ESTIMATED USE OF WATER IN COLORADO, 1985

By David W. Litke and Cynthia L. Appel

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GLOSSARY

Water-use terms are defined in the GLOSSARY and are italicized when first used in this report.

acre-foot.--The volume of water required to cover 1 acre of land (43,560 square feet) to a depth of 1 foot. A common unit of water use is thousands of acre-feet per year.

commercial water use.--Water used by hotels, motels, office buildings, restaurants, other commercial facilities, and civilian and military institutions.

consumptive use.--Water that is no longer available because it has been evaporated, transpired, incorporated into products or crops, consumed by humans or livestock, or otherwise removed from the water environment. It is also referred to as water consumption, water consumed, and water depletions.

conveyance loss.--Water that is lost in transit between point of withdrawal and point of use.

county cataloging unit.--The part of a drainage area that is common to a hydrologic cataloging unit and a county (fig. 2); the geographic unit for which water-use data were collected for this study.

delivery.--Water supplied to a user by a public-supply system.

domestic water use.--Water used for inside household purposes, such as bathing, drinking, flushing toilets, food preparation, washing clothes and dishes, and for outside household purposes, such as washing cars and watering lawns and gardens. It is also called residential water use.

evaporation.--Process by which water is changed from the liquid or solid state to the vapor state.

ground water.--Generally, all subsurface water, as distinct from surface water; specifically, that part of the subsurface water in the saturated zone.

hydroelectric power water use.--Water used to drive turbines for generating electric power.

hydrologic cataloging unit.--A geographic area that has boundaries defined by the U.S. Geological Survey and Water Resources Council (U.S. Geological Survey, 1982) and that consists of one or more stream drainage areas. A cataloging unit is the smallest class of these defined areas; there are 94 cataloging units in Colorado (see fig. 2).

hydrologic subregion.--A geographic area that has boundaries defined by the U.S. Geological Survey and Water Resources Council (U.S. Geological Survey, 1982) and that consists of one or more stream drainage areas. A subregion is the second largest class of these defined areas; there are 17 subregions in Colorado (see fig. 1 and table 1).

hydrologic subregion code.--A 4-digit-integer code assigned to each hydrologic subregion.

industrial water use.--Water used by manufacturing facilities, including facilities that produce food and kindred products, steel, chemical and allied products, paper and allied products, and machinery; also includes printing and publishing facilities and petroleum refining. This category does not include power generation, the mining of minerals, or the extraction of crude petroleum and gasses, which are separate water-use categories.

instream water use.--Surface water reserved for in-channel uses such as wildlife habitat maintenance, recreation, navigation, and water-quality maintenance.

irrigation water use.--Water applied to lands to assist in the growing of crops and pastures or to maintain recreational lands such as parks and golf courses.

land net.--The geographic reference system established by the Public Land Survey System whereby the location of a surveyed parcel of land is described by township, range, and section.

livestock water use.--Water used in the commercial raising of animals.

million gallons per day.--A rate of flow of water commonly used to quantify water use.

mining water use.--Water used in the extraction of minerals: solids, such as coal and ores; liquids, such as crude petroleum; and gases, such as natural gas. Mining water use also includes quarrying, well operation (dewatering), milling (crushing, screening, washing, flotation, and so forth) and other preparation customarily done at the mine site or as part of a mining activity. The term does not include the processing of raw materials, such as smelting ores, refining petroleum, and slurry pipeline operations.

net irrigation requirement.--The depth of irrigation water (exclusive of precipitation), stored soil moisture, or ground water that is required consumptively for crop production.

power water use.--Water used for hydroelectric and thermoelectric power generation.

public-supply systems.--Entities that deliver water to communities for domestic, commercial, industrial, and other uses; includes systems serving 25 or more year-round residents or having at least 15 service connections used by year-round residents.

reclaimed sewage.--Treatment plant effluent that has been diverted or intercepted for use before it reaches a natural waterway or aquifer.

return flow.--The quantity of water that gets back to a ground- or surface-water source after release from the point of use and thus becomes available for further use.

self-supplied water.--Water withdrawn by a user and not obtained from a public-supply system.

surface water.--An open body of water such as a stream or a lake.

system production.--The quantity of treated water available for distribution to a public supplier's customers.

thermoelectric power water use.--Water used for generating electric power using fossil fuel (coal, oil, or natural gas), geothermal, or nuclear energy.

water use.--The use of water by humans for designated purposes. Water use is a general term that can refer to any facet of the water-use cycle, including water source, water use, and water disposition.

water-use category.--A designated purpose for the use of water by humans. In this report, seven water-use categories are discussed: commercial, domestic, industrial, irrigation, livestock, mining, and power.

water-use cycle.--The process of water use, beginning when water is removed from the hydrologic system for use, and ending when water is returned to the hydrologic system after use. The water-use cycle can be divided into three parts: the source, use, and disposition of water.

water year.--Defined within the U.S. Geological Survey as the 12-month period, October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1985, is called the "1985 water year."

withdrawal.--Water removed from the ground or diverted from a surface-water source for use.

CONVERSION FACTORS

Multiply inch-pound unit	*By*	*To obtain metric unit*
acre	0.4047	hectare
acre-foot	1,233	cubic meter
acre-foot per day	1,233	cubic meter per day
acre-foot per year	1,233	cubic meter per year
cubic feet	0.028317	cubic meter
cubic foot per second	0.028317	cubic meter per second
foot	0.3048	meter
foot per second	0.3048	meter per second
gallon	0.00379	cubic meter
gallon per day	0.00379	cubic meter per day
gallon per person per day	0.00379	cubic meter per person per day
gallon per minute	0.00379	cubic meter per minute
inch	25.40	millimeter
mile	1.609	kilometer
million gallons per day	0.04387	cubic meter per second
square foot	0.0929	square meter
square mile	2.590	square kilometer
thousand acre-feet per year	1,233	thousand cubic meters per year

EQUIVALENT U.S. CUSTOMARY UNITS OF MEASUREMENT

Multiply	*By*	*To obtain*
	AREA	
acre	43,560	square foot
	0.00156	square mile
	FLOW	
cubic feet per second	0.646	million gallons per day
	0.724	thousand acre-feet per year
	448.8	gallons per minute
gallons per minute	0.00144	million gallons per day
	0.00161	thousand acre-feet per year
	0.00223	cubic feet per second
million gallons per day	1.121	thousand acre-feet per year
	1.547	cubic feet per second
	694.4	gallons per minute
thousand acre-feet per year	0.892	million gallons per day
	1.380	cubic feet per second
	619.5	gallons per minute

EXPLANATION OF EQUIVALENT U.S. CUSTOMARY UNITS OF MEASUREMENT

The principal inch-pound unit of measurement used in this report to express a quantity of water used is million gallons per day. While this unit of measurement is not complex, it is not easy to visualize how much water this represents in terms of everyday water use. The most common sources of water are streams and ground water from wells. A stream that is 1 foot wide and 1 foot deep, where the water is flowing at a velocity of 1 foot per second, discharges at a rate of 1 cubic foot per second. There are 7.48 gallons in a cubic foot and 86,400 seconds in a day, so this stream produces 646,000 gallons per day, or 0.646 million gallons per day. About one hundred times more water than this is needed to supply the average domestic needs of Denver County. A household well commonly is pumped at a rate of about 10 gallons per minute. This is equivalent to 14,400 gallons per day, or 0.014 million gallons per day (if pumped continuously). Finally, a household faucet commonly will produce 4 gallons per minute when fully open. If left on for 1 entire year, the faucet would deliver about 2,100,000 gallons (0.006 million gallons per day).

Water use also is commonly reported in thousands of acre-feet per year. One acre-foot of water is the quantity of water that would fill a 1-acre-size pool to a depth of 1 foot. An acre is about 209 feet square and amounts to 43,560 square feet, so 1 acre-foot of water is equivalent to 43,560 cubic feet, or about 326,000 gallons. Therefore 1 acre-foot of water per day is equivalent to 0.326 million gallons per day. Also, 1,000 acre-feet per year is equivalent to 0.892 million gallons per day.

Land area in the Western United States often is described using terms from the public land survey system. The largest unit is a township, which is 6 miles square. There are about 2,500 townships in Colorado. Townships are subdivided into 36 square sections, each section being 1 mile on a side; a section contains 640 acres.

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ABSTRACT

Water-use data collected for the State of Colorado as part of the U.S. Geological Survey's National Water-Use Information Program are summarized by county and hydrologic subregion. An estimated 20,800 million gallons per day of water was used in Colorado during 1985; of this quantity, 89 percent came from surface-water sources and 11 percent came from ground-water sources. Public-supply systems provided only 4 percent of all water used in Colorado during 1985 but provided 80 percent of all commercial, domestic, and industrial water used. Ninety-three percent of the people in Colorado obtained their domestic water from public-supply systems. For the entire State, an estimated 4,840 million gallons per day of water was consumptively used during 1985; return flows were about 16,000 million gallons per day. Of all water used, 60 percent was used for irrigation, 35 percent for power generation, and the remaining 5 percent for commercial, domestic, industrial, livestock, mining, and other uses. Among counties of Colorado, most water was used in Montrose (3,260 million gallons per day), Mesa (1,940 million gallons per day), and Gunnison (1,520 million gallons per day) Counties. The predominant water uses in these counties were hydroelectric power and irrigation. Among hydrologic subregions in Colorado, most water was used in the Gunnison (5,630 million gallons per day) and South Platte (4,350 million gallons per day) subregions; power water use was predominant in the Gunnison subregion while irrigation water use was predominant in the South Platte subregion.

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INTRODUCTION

Water-use information is needed for two primary reasons. First, it is needed by people seeking to understand the hydrologic system. In order to construct a water budget for an area, it is necessary to know how human activities affect water entering and leaving an area. Such an understanding is useful to the citizen as well as to the scientist because water is a necessity for daily life. Second, water-use information is needed by those who wish to plan for an area's future needs. Analysis of patterns and trends in water-use data can aid in developing an understanding of the nature of human demand for water and can help in estimating what future demand will be.

For every fifth year from 1950 to 1975, the U.S. Geological Survey estimated the magnitude of *water use* in the United States (MacKichan, 1951, 1957; MacKichan and Kammerer, 1961; Murray, 1968; Murray and Reeves, 1972, 1977). In 1977, members of the Congress of the United States recognized the need for uniform, current, and reliable information about water use and directed the U.S. Geological Survey to establish a National Water-Use Information Program (Mann, Moore, and Chase, 1982). This program developed into an ongoing, jointly-funded, Federal-State cooperative effort. The Colorado Department of Natural Resources, Division of Water Resources, Office of the State Engineer (hereinafter called the State Engineer's Office), has participated with the U.S. Geological Survey in the National Water-Use Information Program since its inception. A nationwide water-use data base has been established and is included in the U.S. Geological Survey's Water-Data Storage and Retrieval System (WATSTORE). Beginning in 1980, the U.S. Geological Survey's every-fifth-year water-use estimates (Solley and others, 1983, 1988) have been produced as part of this program.

Purpose and Scope

The purpose of this report is to present water-use data for Colorado that were gathered as part of the National Water-Use Information Program's data collection effort for 1985. The aggregated data from all States are presented in a national report (Solley and others, 1988), and a brief discussion of Colorado water use is presented in the National Water Summary 1987 (U.S. Geological Survey, in press). In this report, the data for Colorado are presented in greater detail, and methods used to gather and estimate water-use data are documented.

National guidelines required that data be reported by county and *hydrologic cataloging unit*. This task was accomplished by compiling data for geographic units resulting from the intersection of county lines and hydrologic cataloging unit boundaries. There are 300 of these units, called *county cataloging units*, in Colorado. Data from these small units then could be aggregated to produce both county and hydrologic cataloging unit totals. Data from the hydrologic cataloging units were further aggregated to produce totals for *hydrologic subregions*. Graphical summaries of water-use data for each county and each hydrologic subregion are presented in this report. The county and hydrologic subregion data also are reported in tabular form in the "Supplemental Data" section at the back of this report. The location and name of each of the 63 counties in Colorado are shown in figure 1. The location and *hydrologic subregion code* of each of the 17 hydrologic subregions in Colorado also are shown in figure 1; the codes and names for the subregions are listed in table 1. Data for each of the 300 county cataloging units and data for each of the 94 hydrologic cataloging units in Colorado (fig. 2) are not presented in this report but are available upon request from the Colorado District Chief, U.S. Geological Survey, Water Resources Division, Room H-2104, Building 53, Denver Federal Center, Denver, Colorado (mailing address: Box 25046, Mail Stop 415, Denver, CO 80225-0046).

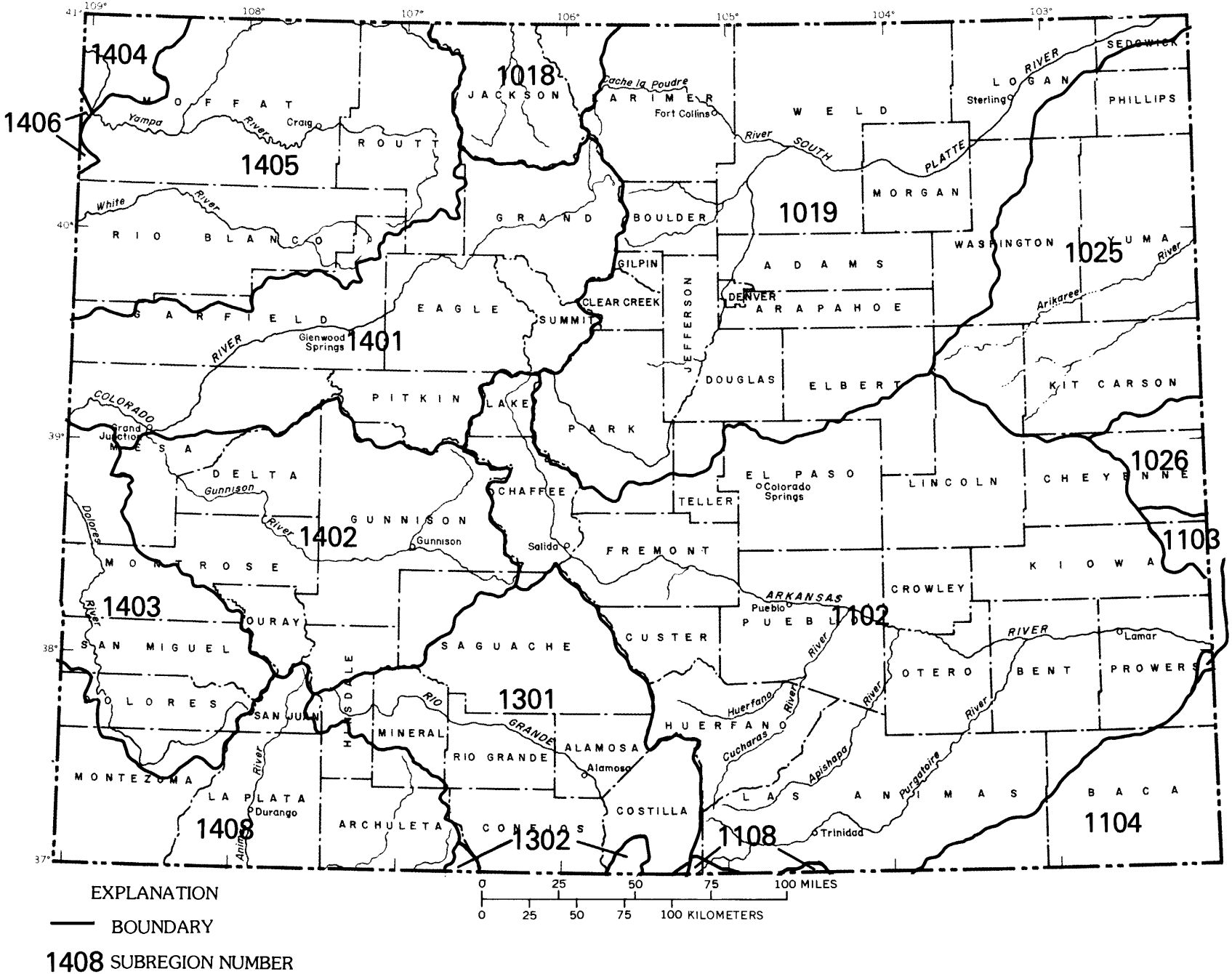


Figure 1.--Counties and hydrologic subregions.

Table 1.--*Codes and names for hydrologic subregions*

Subregion code	Subregion name
	REGION 10--MISSOURI REGION
1018	North Platte
1019	South Platte
1025	Republican
1026	Smoky Hill
	REGION 11--ARKANSAS-WHITE-RED REGION
1102	Upper Arkansas
1103	Middle Arkansas
1104	Upper Cimarron
1108	Upper Canadian
	REGION 13--RIO GRANDE REGION
1301	Rio Grande Headwaters
1302	Rio Grande-Elephant Butte
	REGION 14--UPPER COLORADO REGION
1401	Colorado Headwaters
1402	Gunnison
1403	Upper Colorado-Dolores
1404	Great Divide-Upper Green
1405	White-Yampa
1406	Lower Green
1408	San Juan

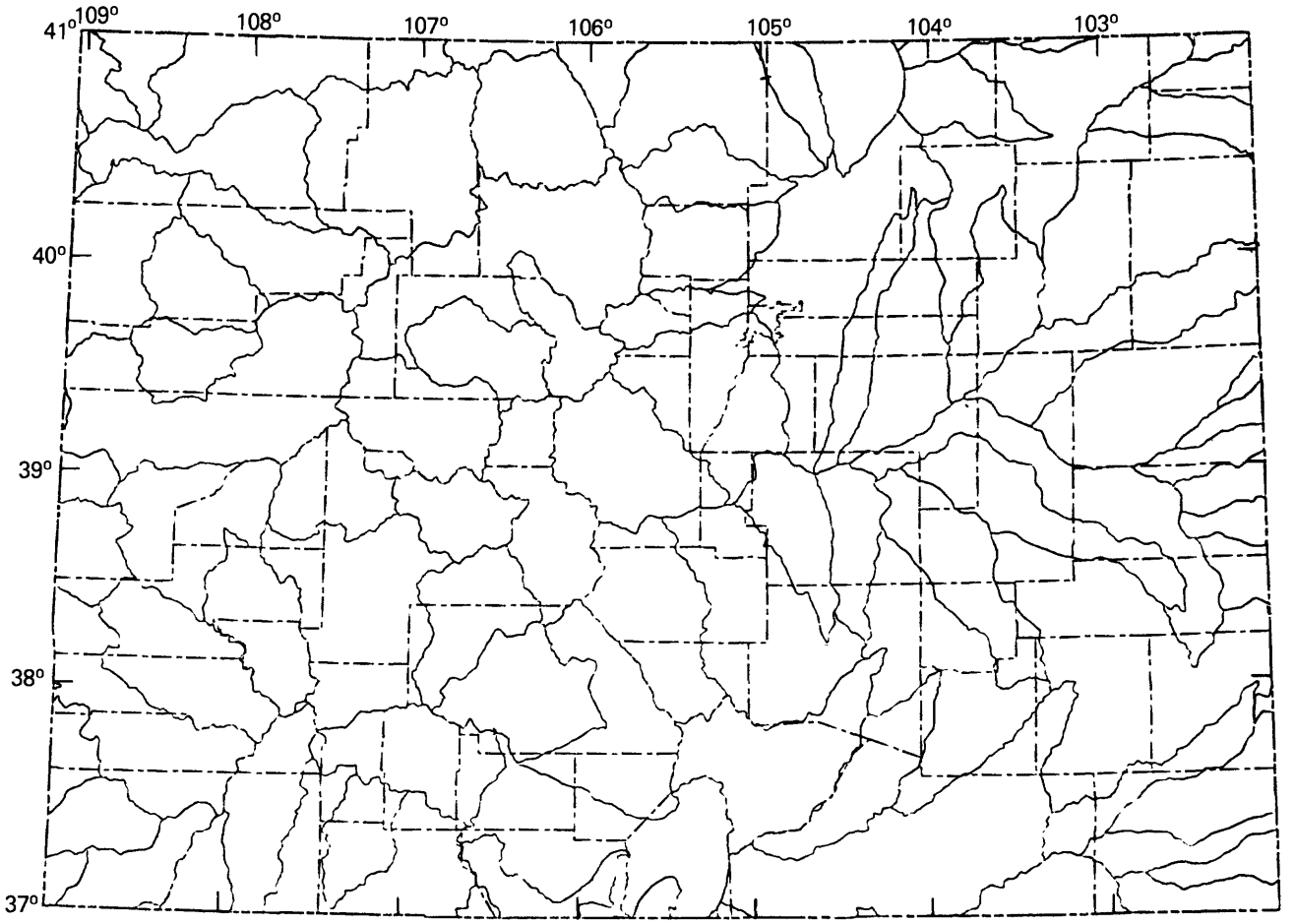


Figure 2.--County, hydrologic cataloging unit, and county cataloging unit boundaries.

Organization of Data

The principal organizational tool for classifying water-use data is the *water-use category*. Seven water-use categories are used in this report: *commercial*, *domestic*, *industrial*, *irrigation*, *livestock*, *mining*, and *power* uses. For each category, data on source type (*ground water* or *surface water*), water-supply method (*self-supplied* or public-supplied), and disposition type (*consumptive use* or *return flow*) were collected. Additional data relevant to water use also were gathered; for example, population served by *public-supply systems*, irrigated acreage and method of irrigation, electricity generated by power plants, and *conveyance losses* in distribution systems. In this report, water-use data are organized by water-use category, and source and disposition information are presented primarily within the sections of the report dealing with each category; however, a brief discussion of source and disposition information is first presented.

Limitations of Data

Every person and most businesses in the State of Colorado use water. It is not possible to collect data for each of these millions of users. Some degree of estimation of use is inevitable. Within each water-use category there generally are a few large users and many small users. The strategy of the National Water-Use Information Program is to collect site-specific data for those large users that account for perhaps 80 percent of the water use in a category and to estimate the remainder. The resulting data base is therefore a combination of site-specific information and estimated information. A long-term goal of the National Water-Use Information Program is to maximize the site-specific information in the data base and minimize the estimated information.

No precise statements of accuracy of the water-use data can be made because the data were not acquired using rigorous statistical techniques and because very little comprehensive water-use data are available for comparison. In general, the data presented here vary in accuracy from one to three significant figures. For example, data about ground-water *withdrawals* for irrigation may be among the least accurate because they were calculated as a residual in an equation that relied on several assumptions. Data about withdrawals by public suppliers are more accurate because they consist primarily of site-specific information, combined with some estimates. Data about water use in power generation are among the most accurate because these data were acquired from a complete site-specific survey.

The smallest reporting unit for this study was established at 0.01 *million gallons per day* (10,000 gallons per day). In areas where much site-specific water-use data are near this threshold value, rounding of data leads to some cumulative inaccuracy.

Water-use information acquired from individual users often was reported as an annual quantity and had to be converted to a daily rate (million gallons per day) for this study. The use of this daily rate is not intended to imply that the actual rate of water use is uniform throughout the year. In fact, most water-use rates vary seasonally, especially within the domestic and irrigation water-use categories.

Previous Studies

Comprehensive water-use data for Colorado are scarce. In most cases, published data are limited to only a few categories of water use and include only water withdrawals or consumptive uses. The previously-mentioned reports by the U.S. Geological Survey provide State totals. An unpublished Draft State Water Plan discusses Colorado water use in some detail (Colorado Department of Natural Resources, 1981).

River basin studies that include some data about water use have been published for each of the major basins of Colorado. The Colorado River basin has been examined in detail (Upper Colorado Region State-Federal Interagency Group, 1971), and the U.S. Bureau of Reclamation has estimated annual consumptive use in the basin since 1971 (see, for example, U.S. Bureau of

Reclamation, 1981). A similar resource study has been done for the South Platte River basin (U.S. Army Corps of Engineers, 1977). The Arkansas River basin has been described (Colorado Water Conservation Board and U.S. Soil Conservation Service, no date), and a more recent description of water-operating systems in the basin is available (Abbott, 1985). The water resources of the Rio Grande basin have been described (Emery and others, 1973), and ground-water use in this area was examined in some detail in a recent modeling study (Hearne and Dewey, 1988).

Localized studies that contain water-use information include ground-water modeling studies, power-company studies of irrigation water demand within their service area, public-supply-system reports on water *deliveries*, and engineering-company studies of proposed water developments. In this report, localized studies of interest will be referenced during discussion of specific water-use topics.

Acknowledgments

Personnel at the State Engineer's Office provided access to their data base as well as helpful discussions concerning water use and the administration of water resources in Colorado. The U.S. Environmental Protection Agency and the Colorado State Department of Health also provided access to data bases. Personnel at the U.S. Bureau of Reclamation were helpful in discussions of methods for estimating consumptive water use in the Colorado River basin. Individual water users throughout the State were helpful and patient in answering inquiries as the authors became familiar with the many ways in which water is used in this State.

WATER USE

A schematic of a *water-use cycle* is shown in figure 3. The cycle begins when water is removed from the hydrologic system and ends when water is returned to the hydrologic system. The water-use cycle is divided into three parts: the source, use, and disposition of water. The water-use information in this report was derived by aggregating all of the water-use cycles within each county cataloging unit. County and hydrologic subregion totals then were calculated by summing county cataloging unit data. For the purposes of this report, it was assumed that water was withdrawn and returned within the same county cataloging unit where it was used. Man-made conveyance structures (pipelines, canals, tunnels) were considered to be part of the natural hydrologic system. Withdrawal of water for conveyance or storage purposes alone was not considered a use. It should be remembered, however, that humans have a substantial effect on where water flows in Colorado. In 1985, 40 structures existed for the interbasin transfer of water between hydrologic subregions (fig. 4 and table 2). These structures conveyed a total of 751,000 *acre-feet* of water during 1985. The volume of water transferred by some of these structures can vary quite a bit from year to year; for instance, only 299 acre-feet of water was diverted through the Harold D. Roberts Tunnel (map number 15 in fig. 4 and table 2) during 1985, while 134,000 acre-feet was diverted during 1978 (Petsch, 1985). Some water is transferred more than once. For instance, water used by the City of Aurora is diverted from the

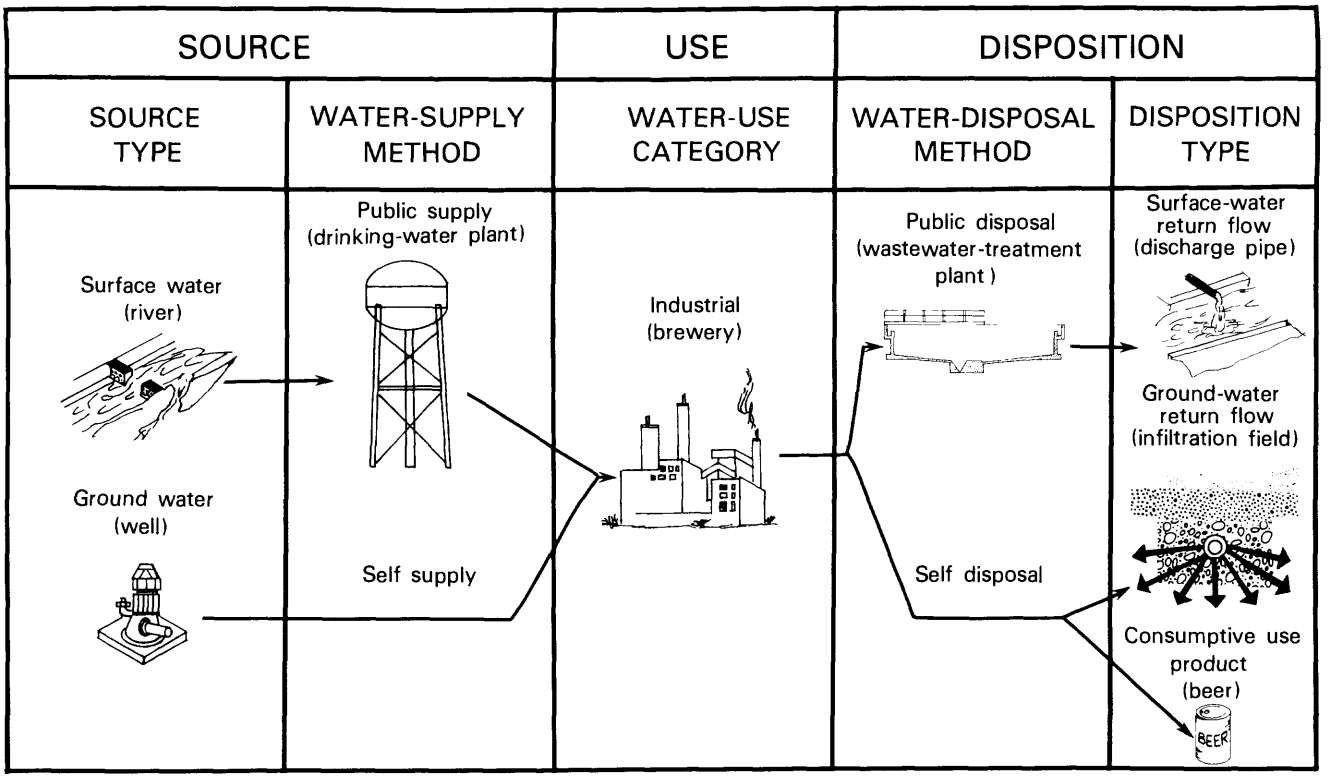


Figure 3.--Hypothetical water-use cycle.

