

REALLOCATION OF WATER FROM AGRICULTURAL TO MUNICIPAL USE

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- **Colorado is a growing urban state.**

- Growth [Attachment A; Table 1]
 - 100+ years of unbroken growth, slowing in late 1980's
 - Resumption of immigration and accelerating growth in 1991
- Urbanization
 - 80% of population in 9 front range counties [Table 2]
 - Statewide: 72% in urbanized areas, 1.4% on farms (16,400)¹
- Diminishment of Agriculture
 - Statewide employment [Table 3]
 - * Number of jobs of all kinds increased 100%, 1970-1990
 - + farm proprietors, - 8%
 - + farm employment, - 15%
 - * Jobs on farms and in agricultural services, <3% of all jobs in 1991.²
 - + 1986-91, farm employment has decreased by 2.5%
 - * Farm employment is proportionally less than that for the United States as a whole.³
 - Front-range "agricultural" counties: e.g. Adams, Larimer, and Weld [Table 3]
 - * Since 1970, the importance of agriculture has declined
 - * For example, Weld County
 - + total employment: + 92%
 - + farm proprietors: - 23%
 - + farm employment: - 25%
 - * Assault of urbanization?
 - Poor rural counties: Costilla, Conejos, Huerfano [Table 4]
 - * Since 1970, populations increased
 - + Costilla (+44%), Conejos (+15%), and Huerfano (+17%)
 - * Farm employment decreased
 - + Costilla (-13%), Conejos (-15%), and Huerfano (-3%).

¹ Colorado Division of Local Government, *Summary Tape File 3 -- 1990 Census of Population and Housing*, Tables P6 and H5.

² Colorado Division of Local Government, *Employment (Including Proprietors) by Industry for Colorado and the United States with Location Quotients for Colorado, 1981-1991*, Table 2.

³ Colorado Division of Local Government, *Employment (Including Proprietors) by Industry for Colorado and the United States with Location Quotients for Colorado, 1981-1991*, Table 8.

- The *Quillen Rule* for those 28% of Coloradans living outside urbanized areas.

*You pay certain economic and social prices for living in an isolated backwater. In return, you get to enjoy some scenery and serenity. It's a choice you make because that's how you want to live.*⁴

- Farm and food sector contributions to Colorado's Economy⁵

- The numbers:

<u>Sectors</u>	<u>Earnings (\$mil)</u>	<u>Employment (thous)</u>	<u>Gross Sales (\$mil)</u>
Agribusiness			
Agricultural Inputs	322	11	1,647
Farm Production	789	42	3,207
Processing and Marketing	695	25	6,695
Total Agribusiness	1,806	79	11,549
Percent of State Total	4.7%	6.5%	
Food Wholesaling and Retailing	1,991	153	15,331
Total Farm and Food System	3,797	232	26,881
Percent of State Total	9.8%	19.1%	

- Trends in Agribusiness sector income, as percentage of total state income:

- * 1974: 8.0%
- * 1987: 4.7%

- Colorado's love affair with agricultural use of water

- As a matter of law and practice, agricultural use of water is favored in this state.
- Colorado law's tilt toward agricultural water rights

- Fate of the domestic preference

- * Colorado Constitution, Article XVI, Section 6:

... when the waters of any natural stream are not sufficient for the service of all those desiring the use of the same, those using the water for domestic purposes shall have the preference over those claiming for any other purpose, and those using the water for agricultural purposes shall have preference over those using the same for manufacturing purposes.

- * *Town of Sterling v. Pawnee Ditch Extension Co.*, 42 Colo. 421, 94 P. 339 (1908).

- Until 1903, only irrigation water rights could be determined in general adjudications.

- As a practical matter, agriculture uses a disproportionate amount of water⁶

- Agriculture: 95% of water consumption, less than 3% of Colorado jobs
- 72% of Coloradans living in urbanized areas consume less than 3% of Colorado water.

⁴ Quillen, Ed. *Invasions from the mainstream*, The Denver Post, October 24, 1993, p. 3D.

⁵ *Farm and Food Contributions to the Colorado Economy (1987): Executive Summary*, February 1991, Department of Agricultural and Resource Economics, Colorado State University. The values reflected in this outline are for 1987, the most recently studied year. The study will be done again in 1994.

⁶ According to the Colorado Water Education Foundation's *Colorado Water Resource Map* (1993), the consumption of the state's water is allocated as follows: Mining, 0.3%; Commercial, 0.3%; Thermal-Electric, 0.8%; Industry, 0.8%; Domestic, 2.7%; Agriculture, 95.1%.

