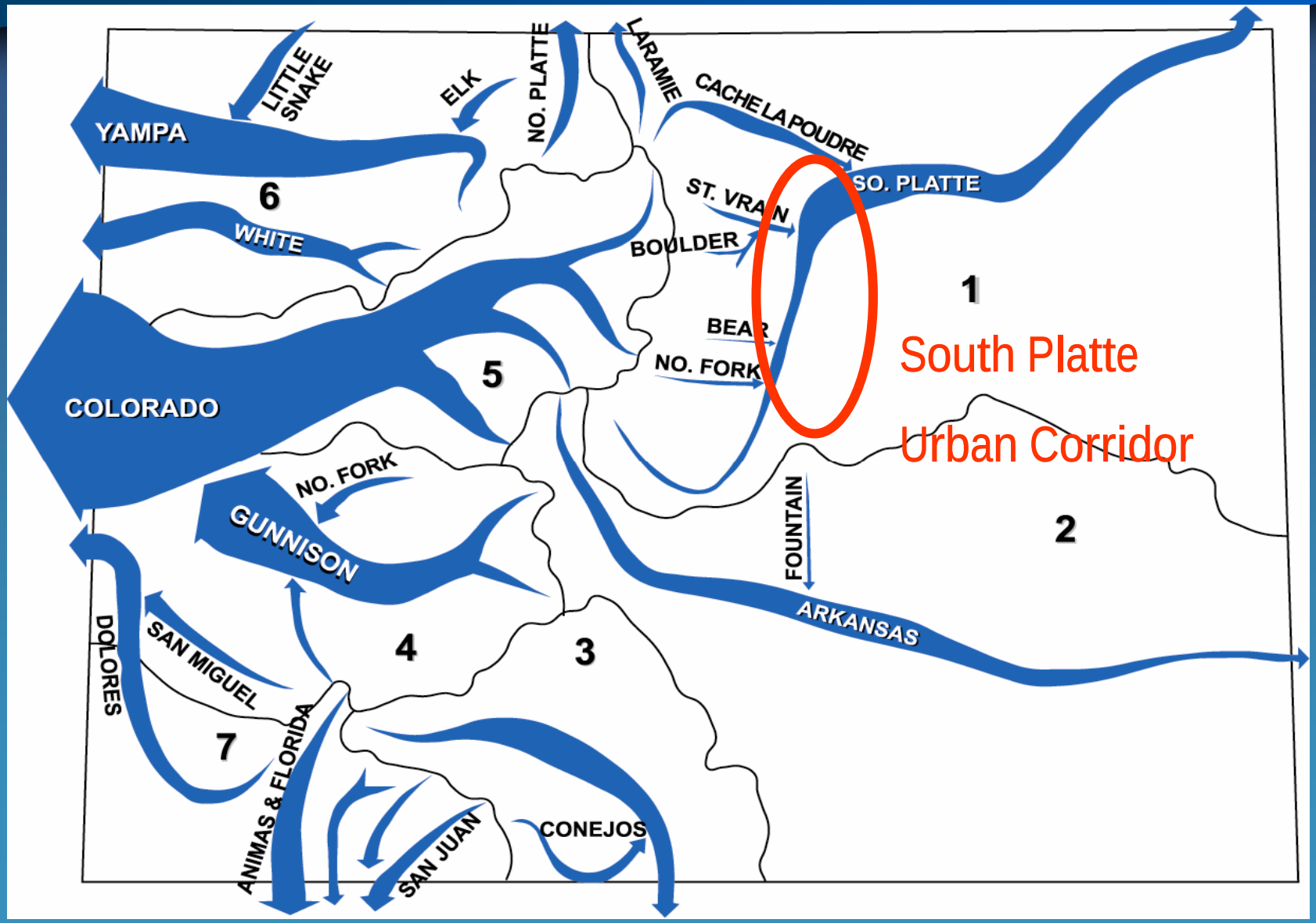
METRO COUNTIES - M&I WATER DEMANDS



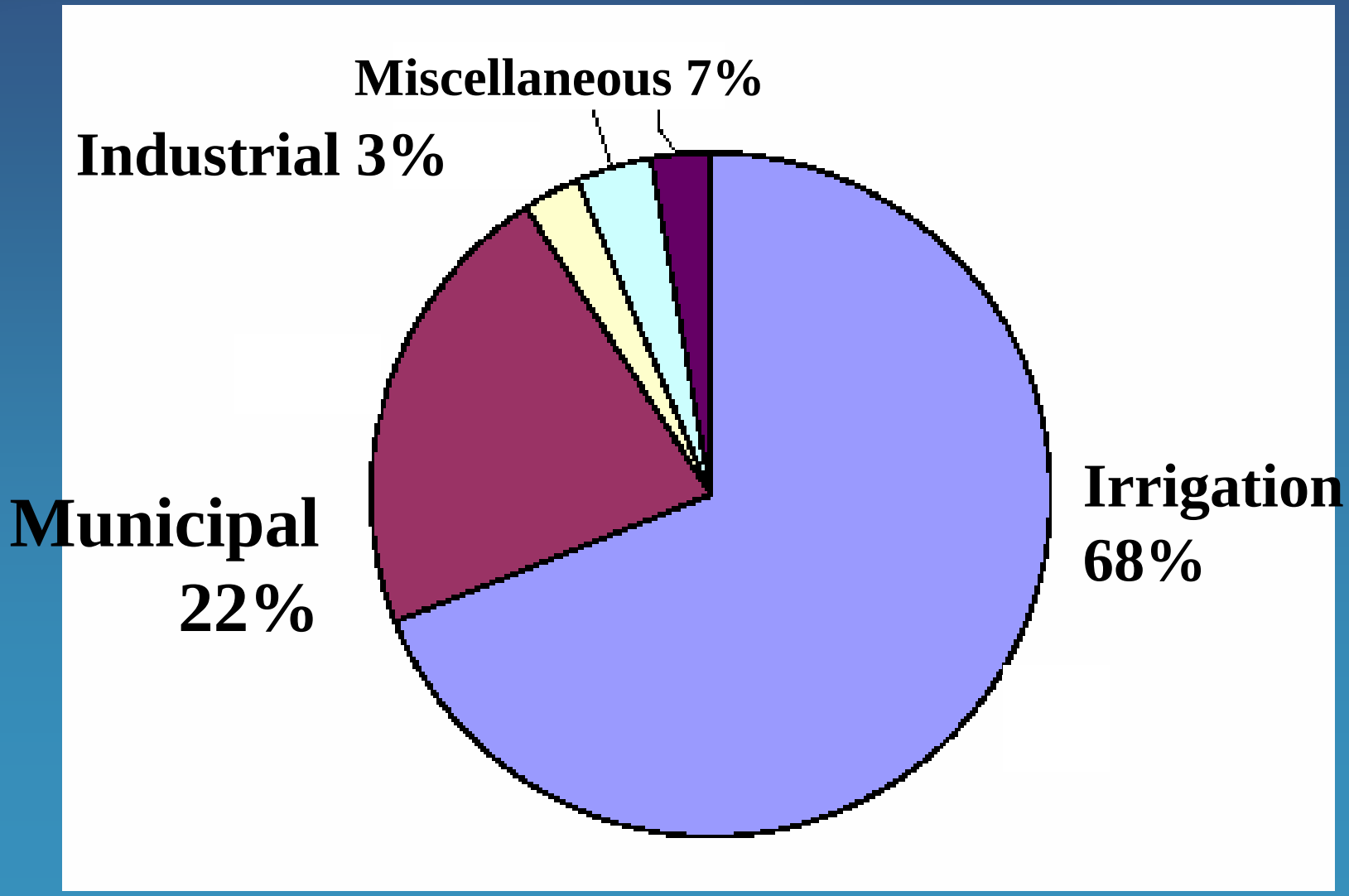
LARIMER - WELD - M&I WATER DEMANDS



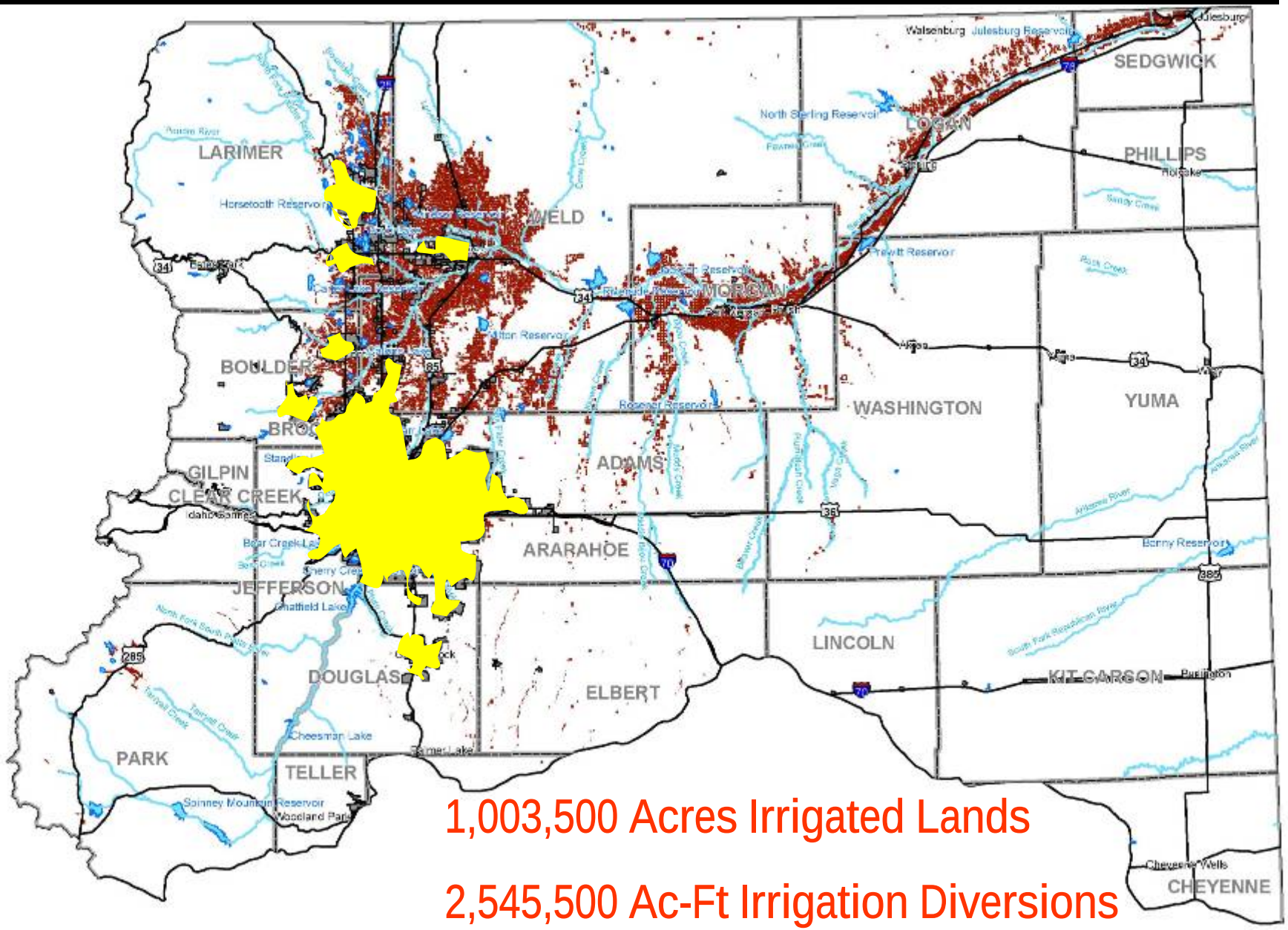
Colorado Surface Water



South Platte Water Uses



Location of Agricultural Water Uses / Cities



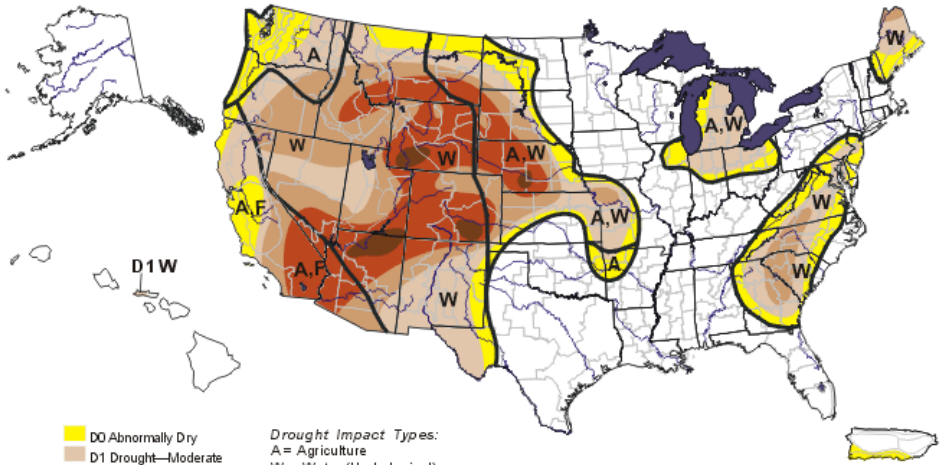
1,003,500 Acres Irrigated Lands

2,545,500 Ac-Ft Irrigation Diversions

Droughts Limit The Amount of Water Available to Serve Our Communities

U.S. Drought Monitor

November 5, 2002
Valid 7 a.m. EST



D0 Abnormally Dry
D1 Drought—Moderate