Colorado River basin to the Arkansas River basin via the Homestake Tunnel (map number 22). After flowing down the Arkansas River for about 20 miles, the water then is pumped into the South Platte River basin via the Aurora-Homestake Pipeline (map number 26). This water eventually reaches Aurora water-treatment plants via the South Platte drainage system. Through mechanisms such as this, an average of about 16 percent of the water withdrawn in the South Platte subregion and about 6 percent of the water withdrawn in the Upper Arkansas subregion originates in other subregions primarily located on the other side of the Continental Divide.

Water Source

Source information consists of source type and water-supply method (fig. 3). There are two primary source types for water--ground water and surface water. For the irrigation water-use and power water-use categories, an additional source type of water was *reclaimed sewage*. The State Engineer's Office maintains information about surface-water and ground-water sources in two state-wide data bases--a well-permit file and a surface-water diversion

file. The well-permit file includes a *land net* location and water-use category code for each of the permitted wells (about 110,000) in Colorado; these data have been tabulated by township showing the number of permitted wells for each category of water use (Theodore Hurr, U.S. Geological Survey, written commun., 1986). From this tabulation, the number of wells within each county cataloging unit was estimated. This well-location information was used as a rough check against ground-water withdrawal estimates made for each county cataloging unit. The surface-water diversion file includes daily withdrawal quantities, location of withdrawal point, and category of water use for each of the ditches (about 14,000) in Colorado. The annual withdrawal quantities for each water-use category were aggregated for each of the State Engineer's water-resources divisions (roughly equivalent to hydrologic subregion). The water-resources division withdrawal totals were compared with hydrologic subregion totals estimated by this study, and, where necessary, subregion estimates were adjusted to agree with data from the State Engineer's Office.

It was estimated that 20,800 million gallons per day of water was used in Colorado during 1985. Of this quantity, 89 percent came from surface-water sources, and 11 percent came from ground-water sources.

Information about water-supply method also was gathered for this study. Water-supply method was categorized as either self supply or public supply. In general, self-supplied water is that which is withdrawn directly by the user and not purchased from another party. For this report, self-supplied water includes all water that does not come from public-supply systems. Irrigation, mining, and livestock water users are considered to be entirely self-supplied. Commercial, domestic, industrial, and power users may obtain water by one or both methods. Water that is self supplied often is referred to as a withdrawal, while water from a public-supply system is referred to as a delivery.

Public-supply systems, also called "municipal-supply systems" or "community water systems," are monitored by the Colorado State Department of Health and are legally defined as those systems that serve 25 year-round residents or maintain at least 15 service connections. Public-supply systems deliver water to commercial, domestic, industrial, and power users. Information about these systems, including population served, source of water, and average *system production*, was obtained from the Colorado Department of Health.

For each public-supply system, the following information was needed: location of service area, population served, source of water, quantity of water withdrawn, and quantity of water delivered to each water-use category. There are approximately 750 public-supply systems in Colorado. About 160 of the largest were contacted directly, and it is estimated that together these largest systems accounted for about 90 percent of the total water delivered and 90 percent of all the people served by public-supply systems during 1985. Each supplier was asked to provide the information listed above. Often, not all the requested information was available. Public-supply systems using surface water were better able to quantify water-production data rather than

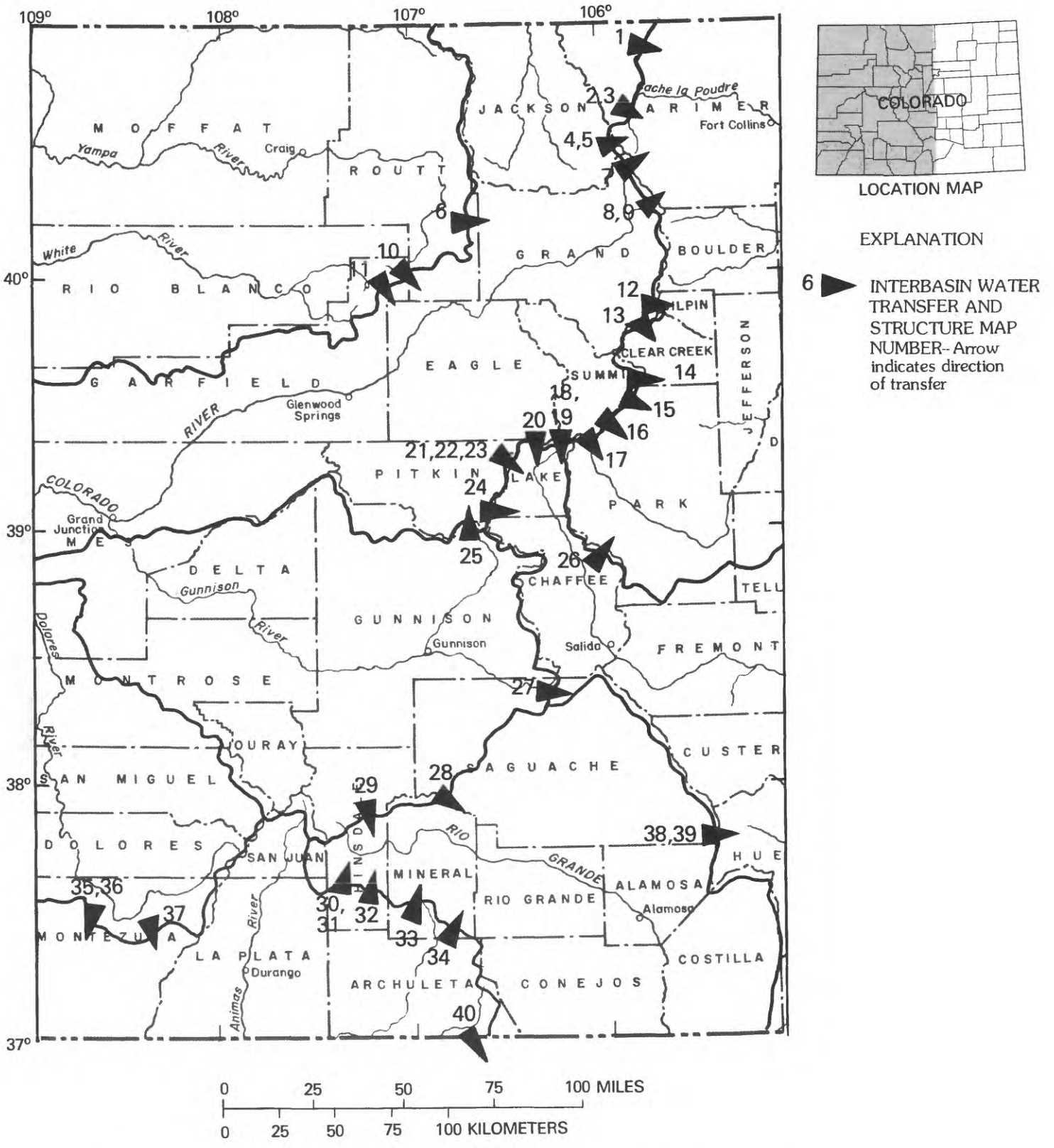


Figure 4.--Interbasin water transfers between hydrologic subregions.

Table 2.--*Interbasin water transfers between hydrologic subregions*

[Source of data: Colorado State Engineer's Office. Data are for the 1985 *water year*. Map number refers to figure 4.]

Map number	Structure	Quantity diverted in 1985 (acre-feet)	Subregion code[1] From	To
1	Wilson Supply Ditch	1,412	1018	1019
2	Laramie-Poudre Tunnel	13,789	1018	1019
3	Skyline Ditch	0	1018	1019
4	Michigan Ditch	322	1018	1019
5	Cameron Pass Ditch	0	1018	1019
6	Sarvis Ditch	980	1405	1401
7	Grand River Ditch	20,831	1401	1019
8	Eureka Ditch	0	1401	1019
9	Alva B. Adams Tunnel	285,200	1401	1019
10	Stillwater Ditch	3,430	1405	1401
11	Dome Creek Ditch	370	1405	1401
12	Moffat Water Tunnel	77,545	1401	1019
13	Berthoud Pass Ditch	567	1401	1019
14	Vidler Tunnel	369	1401	1019
15	Harold D. Roberts Tunnel	299	1401	1019
16	Boreas Pass Ditch	0	1401	1019
17	Hoosier Pass Tunnel	7,400	1401	1102
18	Columbine Ditch	1,809	1401	1102
19	Ewing Ditch	1,359	1401	1102
20	Wurtz Ditch	3,832	1401	1102
21	Charles H. Boustead Tunnel	71,797	1401	1102
22	Homestake Tunnel	10,180	1401	1102
23	Busk-Ivanhoe Tunnel	6,268	1401	1102
24	Twin Lakes Tunnel	8,016	1401	1102
25	Divide Creek Highline Feeder Ditch	2,483	1402	1401
26	Aurora-Homestake Pipeline	3,892	1102	1019
27	Larkspur Ditch	329	1402	1102
28	Tarbell Ditch	172	1402	1301
29	Tabor Ditch	1,435	1402	1301
30	Weminuche Pass Ditch	2,088	1408	1301
31	Pine River-Weminuche Pass Ditch	873	1408	1301
32	Williams Creek Squaw Pass Ditch	253	1408	1301
33	Don La Font Ditches 1 and 2	447	1408	1301
34	Treasure Pass Diversion Ditch	613	1408	1301
35	Main Canal 1	[2]54,000	1403	1408
36	Main Canal 2	[2]68,000	1403	1408
37	Summit Reservoir Outlet Canal	8,644	1403	1408
38	Medano Ditch	385	1301	1102
39	Hudson Branch Ditch	[2]100	1301	1102
40	Azotea Tunnel	91,790	1408	1302
	TOTAL INTERSUBREGION TRANSFERS:	751,279		

[1]See table 1 for subregion names.
[2]Data are estimated.

water-withdrawal data. Missing information was estimated using a variety of available supplemental information and by comparison with similar systems elsewhere. Data also were estimated for the public-supply systems that were not contacted directly. Population served, source of water, and average system production for many of these systems were obtained from Colorado State Department of Health records, although these data were not verified. Where no production data were available, several per-person-per-day production estimates (based on available data) were used: 200 gallons for small rural systems using surface water; 150 gallons for small rural systems using ground water; 125 gallons for large trailer courts; and 75 gallons for small trailer courts. For small systems where no delivery breakdown was available, proportions of 90 percent domestic, 5 percent commercial, and 5 percent other were used.

Data about surface-water withdrawals by public-supply systems were acquired from the State Engineer's Office. Water-production data (for public-supply systems using surface water) compiled for this study were 15 percent less than withdrawal totals provided by the State Engineer's Office; the additional withdrawn water probably is lost during conveyance to treatment plants, is withdrawn but bypasses treatment plants, or is used in the plants themselves. For example, five percent conveyance losses are charged by the State Engineer's Office against water delivered by the Denver Water Department in its southern collection system to account for seepage losses of raw water (U.S. Army Corps of Engineers, 1986b, p. 32). Therefore, surface-water-production data compiled as part of this study were increased by 15 percent so that values agreed with withdrawals reported by the State Engineer's Office. This additional water was included in the "other" water-use category. The "other" category also includes public-supply-system water for public use (firefighting, municipal swimming pool uses, park irrigation, street cleaning), and losses in the delivery systems. A survey of major Colorado suppliers (American Water Works Association, 1981) found that delivery-system losses of about 10 percent are common.

Of the 20,800 million gallons per day of water used during 1985, about 20,200 million gallons per day was self supplied and 737 million gallons per day was public supplied. Of the self-supplied water, 62 percent was used for irrigation, 36 percent for hydroelectric power generation, and the remaining 2 percent for other uses.

Public-supply system deliveries, by counties, are shown in figure 5. The public-supply-system data also are summarized in table 3 (for counties) and table 14 (for hydrologic subregions) in the "Supplemental Data" section at the back of this report. Domestic and commercial deliveries amounted to 77 percent of water withdrawn by public-supply systems and are highly correlated with population (correlation coefficient of 0.99 for domestic deliveries, 0.88 for commercial deliveries). That is, the counties with the largest deliveries are those with the largest populations (Denver, Jefferson, Arapahoe, and El Paso Counties). For the entire State, the average use rate for water withdrawn by public-supply systems is 245 gallons per person per day. This value is relatively large because it includes transmission losses of raw water and distribution losses but still it compares fairly well with data reported by previous studies. For example, use rates for northern Colorado towns along

the Front Range were determined to vary from 71 to 386 gallons per person per day (White and others, 1980, p. 29-32), and use rates in the Denver metropolitan area have ranged from 167 to 231 gallons per person per day during 1974 to 1982 (U.S. Army Corps of Engineers, 1986a).

Water Disposition

Disposition information consists of water-disposal method and disposition type (fig. 3). Water-disposal method was categorized as either self disposal or public disposal. However, for this study, water-disposal methods were not investigated in great detail. The Colorado State Department of Health provided a listing of about 900 facilities permitted to discharge return flows. These were separated into public-disposal systems (sanitation-district dischargers) and self-disposal systems (other dischargers, primarily industrial). For public-disposal systems, an attempt was made to quantify return flows by using return-flow-measurement data that were available, information about treatment-plant capacities, and information compiled from direct queries with treatment-plant operators. For permitted dischargers

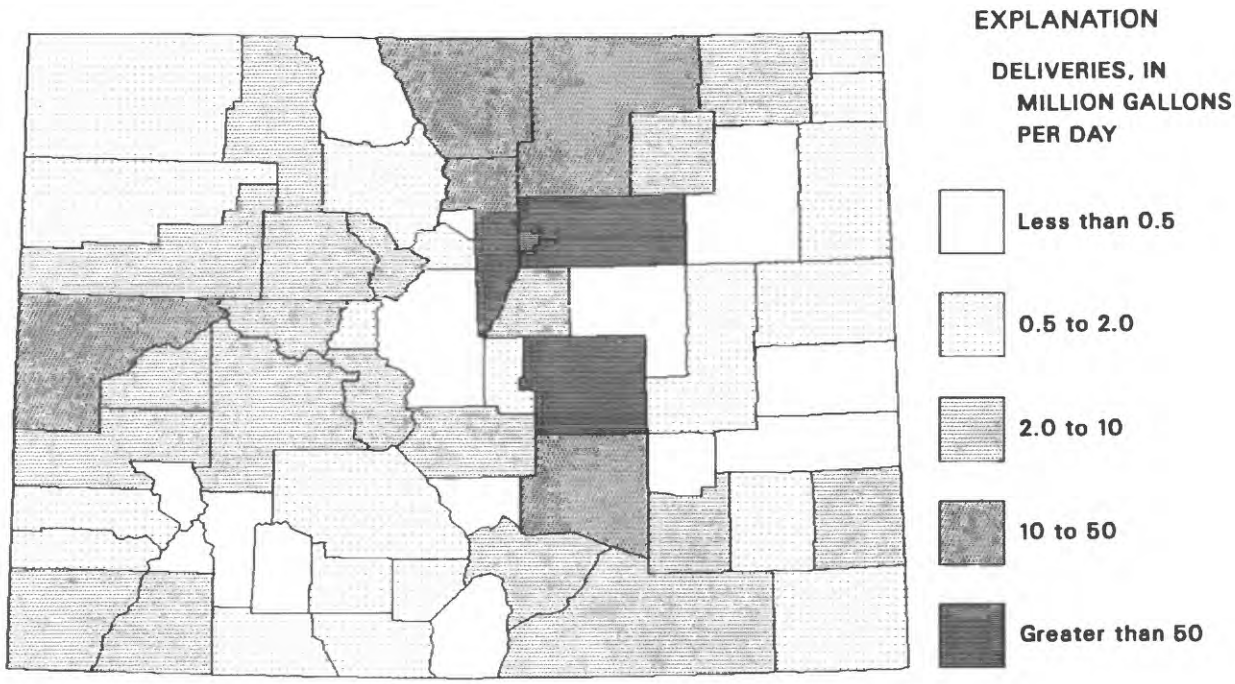


Figure 5.--Public-supply-system deliveries, by counties, during 1985.

categorized as self-disposal systems, an attempt was made to identify systems that had on-site treatment plants based on the the facility type listed in the permit file.

The water-disposal-method estimates described above are presented in table 4 (for counties) and table 15 (for hydrologic subregions) in the "Supplemental Data" section at the back of this report. It was estimated that 255 public-disposal systems were operating during 1985 and that they discharged a total of 336 million gallons per day of return flows. It was estimated that an additional 399 self-disposal treatment facilities also were in operation during 1985. In addition to these facilities, there are many other self-disposal systems in the State such as individual domestic septic tanks and drainfields and irrigation return-flow systems.

Data about disposition type also were compiled for this study; water was classified as either being consumptive use or as being return flow after use. Although return flows can be classified as either ground-water return flow or surface-water return flow, this distinction was not made for this study. Because data about the proportion of water comsumptively used during a particular water use are scarce, this proportion was estimated for most water-use categories; estimation methods are discussed in the report sections that follow. For the entire State, it is estimated that 4,840 million gallons per day of water was consumptive use during 1985; return flows amounted to 16,000 million gallons per day.

Water-Use Categories

It is convenient to summarize water use by water-use category because the routing of water in the water-use cycle converges on the water user (fig. 3). The categories are discussed in alphabetical order in the sections that follow. Water-use data, by counties, are listed in tables 3-13, and water-use data, by hydrologic subregions, are listed in tables 14-24 in the "Supplemental Data" section at the back of this report.

Commercial Water Use

Commercial water use includes water used by hotels, motels, office buildings, restaurants, other commercial facilities, and civilian and military institutions. Data were compiled for this category for water-source type, water-supply method, and water-disposition type.

Commercial water users located in towns generally obtain water from public-supply systems, while those in rural areas generally use self-supplied ground water. Data about deliveries to commercial users were obtained from public-supply systems. Self-supplied commercial users who serve water to the public (for example, motels and restaurants and any establishment that serves at least 25 people per day for more than 60 days per year) are called "noncommunity water suppliers" and are regulated by the Colorado State Department of Health. Information about these systems, including number of persons served per day, source-type of water, and average water deliveries of the system, were available from the Colorado State Department of Health.

Where no delivery information was available, an estimate of 35 gallons per day per person served was used, which is an approximate average of delivery data that were available. When unknown, the source-type for self-supplied commercial water was assumed to be ground water because records from the State Engineer's Office indicate very little surface water is withdrawn directly for commercial purposes. Where no site-specific data were available, consumptive use for commercial users was estimated to be 15 percent of water used; actual consumptive use varies from negligible for many small stores and businesses to about 50 percent for large office towers where water is consumed primarily as make-up water for air-conditioning equipment.

There is little published information about commercial water use; in most instances, it is included with the industrial category. Commercial water use amounted to 120 million gallons per day during 1985; it ranged from 0.01 million gallons per day in Costilla and Dolores Counties to 37.0 million gallons per day in Denver County. Ninety-three percent of this quantity is supplied by public-supply systems. Although self-supplied commercial water withdrawals generally are small, large withdrawals do occur in Garfield County where hot spring water is withdrawn and passed through several large commercial spas. About 20.8 million gallons per day was consumptive use. Tabular summaries of commercial water-use data are listed in table 5 (for counties) and table 16 (for hydrologic subregions) in the "Supplemental Data" section at the back of this report.

Domestic Water Use

Domestic water use includes water used for inside household purposes, such as bathing, drinking, flushing toilets, food preparation, washing clothes and dishes, and for outside household purposes, such as washing cars and watering lawns and gardens. Data were collected for this category for water-source type, water-supply method, water-disposition type, and population served (by source-type and by water-supply method). Per person use rates also were calculated.

Data about deliveries to domestic users and population served by these deliveries were obtained from public-supply systems. These data were compiled for each county cataloging unit. Consumptive use was estimated to be 30 percent of delivered domestic water. This estimate is based on the assumption that about 40 percent of all domestic deliveries are used for lawn watering in metropolitan areas (U.S. Army Corps of Engineers, 1986a, p. 40), that somewhat less water is used for lawn watering in mountain areas, and that most water used on lawns is consumptive use. Very little water used indoors is consumptive use.

The remaining population of a county cataloging unit was assumed to be self supplied. This assumption was verified by examination of the number of wells permitted for domestic use in each county cataloging unit--multiplication of the number of wells by the average number of persons per household (estimate of 2.6 used) should be approximately equal to the number of self-supplied persons. A withdrawal rate of 75 gallons per person per day was assumed for self-supplied domestic users. Consumptive use for self-supplied domestic users was assumed to be 10 percent of withdrawals. This is the

consumptive-use-ratio estimate used by the State Engineer's Office and is similar to the consumptive-use ratio used by engineers when designing septic systems.

Domestic water use amounted to 473 million gallons per day during 1985, an average of 146 gallons per person per day. Domestic use ranged from 0.11 million gallons per day in Hinsdale County to 79.4 million gallons per day in Denver County. The percentage of the county population that uses self-supplied domestic water ranged from zero percent in Denver County to 80 percent in Park County (fig. 6). About one-third of domestic water is consumptive use, mostly by lawn watering. Tabular summaries of domestic water use are listed in table 6 (for counties) and table 17 (for hydrologic subregions) in the "Supplemental Data" section at the back of this report.

Industrial Water Use

Industrial water use consists of water used by manufacturing facilities including facilities that produce food and kindred products, steel, chemical and allied products, paper and allied products, and machinery. This also includes printing and publishing facilities and petroleum refining. It does not include power generation, the mining of minerals, or the extraction of crude petroleum and gasses, which are separate water-use categories. Data were compiled for this category for water-source type, water-supply method, and water-disposition type.

Data about deliveries to industrial users were obtained from public-supply systems. Self-supplied industries were identified using several sources of information. The 1986-87 Directory of Colorado Manufacturers (University of Colorado Bureau of Business Research, 1986) lists manufacturers in Colorado, their locations, and approximate number of employees. The principal industry groups in the State (in order of number of employees) are machinery (except electrical), food and kindred products, electric and electronic equipment, and printing and publishing (University of Colorado Bureau of Business Research, 1986, p. viii). However, the principal water-using industry groups in the nation are chemical and allied products, paper and allied products, primary metal industries, and petroleum and coal products (U.S. Bureau of the Census, 1986, p. 6-3). Therefore, industrial facilities from these eight groups that had more than 50 workers were added to the water-use data base (650 facilities). Of these, attempts were made to contact all facilities employing more than 250 workers (100 facilities). Although the response rate of the survey was less than 50 percent, two trends were discovered: the large majority of industrial users were supplied by public-supply systems, and consumptive water use was small, averaging about 15 percent of water used. Self-supplied industrial water users also were located using three additional sources of data: (1) The discharge permit file from the Colorado State Department of Health, (2) the well-permit data base from the State Engineer's Office, and (3) the surface-water-diversion data base from the State Engineer's Office. Where site-specific information was not available, the following estimates were made: (1) 80 percent of the non-contacted industries in a county cataloging unit were assumed to use public-supplied water, (2) self-supplied industrial withdrawals were estimated using employee-use ratios developed for the various industry groups as part of a

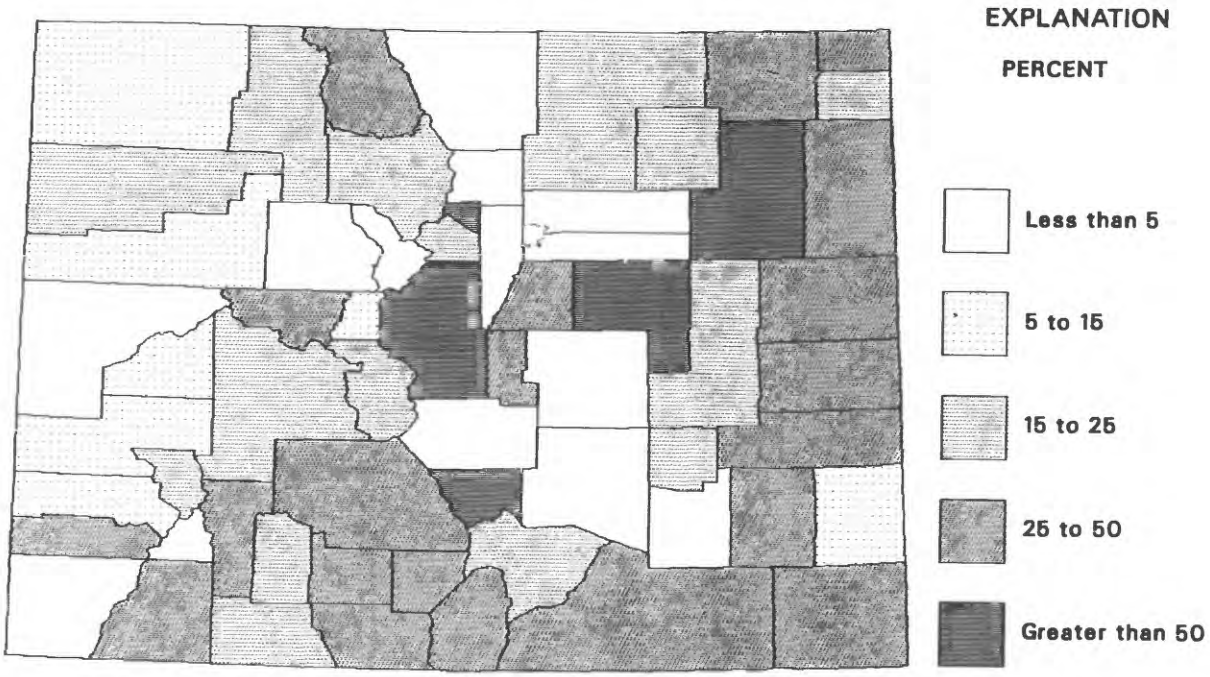


Figure 6.--Percentage of county populations using self-supplied domestic water.

study conducted by John Burt in California (John Burt, U.S. Geological Survey, written commun., 1986), and (3) consumptive use was estimated to be 15 percent of water used.

Little information has been published regarding industrial water use in Colorado. One volume of a water-resources-study report of the South Platte region (including parts of Wyoming and Nebraska) was devoted to industrial use (U.S. Army Corps of Engineers, 1977, v. 5, appendix J, v. 4). It was estimated that in 1975 about 105 million gallons of water per day was withdrawn for industrial use and that 23 million gallons per day was consumptive use. The withdrawal estimates included mining water use (12 million gallons per day), sugar beet factories (19 million gallons per day), fish hatcheries (13 million gallons per day), a brewery (22 million gallons per day), and manufacturing and other minor industries (23 million gallons per day). For the present study, mining is considered a separate water use, and fish hatchery water use is not estimated. Also, since 1975, the sugar beet industry has declined (no sugar beet factories were in operation in 1985). Adjusting the 1975 data for these factors gives a withdrawal quantity of 62 million gallons per day for industrial withdrawals compared with 58 million gallons per day

during 1985 estimated by the current study for the South Platte hydrologic subregion in Colorado. This example illustrates the difficulty of comparing independently derived water-use estimates because different categorizations are often used, different geographic reporting units are used, and different time periods are used.

Industrial water use in Colorado totaled 138 million gallons per day during 1985 and ranged from little or no industrial use in many counties to 72.7 million gallons per day in Pueblo County (fig. 7). Eighty-seven percent of this total was self supplied, and 21 percent was consumptive use. Tabular summaries of industrial water use are listed in table 7 (for counties) and table 18 (for hydrologic subregions) in the "Supplemental Data" section at the back of this report.

Irrigation Water Use

Irrigation water use consists of water applied to lands to assist in the growing of crops and pastures or to maintain recreational lands such as parks and golf courses. Data were compiled for this category for water-source type, water-supply method (assumed to be entirely self-supplied), water-disposition type, irrigated acreage (by type of irrigation system), and conveyance losses.

