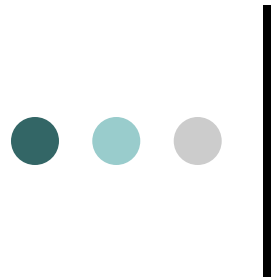


● ● ● | Irrigated Agriculture:
Regional Economic Activity &
Future Prospects



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Water as Currency for Rural Economies

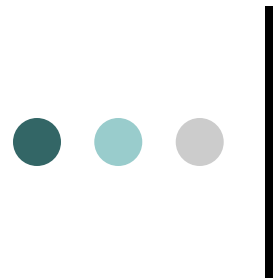
- Population growth is increasing demands on water resources.
- Irrigated agriculture's role in generating economic activity for rural areas.
- Examine irrigated lands' share of the property tax base.

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Population, Transfers and the Political Climate

- The West is a terrific place to live
 - New residents have different backgrounds
 - Similar desire to preserve the quality of life
- Large scale transfers from irrigated agriculture to M&I are accelerating.
 - Willing buyers and sellers
 - Forward looking projects
- Transfers in the absence of development.

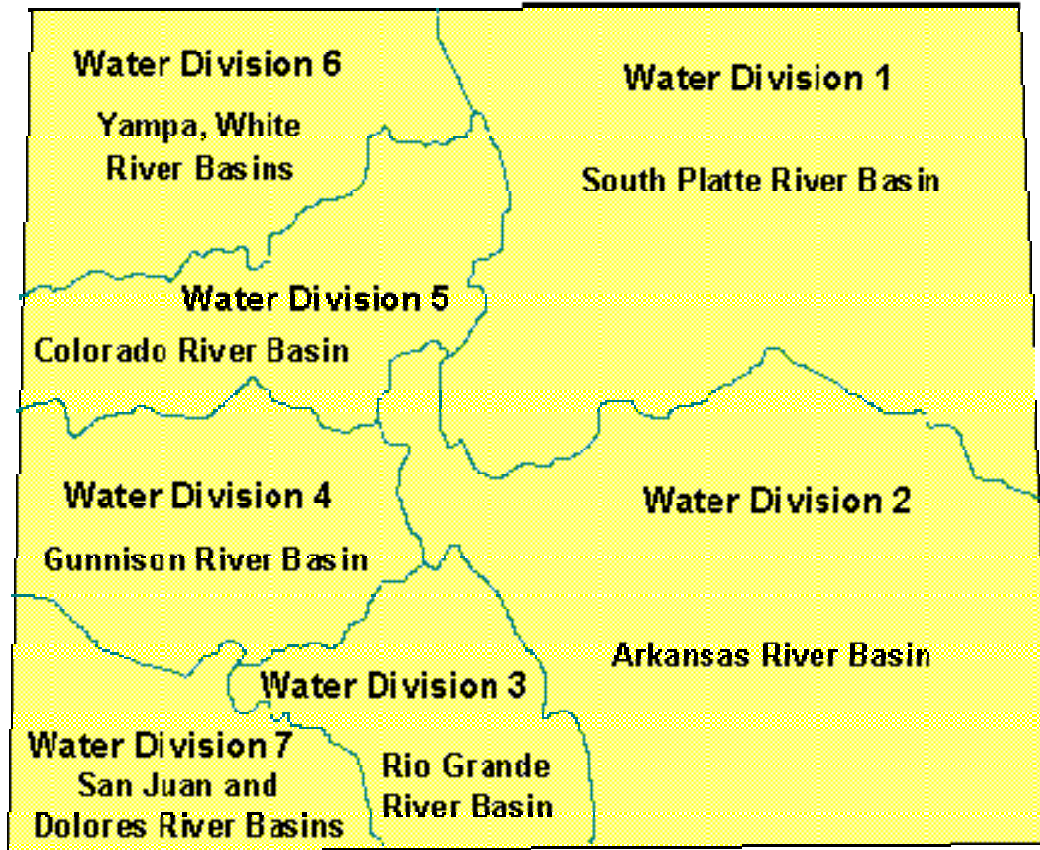


Stakeholder Questions

- How much water likely to shift use?
- How important is irrigated agriculture to rural economies, both directly and indirectly?
- What are the property tax implications of reduced irrigated acres?