D2 Drought—Severe
D3 Drought—Extreme
D4 Drought—Exceptional

Drought Impact Types:
A = Agriculture
W = Water (Hydrological)
F = Fire danger (Wildfires)
Delineates dominant impacts
(No type = All 3 impacts)

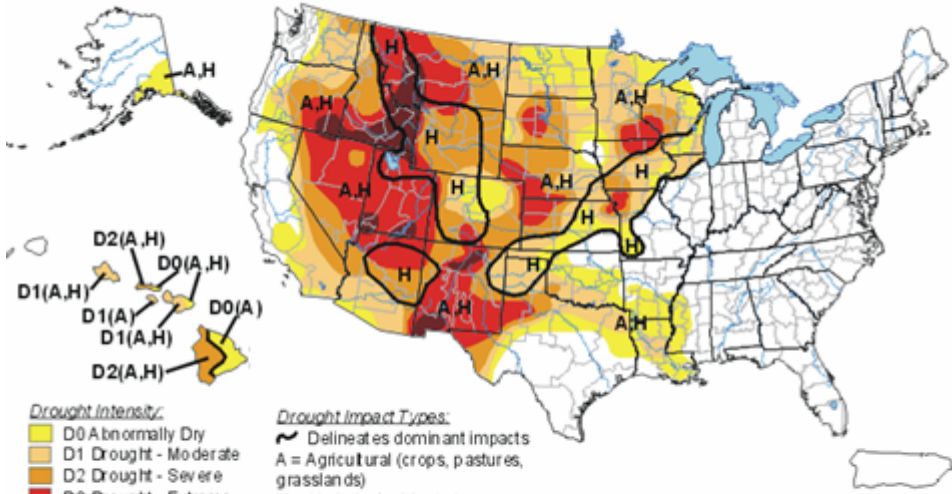
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://drought.unl.edu/dm

Released Thursday, November 7, 2002
Author: *Mark Svoboda, NDMC*

U.S. Drought Monitor

November 11, 2003
Valid 8 a.m. EST



Drought Intensity:
D0 Abnormally Dry
D1 Drought - Moderate
D2 Drought - Severe
D3 Drought - Extreme
D4 Drought - Exceptional