- **Reallocation of Colorado water to municipal uses.**

- The establishment of new water rights where unappropriated water is available
 - The traditional rules
 - The municipal rules
 - * anti-speculation, CRS 37-92-103(3)(a)
 - + interest in lands or facilities to be served (exception for "governmental agencies")
 - + specific plan
 - * "can and will," CRS 37-92-305(9)(b)
 - ... the waters can be and will be diverted, stored, or otherwise captured, possessed, and controlled and will be beneficially used and that the project can and will be completed with diligence and within a reasonable time.*
- Acquisition of existing irrigation water rights, and their conversion to municipal purposes.
 - Acquisition: condemnation or purchase
 - Conversion:
 - * Traditional rule: no injury to other water rights
 - * New rules: no injury to other water users, CRS 37-92-305(3)
 - + Fees & costs to remaining owners in mutual ditch, CRS 37-92-304(3.5)
 - + Sen. McCormick's, SB 92-92, CRS 37-92-305(4.5), post-4/16/92 applications:
 - Terms and conditions applicable to changes of use of water rights from agricultural irrigation purposes to other beneficial uses include reasonable provisions designed to accomplish the revegetation of lands from which irrigation water is removed.*
 - The rub: the interests of non-water users.

- **Colorado's growing wisdom about the municipal use of water.**

- CSU 1992 survey⁷

As populations in urban areas increase, the need for water also increases. One way cities meet their water needs is to purchase agricultural water rights. However, this decreases the amount of water available for farms and agricultural businesses. Given the increasing scarcity of water resources, which of the following do you give the highest priority to for water use?

<i>Growth of cities</i>	<i>10%</i>
<i>Sustaining agriculture</i>	<i>73%</i>
<i>Undecided/Don't know</i>	<i>17%</i>

Greater percentages of women (77%) compared to men (67%) would support prioritizing use of water for sustaining agriculture.

 - Questionable inherent assumptions:
 - * "... decreases the amount of water available for farms and agricultural businesses."
 - * "... increasing scarcity of water resources"
 - Missing assumptions:
 - * No injury rule for conversion of agricultural water rights
 - * Substantial increase in irrigated farm lands⁸
 - + 1970: 2,263,803 ac.
 - + 1990: 2,627,752 ac., + 363,949 ac., + 16%

⁷ *The Colorado Environmental Poll*, CEP Number 1, August 1992, Human Dimensions in Natural Resources Unit, College of Natural Resources, Colorado State University. (395 telephone interviews by students)

⁸ Annual Reports to the Governor and the Legislature, Department of Local Affairs, Division of Property Taxation, 1971-92.

+ 1991: 3,856,708 ac., + 1,228,956 ac., + 47% (from 1990 to 1991)⁹

o CSU 1993 survey¹⁰

Should Colorado increase, decrease or maintain the same spending on protecting prime agricultural land from development?

Increase - 37% Same - 48% Decrease - 15%

- What spending?
- Why the shift from 1992 to 1993?

o Abortive initiative for amendment of Art. XVI, Section 5; "W.A.T.E.R. II," 1992

FROM AND AFTER JANUARY 1, 1992, WHENEVER A WATER COURT OF COMPETENT JURISDICTION ENTERS A FINAL DECREE ALLOWING A WATER TRANSFER FROM ANY WATER CONSERVANCY DISTRICT OR WATER CONSERVATION DISTRICT, FOR ANY USE OF SAID FINAL DECREED WATER OUTSIDE OF SUCH DISTRICT, AND SAID WATER TRANSFER REMOVES WATERS FROM A RIVER BASIN SUBJECT TO AN INTERSTATE COMPACT OR WHEN SAID TRANSFER IS OFFICIALLY CONTESTED BY THAT DISTRICT, THAT PROPOSED CHANGE IN THE USE OF WATER MUST ALSO RECEIVE THE APPROVAL OF THE MAJORITY OF THE STATUTORILY QUALIFIED ELECTORS OF THAT DISTRICT MOST DIRECTLY AFFECTED BY SUCH TRANSFER WHO ACTUALLY CAST BALLOTS AT AN ELECTION FOLLOWING SAID FINAL DECREE.

● What is to be done about municipal conversions of agricultural water rights?

o In the context of Colorado, does anything need to be done? Is the agribusiness/rural status quo worth preserving?

■ Status quo

- * Agribusiness/rural
 - + 4.7% of the economy
 - + 6.5% of jobs
 - + 28% of the people
 - + 95% of water consumption
- * Urban/municipal
 - + 72% of the people
 - + 3% of water consumption

■ What is wrong with this picture?

o Like Federal grazing fees, is the agribusiness/rural status quo an indicator or surrogate for other values?