Colorado's Water Divisions

Water Divisions of Colorado



Today's Focus

- South Platte
 - Lower SP
 - Republican
- Arkansas
- Rio Grande
- Tri-River
(Mesa, Montrose, Delta)



Colorado's Population Growth ... Increasing The Demand for Water

<u>Basin</u>	<u>2030 Projected Population</u>	<u>% Population Increase</u>	<u>Increase in Water Demand (AF)</u>	<u>% Increase in Water Demand</u>
Colorado	492,600	99 %	61,900	84%
Arkansas	1,293,000	55%	98,000	38%
Rio Grande	62,700	35%	4,300	25%
South Platte/RR	4,911,600	65%	409,700	53%

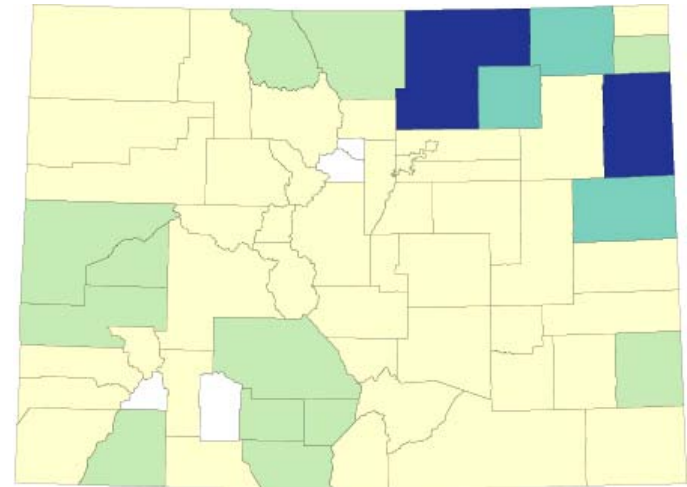
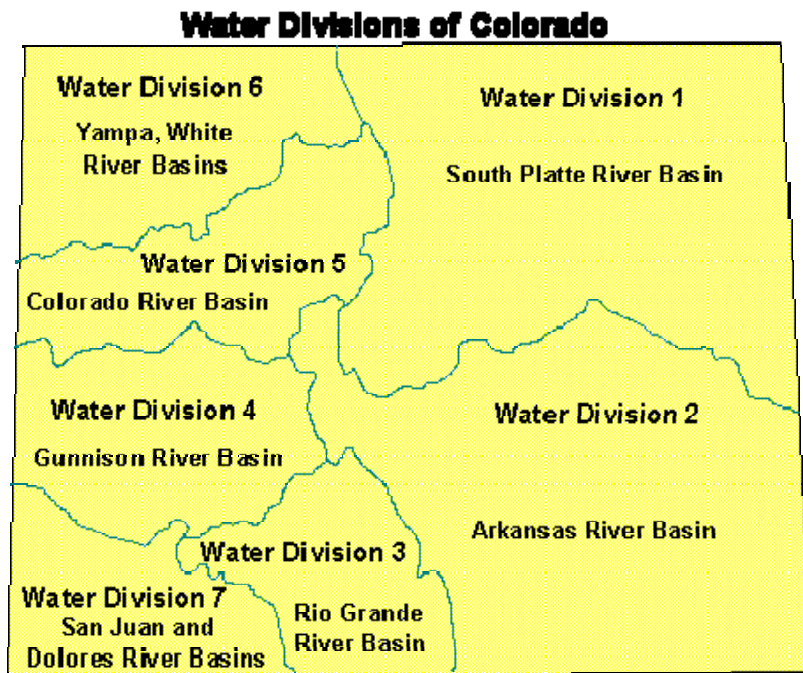
**Source the Surface Water Supply Initiative (CWCB 2004)



Projects Proposed to Balance Increasing Demands

- Increased Municipal Conservation
- Reservoirs
 - NISP – Glade Reservoir, \$377 million
 - Rueter-Hess Reservoir Expansion, \$500 million
- Pipelines
- Transfers from Agriculture to Municipal Use