Drought Impact Types:
Delineates dominant impacts
A = Agricultural (crops, pastures, grasslands)
H = Hydrological (water)

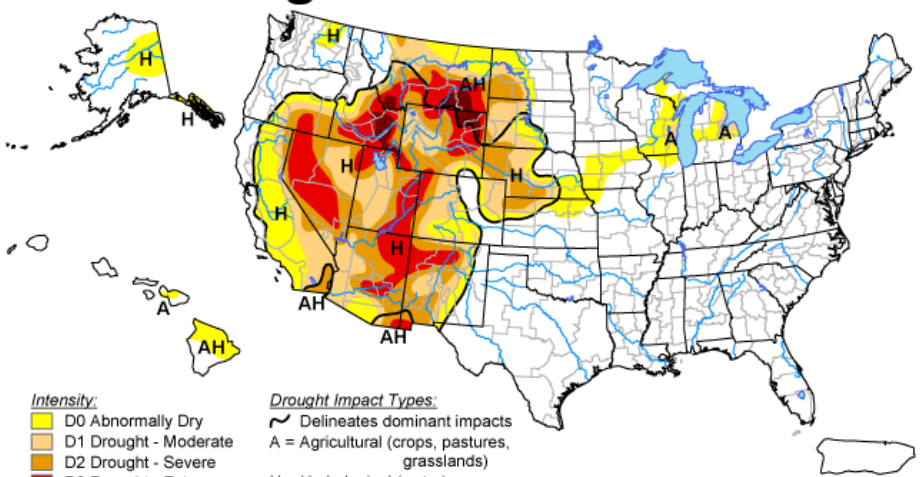
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://drought.unl.edu/dm

Released Thursday, November 13, 2003
Author: Rich Tinker, NOAA/NWS/NCEP/CPC

U.S. Drought Monitor

November 9, 2004
Valid 7 a.m. EST



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Drought Impact Types:
Delineates dominant impacts
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H = Hydrological (water)
(No type = Both impacts)