- Recreation
- Environment

⁹ The 1991 values may be suspect since there are some phenomenal increases in the space of but one year, since 1990, for several counties, including: Chaffee County, where agricultural irrigated land increased from approximately 10,000 acres to 105,000 acres, and Las Animas County, where the acreage increased from 18,600 to 1,192,315 acres from 1990 to 1991.

¹⁰ *The Colorado Environmental Poll*, CEP Number 2, April 1993, Human Dimensions in Natural Resources Unit, College of Natural Resources, Colorado State University. (402 telephone interviews by students)

- **Question #2: How can water transfers from agricultural to municipal use be structured to compensate third parties; how can income generated from transfers be devoted to diversifying rural economies and to augment local tax revenues?**

- **Fundamental public policy questions:**

- * Should government assist or compensate segments of our society when market decisions adversely affect those sectors?
 - + Public opinion: No
 - CSU 1993 survey
 - Tourism tax election, 1993
 - + If so, for how long?
- * Should government force those who make market decisions to compensate adversely affected segments of our society?
 - + If so, in the context of municipal conversion of agricultural water rights, who are the decision-makers?
 - The irrigators who sold their water rights?
 - The municipalities who bought them?

- **Diversion of "income generated from transfers" -- unlikely, politically**

- * What income? Farmers who sold water rights?
- * Increase municipal water rates to generate income?

- **Question #1: How can water transfers from agricultural to municipal use be structured [1] to address public concerns and [2] to compensate third parties?**

- **What are the public concerns or beliefs about water?¹¹ *Searching Out the Headwaters*¹²**

- * Equity ... Water should be distributed fairly
- * Ecology ... It is wrong to harm nature unnecessarily
- * Conservation ... It is wrong to waste water

- **Equity?**

- * How define fairness?
 - + One man, one molecule?
 - + One cow, one molecule?
 - + One acre, one molecule?
 - + One dollar, one molecule?
 - + One column inch, one molecule?
 - + One sound bite, one molecule?
 - + Contemporary public preference?

¹¹Getches, *An Ethical Water Policy?*, Colorado Water Congress Workshop on Legal Ethics in Water & Environmental Law, October 19, 1993.

¹²Bates, Getches, MacDonnell, Wilkinson, *Searching Out the Headwaters: Change and Rediscovery in Western Water Policy*, Island Press (1993).

- * Should the definition of equity be a political decision
 - + State water plan?
 - + Basin of origin protection?

- * Probably a judicial decision -- Calibrated water court decisions.

- Ecology -- the restraints are in place, no need for overkill¹³
 - * Special use permits or permissions for use of federal lands
 - * Section 404 (CWA) permit process
 - * Section 7 (ESA) consultation
 - * Section 401 (CWA) certification
 - * HB 1041 permitting

- Conservation?
 - * Existing provisions prohibiting waste. 37-92-501, *et seq.*, CRS
 - * Opportunity: refinements in the definition of "beneficial use"
 - + Municipal: ≤ 150 gpcd [Attachment B]
 - + Irrigation: $\geq 55\%$ farm efficiency

¹³Bernard, *Area-of-Origin Protection -- Is There a Need for Statutory Protection in Out-of-Basin Transfers?*, Proceedings, 1993 Colorado Water Convention, January 4-5, 1993, p. 110, *et seq.*