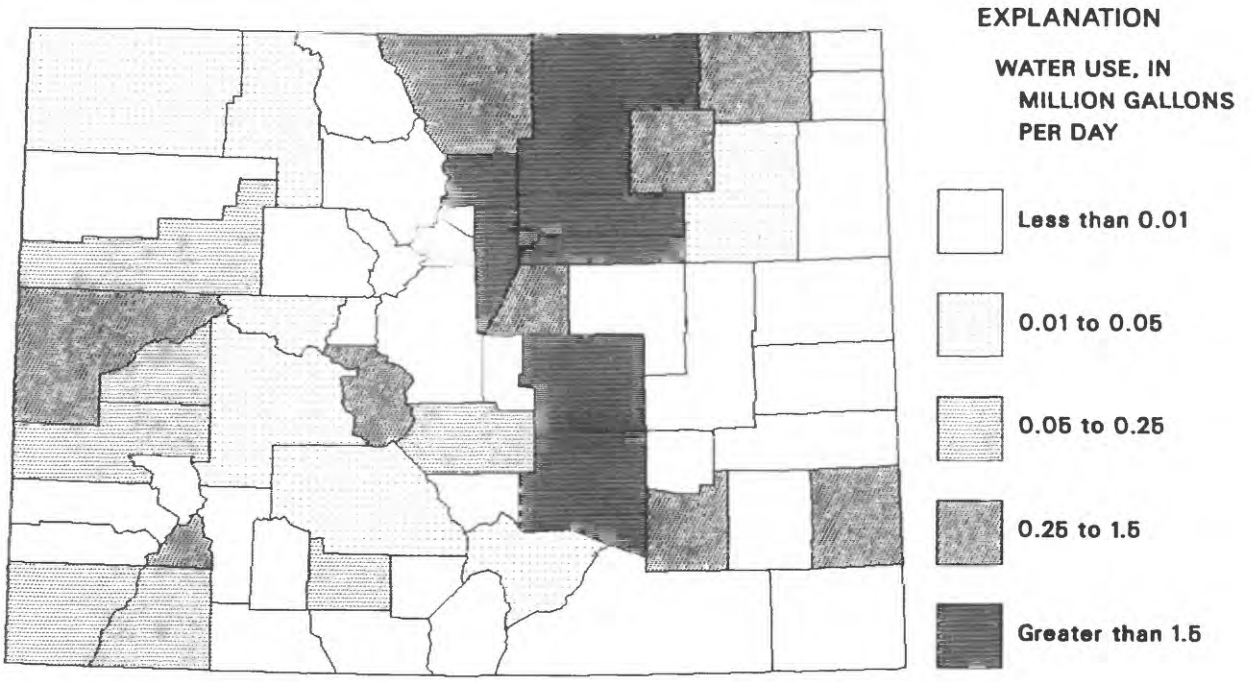


Figure 7.--Industrial water use, by counties, during 1985.

Irrigation water use was calculated based on irrigated acreage for alfalfa, dry beans, corn-grain, corn-sileage, orchards, potatoes, sorghum, spring grain (barley, oats and spring wheat), sugar beets, and winter wheat as reported for each county by the Colorado Agricultural Statistics Service (Colorado Agricultural Statistics Service, 1985, 1986). Pastureland and vegetable acreages are not included in these estimates; county data for these were taken from the 1982 Census of Agriculture (U.S. Bureau of the Census, 1984). County ratios for irrigation-system type (sprinkler or flood) and for water-source type (ground water or surface water) also were obtained from Census publications (U.S. Bureau of the Census, 1976, 1984). The county crop acreages were subdivided into county cataloging unit crop acreages. This was done by using county land-use ratios developed from county land use maps published by the U.S. Soil Conservation Service. The *net irrigation requirement* for each crop within each county cataloging unit was then calculated using the modified Blaney-Criddle method (U.S. Soil Conservation Service, 1970). A computer program (XCONS) for performing the modified Blaney-Criddle calculation was obtained from the U.S. Bureau of Reclamation. Inputs to this program include average monthly temperature, total monthly precipitation, frost dates, crop growth-stage water-requirement curves, and crop growing season parameters. Modifications for water-short lands, carry-over winter moisture, and elevation of crops also were made. The output from this program (net irrigation requirement) agreed well with similar estimates calculated for the various crop types and climatic zones in Colorado that are published in the Colorado Irrigation Guide (U.S. Soil Conservation Service, no date). From net irrigation requirement, conveyance losses and withdrawals were calculated using estimated conveyance and farm efficiencies. Efficiency estimates for major basins in Colorado were obtained from previous studies (U.S. Soil Conservation Service, 1976, p. 14-19 of Appendix; Whittlesey, 1977, p. 8). More specific efficiency estimates for the Arkansas River basin (Colorado Water Conservation Board and U.S. Soil Conservation Service, no date, table B4 of Appendix) and South Platte River basin (U.S. Army Corps of Engineers, 1977, p. 2-17 to 2-20) also were examined. Surface-water withdrawal data for irrigation for the hydrologic subregions were obtained from the State Engineer's Office, and conveyance and farm-efficiency estimates were adjusted until the calculated withdrawal estimates agreed with the data from the State Engineer's Office. No withdrawal information was available for ground water for 1985; therefore, assumed system efficiencies could not be adjusted.

Four independent estimates of irrigation consumptive use for basins of Colorado (three sets of estimates presented in Whittlesey, 1977, p. 13; one set of estimates from Colorado Department of Natural Resources, 1981) compare fairly well with each other and with estimates derived by this study. Estimates of total irrigation consumptive use for the State range from 4,125 to 4,939 thousand acre-feet, while this study estimated 5,120 thousand acre-feet. Agreement was poorest for the Rio Grande Headwaters subregion (range of 597 to 828 thousand acre-feet). This poor agreement may be due to differences in defining the boundary of this area, which may include the headwaters of the Rio Grande, the closed-basin part of Saguache County, or the San Luis valley structural basin.

Ground-water withdrawal estimates made by this study for the High Plains region are about 10 percent less than estimates made for 1980 as part of the High Plains Regional Aquifer Study (Heimes and Luckey, 1983, p. 34). Irrigation in the High Plains has declined over this period because of economic reasons. Ground-water irrigation withdrawal estimates are difficult to make for the South Platte and Upper Arkansas subregions because of complex relations between surface-water and ground-water availability and use. Ground water is used primarily in these areas as supplemental irrigation water when surface water is scarce. A complicating factor in estimating ground-water withdrawals is the absence of much real data on ground-water pumpage. A 1970 estimate of irrigation withdrawals within the South Platte River basin (U.S. Army Corps of Engineers, 1977) was 40 percent larger than the estimate made by this study for the South Platte subregion. However, estimates of irrigated acreage also were 40 percent larger for that study. The 1970 study estimated that ground water provided 37 percent of irrigation water while this study estimated the proportion to be 30 percent.

Irrigation water use (12,400 million gallons per day) accounts for 60 percent of all water use in Colorado. Irrigation in Mesa County and Weld County each used about 10 percent (1,300 million gallons per day) of the total irrigation withdrawals. Each of the major river basins (the Colorado, Platte, Arkansas, and Rio Grande) contains a leading irrigation-water-use county (fig. 8). It is estimated that 37 percent of total irrigation withdrawals are consumptive use. Conveyance losses (23 percent of withdrawals) include some consumptive use (water lost through *evaporation* or used by phreatophytes) and some return flows (unused water, seepage to the ground-water table). Tabular summaries of irrigation water-use data are listed in table 8 (for counties) and table 19 (for hydrologic subregions) in the "Supplemental Data" section at the back of this report.

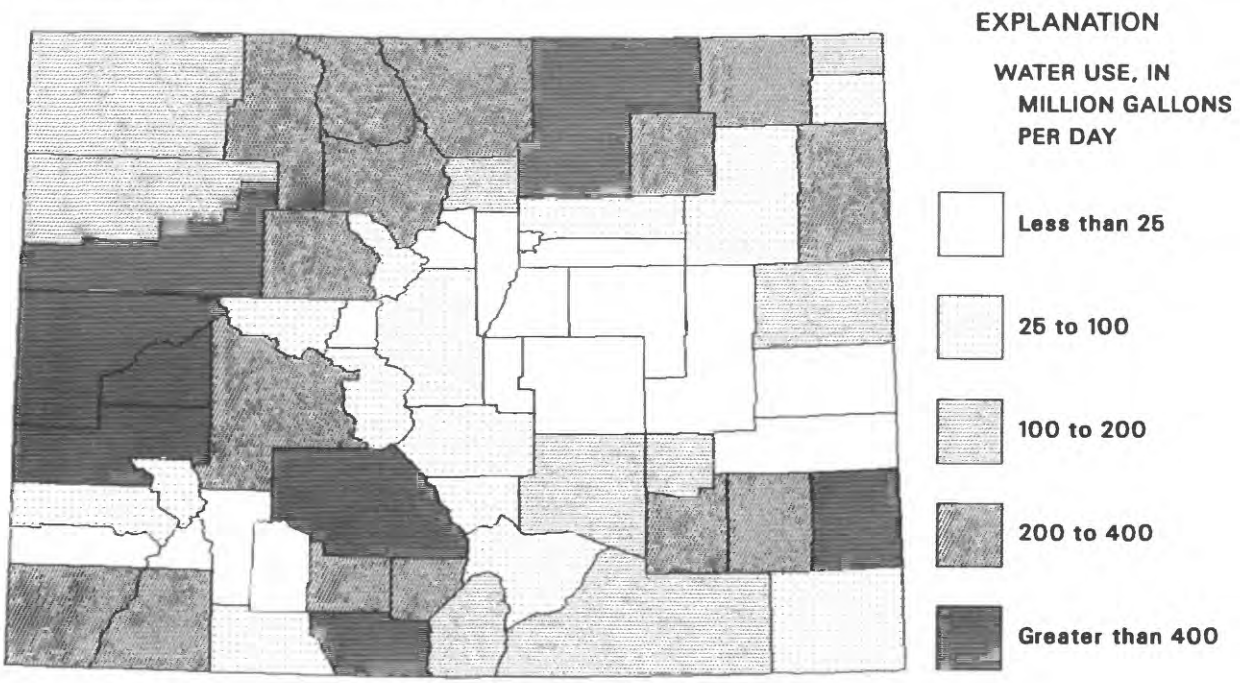


Figure 8.--Irrigation water use, by counties, during 1985.

Livestock Water Use

Livestock water use consists of water used in the commercial raising of animals. For this study, only the raising of cattle, hogs, and sheep was considered. Data were compiled for this category for water-source type, water-supply method (assumed to be entirely self supplied), and water-disposition type.

Withdrawals were estimated based on the number of animals reported for each county by the Colorado Department of Agriculture (Colorado Agricultural Statistics Service, 1986). Animals were assumed to be homogeneously distributed within a county unless geographic or other information indicated otherwise. Consumptive-water-use estimates for the various types of animals were obtained from the U.S. Department of Agriculture (1975) and were as follows:

Cattle	10 gallons per head per day
Sheep	2 gallons per head per day
Hogs	3 gallons per head per day

Water-source type was estimated based on water-source type available within a county-cataloging unit, using irrigation-water-source type as a guide. Where ground water was the source, withdrawals were assumed to be equal to the calculated consumptive use. Surface-water-withdrawal data for livestock watering were obtained from the State Engineer's Office. In most areas, reported surface-water withdrawals were slightly larger than the calculated consumptive use. However, in some areas, reported surface-water withdrawals were much larger than calculated consumptive use, and some return flows were assumed for these areas.

Livestock water use (60.7 million gallons per day) amounted to about three-tenths of one percent of the total water used in Colorado. Weld County, located in the South Platte subregion, has 20 percent of the State's 3 million cattle and led counties in livestock water use (6.07 million gallons per day). All nine of the counties in Colorado that have 75,000 or more head of cattle are located east of the Continental Divide. Hogs (200,000 total) also are produced primarily in the eastern half of the State. Sheep, on the other hand, are raised mostly on the west slope, with 20 percent of the State's total of 375,000 sheep in Moffat County alone. Tabular summaries of livestock water-use data are listed in table 9 (for counties) and table 20 (for hydrologic subregions) in the "Supplemental Data" section at the back of this report.

Mining Water Use

Mining water use is water used for the extraction of minerals: solids, such as coal and ores; liquids, such as crude petroleum; and gases, such as natural gas. This category includes water used in quarrying, well operations (dewatering), milling (crushing, screening, washing, flotation, and so forth), and other preparations customarily done at the mine site or as part of a mining activity. It does not include water used in the processing of raw materials such as smelting ores, refining petroleum, and slurry pipeline

operations. Data were compiled for this category for water-source type, water-supply method (assumed to be entirely self supplied), and water-disposition type. Four types of mining activity were investigated for water use: coal mines, other mines (principally hardrock), sand and gravel quarries, and oil producers. Each of these will be discussed separately in the following paragraphs.

There were 33 active coal mines in Colorado during 1985 (Colorado Division of Mines, written commun., 1987); 10 of these were surface mines and 23 were underground mines. Production was 17.3 million tons, and most (83 percent) occurred in Moffat, Routt, Gunnison, and Pitkin Counties. Water-use data were acquired from personnel at 15 of these mines, which accounted for 78 percent of production, and data were interpolated for the remaining mines using coal-production data. It is estimated that 3.03 million gallons per day of ground water and 2.70 million gallons per day of surface water were withdrawn for coal mining use. Of this quantity, 1.03 million gallons per day was consumptive use, of which about 57 percent was due to evaporation of coal moisture. In surface mines, water is used primarily for dust control, washing of equipment, and domestic use by miners. Surface runoff impounded in sedimentation ponds was not considered a water use, but evaporation from these ponds was considered a use. In underground mines, the principal use of water is lubrication for drilling and dewatering of mines.

There were about 150 active hard-rock mines in Colorado during 1985 (Colorado Department of Mines, written commun., 1985), and copper, gold, molybdenum, silver, and uranium were the principal products. Most of these mines are small, intermittent operations. Of the estimated 2,700 persons employed in these mines, 2,000 were employed by the six largest operations. Site-specific water-use data for 13 of the largest mines were acquired through direct contact or by examination of mine operation reports. Water use for the remaining mines was estimated using water-use ratios for Colorado developed from 1982 Census data (U.S. Bureau of the Census, 1985), which reported an average of 5,500 gallons withdrawn per day per employee, of which 75 percent was ground water and 10 percent was consumptive use. About 16.71 million gallons per day of ground water and 24.87 million gallons per day of surface water were withdrawn by hardrock mines during 1985, and about 3.71 million gallons per day was consumptive use. Most of the ground-water use consists of mine dewatering; most of the surface-water use is the result of natural drainage water entering mine water supply or discharge systems. Most of the hardrock mining water use occurred in Lake, Clear Creek, Teller, San Juan, and Ouray Counties.

About 20,000 permits for sand and gravel operations have been issued in Colorado (Dick Stensel, State Engineer's Office, oral commun., 1987). It was not possible to investigate all these operations. The major water use associated with gravel pit operations is water evaporation from ponds. Estimates of the total surface area of these ponds, their location, and the quantity of evaporative water use from these ponds were made based on information obtained from the State Engineer's Office. It was estimated that 8.93 million gallons per day of ground water was withdrawn and consumptively used during 1985. Most of this use occurred in the valley of the South Platte River or in the valleys of its tributaries along the northern Front Range.

Information about water use in the oil industry was obtained from the Colorado Oil and Gas Conservation Commission. Water produced as a byproduct of oil production is considered a mining withdrawal. The water is either turned into evaporation ponds where it is consumptively used, or it is reinjected. The Oil and Gas Commission keeps records on water production and water reinjection for each oil field in Colorado. From these records, it was estimated that 32.25 million gallons per day of saline ground water was withdrawn in Colorado during 1985, and 6.86 million gallons per day was consumptively used by evaporation from ponds; the remaining water was reinjected. An additional 2.84 million gallons per day of surface water was withdrawn and consumptively used for production injection. Most of the oil-field water use occurred in Rio Blanco, Washington, Logan, Morgan, and Moffat Counties.

There are few previous estimates of mining water use available. The 1982 Census estimate of 65 million gallons per day (U.S. Bureau of the Census, 1985, p. 4-5) includes responses from only 49 of the estimated 2,424 mining establishments then in the State. The mining industry is notably volatile, and water use can change dramatically from year to year. It is particularly difficult in this category to define water use. Mine dewatering is an important part of mining water use but often is a passive type of use. For example, some mines are temporarily closed but either are dewatered in anticipation of re-opening, or have a passively occurring discharge from the mineworks that may or may not be processed in a mine-operated treatment plant. In addition, many old, long-abandoned mines discharge water. This water was not considered a mining use for this study, and, in any event, would be difficult to quantify.

The mining industry used an estimated 91.3 million gallons per day of water in Colorado during 1985. Six percent of this was used by coal mining, 46 percent by hardrock mining, 10 percent by sand and gravel quarrying, and 38 percent by oil production. All of the water was self-supplied, and 23 percent was consumptive use. The distribution of mining water use by county is shown in figure 9. In general, those counties that show large use in the eastern part of the State are oil-production counties, those in the central part of the State are hardrock-mining counties, and those in the western part of the state are coal-mining counties. Tabular summaries of mining water-use data are listed in table 10 (for counties) and table 21 (for hydrologic subregions) in the "Supplemental Data" section at the back of this report.

Power Water Use

The power water use category includes *hydroelectric power water use* and *thermoelectric power water use*. Thermoelectric power water use is further subdivided by fuel type (fossil, geothermal, and nuclear). Data were compiled for the power water use category for water-source type, water-supply method, water-disposition type, and quantity of power generated.

Data for the power water use category were compiled by making a complete survey of power plants. The 23 thermoelectric-power plants in Colorado generated 26,500 gigawatt-hours of net power during 1985, and the 27 hydroelectric-power plants in Colorado generated 2,400 gigawatt-hours of net

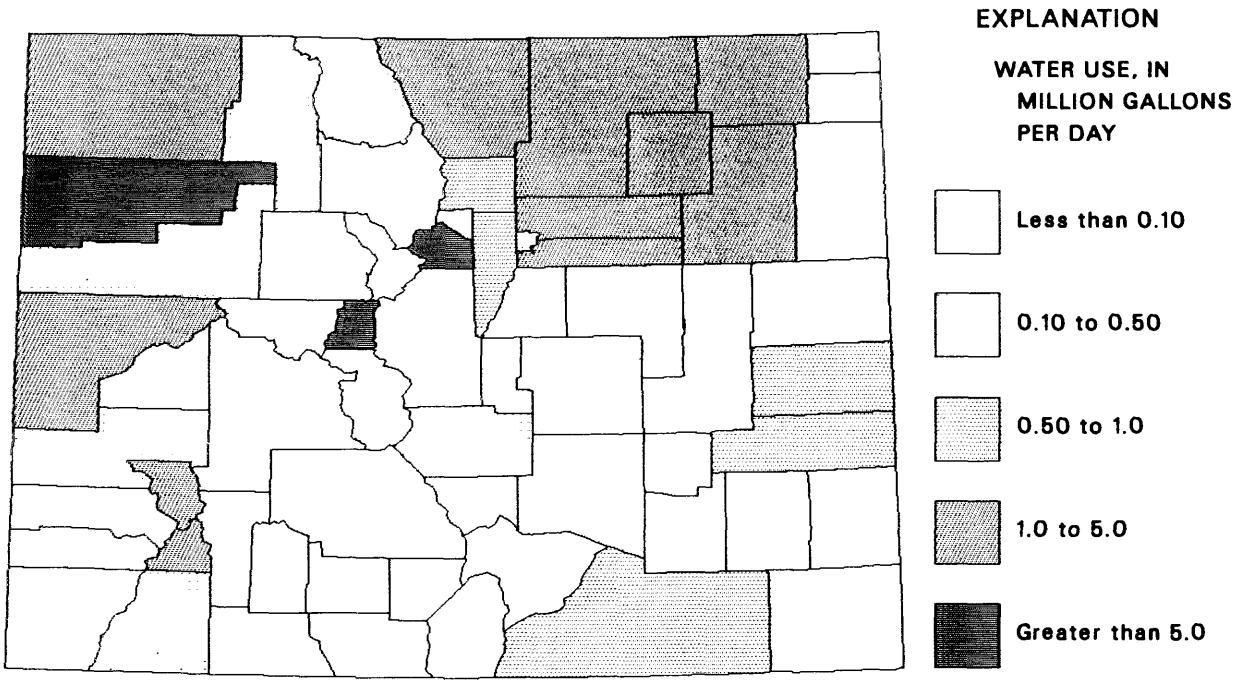


Figure 9.--Mining water use, by counties, during 1985.

power during 1985. All the thermoelectric-power plants are fossil fuel plants except for one nuclear-power plant that did not generate power in 1985 (but used 1.6 million gallons per day). The thermoelectric-power plants in Colorado are of a variety of types. Some are small diesel generators that use only small quantities of water in their cooling jackets. Some are once-through plants where large volumes of water are withdrawn to pass through cooling structures once before being returned to the natural system. In this instance, little water is actually consumed. Some are closed-system plants where much less water is withdrawn than in once-through plants. Closed-system plants recycle the same water through their cooling facilities until it is essentially entirely consumed. Thermoelectric-power plants used 123 million gallons per day of water during 1985, and consumptive use was 37 million gallons per day. Most thermoelectric-power plants in Colorado are near population centers, but some are near the west-slope coal mines that provide their fuel (fig. 10).

Water used by hydroelectric-power plants is sometimes not included in water-use data summaries because it is a nonconsumptive use of water and because water is withdrawn from a stream only for short times and distances. However, these data are included in this report because hydroelectric-power plants have rights to, and use, 7,270 million gallons per day of water that is not available for upstream consumption. The location of hydroelectric-power plants in Colorado is shown in figure 10. Because of the large topographical relief in Colorado, on the average only 3.0 million gallons per day of water are needed to produce 1 gigawatt-hour of electricity; this ratio is the fifth smallest among all the States.

Total power water use amounted to 7,393 million gallons per day, making it the second largest category of water use in the State. Fossil-fuel plants used 121 million gallons per day while producing 26,500 gigawatt-hours of power, nuclear-power plants used 1.6 million gallons per day but produced no power during 1985, and hydroelectric-power plants used 7,270 million gallons per day while producing 2,400 gigawatt-hours of electricity. Less than 1 percent of this water was consumptive use. Tabular summaries of power water-use data are listed in tables 11 and 12 (for counties) and tables 22 and 23 (for hydrologic subregions) in the "Supplemental Data" section at the back of this report.

Other Water Uses

Other water uses will be discussed in two groups--those that are included in this study under the water-use category called "Other," and those that are not included in this study. The "Other" water-use category (shown in the "Water-Use Data" section of this report, and in tables 3 and 14 in the "Supplemental Data" section at the back of this report) consists of water withdrawn by public-supply systems but not delivered to commercial, domestic, industrial, or power users. This consists of water lost in transmission of raw water to treatment plant facilities, water used in treatment plants, water lost in distribution systems, and public water use. Public water use includes water provided by public-supply systems for firefighting, municipal swimming pool uses, park irrigation, and street cleaning. These other water uses accounted for an estimated 138 million gallons per day of water during 1985.

Some water uses were not included in this study. Water use by fish hatcheries, second-source domestic water use, reservoir evaporation (except for mining use), and water-augmentation-plan uses were not investigated. Several *instream water uses* also were not investigated, including water for habitat protection, recreational uses, and water-quality maintenance uses. Other water uses were undoubtedly overlooked. Some water uses cannot easily be quantified, and others may require that the classification structure for water-use data be expanded.

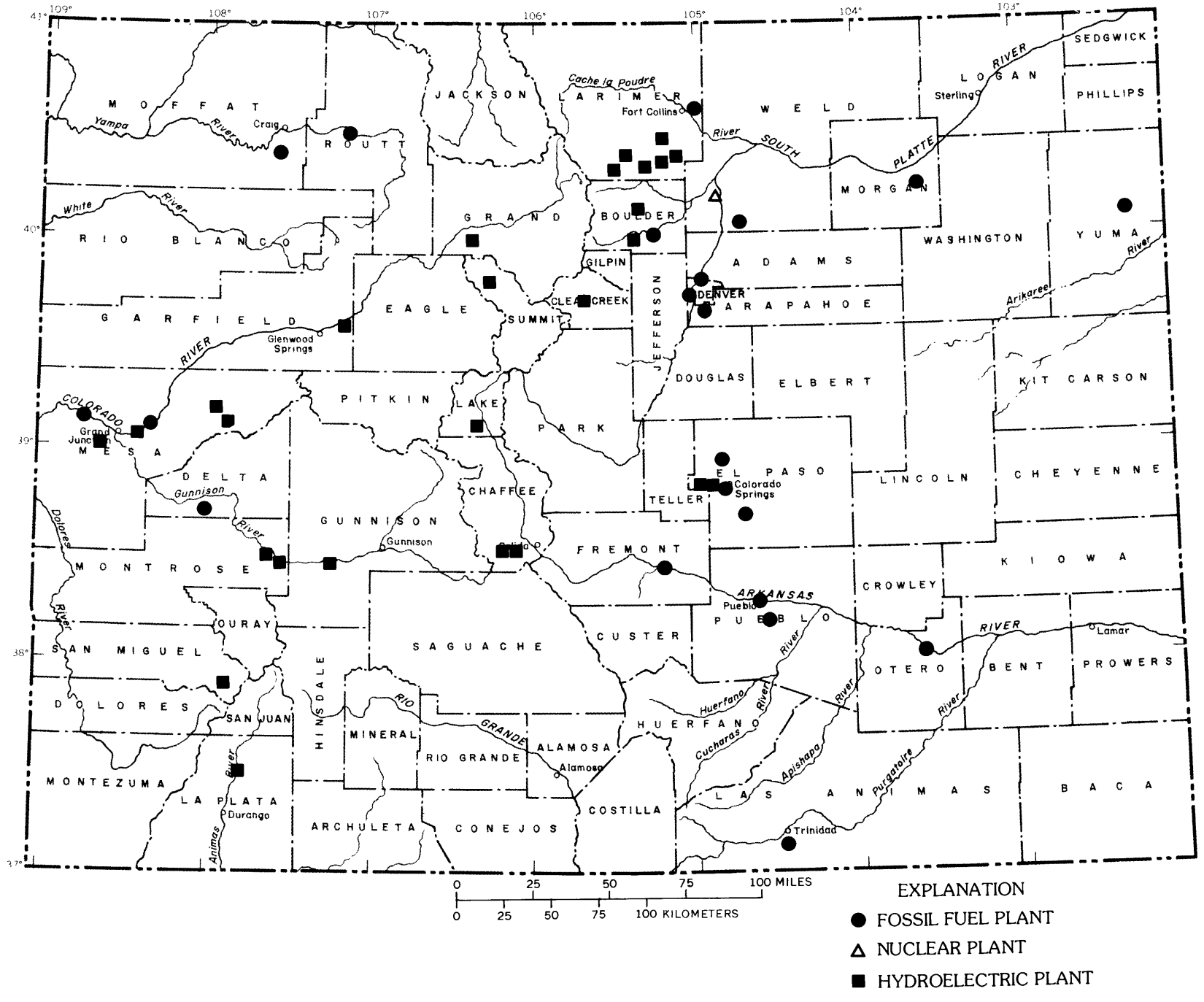


Figure 10.--Location of power plants.

SUMMARY

Water-use data for 1985 were compiled for the State of Colorado as part of the U.S. Geological Survey's National Water-Use Information Program. The data, summarized by county and hydrologic subregion, are presented in this report. Seven water-use categories were examined: commercial, domestic, industrial, irrigation, livestock, mining, and power. For each water-use category, data about water source and water disposition are presented.

An estimated 20,800 million gallons per day of water was used in Colorado during 1985; of this quantity, 89 percent came from surface-water sources, and 11 percent came from ground-water sources. Public-supply systems provided only 4 percent of all water used in Colorado during 1985 but provided 80 percent of all domestic, commercial, and industrial water used. Ninety-three percent of the people in Colorado obtained their domestic water from public-supply systems. Of all water used, 60 percent was used for irrigation, 35 percent for hydroelectric power generation, and the remaining 5 percent for commercial, domestic, industrial, livestock, mining, and other uses. For the entire State, an estimated 4,840 million gallons per day of water was consumptive use during 1985; return flows were 16,000 million gallons per day.

Commercial water use was 120 million gallons per day. Ninety-three percent of this quantity was supplied by public-supply systems, and about 20.8 million gallons per day was consumptive use.

Domestic water use was 473 million gallons per day or an average of 146 gallons per person per day. About one-third of this water was consumptively used, mostly by lawn watering.

Industrial water use was 138 million gallons per day. Eighty-seven percent of this quantity was self supplied, and 21 percent was consumptive use.

Irrigation water use was 12,400 million gallons per day, making it the largest use in the State. Eighty-three percent of this water was surface water, 37 percent was consumptive use, and 23 percent was lost in conveyance.

Livestock water use was 61 million gallons per day. About 31 million gallons per day of water was consumptive use. The State produced about 3.5 million cattle, sheep, pigs, and hogs.

Mining water use was 91.3 million gallons per day. Six percent of this quantity was used by coal mining, 46 percent by hardrock mining, 10 percent by sand and gravel quarrying, and 38 percent by oil production. All of the water was self supplied, and 23 percent was consumptive use.