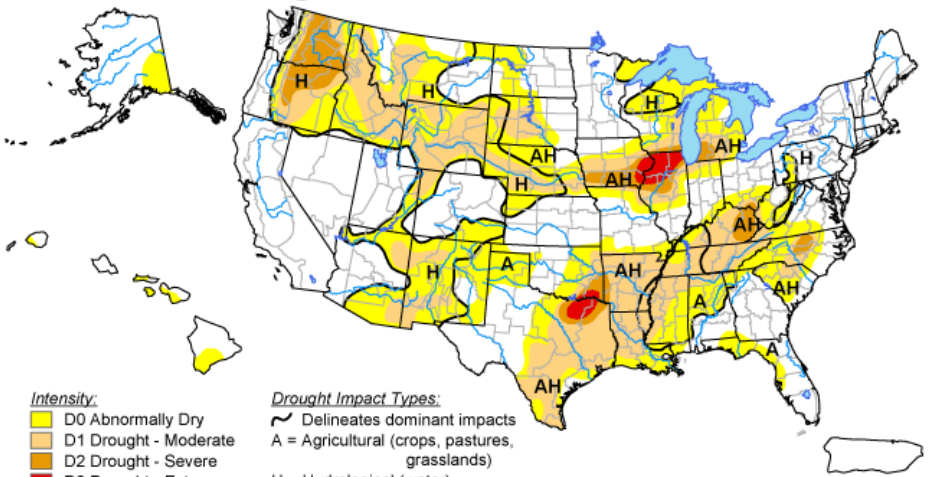
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://drought.unl.edu/dm

Released Thursday, November 11, 2004
Author: David Miskus, JAWF/CPC/NOAA

U.S. Drought Monitor

November 8, 2005
Valid 8 a.m. EST



Intensity:
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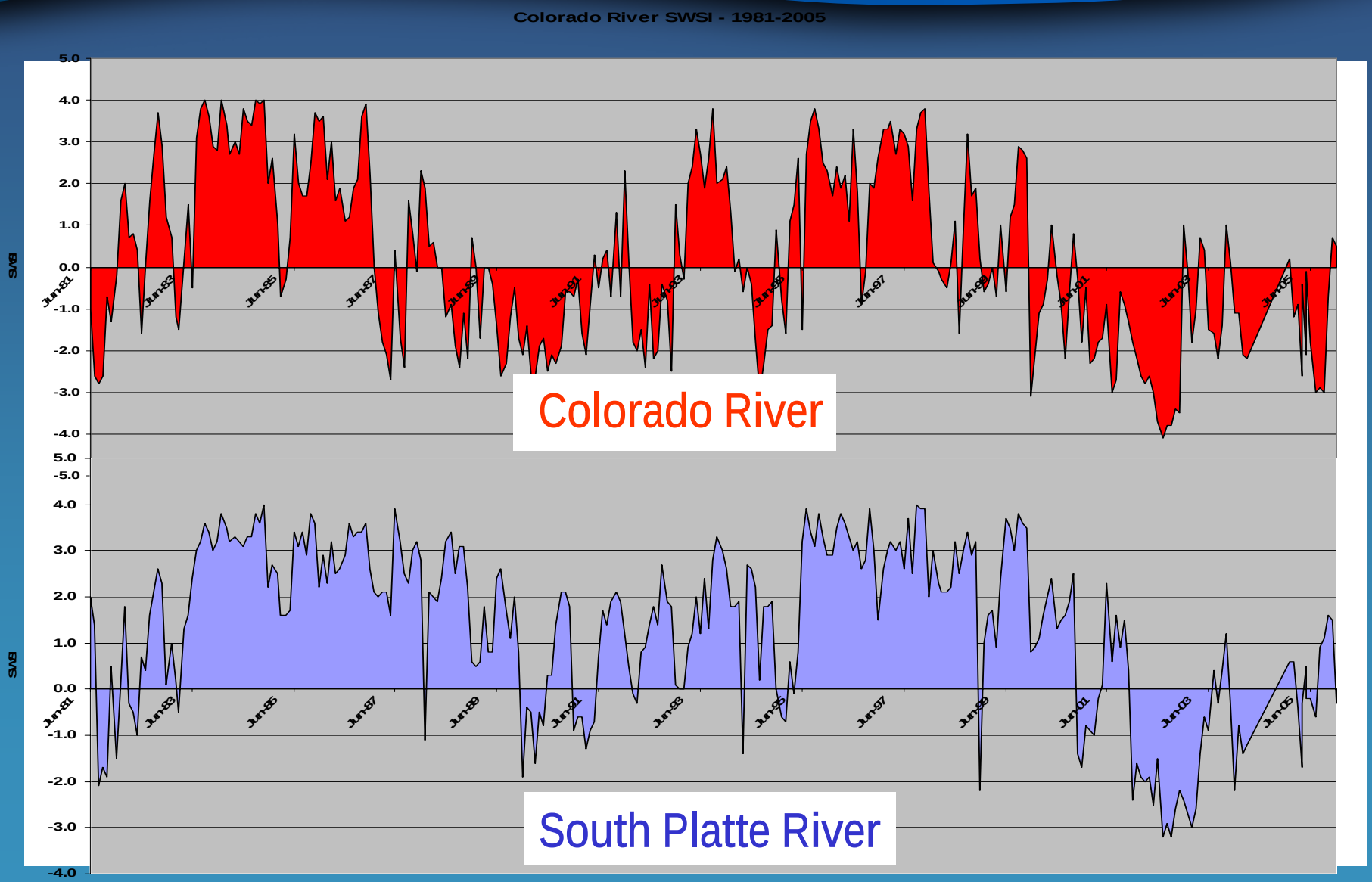
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://drought.unl.edu/dm