Irrigated Ag and Water Divisions



Today's Focus

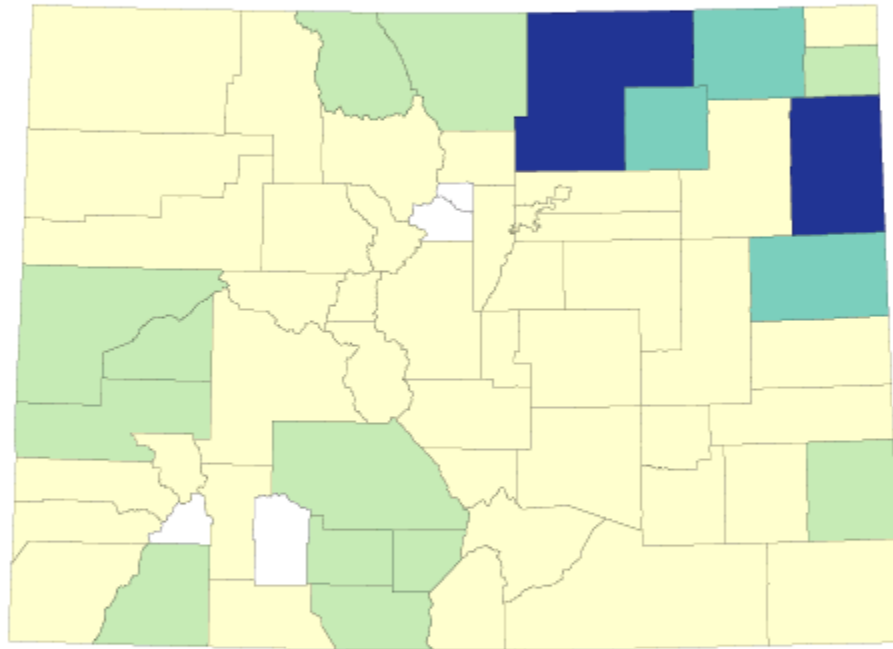
- South Platte (SP)
 - Lower SP, Republican
- Arkansas
- Rio Grande
- Tri-River Area

Colorado

All data items are from Chapter 2 - Table 1. Area Summary Highlights: 2002
Irrigated land (acres)

State: Colorado

Data Item: Irrigated land (acres)



Data

State: Colorado
State Total: 2,590,654
County:
County Total:

Download data as [CSV](#) | [XML](#) | [PDF](#)








[Help](#) [Print](#) [Return to !\[\]\(0ac73c45806a78de248a19d9a2dbe7a6_img.jpg\)](#)

Legend

Scale: (Changes the data range based on National or State level)

Comparisons:

Color:

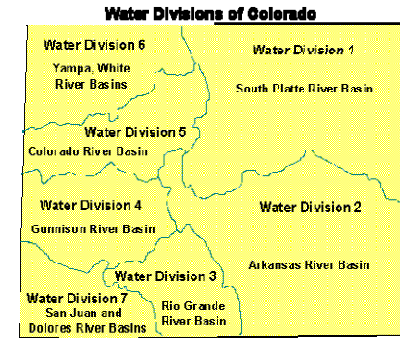
	Zero or Data Withheld
	<= 50,000
	50,001 to 100,000
	100,001 to 150,000
	150,001 to 200,000
	200,001 to 250,000
	250,001 >=

2005 Colorado Agriculture Receipts:\$5.4 billion

2005 Colorado Crop Receipts: \$1.4 billion

2005 Irrigated Crops Receipts: \$900 million (approximately)

Increased Water Demand by Basins & Estimated Acres Lost



Basin	Anticipated Population Growth	Additional Water Needed (ac ft)	Total Irrigated Acres in Basin	Estimated Loss of Irrigated Acres
Arkansas	+ 55%	98,000	538,100	47,500
Colorado/ Gunnison	+ 99%	61,900	501,200	18,200
Rio Grande	+ 35%	4,300	632,700	80,000
South Platte	+ 65%	409,700	1,000,500	179,500

Source: Colorado Water Conservation Board, SWSI Executive Summary

Economic Activity per Acre

<i>Region</i>	<i>Farm Gate Receipts Relative to Regional Sales^a</i>	<i>Economic Activity Generated per Acre of Irrigated Cropland</i>	<i>Representative Cropping Pattern</i>
Arkansas	31 %	\$428	Forages
Tri-River	6.3 %	\$2,199 (approx)	Hay- Vegetable- Fruit
Republican	37 %	\$678	Continuous Corn - Alfalfa
Rio Grande	48 %	\$1,127	Potatoes - Barley
South Platte	2 %	\$690	Corn – Alfalfa – Sugar Beets

^aIncludes all production agriculture.