Power water use was 7,393 million gallons per day, making it the second largest category of water use in the State. Fossil-fuel plants used 121 million gallons per day while producing 26,500 gigawatt-hours of net power, nuclear-power plants used 1.6 million gallons per day but produced no power during 1985, and hydroelectric-power plants used 7,270 million gallons per day while producing 2,400 gigawatt-hours of net power. Less than 1 percent of this water was consumptive use.

Among counties of Colorado, most water was used in Montrose (3,260 million gallons per day), Mesa (1,940 million gallons per day), and Gunnison (1,520 million gallons per day) Counties. The predominant water uses in these counties were hydroelectric power and irrigation. Among hydrologic subregions in Colorado, most water was used in the Gunnison (5,630 million gallons per day) and South Platte (4,350 million gallons per day) subregions; hydroelectric power water use was predominant in the Gunnison while irrigation water use was predominant in the South Platte.

EXPLANATION OF WATER-USE DATA FORMAT

This section contains graphical and tabular summaries of water-use data for the State of Colorado, for each of the 63 counties in Colorado, and for each of the 17 hydrologic subregions in Colorado. At the top of each page is a map that shows the location of each area being discussed and a short table that summarizes salient features about each area. The "State of Colorado" summary page shows, for example, that 3.23 million people resided in Colorado in 1985, that about 3.01 million of them received their domestic water from public-water suppliers, and that about 222,000 of them had their own source of water. Across the middle of each page are a pie diagram and a table that show the breakdown of water used by water-use category--the numbers for the pie diagram are in percent, and the numbers in the table are in million gallons per day. Data in the county and hydrologic subregion tables are shown to two decimal places so that the total water use is equal to the sum of the parts. This is not meant to imply that the data are always as accurate as shown (see "Limitations of Data," p. 6). For the State, irrigation was the largest water use (59.6 percent of water used, or 12,400 million gallons per day), and power was the second largest use (35.5 percent of water used, or 7,393 million gallons per day), followed at much smaller percentages by domestic, industrial, other, commercial, mining, and livestock uses. Total water use was 20,800 million gallons per day. Eight bar graphs (at varying scales) are shown at the bottom of each page. These bar graphs show the breakdown of water used within each category (and for all water used) by source type (ground water or surface water), supply method (public-supplied or self-supplied) and by disposition type (return flow or consumptive use). The "All water uses" bar graph for the State of Colorado shows, for example, that almost all (about 90 percent) the water used is surface water, that most of the water is self supplied, and that one-quarter of the water used is consumptive use. It should be pointed out that in some bar graphs very small proportions of water use are not discernible. For example, for "Power" use in the State of Colorado, the bar graph shows that all the water used is self-supplied surface water and that it is all returned to streams. In actuality, very small proportions of water used for power generation are ground water, public supplied, and consumptive use. The actual data for these uses are in the tables in the "Supplemental Data" section at the back of this report.

State Data

STATE OF COLORADO

Area: 104,247 square miles

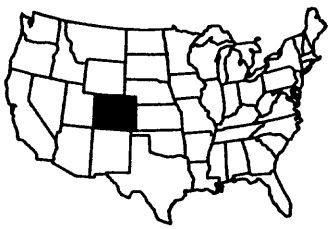
Irrigated land: 3,354,000 acres

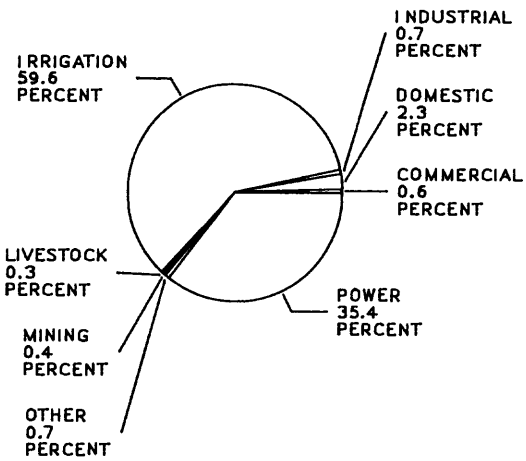
Population:

Public supplied	3,010,000
Self supplied	222,000
Total	3,232,000

Population density:
31.00 persons per square mile

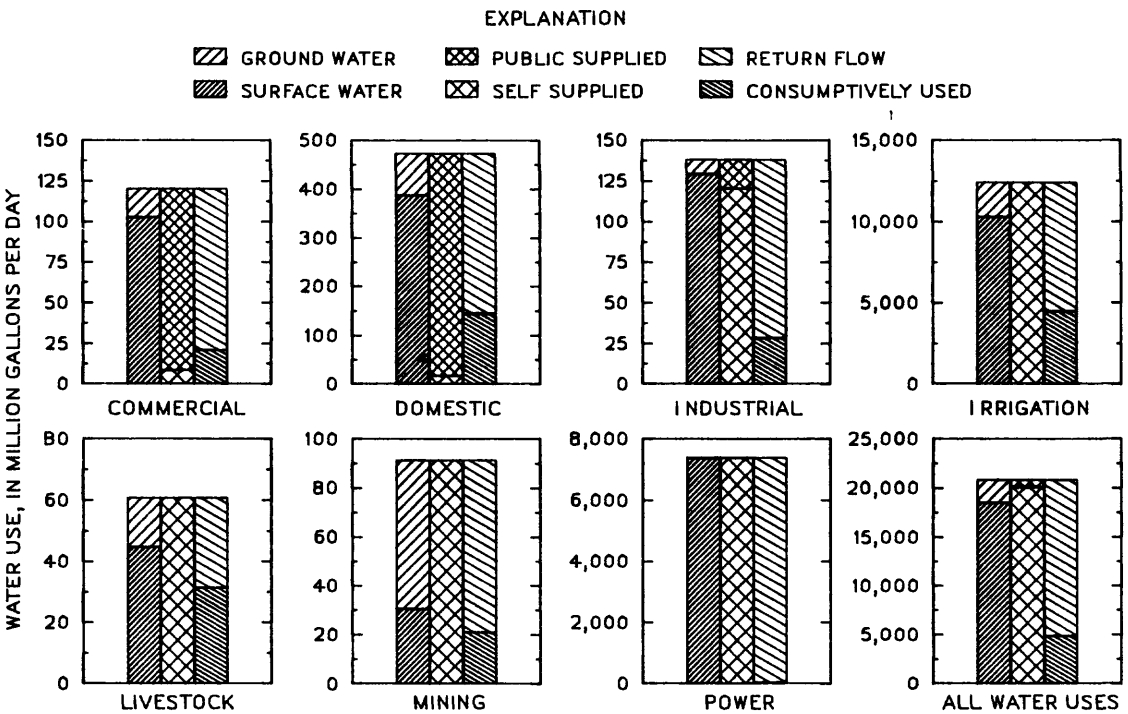
LOCATION MAP





Estimated water use

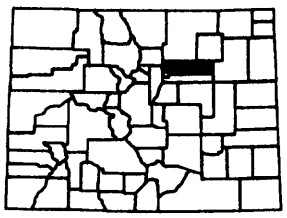
Use category	Water use (million gallons per day)
Commercial	120
Domestic	473
Industrial	138
Irrigation	12,430
Livestock	61
Mining	91
Power:	
hydroelectric	7,270
thermoelectric	123
Other	138
Total	20,844



County Data

ADAMS COUNTY

LOCATION MAP



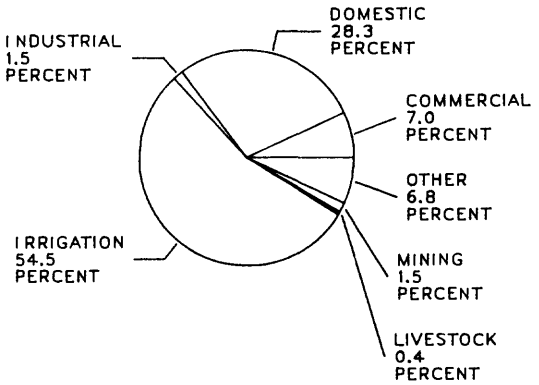
Area: 1,232 square miles

Irrigated land: 27,420 acres

Population:

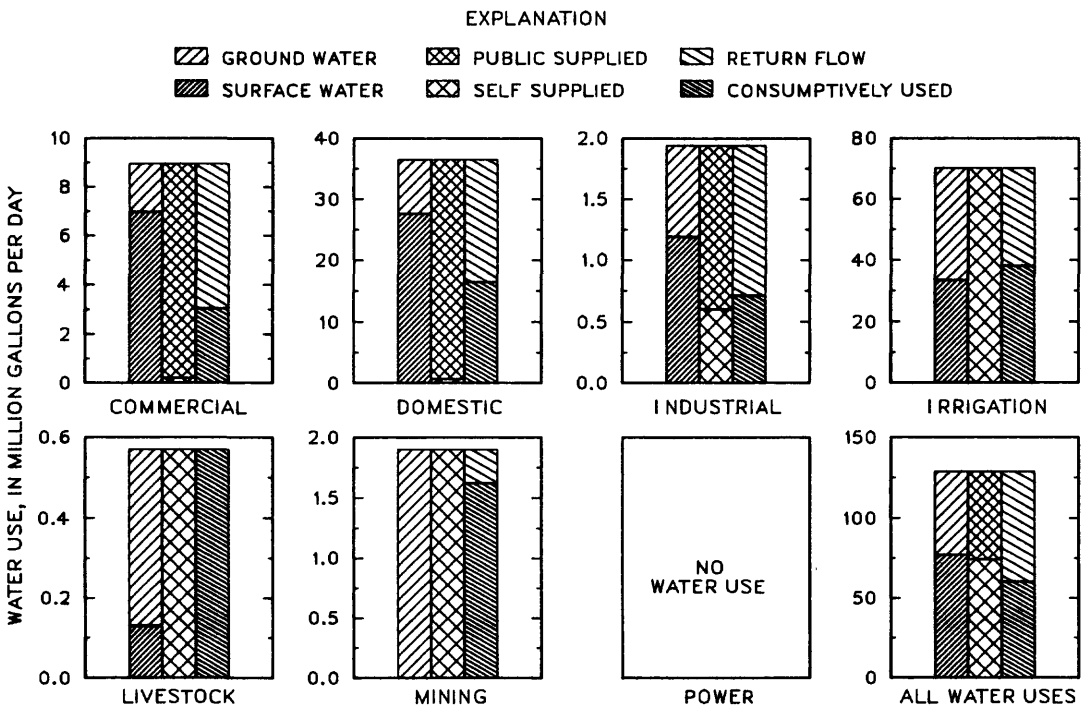
Public supplied	267,900
Self supplied	8,570
Total	276,470

Population density:
224.41 persons per square mile



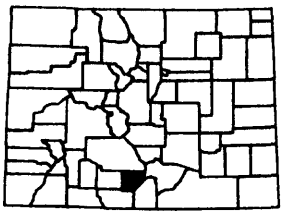
Estimated water use

Use category	Water use (million gallons per day)
Commercial	8.95
Domestic	36.49
Industrial	1.94
Irrigation	70.16
Livestock	0.57
Mining	1.90
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	8.81
Total	128.82



ALAMOSA COUNTY

LOCATION MAP



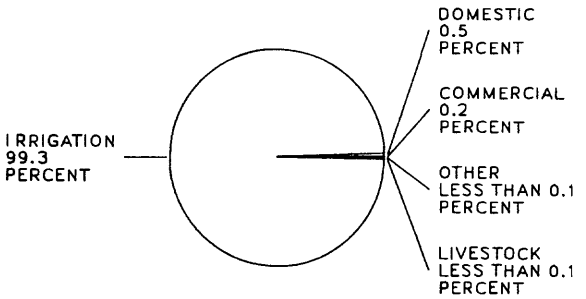
Area: 723 square miles

Irrigated land: 109,170 acres

Population:

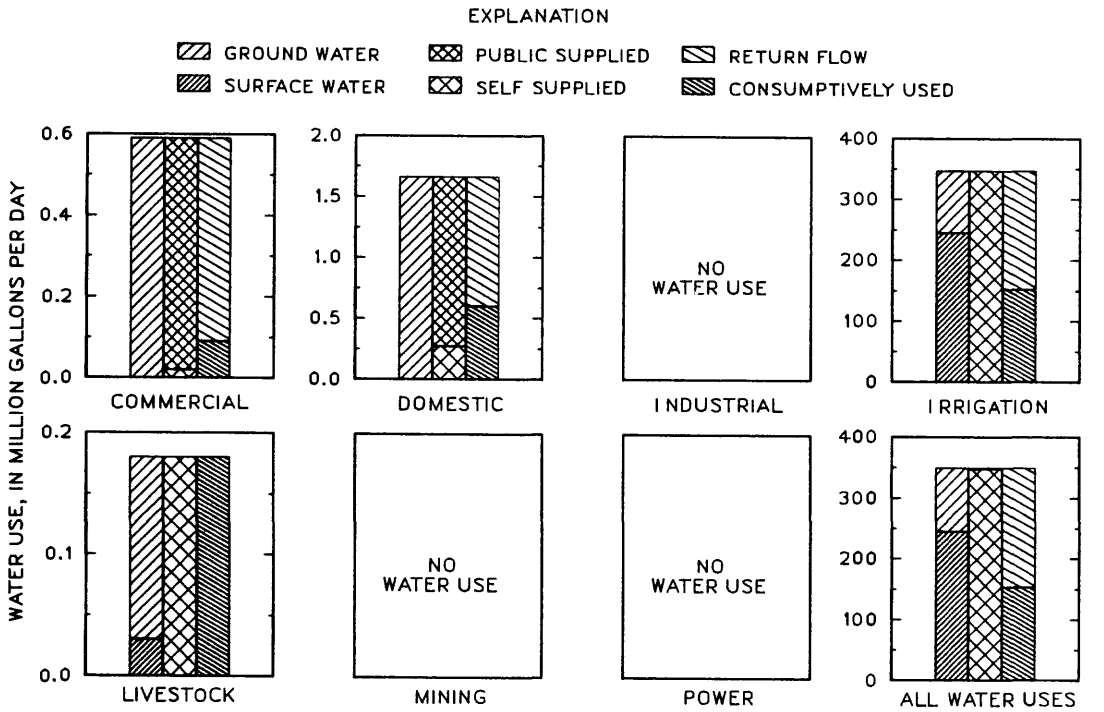
Public supplied	8,870
Self supplied	3,630
Total	12,500

Population density:
17.29 persons per square mile



Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.59
Domestic	1.66
Industrial	0.00
Irrigation	346.88
Livestock	0.18
Mining	0.00
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.02
Total	349.33



ARAPAHOE COUNTY

Area: 799 square miles

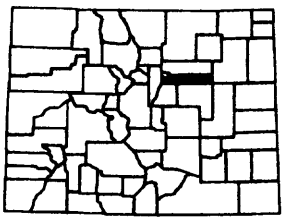
Irrigated land: 4,910 acres

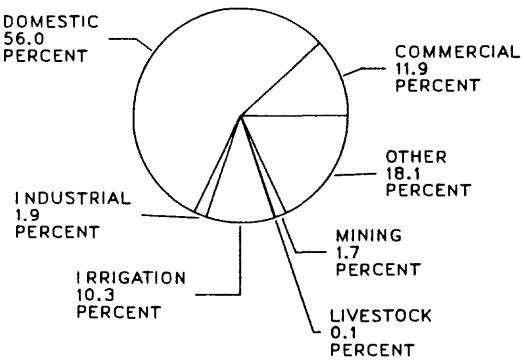
Population:

Public supplied	366,070
Self supplied	5,520
Total	371,590

Population density:
465.07 persons per square mile

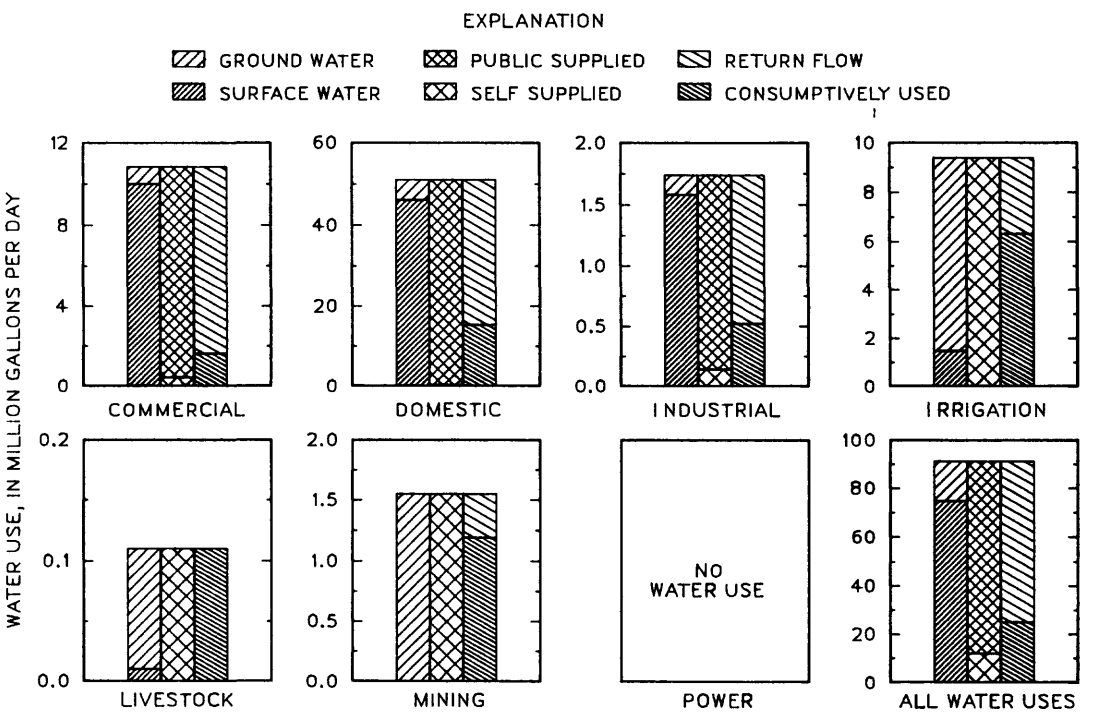
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	10.84
Domestic	51.07
Industrial	1.74
Irrigation	9.39
Livestock	0.11
Mining	1.55
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	16.45
Total	91.15



ARCHULETA COUNTY

Area: 1,364 square miles

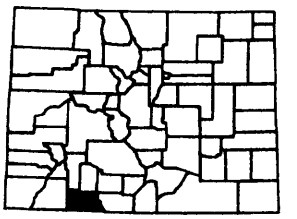
Irrigated land: 8,750 acres

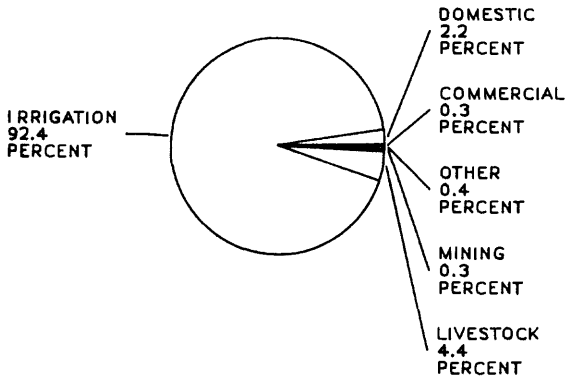
Population:

Public supplied	4,260
Self supplied	970
Total	5,230

Population density:
3.83 persons per square mile

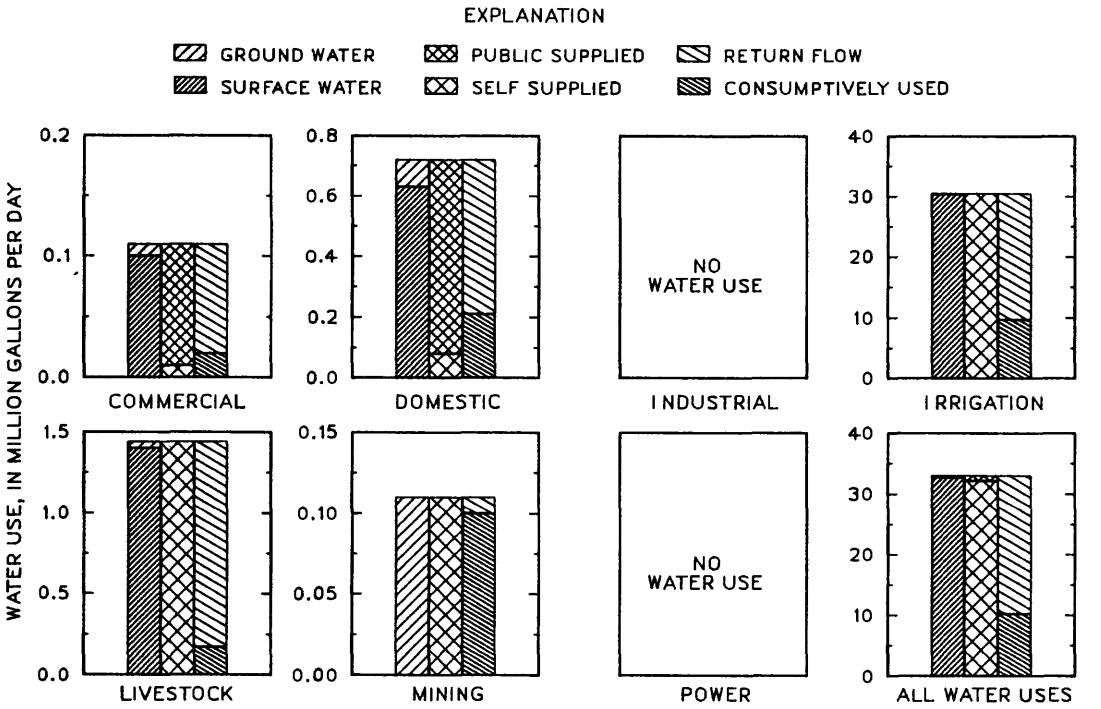
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.11
Domestic	0.72
Industrial	0.00
Irrigation	30.47
Livestock	1.44
Mining	0.11
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.13
Total	32.98



BACA COUNTY

Area: 2,565 square miles

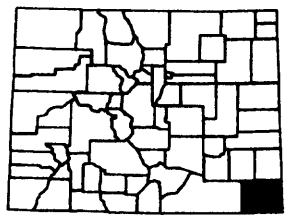
Irrigated land: 59,020 acres

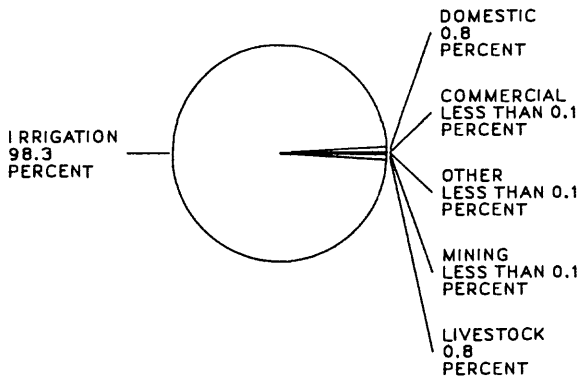
Population:

Public supplied	3,050
Self supplied	1,770
Total	4,820

Population density:
1.88 persons per square mile

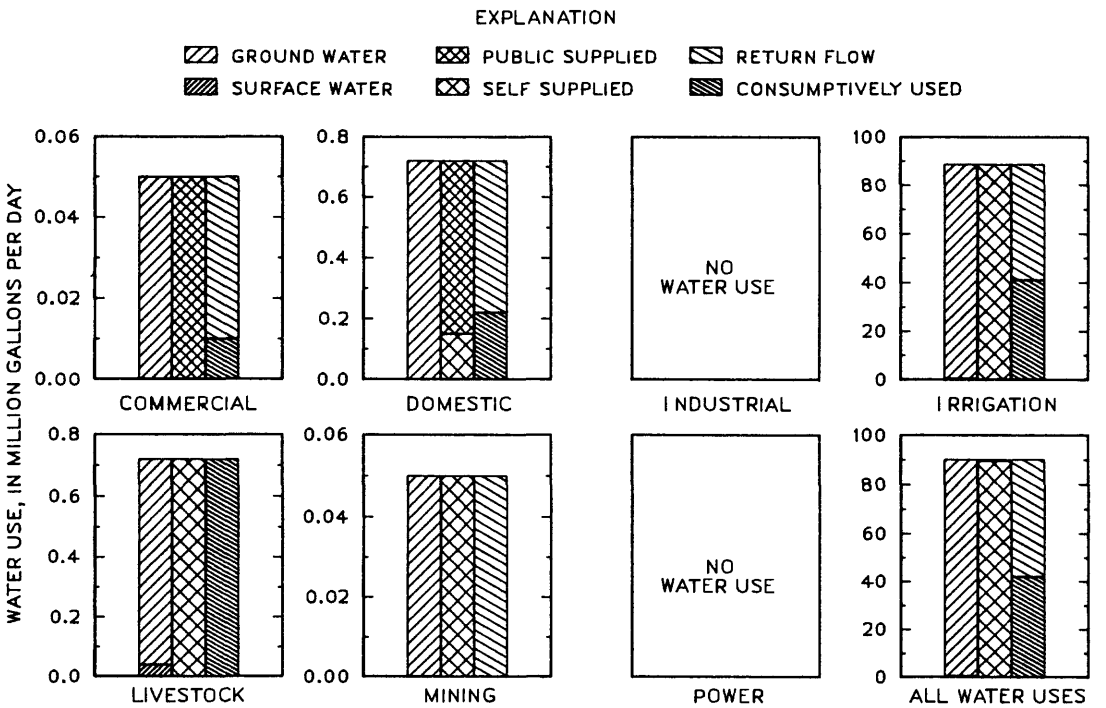
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.05
Domestic	0.72
Industrial	0.00
Irrigation	88.56
Livestock	0.72
Mining	0.05
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.01
Total	90.11



BENT COUNTY

Area: 1,543 square miles

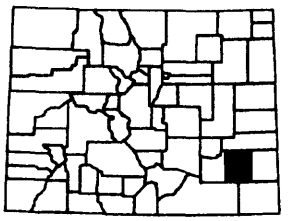
Irrigated land: 61,700 acres

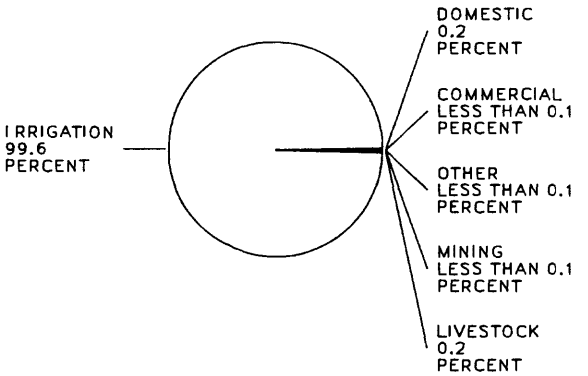
Population:

Public supplied	3,400
Self supplied	2,340
Total	5,740

Population density:
3.72 persons per square mile

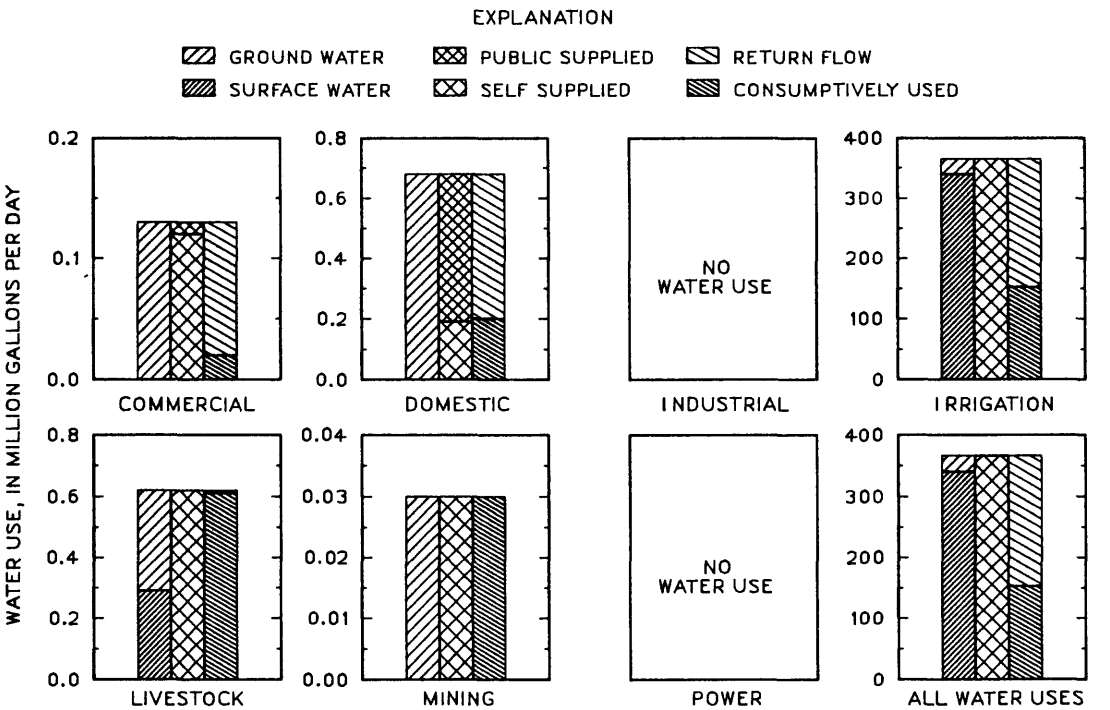
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.13
Domestic	0.68
Industrial	0.00
Irrigation	365.19
Livestock	0.62
Mining	0.03
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.01
Total	366.66