Released Thursday, November 10, 2005
Author: Mark Svoboda, NDMC

Currently Developed Water Sources and Infrastructure Can be Compromised By Drought

River Basins Have Varying Water Supply Conditions (1981 – 2005)

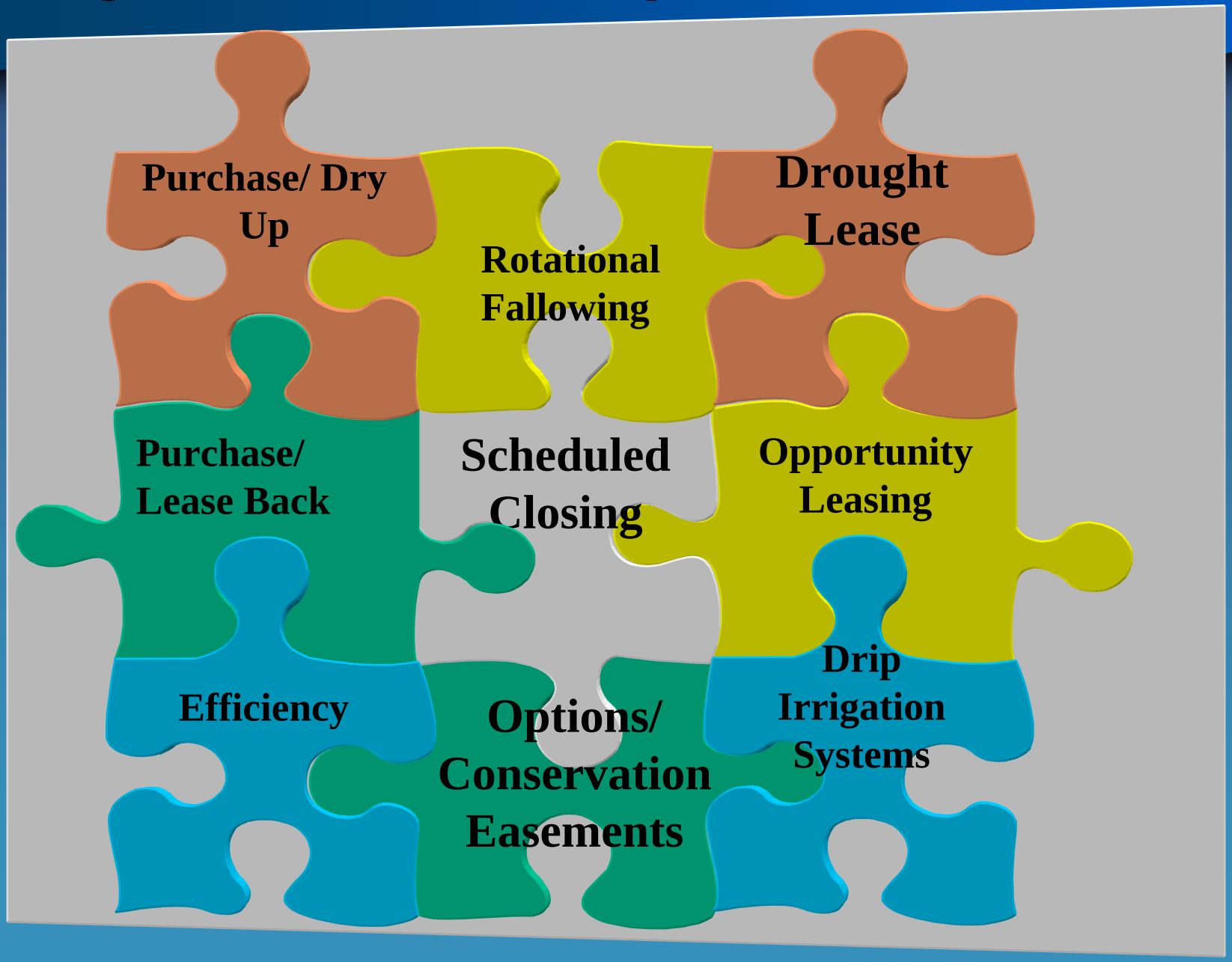


Communities Must Locate, Develop and Deliver New Sources of Water to Provide a Reliable Level of Service for Current and Future Residents and Businesses