COLORADO POPULATION GROWTH
Components of Change, 1950-1992

Year	Population July 1	Annual Change		Components of Change			
		Number	Percent	Resident Births	Resident Deaths	Natural Increase	Net Migration
1950	1,325,271			33,350	12,259	21,051	
1951	1,328,000	729	0.1	34,804	12,402	22,402	(21,673)
1952	1,365,000	39,000	2.9	36,446	12,709	23,737	15,263
1953	1,431,000	66,000	4.8	37,505	12,875	24,630	41,370
1954	1,493,000	62,000	4.3	38,389	12,914	25,475	36,525
1955	1,546,000	53,000	3.5	39,406	13,069	26,337	28,683
1956	1,625,000	79,000	5.1	40,729	13,476	27,253	51,747
1957	1,664,000	39,000	2.4	41,405	14,069	27,336	11,664
1958	1,667,000	3,000	0.2	41,573	14,401	27,172	(24,172)
1959	1,710,000	43,000	2.6	41,937	14,593	27,344	15,656
1960	1,771,158	61,158	3.6	42,106	15,056	27,010	34,148
1961	1,840,000	68,842	3.9	43,770	14,855	28,915	39,927
1962	1,900,000	60,000	3.3	44,530	15,980	28,550	31,450
1963	1,940,000	40,000	2.1	42,945	16,012	26,933	13,067
1964	1,970,000	30,000	1.5	41,393	16,285	25,128	4,872
1965	1,990,000	20,000	1.0	38,865	16,110	22,755	(2,755)
1966	2,010,000	20,000	1.0	35,435	16,278	19,157	843
1967	2,050,000	40,000	2.0	35,018	16,321	18,697	21,303
1968	2,120,000	70,000	3.4	35,354	16,990	18,364	51,636
1969	2,170,000	50,000	2.4	38,532	17,479	21,053	28,947
1970	2,224,610	54,610	2.5	40,145	17,326	22,819	31,791
1971	2,284,660	60,050	2.7	41,795	17,477	24,318	35,732
1972	2,378,318	93,658	4.1	38,934	18,019	20,915	72,743
1973	2,489,591	111,273	4.7	38,771	18,377	20,394	90,879
1974	2,543,764	54,173	2.2	38,276	18,288	19,988	34,185
1975	2,576,902	33,138	1.3	40,124	17,518	22,606	10,532
1976	2,618,311	41,409	1.6	40,083	17,798	22,285	19,124
1977	2,678,220	57,909	2.2	42,434	17,659	24,765	33,144
1978	2,768,084	89,864	3.4	43,201	18,283	24,918	64,946
1979	2,850,234	84,150	3.0	45,719	18,033	27,586	56,464
1980	2,907,856	57,622	2.0	48,159	18,790	29,369	28,253
1981	2,980,340	72,484	2.5	51,161	19,268	31,893	40,591
1982	3,064,888	84,528	2.8	53,597	19,570	34,027	50,501
1983	3,137,512	72,644	2.4	55,028	19,485	35,533	37,111
1984	3,174,844	37,332	1.2	53,942	19,873	34,069	3,263
1985	3,214,448	39,604	1.2	54,811	20,524	34,287	5,317
1986	3,243,803	29,355	0.9	55,544	20,458	35,086	(5,731)
1987	3,283,354	19,551	0.6	54,600	20,750	33,850	(14,299)
1988	3,271,448	8,094	0.1	53,656	21,516	32,140	(24,046)
1989	3,284,537	13,089	0.4	52,682	20,895	31,787	(18,698)
1990	3,310,849	26,312	0.8	53,368	21,275	32,089	(5,777)
1991	3,377,542	66,693	2.0	53,529	22,098	31,433	35,260
1992	3,470,218	92,674	2.7	54,502	22,361	32,141	60,533

SOURCE: U.S. Bureau of the Census (Population);
Colorado Dept. of Health (Births and Deaths)

NOTE: Population estimates are for July 1; components of change are for the period July 1 to June 30. Most recent year estimates are preliminary; estimates for earlier years are most recent revisions. Data for 1980-90 have been revised to be consistent with the April 1, 1990 resident population count of 3,294,394 released 12/27/90.

Prepared by COLORADO DIV. OF LOCAL GOVERNMENT, 12-30-92 (YRL)

TABLE 1

Colorado Decennial Census Populations¹

<u>Year</u>	<u>Population</u>	<u>Decennial Increase</u>	<u>Decennial % Increase</u>	<u>Ave. Annual Increase</u>
1860	34,277			
1870	39,864	5,587	+ 16%	559
1880	194,327	154,463	+ 387%	15,446
1890	412,198	217,871	+ 112%	21,787
1900	541,483	129,285	+ 31%	12,929
1910	799,044	257,561	+ 48%	25,756
1920	939,191	140,147	+ 18%	14,015
1930	1,035,791	96,600	+ 10%	9,660
1940	1,123,296	87,505	+ 8%	8,751
1950	1,325,089	201,793	+ 18%	20,179
1960	1,753,947	428,858	+ 32%	42,886
1970	2,209,596	455,649	+ 26%	45,565
1980	2,889,735	680,139	+ 31%	68,014
1990	3,294,394	404,659	+ 14%	40,466

¹ From *Census of Population of Colorado Counties, MP Regions, Metro Areas, and Substate Areas: 1860 to 1990*, dated 1/28/91 and prepared by the Demographic Section, Colorado Division of Local Government.