BOULDER COUNTY

Area: 758 square miles

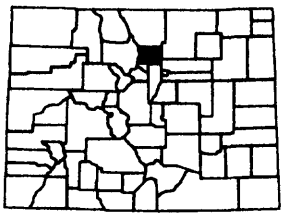
Irrigated land: 42,800 acres

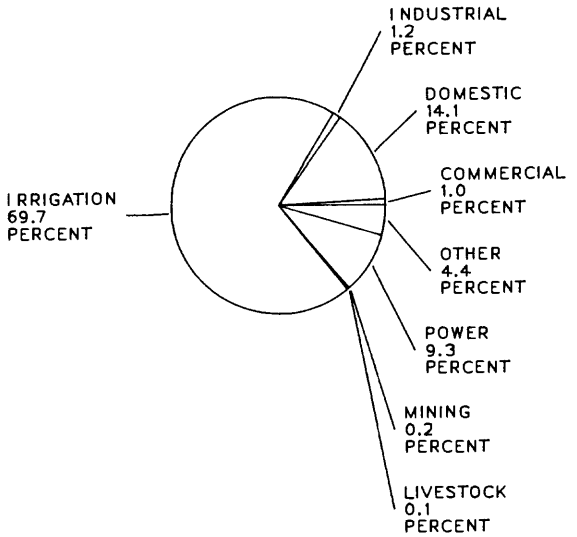
Population:

Public supplied	203,930
Self supplied	6,710
Total	210,640

Population density:
277.89 persons per square mile

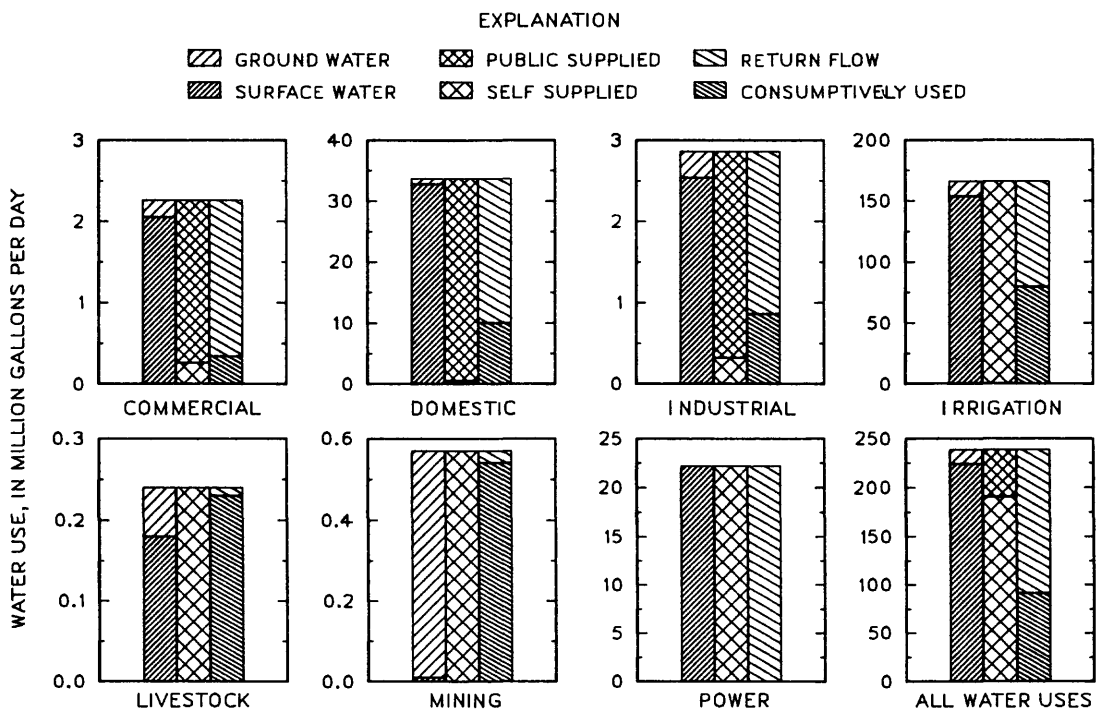
LOCATION MAP





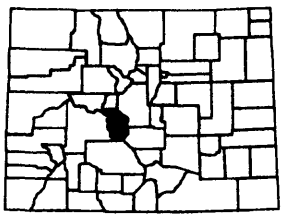
Estimated water use

Use category	Water use (million gallons per day)
Commercial	2.26
Domestic	33.71
Industrial	2.86
Irrigation	166.21
Livestock	0.24
Mining	0.57
Power:	
hydroelectric	19.36
thermoelectric	2.83
Other	10.57
Total	238.61



CHAFFEE COUNTY

LOCATION MAP



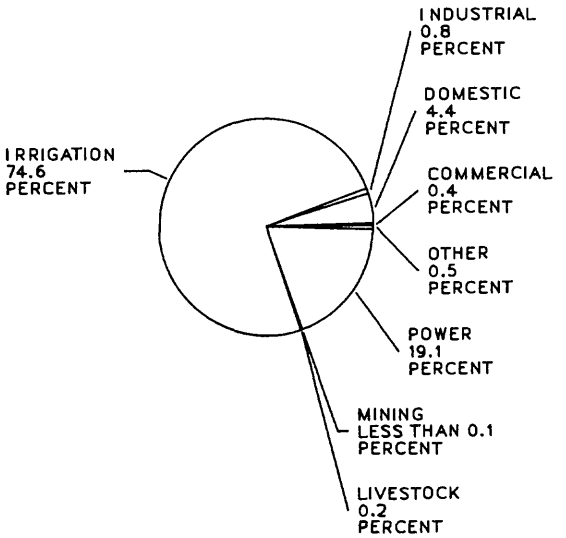
Area: 1,040 square miles

Irrigated land: 18,330 acres

Population:

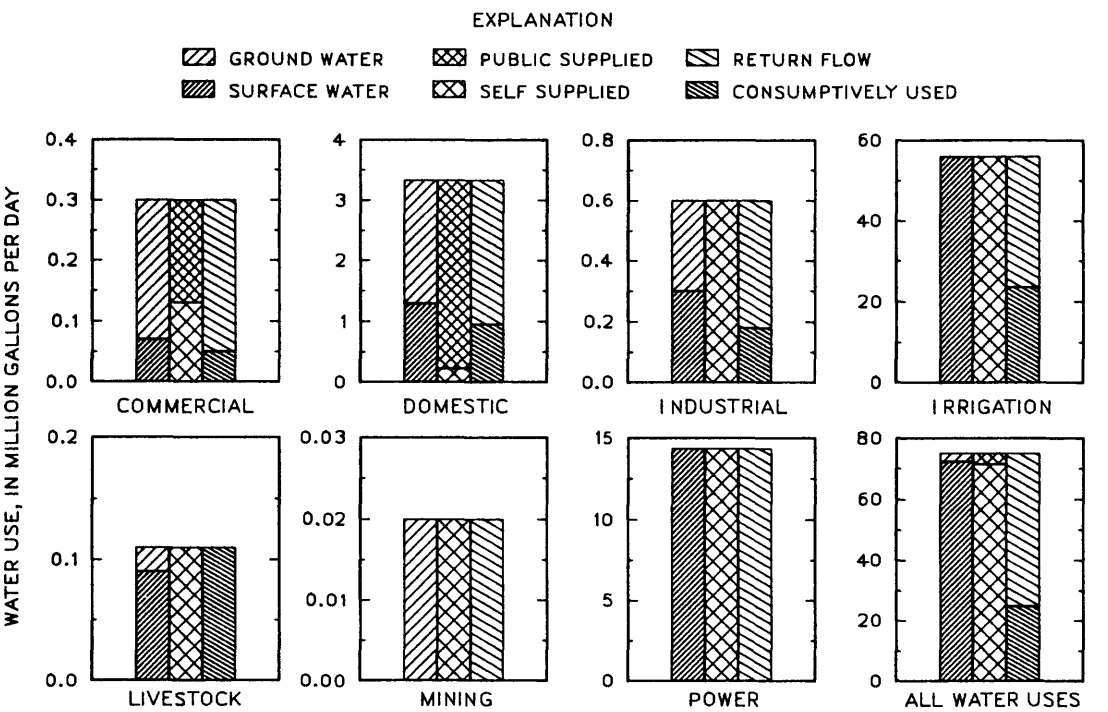
Public supplied	9,370
Self supplied	2,900
Total	12,270

Population density:
11.80 persons per square mile



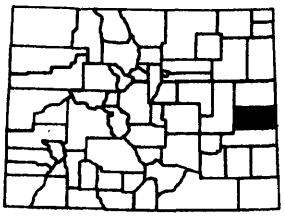
Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.30
Domestic	3.33
Industrial	0.60
Irrigation	55.92
Livestock	0.11
Mining	0.02
Power:	
hydroelectric	14.34
thermoelectric	0.00
Other	0.39
Total	75.01



CHEYENNE COUNTY

LOCATION MAP



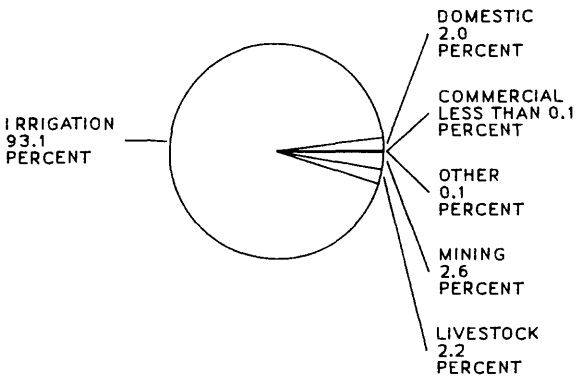
Area: 1,772 square miles

Irrigated land: 17,530 acres

Population:

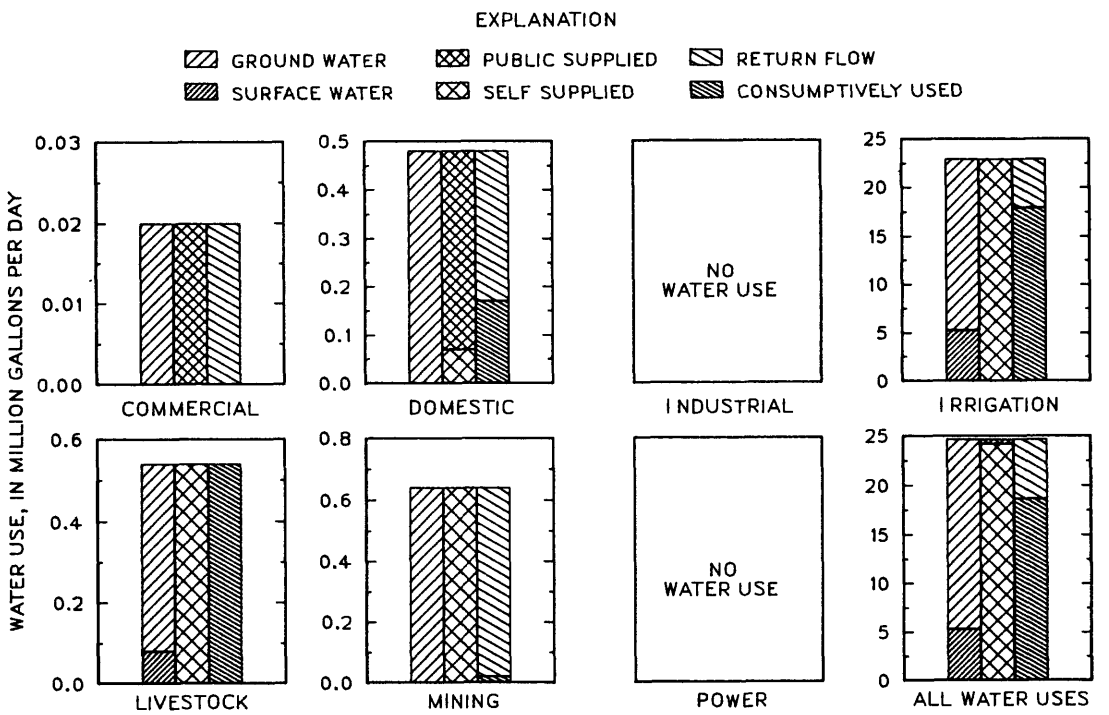
Public supplied	1,720
Self supplied	750
Total	2,470

Population density:
1.39 persons per square mile



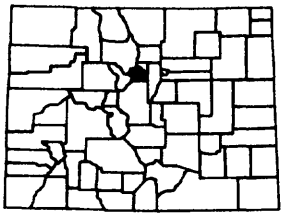
Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.02
Domestic	0.48
Industrial	0.00
Irrigation	22.93
Livestock	0.54
Mining	0.64
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.03
Total	24.64



CLEAR CREEK COUNTY

LOCATION MAP



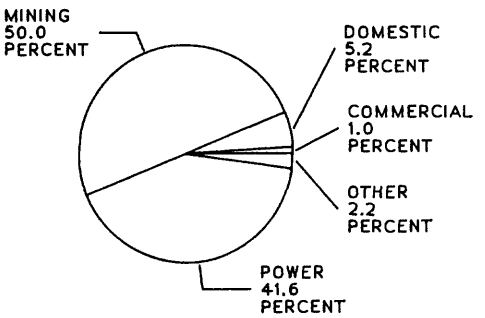
Area: 395 square miles

Irrigated land: NONE

Population:

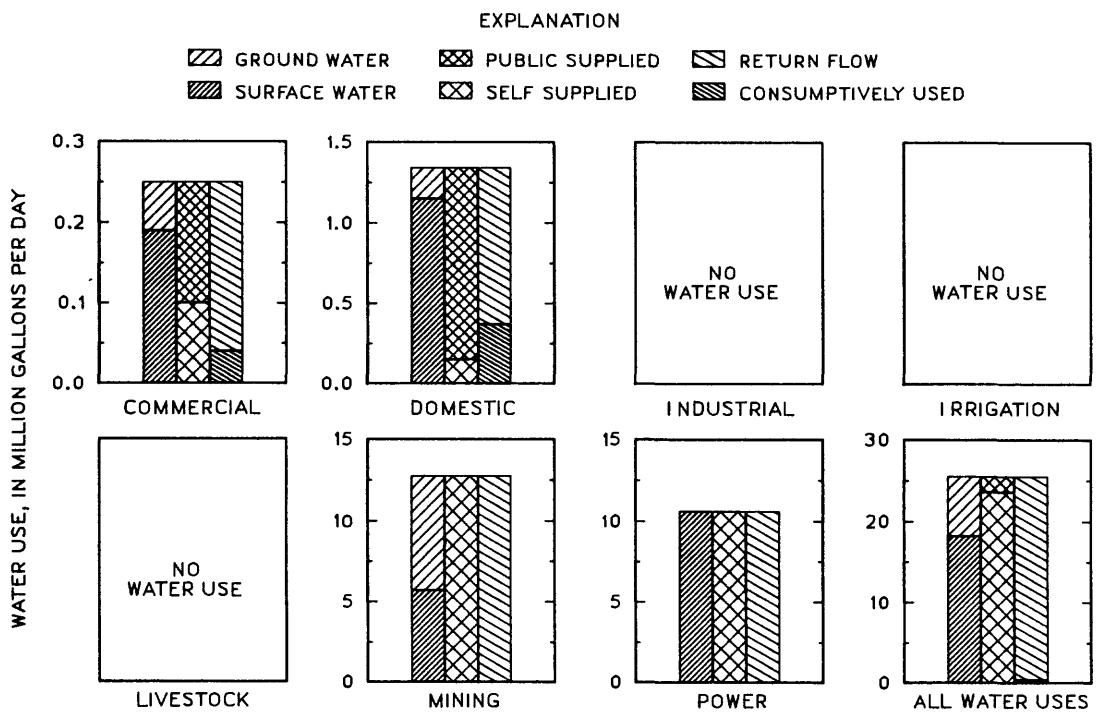
Public supplied	5,740
Self supplied	1,990
Total	7,730

Population density:
19.57 persons per square mile



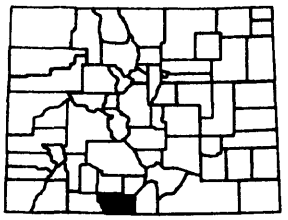
Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.25
Domestic	1.34
Industrial	0.00
Irrigation	0.00
Livestock	0.00
Mining	12.74
Power:	
hydroelectric	10.62
thermoelectric	0.00
Other	0.55
Total	25.50



CONEJOS COUNTY

LOCATION MAP



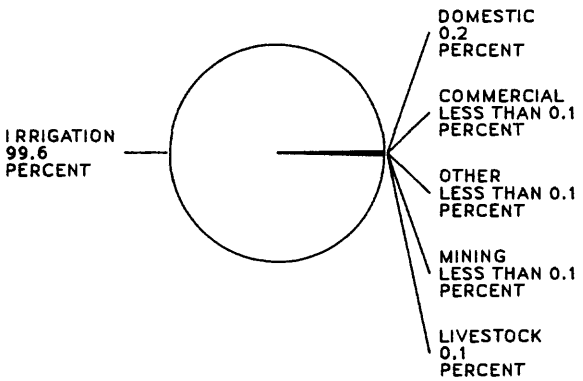
Area: 1,274 square miles

Irrigated land: 140,330 acres

Population:

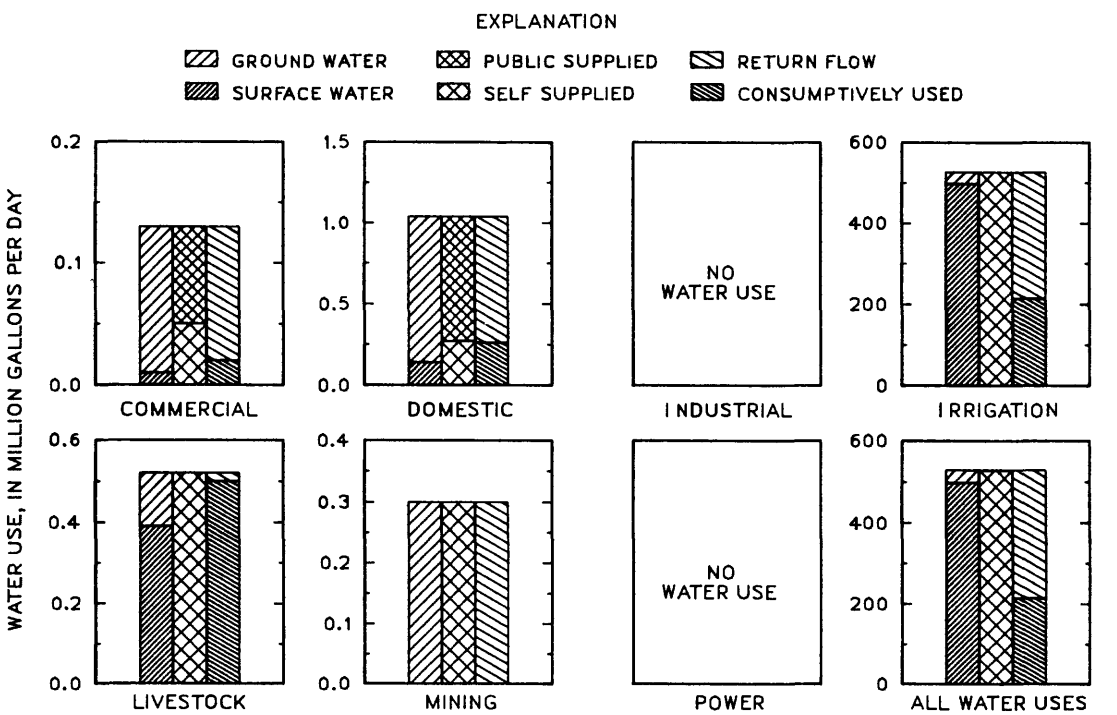
Public supplied	4,380
Self supplied	3,620
Total	8,000

Population density:
6.28 persons per square mile



Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.13
Domestic	1.04
Industrial	0.00
Irrigation	526.44
Livestock	0.52
Mining	0.30
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.08
Total	528.51



COSTILLA COUNTY

Area: 1,220 square miles

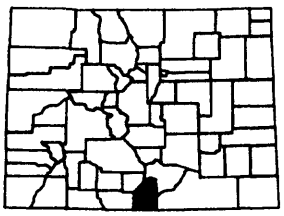
Irrigated land: 55,020 acres

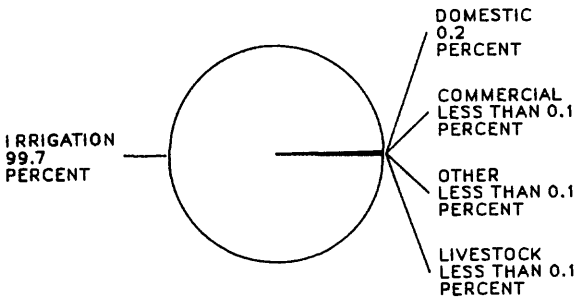
Population:

Public supplied	1,990
Self supplied	1,400
Total	3,390

Population density:
2.78 persons per square mile

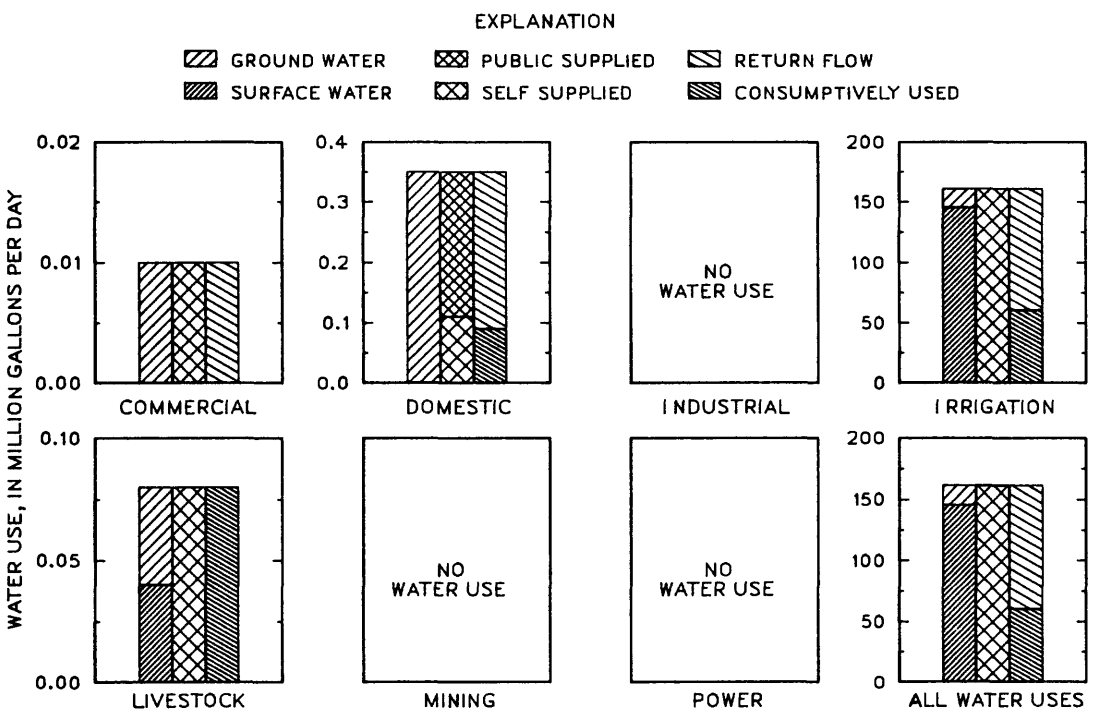
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.01
Domestic	0.35
Industrial	0.00
Irrigation	161.01
Livestock	0.08
Mining	0.00
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.01
Total	161.46



CROWLEY COUNTY

Area: 812 square miles

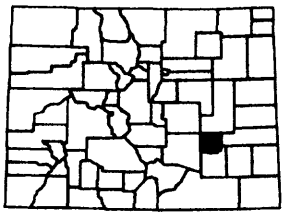
Irrigated land: 22,120 acres

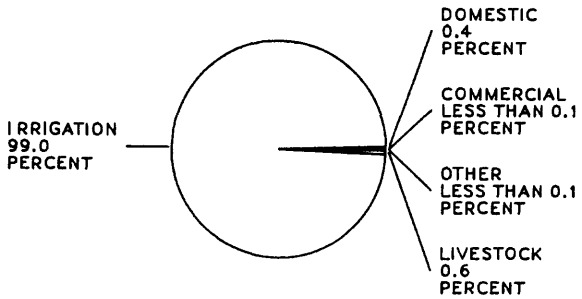
Population:

Public supplied	2,710
Self supplied	550
Total	3,260

Population density:
4.01 persons per square mile

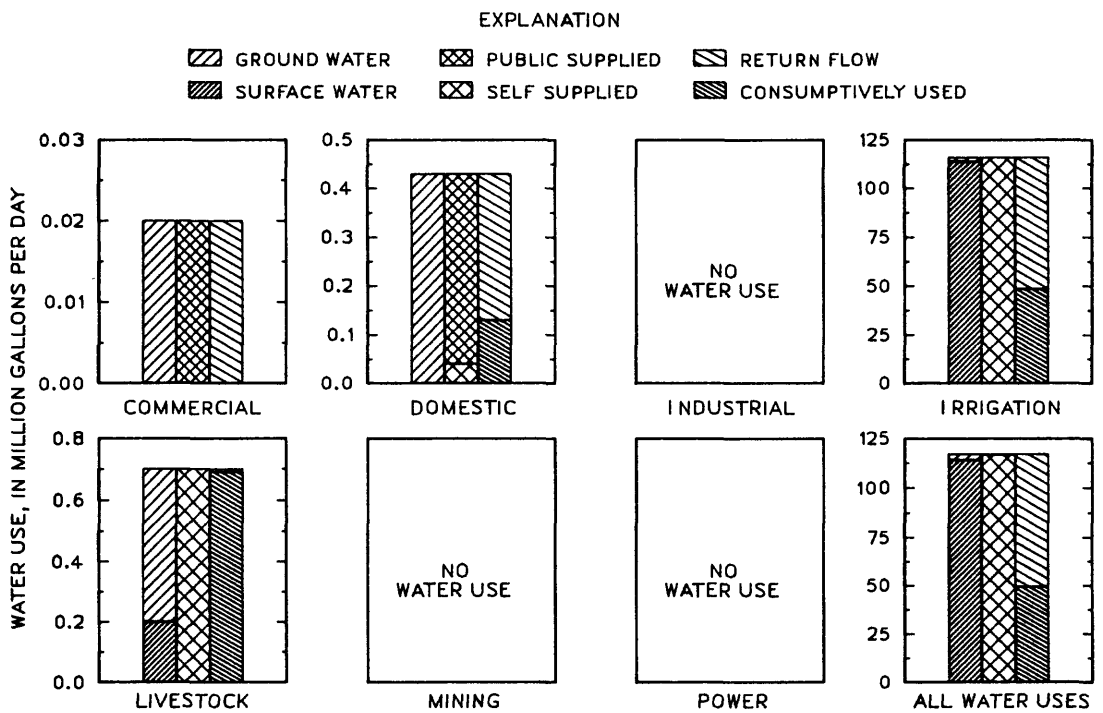
LOCATION MAP





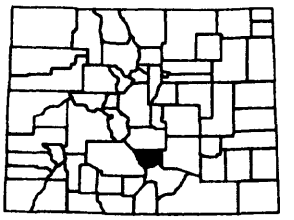
Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.02
Domestic	0.43
Industrial	0.00
Irrigation	115.91
Livestock	0.70
Mining	0.00
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.01
Total	117.07



CUSTER COUNTY

LOCATION MAP



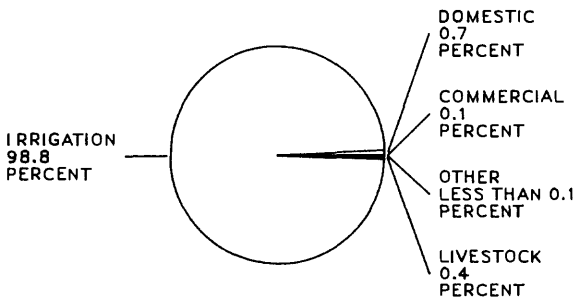
Area: 738 square miles

Irrigated land: 16,870 acres

Population:

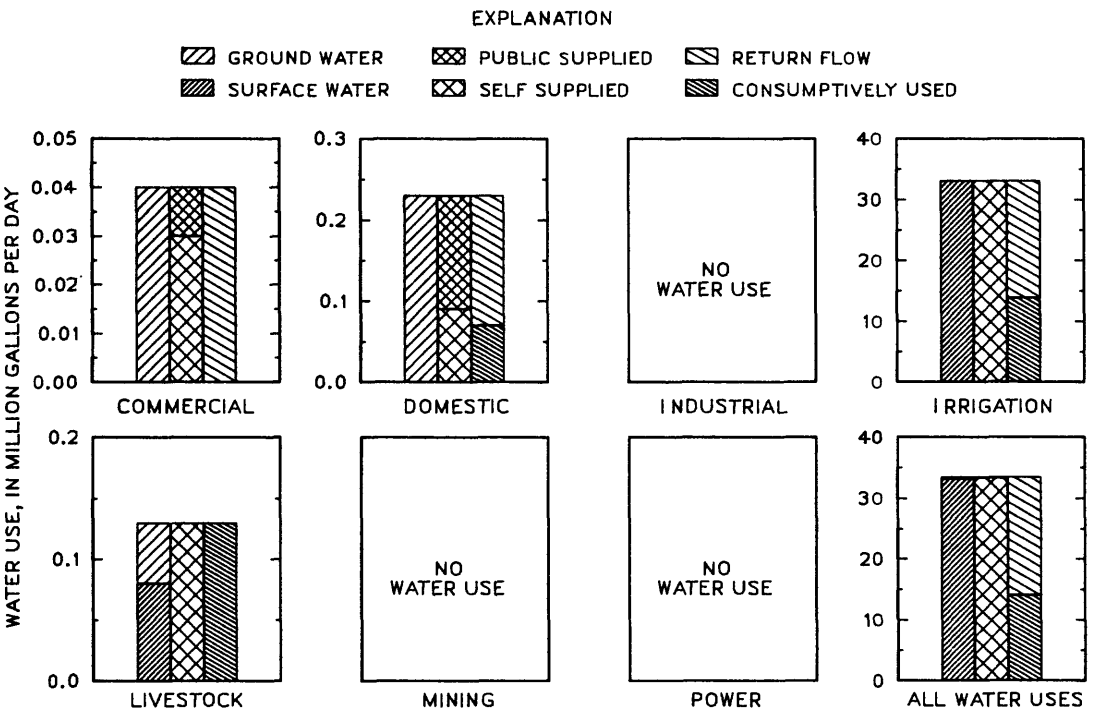
Public supplied	960
Self supplied	1,170
Total	2,130

Population density:
2.89 persons per square mile



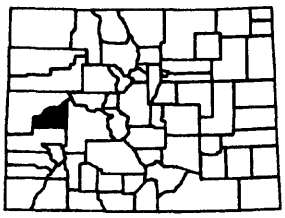
Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.04
Domestic	0.23
Industrial	0.00
Irrigation	33.09
Livestock	0.13
Mining	0.00
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.01
Total	33.50



DELTA COUNTY

LOCATION MAP



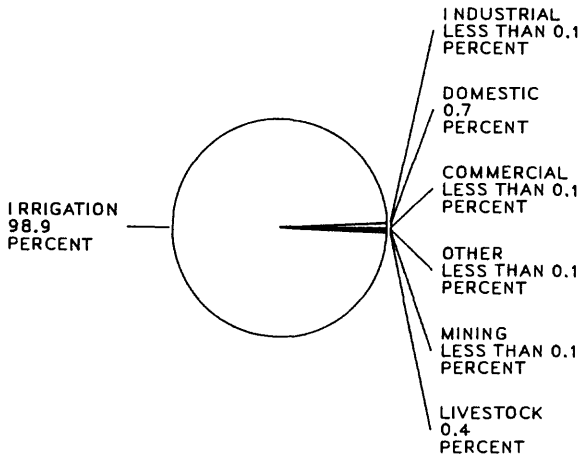
Area: 1,161 square miles

Irrigated land: 86,160 acres

Population:

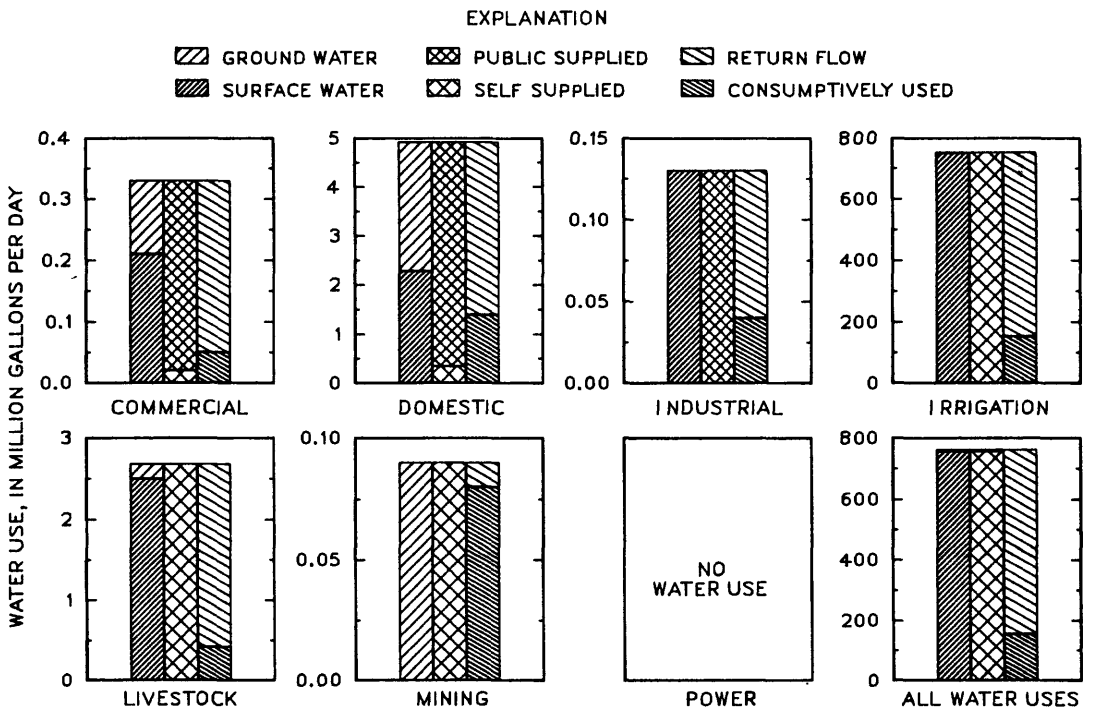
Public supplied	20,180
Self supplied	3,810
Total	23,990

Population density:
20.66 persons per square mile



Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.33
Domestic	4.92
Industrial	0.13
Irrigation	753.29
Livestock	2.68
Mining	0.09
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.57
Total	762.01



DENVER COUNTY

Area: 118 square miles

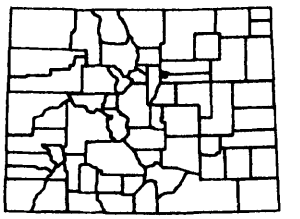
Irrigated land: NONE

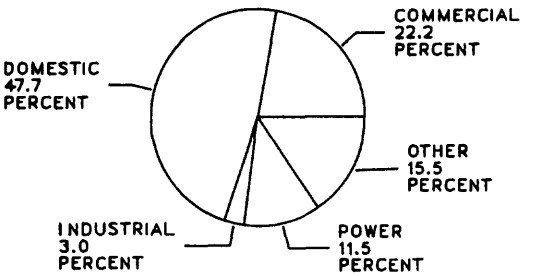
Population:

Public supplied	510,910
Self supplied	0
Total	510,910

Population density:
4,329.75 persons per square mile

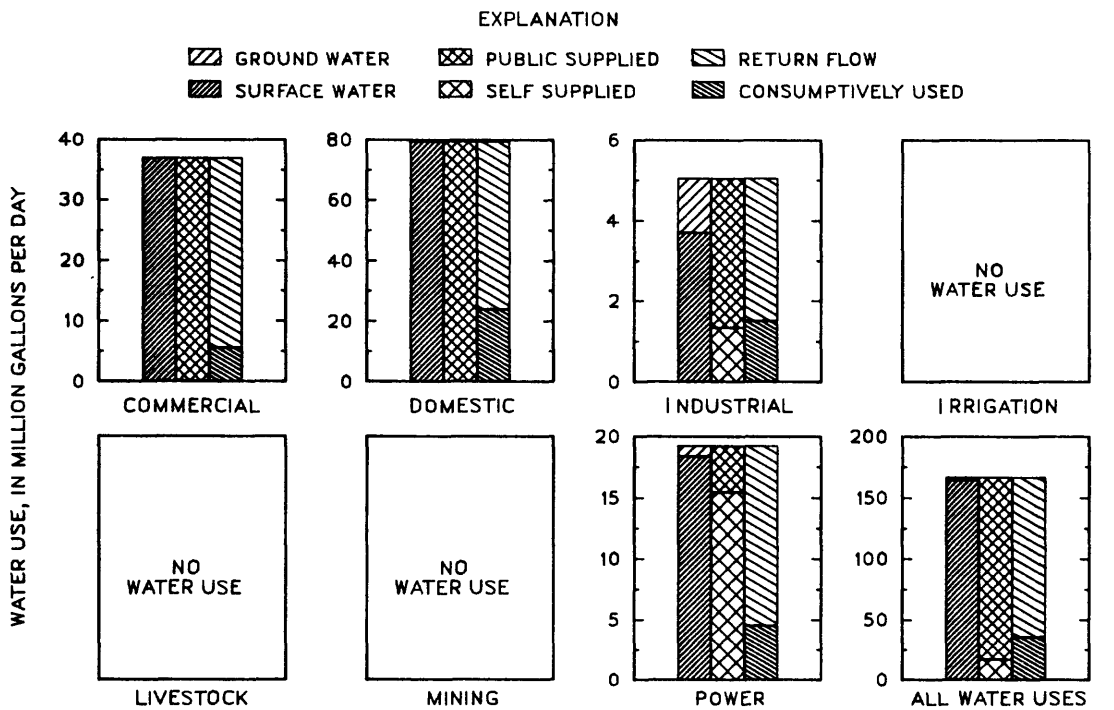
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	36.99
Domestic	79.38
Industrial	5.04
Irrigation	0.00
Livestock	0.00
Mining	0.00
Power:	
hydroelectric	0.00
thermoelectric	19.22
Other	25.88
Total	166.51



DOLORES COUNTY

Area: 1,064 square miles

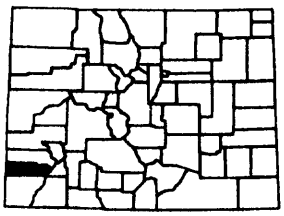
Irrigated land: 1,200 acres

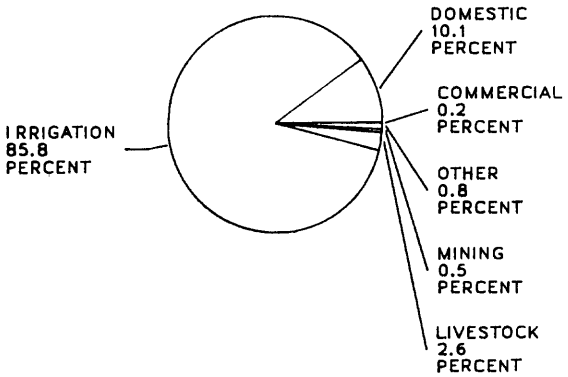
Population:

Public supplied	1,000
Self supplied	580
Total	1,580

Population density:
1.48 persons per square mile

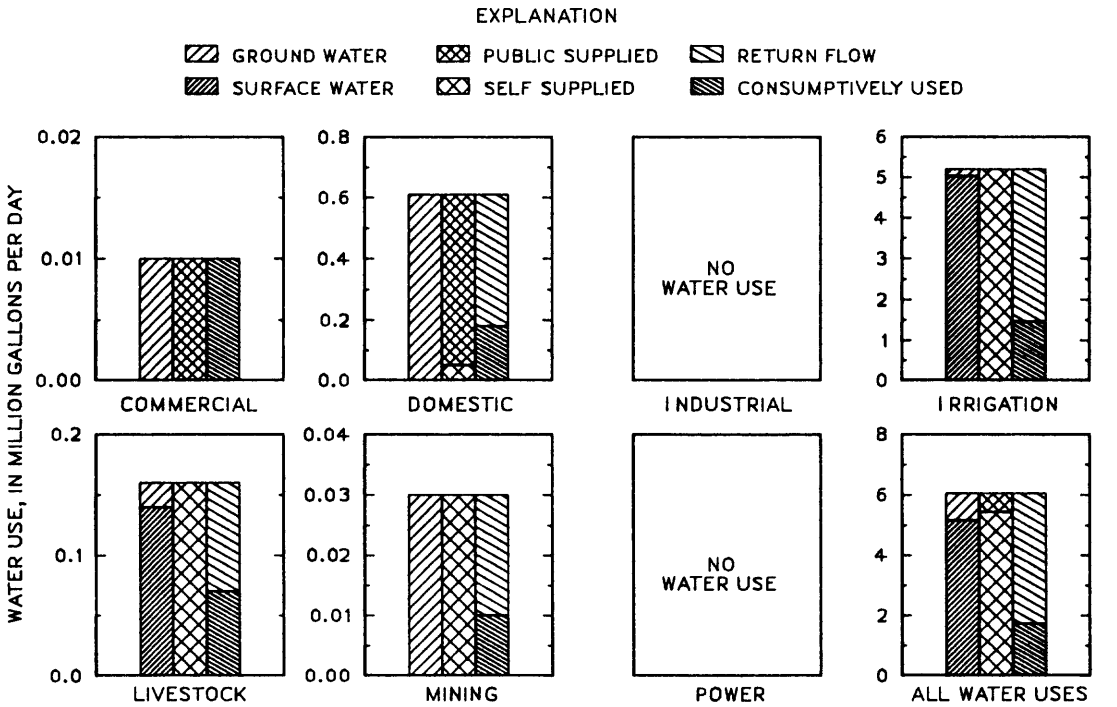
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.01
Domestic	0.61
Industrial	0.00
Irrigation	5.20
Livestock	0.16
Mining	0.03
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.05
Total	6.06



DOUGLAS COUNTY

Area: 844 square miles

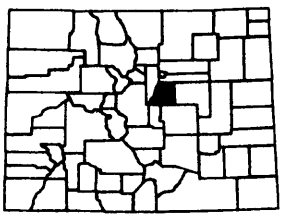
Irrigated land: 3,510 acres

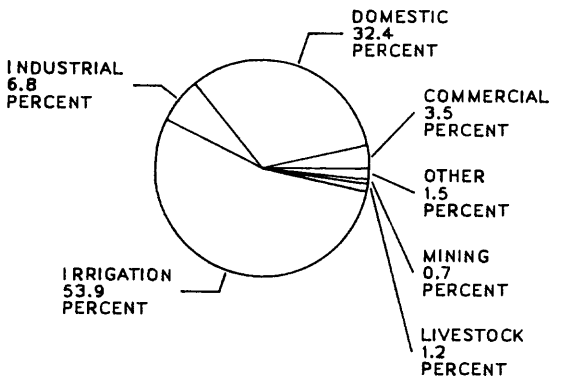
Population:

Public supplied	21,050
Self supplied	15,710
Total	36,760

Population density:
43.55 persons per square mile

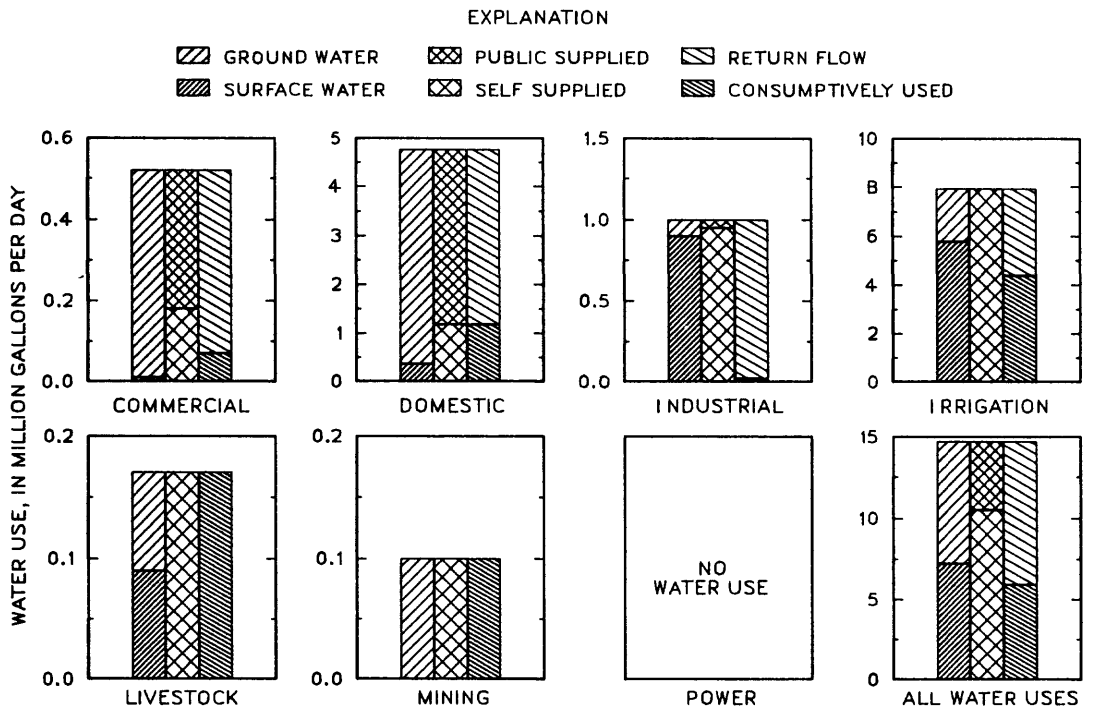
LOCATION MAP





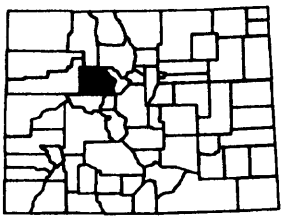
Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.52
Domestic	4.76
Industrial	1.00
Irrigation	7.92
Livestock	0.17
Mining	0.10
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.22
Total	14.69



EAGLE COUNTY

LOCATION MAP



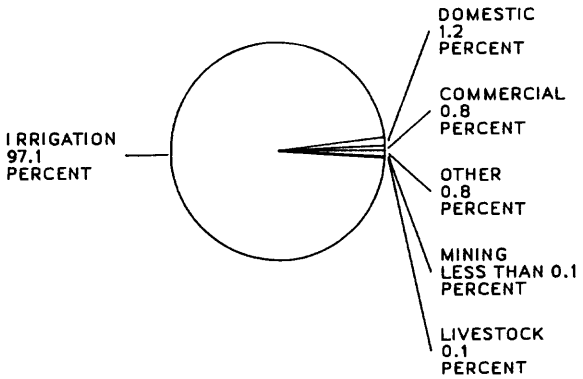
Area: 1,686 square miles

Irrigated land: 33,390 acres

Population:

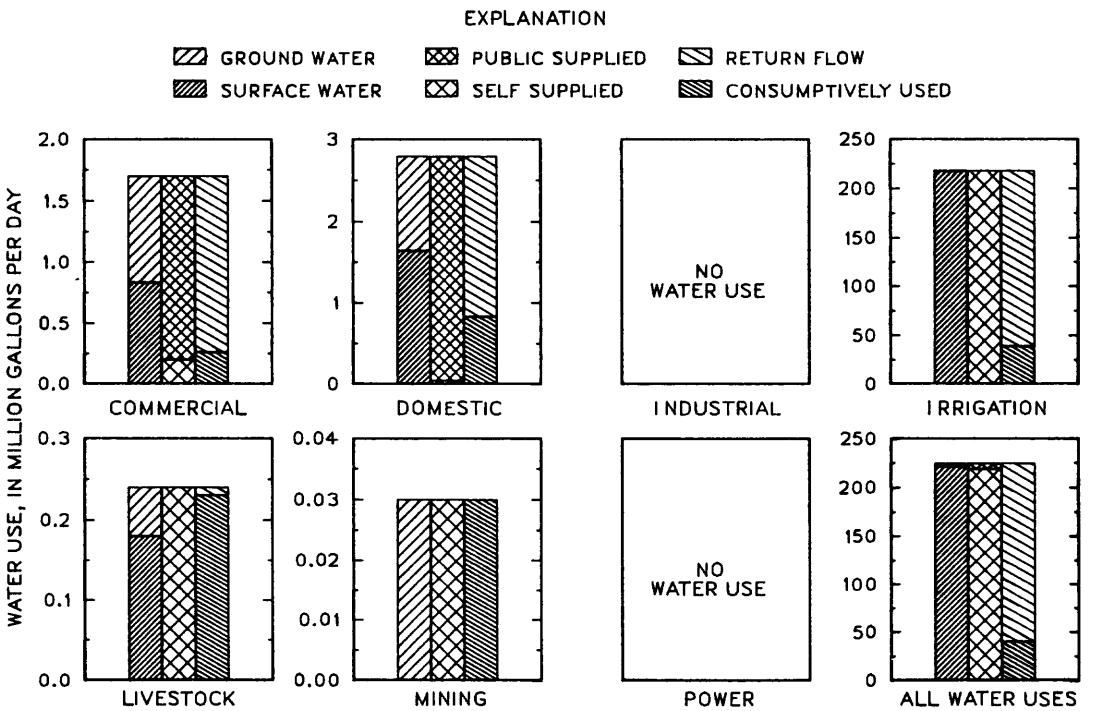
Public supplied	17,730
Self supplied	530
Total	18,260

Population density:
10.83 persons per square mile



Estimated water use

Use category	Water use (million gallons per day)
Commercial	1.70
Domestic	2.79
Industrial	0.00
Irrigation	217.85
Livestock	0.24
Mining	0.03
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	1.78
Total	224.39



ELBERT COUNTY

Area: 1,864 square miles

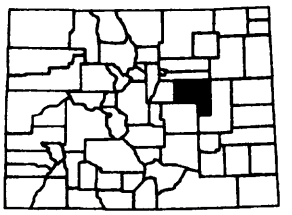
Irrigated land: 5,010 acres

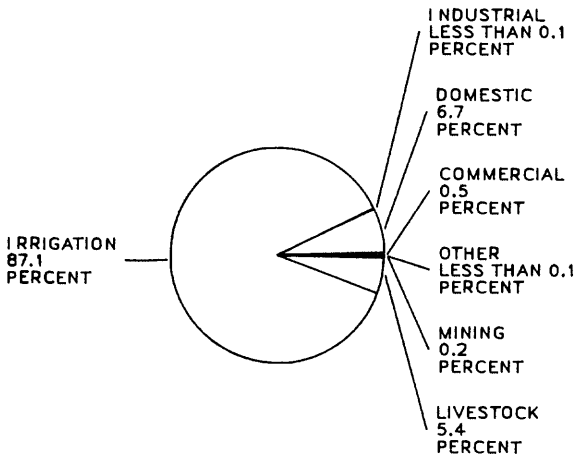
Population:

Public supplied	2,180
Self supplied	6,310
Total	8,490

Population density:
4.55 persons per square mile

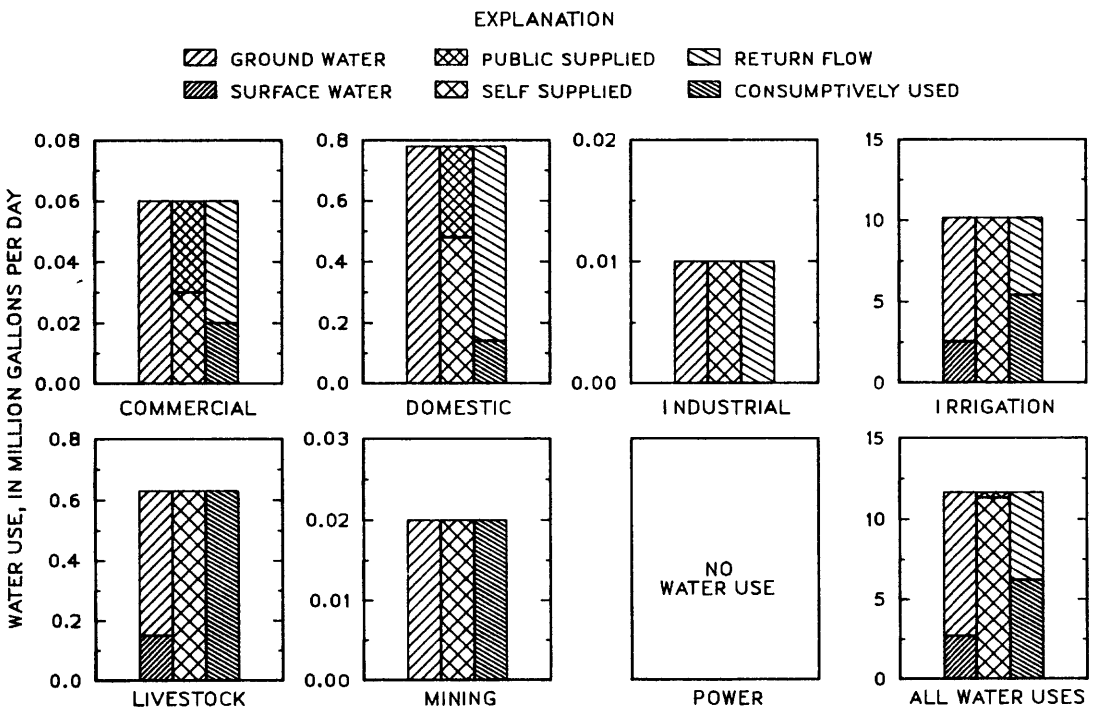
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.06
Domestic	0.78
Industrial	0.01
Irrigation	10.16
Livestock	0.63
Mining	0.02
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.01
Total	11.67



EL PASO COUNTY

Area: 2,159 square miles

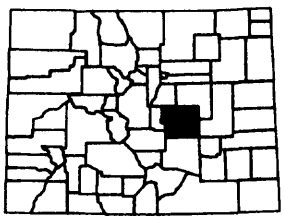
Irrigated land: 9,560 acres

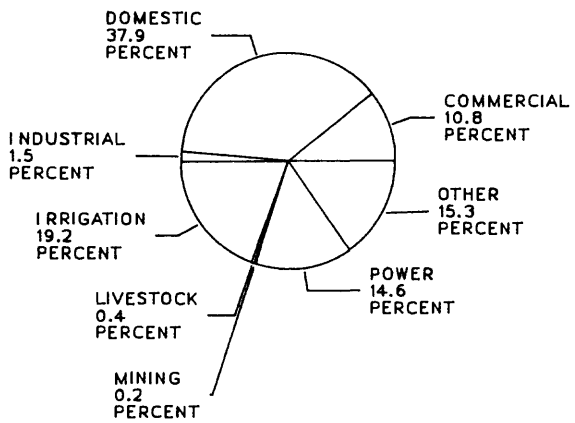
Population:

Public supplied	350,050
Self supplied	18,700
Total	368,750

Population density:
170.80 persons per square mile

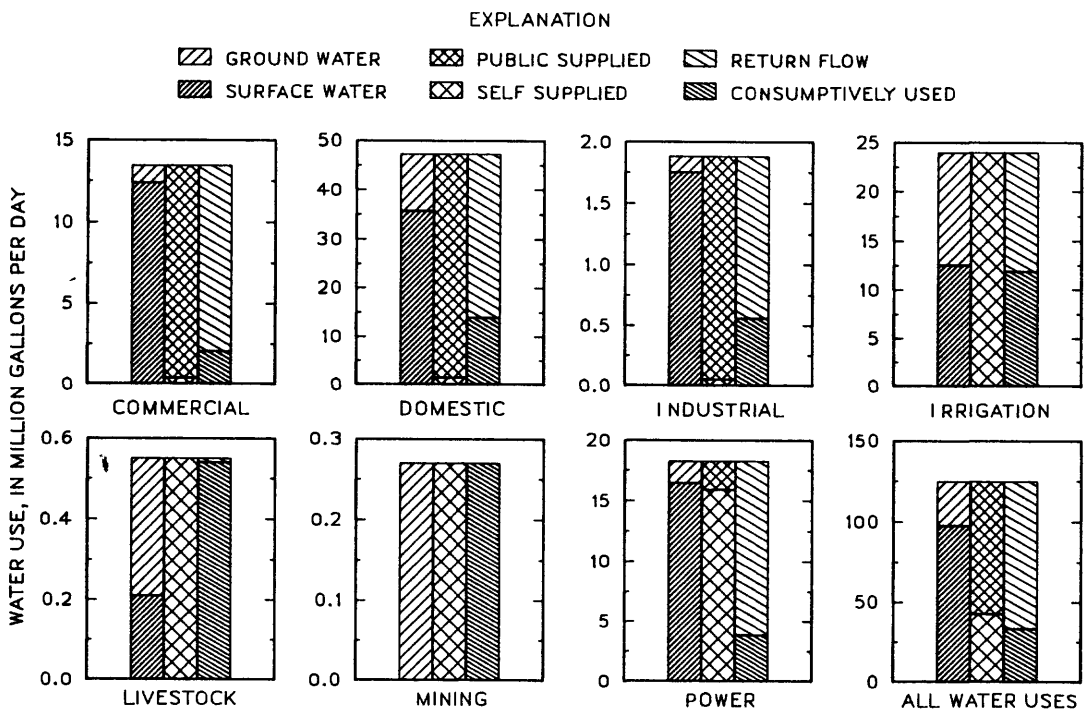
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	13.45
Domestic	47.24
Industrial	1.88
Irrigation	23.96
Livestock	0.55
Mining	0.27
Power:	
hydroelectric	14.41
thermoelectric	3.84
Other	19.07
Total	124.67