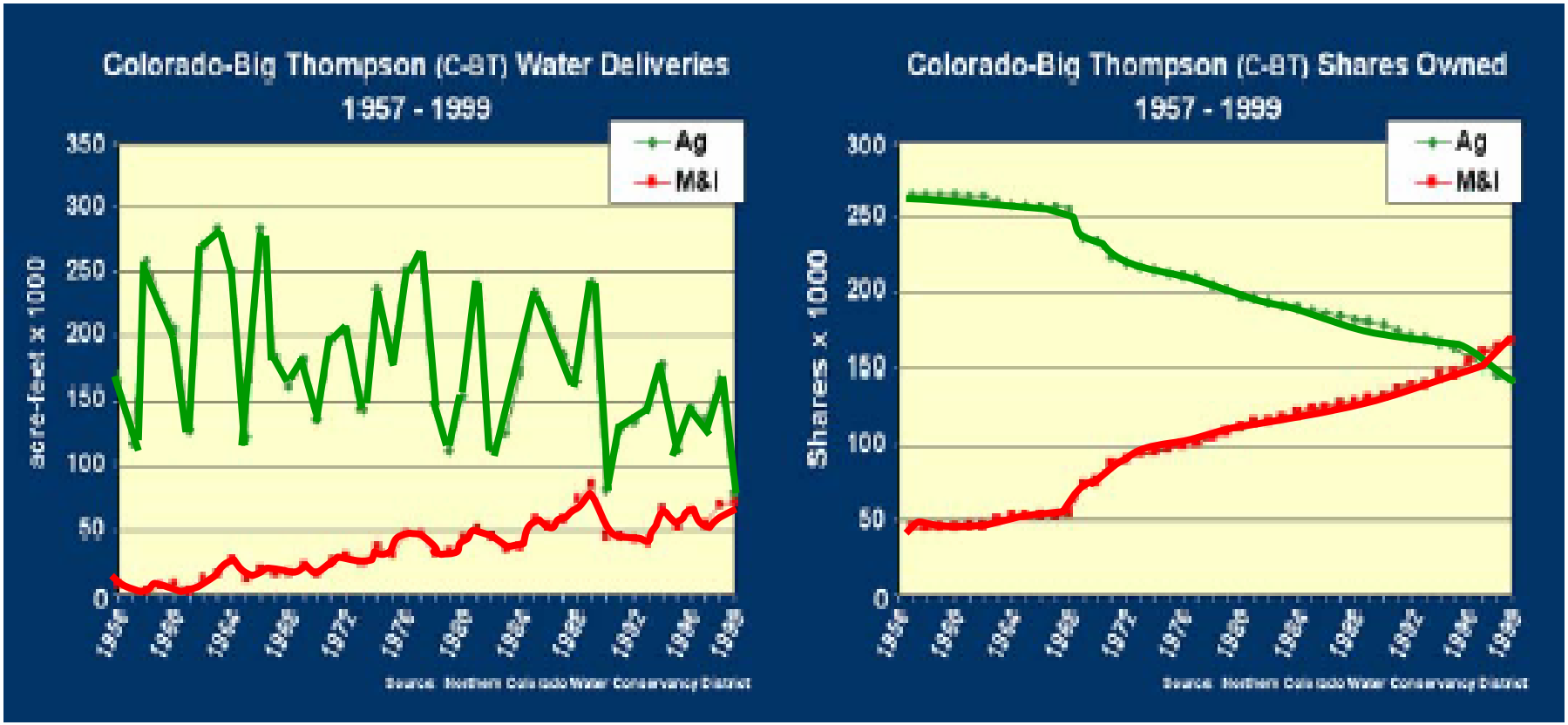
How Will Cities Acquire Needed Water Supplies?

- Water Conservation
- Use Reclaimed Water For Parks / Golf Courses
- Recapture Reusable Return Flows
- Acquire and Transfer Water From Existing Agricultural Uses:
  - **Lease During Droughts**
  - **Purchase and Dry-Up Farmlands**
  - **Increase Agricultural Efficiency/ Transfer Savings**
  - **Rotational Fallowing**
  - **Purchase and Leaseback for Certain Times**
- Develop New Sources of Water From Trans-Basin Diversions
- Build Reservoirs and Pipes/ Treatment Plants
- Address Water Quality Issues