Economic Activity: Irrigated Agriculture

- Direct Activity
 - Crop Sales (Gross Revenues)
- Indirect Effects
 - Fertilizer, Seed, Chemical Sales (but margins only)
 - Transportation
 - Real Estate Services
 - Ag Consultants
- Induced Effects
 - Wages Spent with Local Businesses
- When is generated economic activity high?
 - High value crops sold outside the region.
 - Revenues spent on locally produced inputs.
 - Local support industries use local labor and inputs.

<i>Region</i>	<i>Economic Activity (\$/ac)</i>
Arkansas	\$428
Tri-River	\$2,199
Republican	\$678
Rio Grande	\$1,127
South Platte	\$690



Irrigated Agriculture: Estimated Acreage Reduction

Basin	Forecast of Reduced Acres	Economic Activity (\$/ac)
Arkansas	47,500	\$428
Tri-River	18,200	\$2,199
Republican	33,000	\$678
Rio Grande	80,000	\$1,127
South Platte	146,000	\$690

Can you multiply acres and economic activity?



What about
Property Taxes?



Assessed Values: When does wet become dry?

Land is to be reclassified when:

- If water is sold and the water is diverted to another location.
- If water table declines.
- A court order is issued.

Questions:

1. Was water applied in the last year?
2. If not, was the decision a management decision (e.g., was water available)
3. Is the land considered irrigated in government programs?
4. Are water rights attached to the land? If so, what was done with the rights?
5. Is an augmentation plan attached to the land?



Property Taxes: Appraised Value

- Appraised Value – Profitability and Capitalization
 - Net Income for Landowner (Share & Rotation)
 - Capitalized @ 13%
 - Assessed Rate at 29%
 - Example Calculation: Alfalfa & Corn
- Appraised Value Difference
 - Gross Revenue Change
 - Expenses Change
 - New Use?



Forecasting Foregone County Property Tax Revenues

<i>Region^a</i>	<i>County Service Property Taxes (million \$)</i>	<i>County Service Irrigated Property Taxes</i>	<i>Reduction in Irrigated Acres</i>	<i>Estimated Reduction In Tax Revenues</i>
Arkansas	\$39.7	\$1,027,138	47,500	\$243,944
Tri-River	\$36.6	\$387,020	18,200	\$41,351
Republican	\$14.9	\$866,126	32,000	\$53,142
Rio Grande	\$8.5	\$480,260	80,000	\$106,164
L. South Platte	\$17.1	\$805,515	70,000	\$185,300

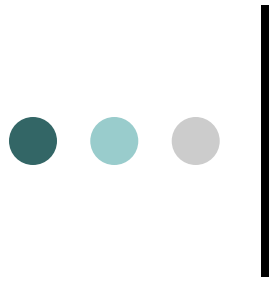
^aCounties do not comprise the entire basin, but are selected from within the basin.



Forecasting Foregone School Tax Revenues

<i>Region^a</i>	<i>School Tax Revenues (million \$)</i>	<i>School Irrigated Property Taxes</i>	<i>Reduction in Irrigated Acres</i>	<i>Estimated Reduction In Tax Revenues</i>
Arkansas	\$40.4	\$732,059	47,500	\$102,924
Tri-River	\$38.1	\$420,489	18,200	\$46,073
Republican	\$14.1	\$870,002	32,000	\$49,368
Rio Grande	\$11.7	\$648,556	80,000	\$142,360
L. South Platte	\$16.9	\$789,945	70,000	\$179,770

^aCounties do not comprise the entire basin, but are selected from within the basin.



Irrigated Agriculture: Where do we go from here?

- Irrigated agriculture is an engine of economic activity.
 - Income is largest for exported goods, local input use.
 - If acres transition, what alternatives exist?
 - What investments might be created?
- Irrigated agriculture provides a property tax
 - Will as many services be needed if acres are retired?
 - Where can the shortfall be made up?
- What innovative opportunities exist to maintain revenue?
 - Water as a crop?