FREMONT COUNTY

Area: 1,562 square miles

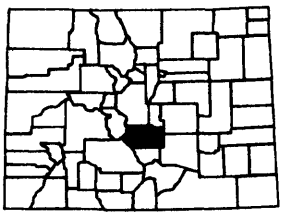
Irrigated land: 10,320 acres

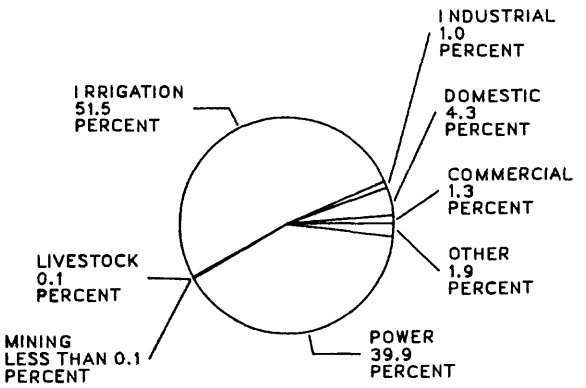
Population:

Public supplied	28,900
Self supplied	1,400
Total	30,300

Population density:
19.40 persons per square mile

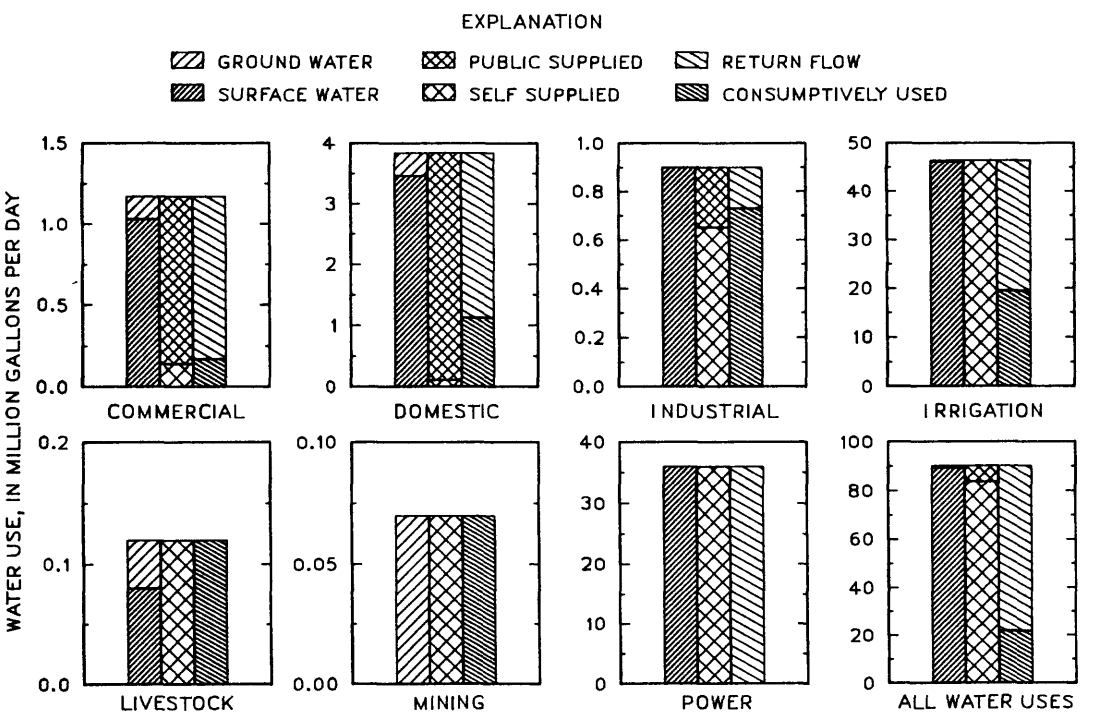
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	1.17
Domestic	3.84
Industrial	0.90
Irrigation	46.41
Livestock	0.12
Mining	0.07
Power:	
hydroelectric	0.00
thermoelectric	36.00
Other	1.68
Total	90.19



GARFIELD COUNTY

Area: 3,000 square miles

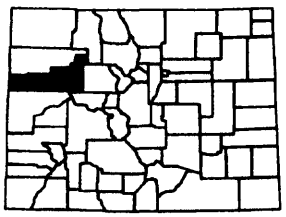
Irrigated land: 61,910 acres

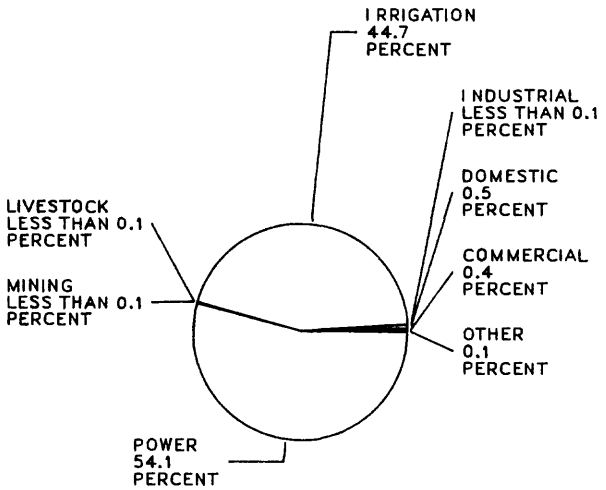
Population:

Public supplied	22,370
Self supplied	2,780
Total	25,150

Population density:
8.38 persons per square mile

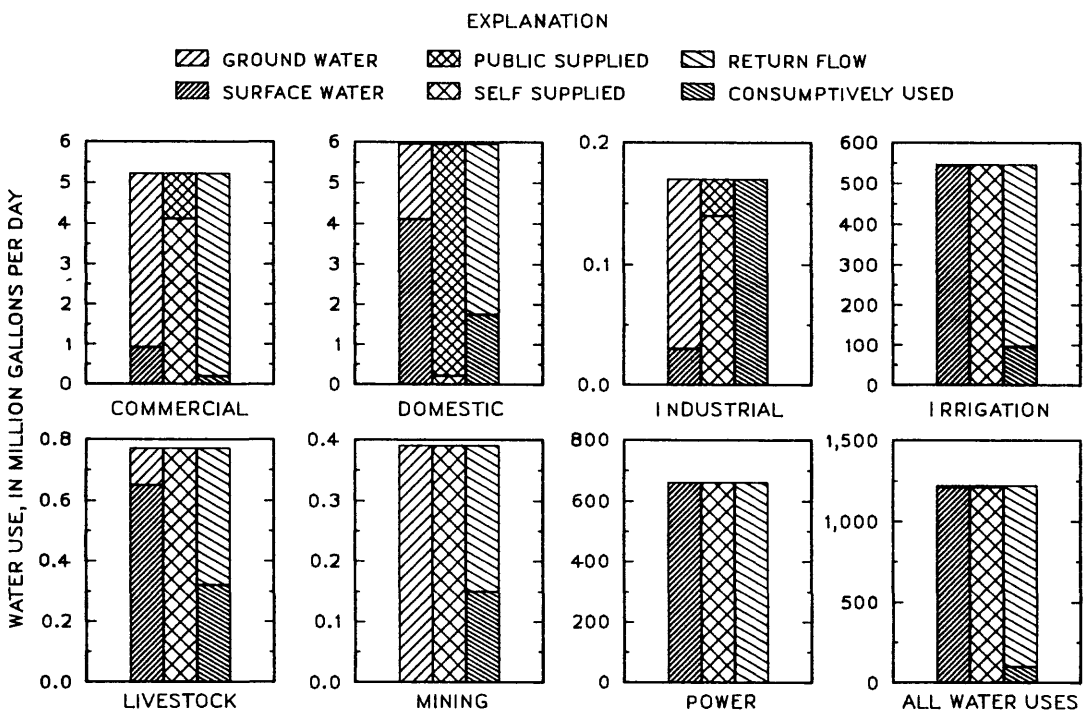
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	5.22
Domestic	5.95
Industrial	0.17
Irrigation	545.97
Livestock	0.77
Mining	0.39
Power:	
hydroelectric	660.95
thermoelectric	0.00
Other	1.67
Total	1221.09



GILPIN COUNTY

Area: 149 square miles

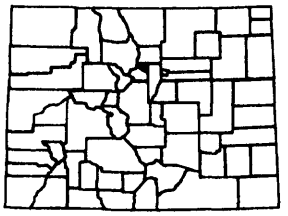
Irrigated land: NONE

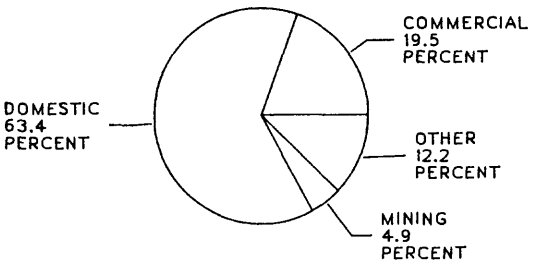
Population:

Public supplied	780
Self supplied	1,980
Total	2,760

Population density:
18.52 persons per square mile

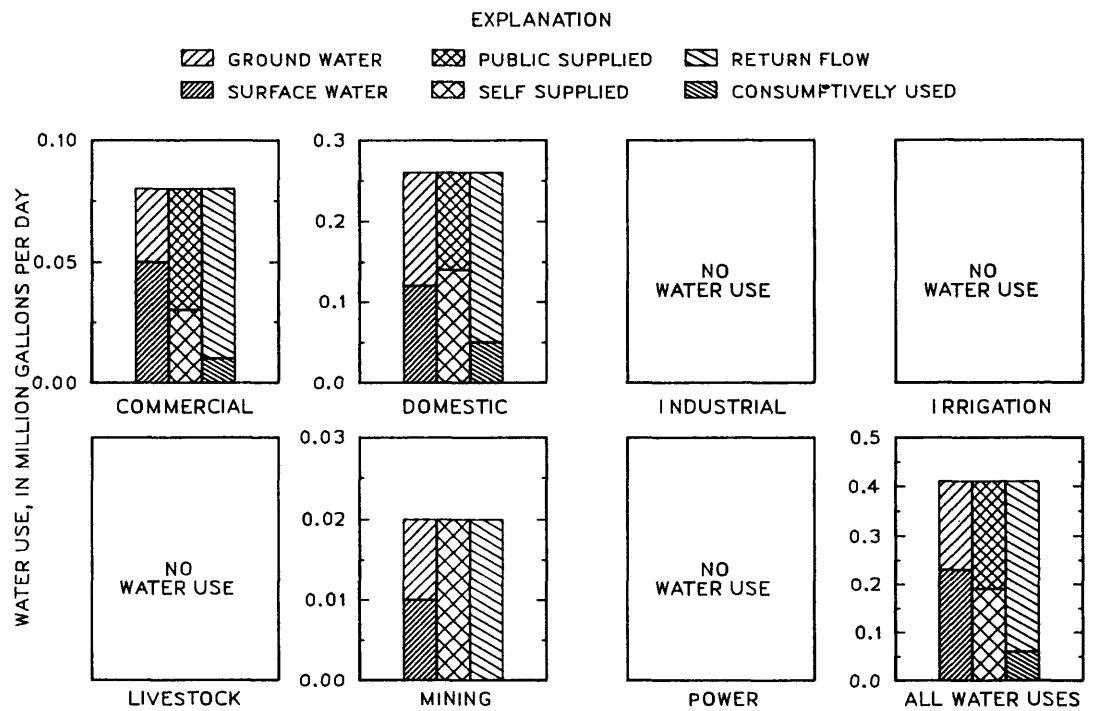
LOCATION MAP





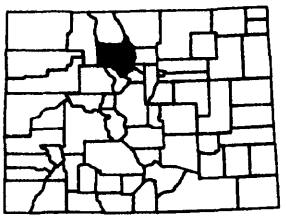
Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.08
Domestic	0.26
Industrial	0.00
Irrigation	0.00
Livestock	0.00
Mining	0.02
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.05
Total	0.41



GRAND COUNTY

LOCATION MAP



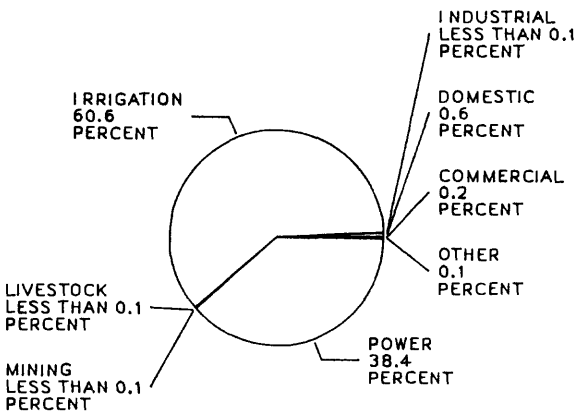
Area: 1,869 square miles

Irrigated land: 31,580 acres

Population:

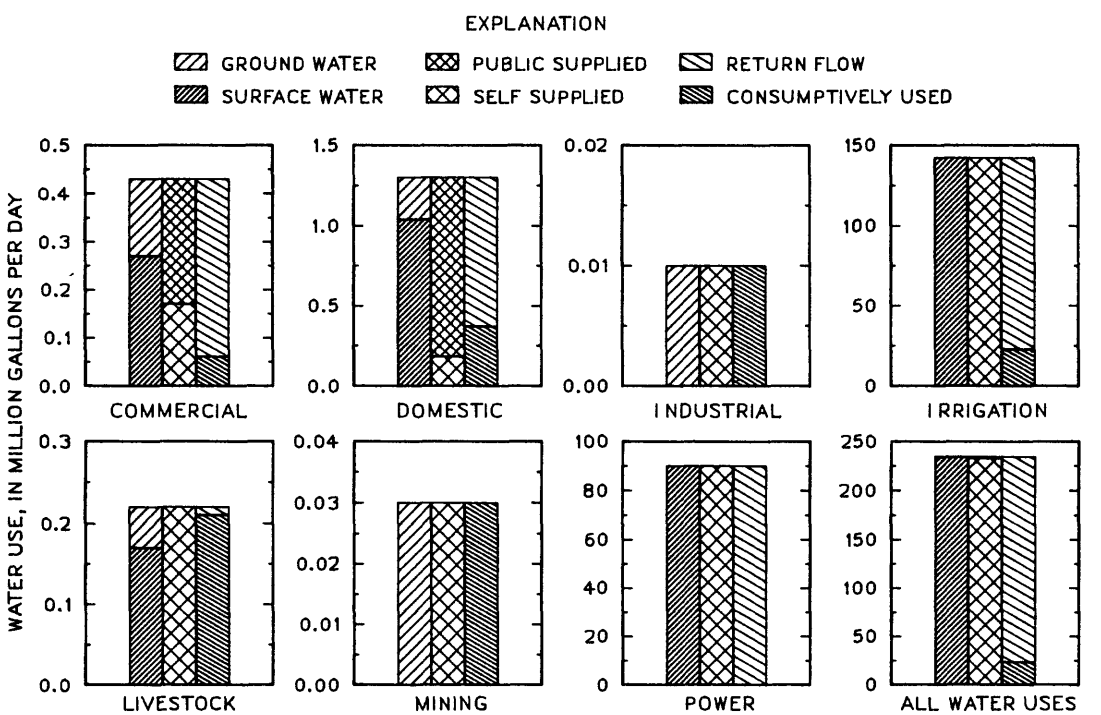
Public supplied	7,290
Self supplied	2,370
Total	9,660

Population density:
5.17 persons per square mile



Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.43
Domestic	1.30
Industrial	0.01
Irrigation	142.13
Livestock	0.22
Mining	0.03
Power:	
hydroelectric	90.04
thermoelectric	0.00
Other	0.30
Total	234.46



GUNNISON COUNTY

Area: 3,243 square miles

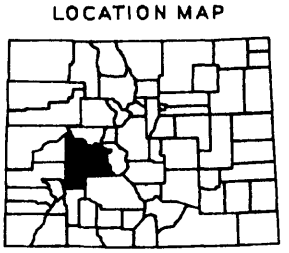
Irrigated land: 47,560 acres

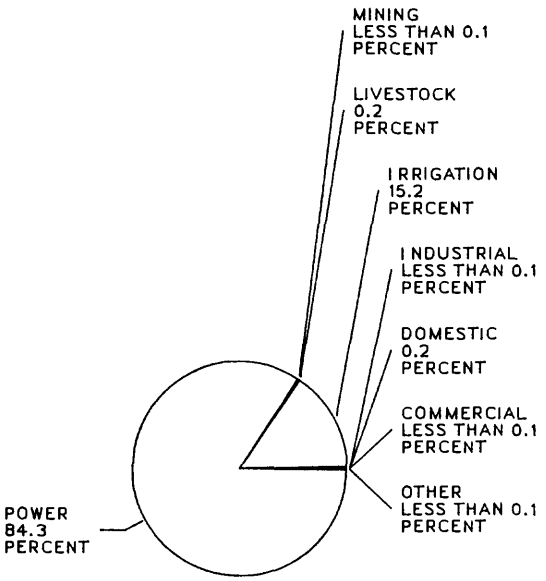
Population:

Public supplied	9,300
Self supplied	1,870
Total	11,170

Population density:
3.44 persons per square mile

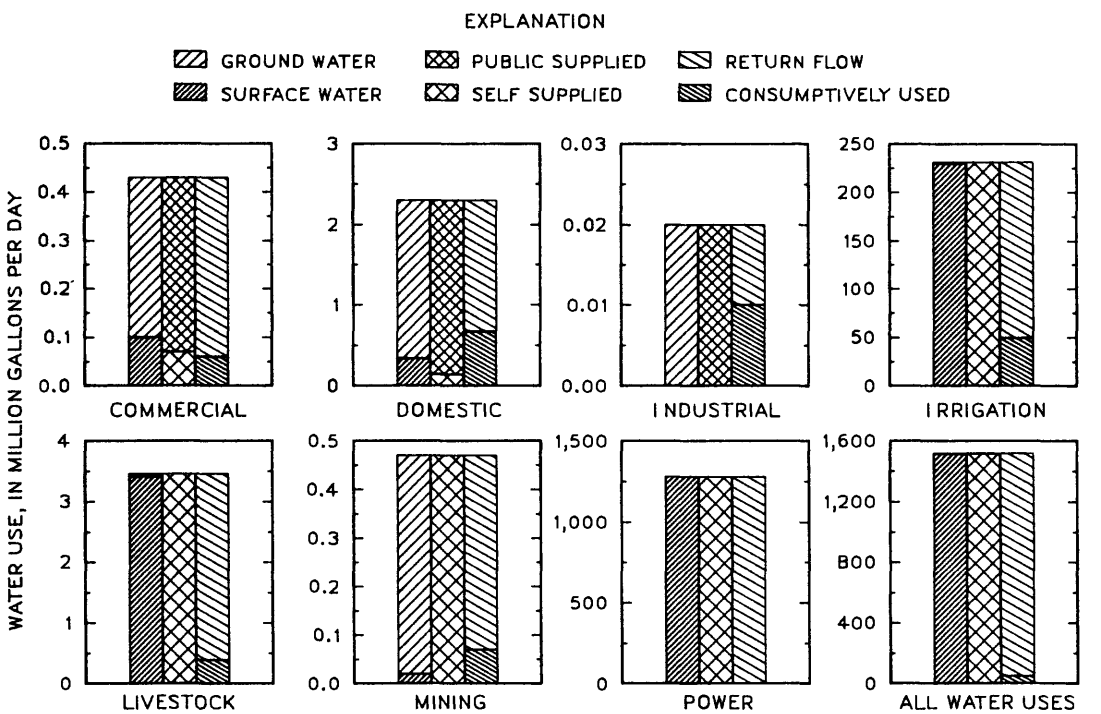
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.43
Domestic	2.30
Industrial	0.02
Irrigation	231.05
Livestock	3.46
Mining	0.47
Power:	
hydroelectric	1279.54
thermoelectric	0.00
Other	0.23
Total	1517.50



HINSDALE COUNTY

Area: 1,062 square miles

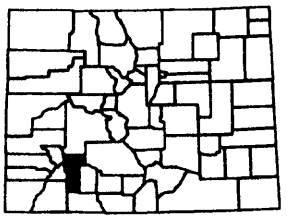
Irrigated land: 1,200 acres

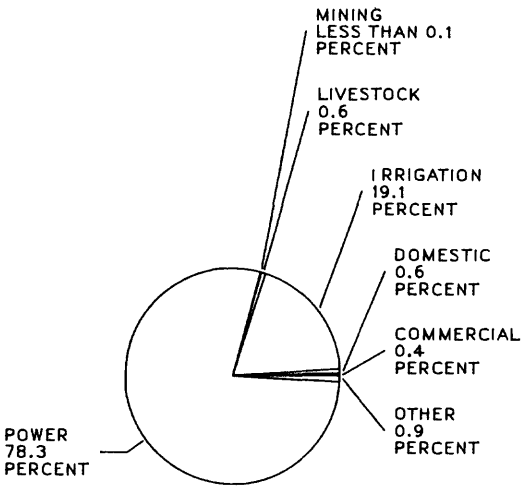
Population:

Public supplied	250
Self supplied	160
Total	410

Population density:
0.39 persons per square mile

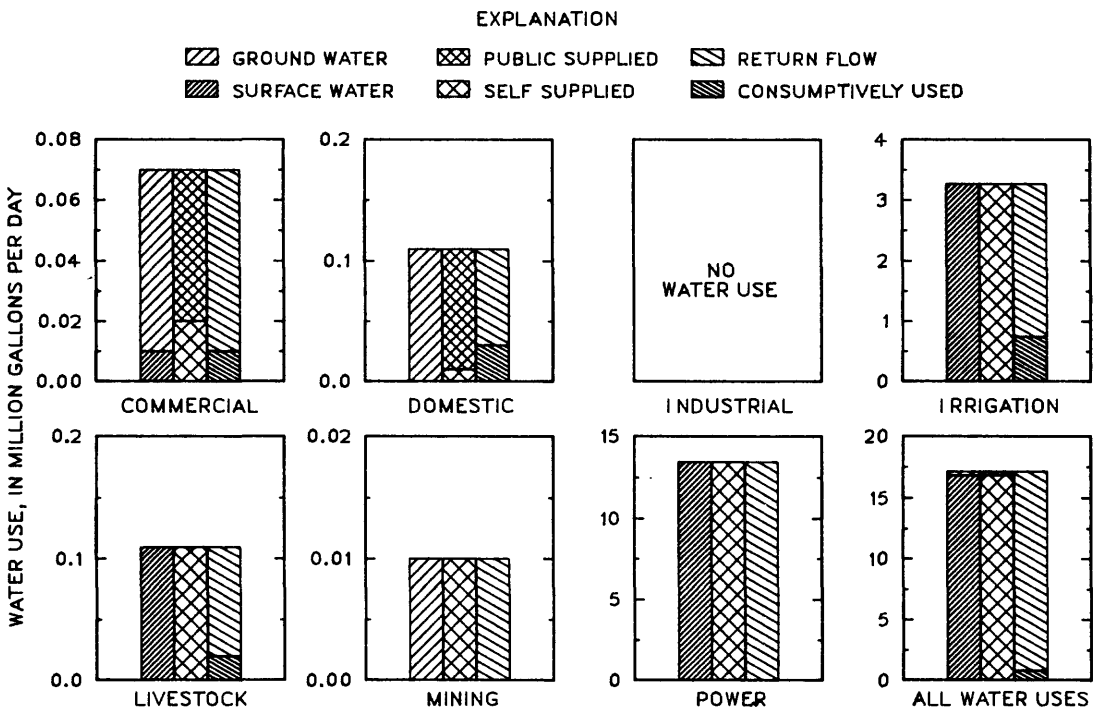
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.07
Domestic	0.11
Industrial	0.00
Irrigation	3.27
Livestock	0.11
Mining	0.01
Power:	
hydroelectric	13.43
thermoelectric	0.00
Other	0.15
Total	17.15



HUERFANO COUNTY

Area: 1,580 square miles

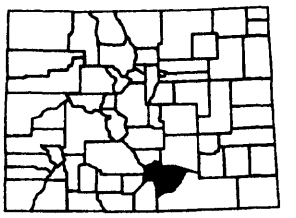
Irrigated land: 11,990 acres

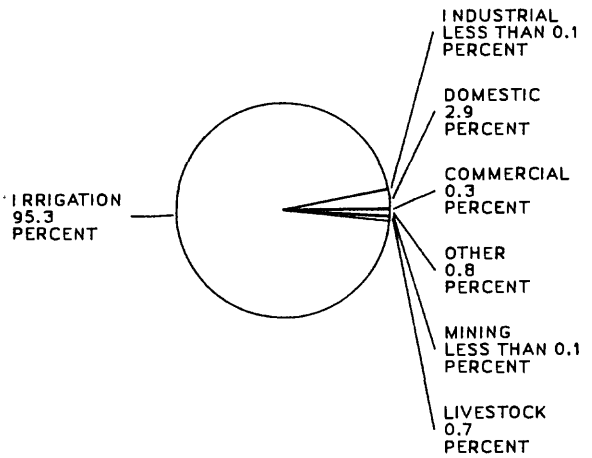
Population:

Public supplied	5,530
Self supplied	1,720
Total	7,250

Population density:
4.59 persons per square mile

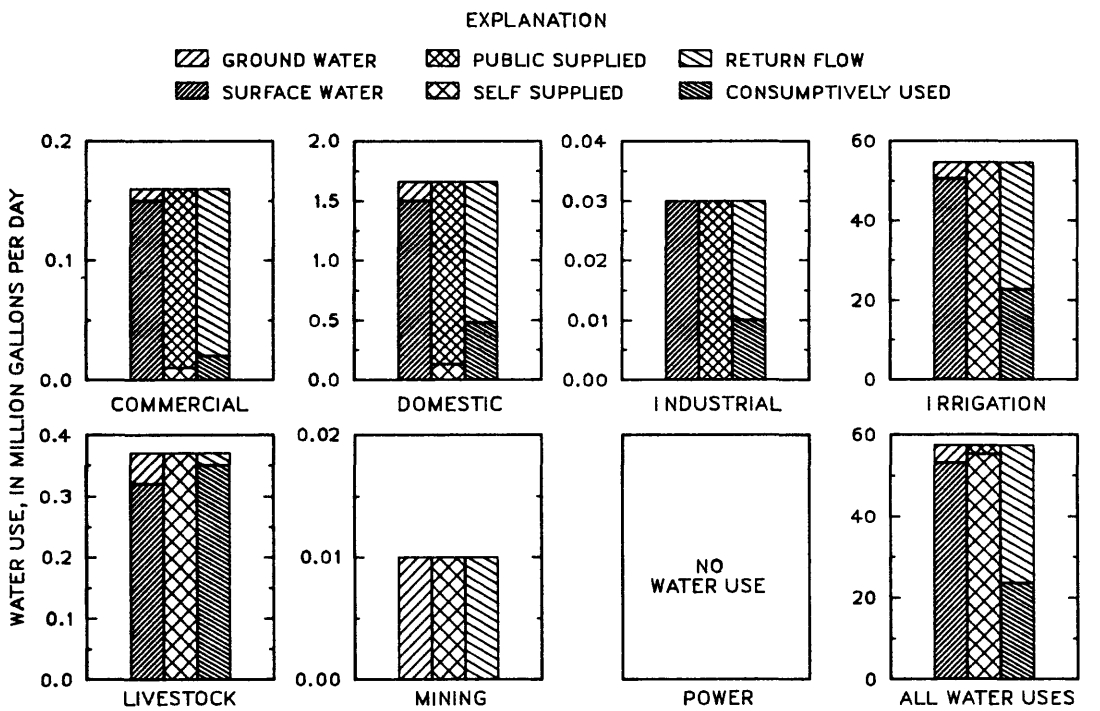
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.16
Domestic	1.66
Industrial	0.03
Irrigation	54.63
Livestock	0.37
Mining	0.01
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.48
Total	57.34