Agriculture-Municipal Interface

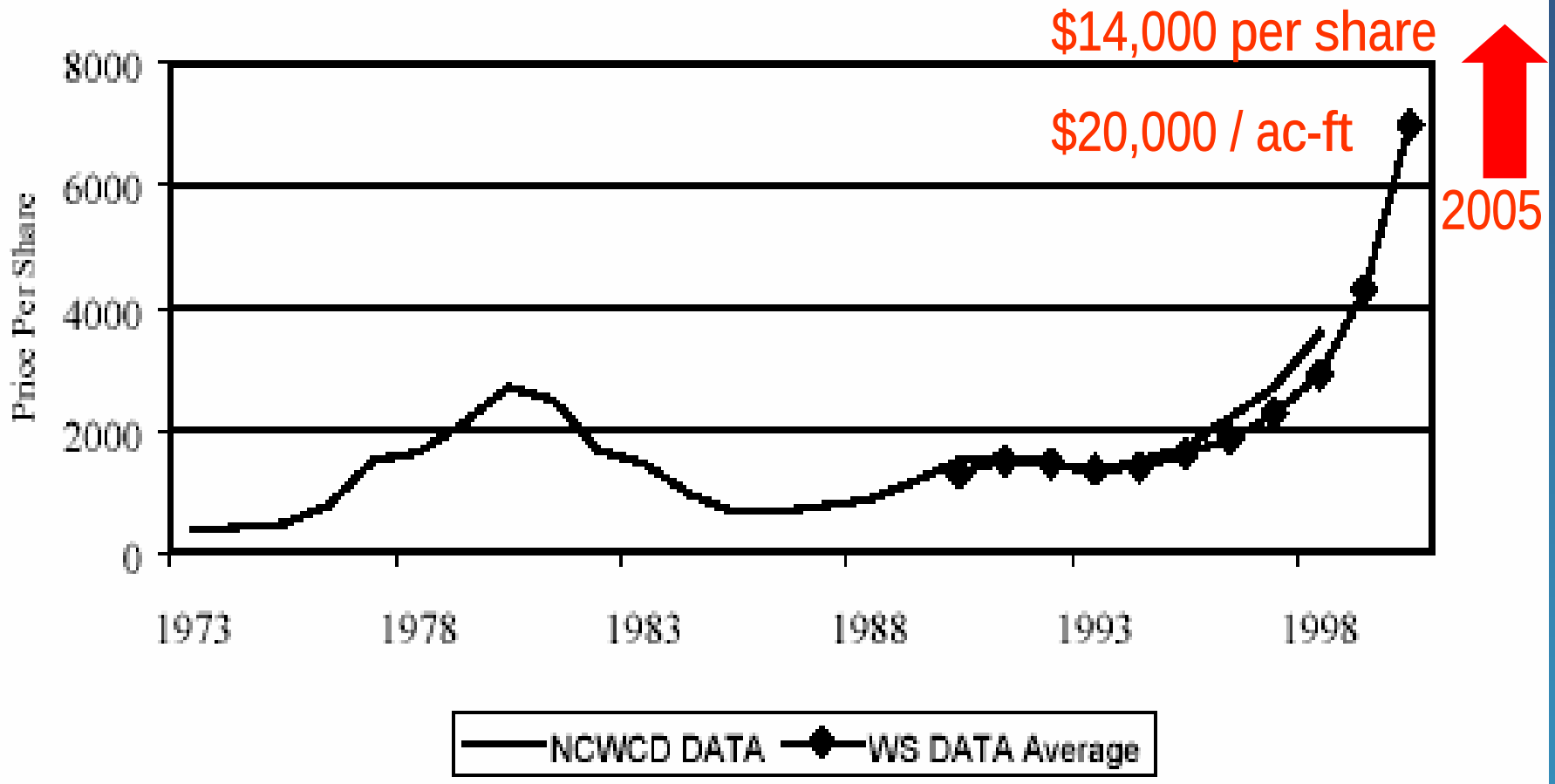


CBT Shares Are Being Converted From Agricultural to Municipal Uses

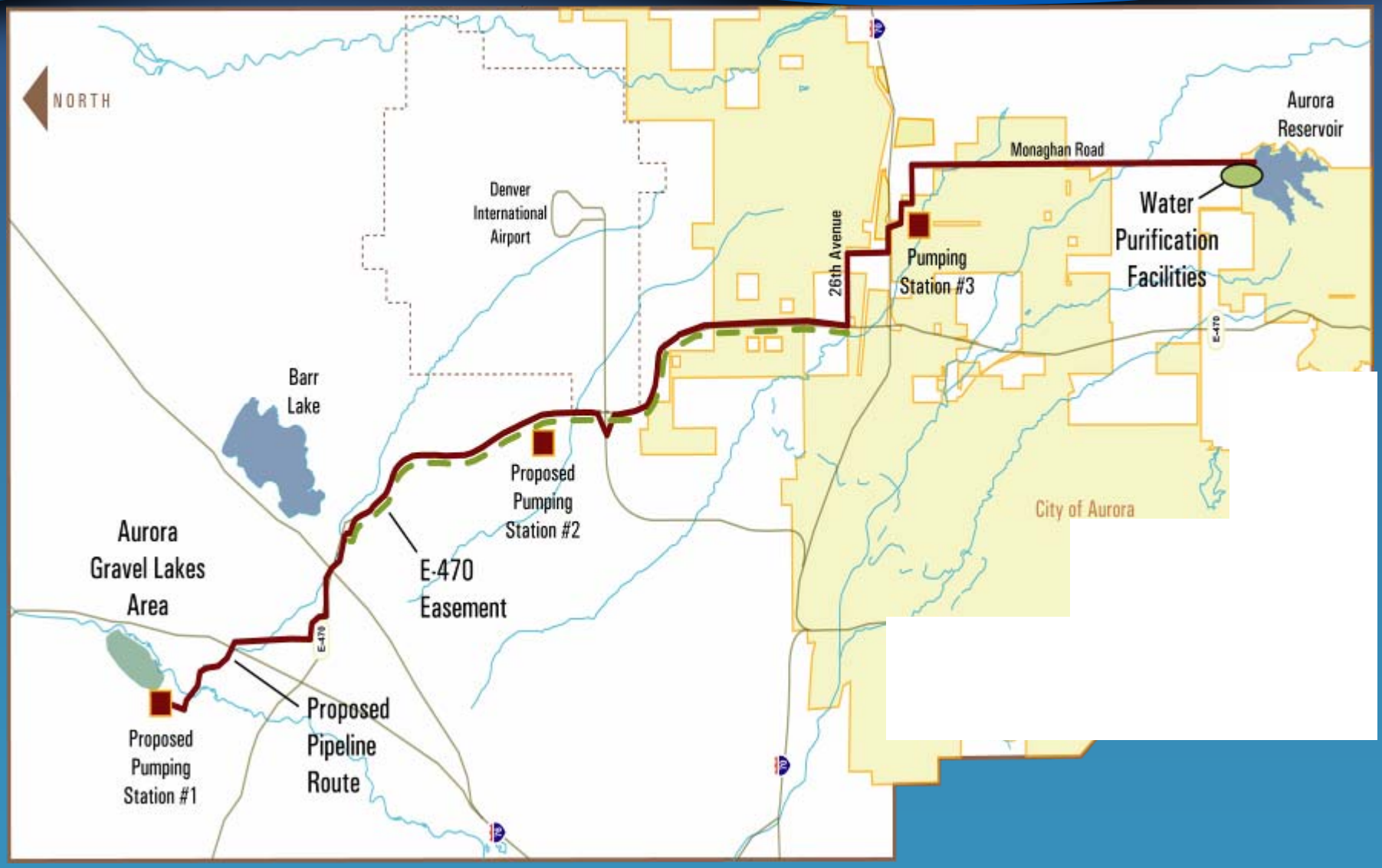


Commodity Pricing for CBT Shares

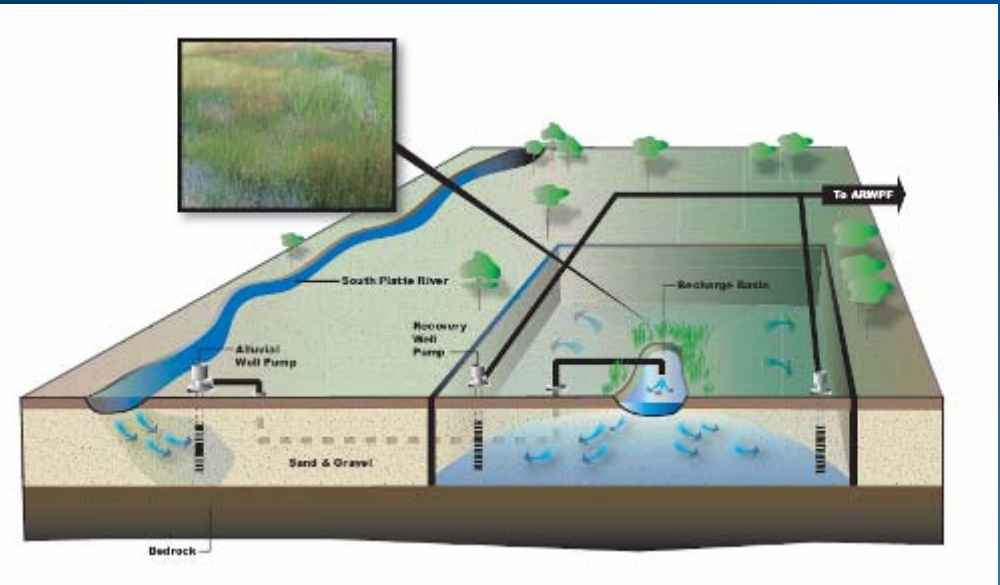
Source: Northern Colorado Big Thompson Share Transactions