TABLE 2

Front Range Counties' Population: 1992²

<u>County</u>	<u>1992 Population</u>	<u>Percent of State</u>
All	3,294,394	100%
Denver	491,967	14%
Jefferson	459,481	13%
Arapahoe	417,623	12%
El Paso	415,657	12%
Adams	277,231	8%
Boulder	236,196	7%
Larimer	198,185	6%
Weld	137,621	4%
Pueblo	126,070	4%
Seven county total:	2,760,031	80%

² Derived from *Table 2A: Population Ranking of Colorado Counties: 1990-92*, dated 5/25/93 and prepared by the Colorado Demographic Information Service Center.

TABLE 3

Jobs (including proprietors) by Industrial Divisions³

Front-Range Agricultural Counties

<u>Employment</u>	<u>Colorado</u>	<u>Adams County</u>	<u>Larimer County</u>	<u>Weld County</u>
Population				
1970	2,224,610			
1991	3,377,542			
% Change	+ 51%			
Total Employment (jobs)				
1970	1,028,665	49,076	35,904	34,413
1991	2,053,147	128,008	106,918	65,921
% Change	+ 100%	+ 161%	+ 198%	+ 92%
Farm Proprietors				
1970	29,093	902	1,030	3,843
1991	26,893	699	1,215	2,951
% Change	(8%)	(22%)	+ 18%	(23%)
Farm Employment				
1970	45,963	1,855	1,562	6,781
1991	38,913	1,293	1,597	5,101
% Change	(15%)	(30%)	+ 2%	(25%)
Agricultural Services⁴				
1970	5,904	168	192	485
1991	21,639	1,063	1,501	1,604
% Change	+ 267%	+ 533%	+ 682%	+ 231%
Construction				
1970	55,685	3,802	2,015	1,987
1991	101,312	8,375	6,202	3,559
% Change	+ 82%	+ 120%	+ 208%	+ 261%
Manufacturing				
1970	120,775	7,907	5,286	3,264
1991	193,630	12,036	16,038	10,155
% Change	+ 60%	+ 52%	+ 203%	+ 211%
Services				
1970	189,948	6,319	6,092	4,360
1991	596,038	28,906	27,413	14,753
% Change	+ 214%	+ 357%	+ 350%	+ 238%
State & Local Government				
1970	130,342	7,320	8,451	5,962
1991	228,468	12,019	17,330	8,546
% Change	+ 75%	+ 64%	+ 105%	+ 43%

³ Colorado Division of Local Government, *Employment by Industrial Divisions for Colorado Regions and Counties 1970-1991*, July 1993.

⁴ "Agricultural Services" includes the primary groups of veterinary sciences, landscaping services, and crop services. Colorado Department of Labor and Employment, *Colorado Employment and Wages, Average Annual 1992*, p. viii.

TABLE 4

**Jobs (including proprietors) by Industrial Divisions⁵
Poor Counties**

<u>Employment</u>	<u>Colorado</u>	<u>Costilla County</u>	<u>Conejos County</u>	<u>Huerfano County</u>
Population				
1970	2,224,610			
1991	3,377,542			
% Change	+51%			
Total Employment (jobs)				
1970	1,028,665	909	2,173	1,966
1991	2,053,147	1,317	2,508	2,300
% Change	+ 100%	+ 44%	+ 15%	+ 17%
Farm Proprietors				
1970	29,093	105	456	236
1991	26,893	186	441	252
% Change	(8%)	+ 77%	(3%)	+ 7%
Farm Employment				
1970	45,963	398	759	307
1991	38,913	344	643	298
% Change	(15%)	(13%)	(15%)	(3%)
Agricultural Services⁶				
1970	5,904	20	0	0
1991	21,639	0	?	0
% Change	+ 267%	(100%)	?%	0%
Construction				
1970	55,685	0	39	52
1991	101,312	49	75	111
% Change	+ 82%	+ 0%	+ 92%	+ 113%
Manufacturing				
1970	120,775	0	116	46
1991	193,630	14	110	81
% Change	+ 60%	+ 0%	+ 5%	+ 76%
Services				
1970	189,948	119	309	353
1991	596,038	89	444	523
% Change	+ 214%	+ 25%	+ 44%	+ 48%
State & Local Government				
1970	130,342	202	412	394
1991	228,468	406	527	447
% Change	+ 75%	+ 101%	+ 28%	+ 13%

⁵ Colorado Division of Local Government, *Employment by Industrial Divisions for Colorado Regions and Counties*, July 1993.

⁶ "Agricultural Services" includes the primary groups of veterinary sciences, landscaping services, and crop services. Colorado Department of Labor and Employment, *Colorado Employment and Wages, Average Annual 1992*, p. viii.

CONSUMPTION PER CAPITA PER DAY