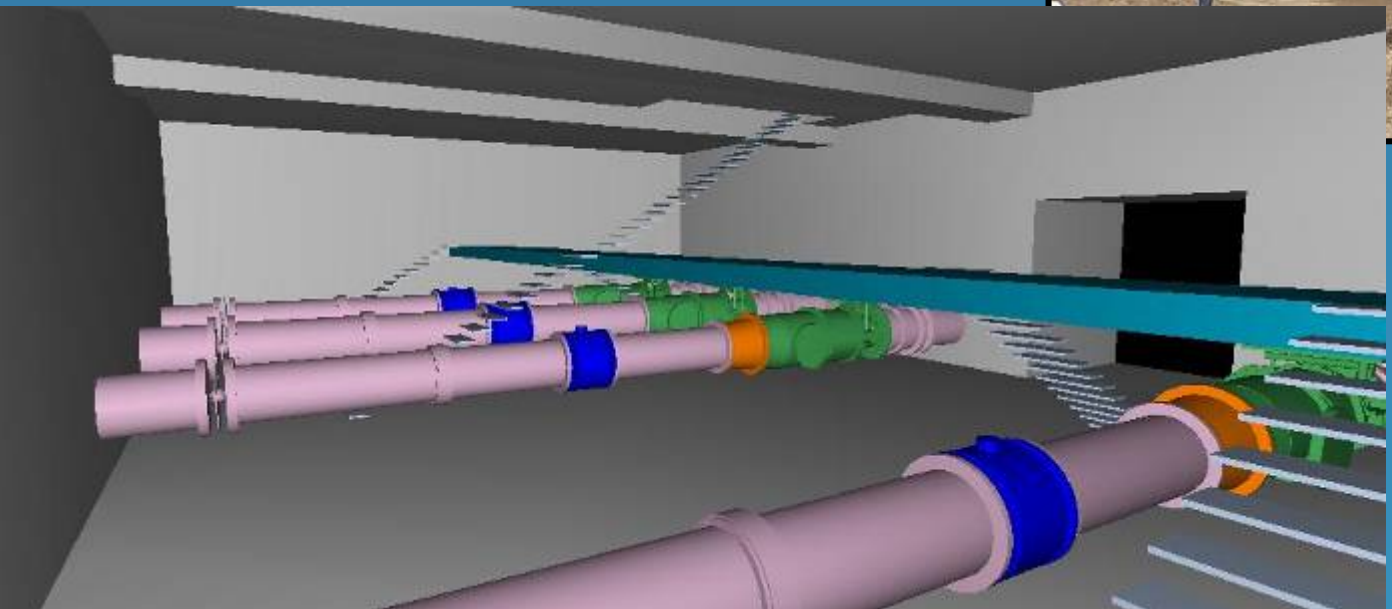


Aurora's South Platte Project



Delivery/ Purification Facilities

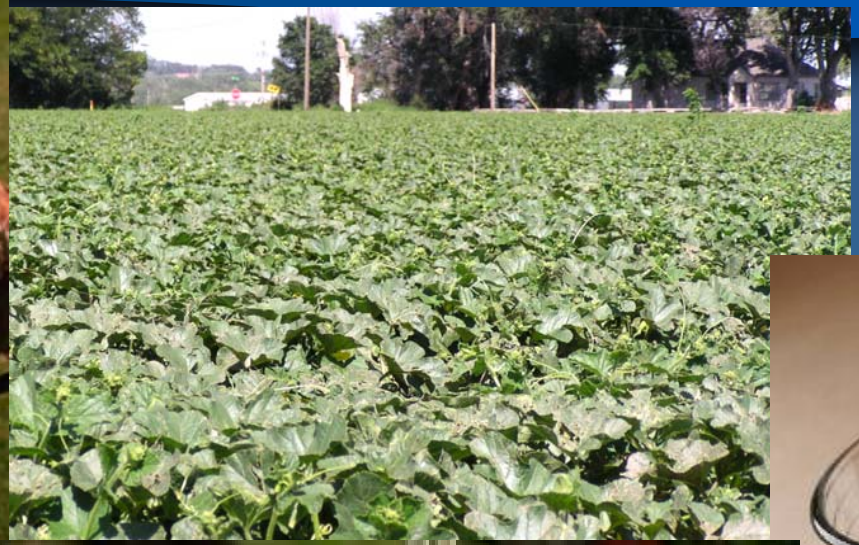




Cities MUST Cooperatively Work With Areas Where Water Will be Developed

- The recapture of reusable return flows will affect flow patterns and yields in the South Platte River
- Some farmers will exercise their property rights to use, transfer, lease or periodically fallow historic agricultural water uses
- Cities must pay for water rights, infrastructure and mitigation but the total cost must be absorbed in affordable municipal rate structures
- Cities must work with rural communities – can effective local/ 1041 regulations shape the future? Can workable relationships be developed for the benefit of both entities?

Aurora's Successful Programs

- Purchase of Rocky Ford Ditch with re-vegetation, School Payments, Economic Development
- Lake County Transfer/ Open Space Initiative
- High Line Canal Interruptible Supply Program
- Rocky Ford II Drip Irrigation Program
- Lower South Platte Augmentation Water Program/ Integrated Operations
- Lower South Platte Lease Back program

What is Colorado's Future?