JACKSON COUNTY

Area: 1,628 square miles

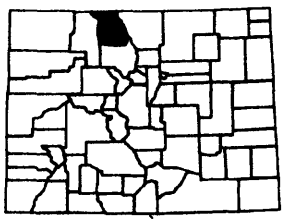
Irrigated land: 100,360 acres

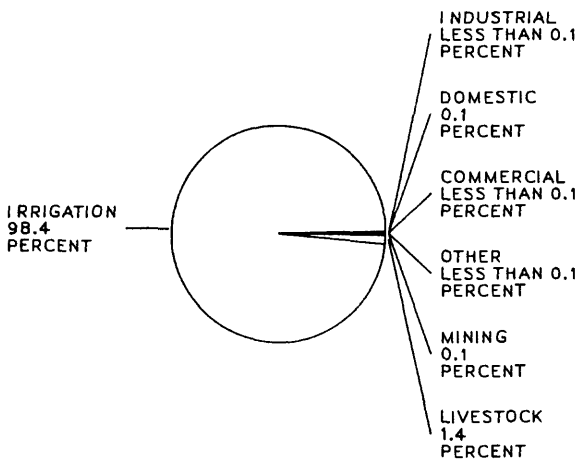
Population:

Public supplied	1,000
Self supplied	640
Total	1,640

Population density:
1.01 persons per square mile

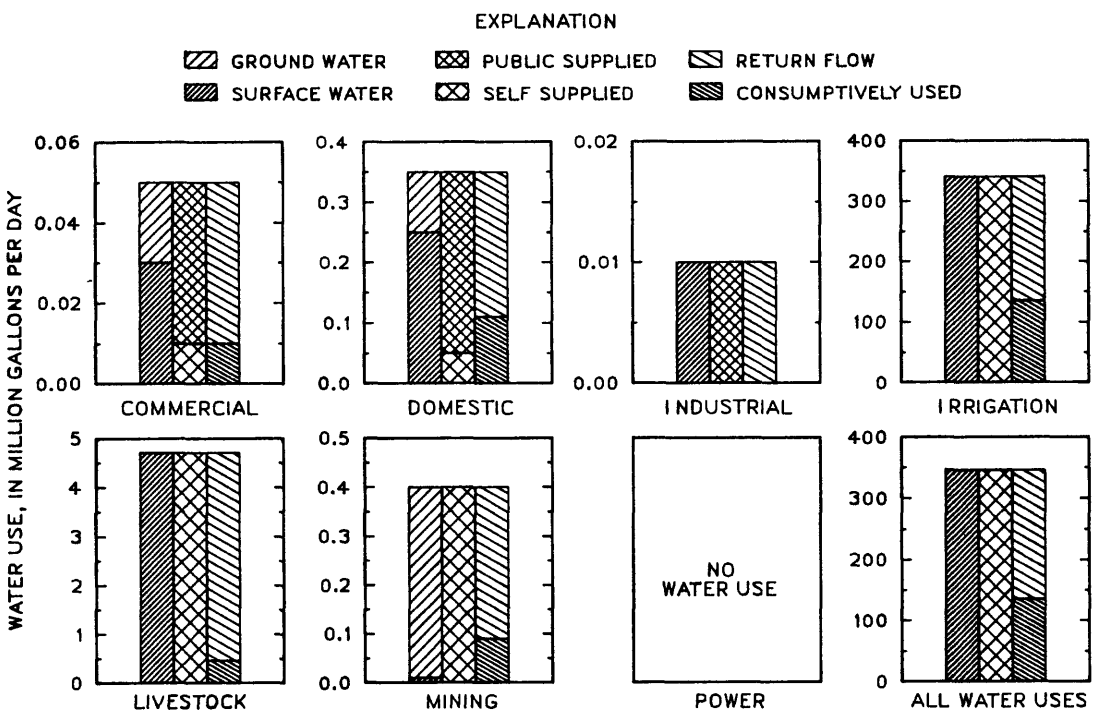
LOCATION MAP





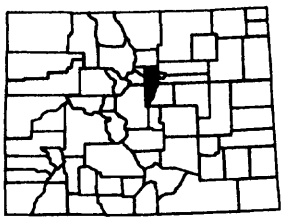
Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.05
Domestic	0.35
Industrial	0.01
Irrigation	340.35
Livestock	4.71
Mining	0.40
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.12
Total	345.99



JEFFERSON COUNTY

LOCATION MAP



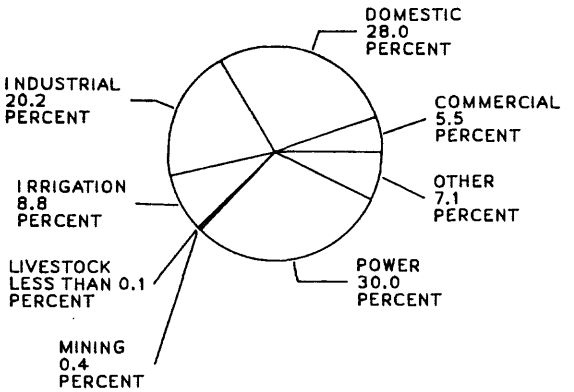
Area: 780 square miles

Irrigated land: 4,820 acres

Population:

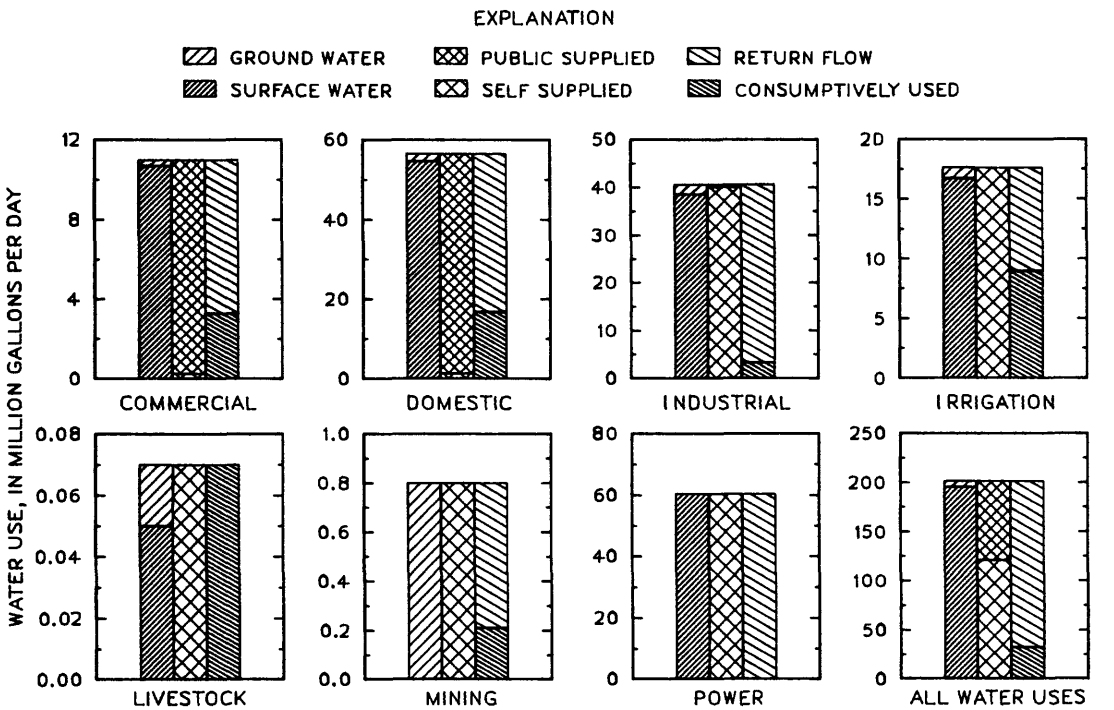
Public supplied	397,610
Self supplied	17,490
Total	415,100

Population density:
532.18 persons per square mile



Estimated water use

Use category	Water use (million gallons per day)
Commercial	10.99
Domestic	56.48
Industrial	40.61
Irrigation	17.62
Livestock	0.07
Mining	0.80
Power:	
hydroelectric	60.47
thermoelectric	0.00
Other	14.39
Total	201.43



KIOWA COUNTY

Area: 1,794 square miles

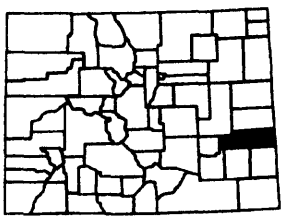
Irrigated land: 3,800 acres

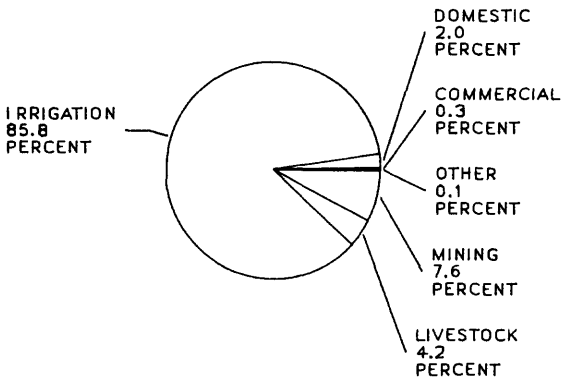
Population:

Public supplied	1,270
Self supplied	620
Total	1,890

Population density:
1.05 persons per square mile

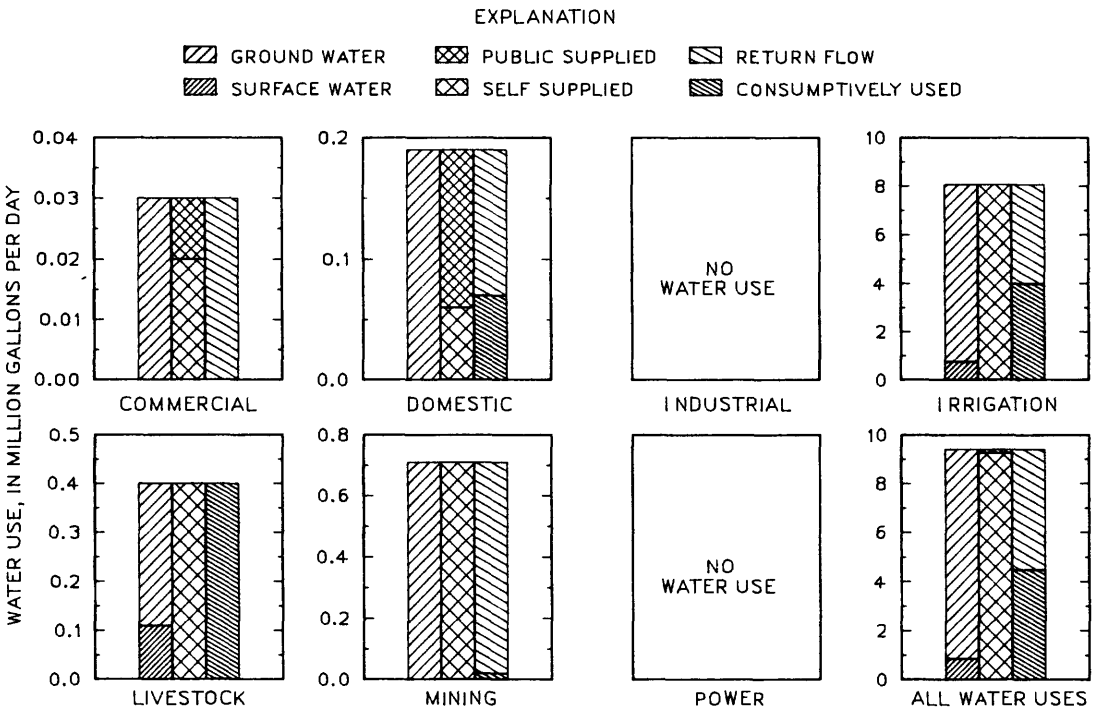
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.03
Domestic	0.19
Industrial	0.00
Irrigation	8.07
Livestock	0.40
Mining	0.71
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.01
Total	9.41



KIT CARSON COUNTY

Area: 2,171 square miles

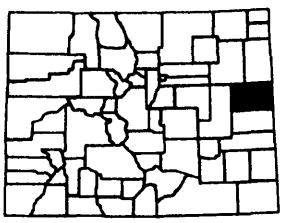
Irrigated land: 122,900 acres

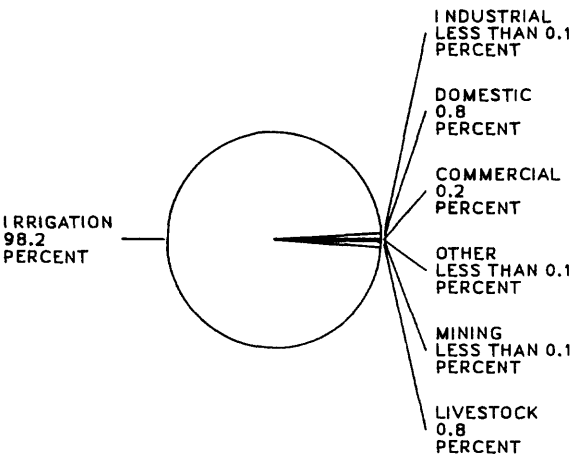
Population:

Public supplied	5,760
Self supplied	2,030
Total	7,790

Population density:
3.59 persons per square mile

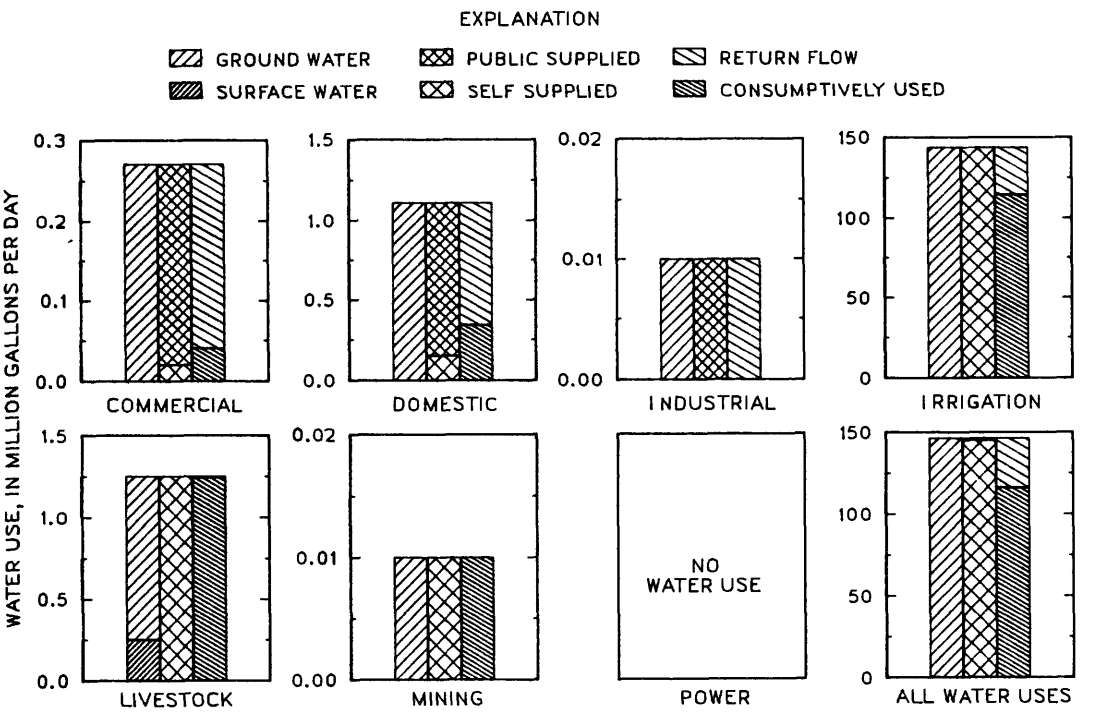
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.27
Domestic	1.11
Industrial	0.01
Irrigation	143.66
Livestock	1.25
Mining	0.01
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.02
Total	146.33



LAKE COUNTY

Area: 384 square miles

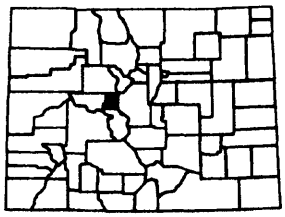
Irrigated land: 4,720 acres

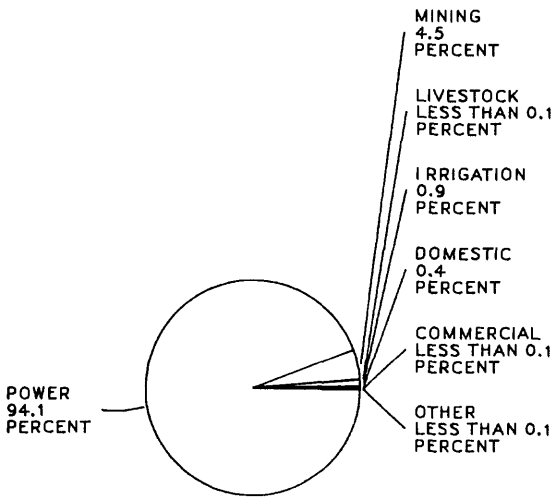
Population:

Public supplied	6,030
Self supplied	950
Total	6,980

Population density:
18.18 persons per square mile

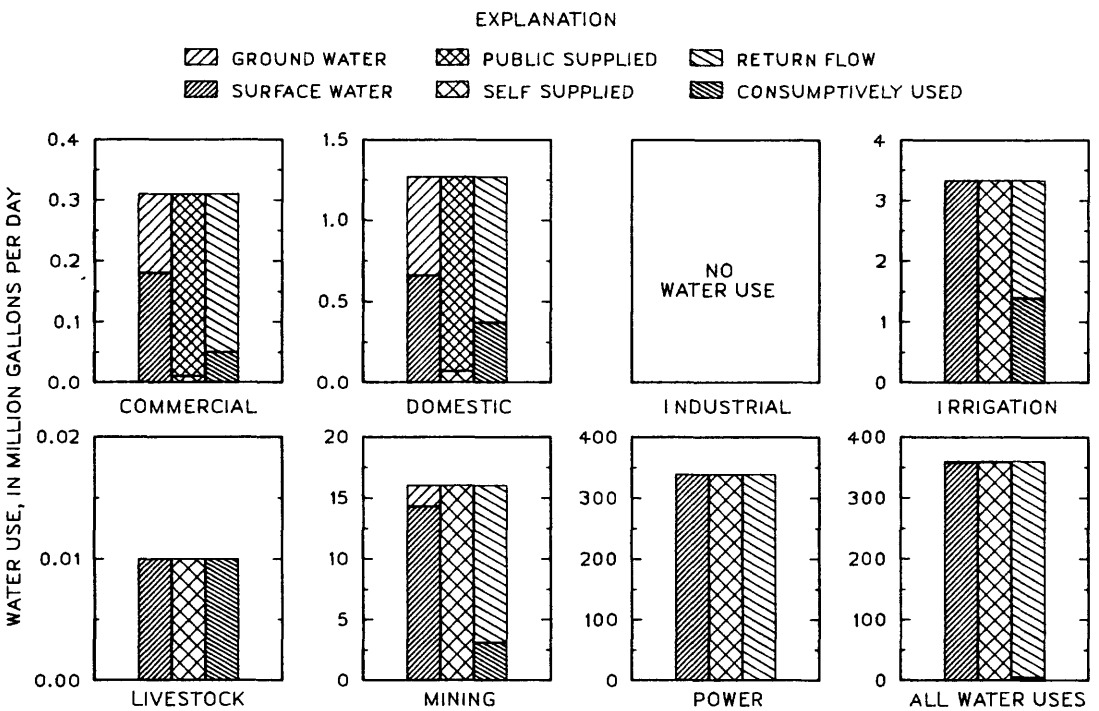
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.31
Domestic	1.27
Industrial	0.00
Irrigation	3.33
Livestock	0.01
Mining	16.03
Power:	
hydroelectric	338.87
thermoelectric	0.00
Other	0.22
Total	360.04



LA PLATA COUNTY

Area: 1,691 square miles

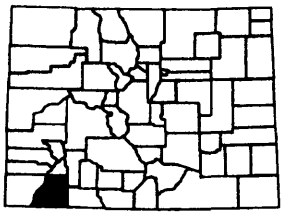
Irrigated land: 82,980 acres

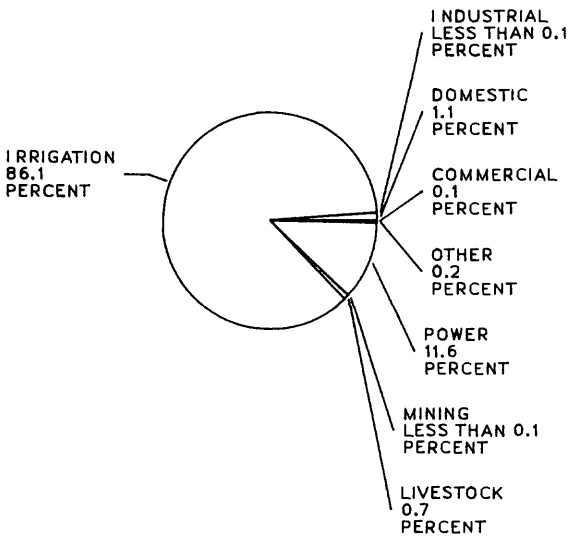
Population:

Public supplied	20,330
Self supplied	10,510
Total	30,840

Population density:
18.24 persons per square mile

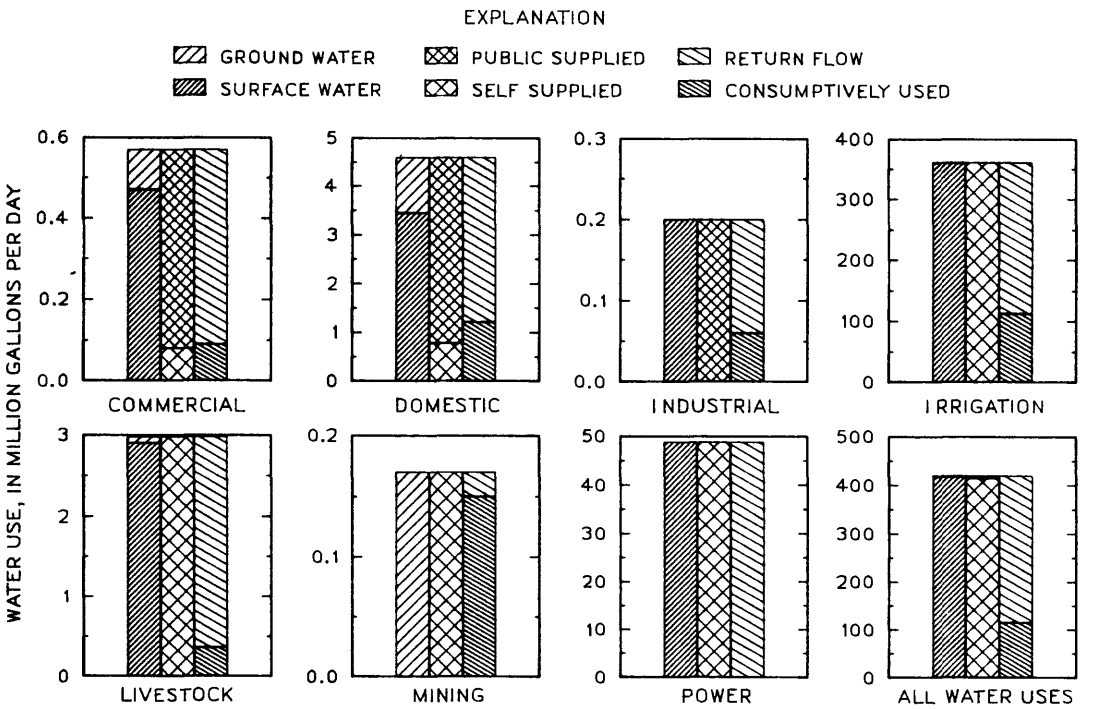
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.57
Domestic	4.59
Industrial	0.20
Irrigation	361.23
Livestock	2.98
Mining	0.17
Power:	
hydroelectric	48.80
thermoelectric	0.00
Other	0.98
Total	419.52



LARIMER COUNTY

Area: 2,640 square miles

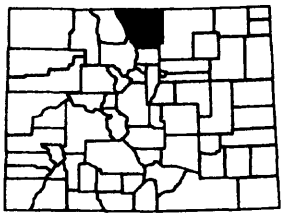
Irrigated land: 106,890 acres

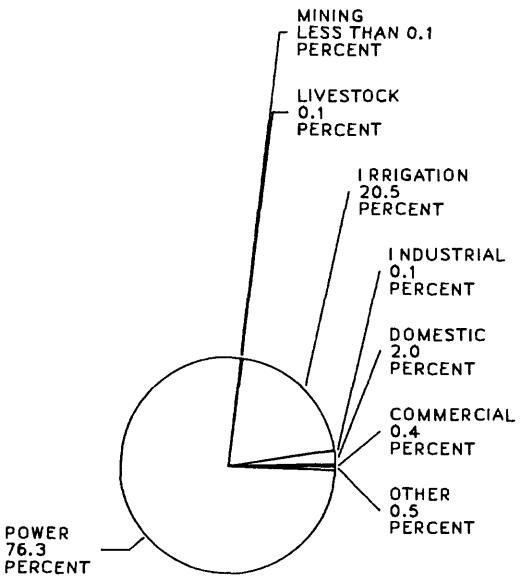
Population:

Public supplied	166,210
Self supplied	4,070
Total	170,280

Population density:
64.50 persons per square mile

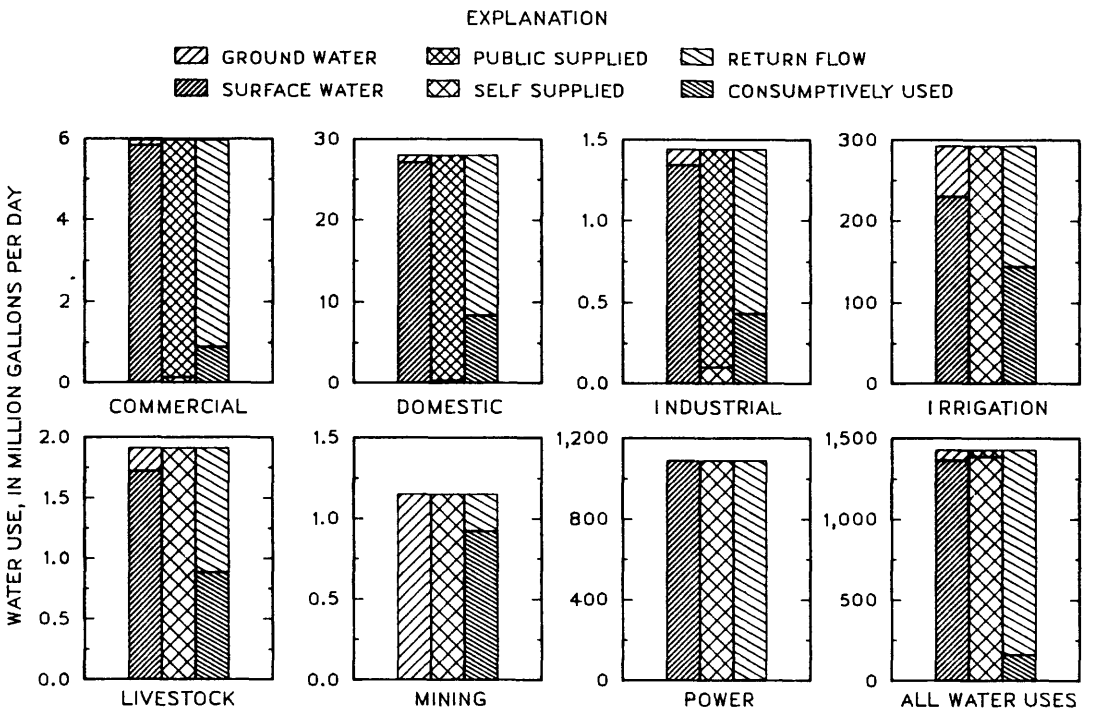
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	5.97
Domestic	27.99
Industrial	1.44
Irrigation	292.22
Livestock	1.91
Mining	1.15
Power:	
hydroelectric	1085.16
thermoelectric	3.66
Other	7.44
Total	1426.94



LAS ANIMAS COUNTY

Area: 4,798 square miles

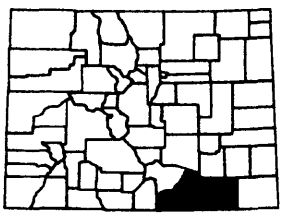
Irrigated land: 30,010 acres

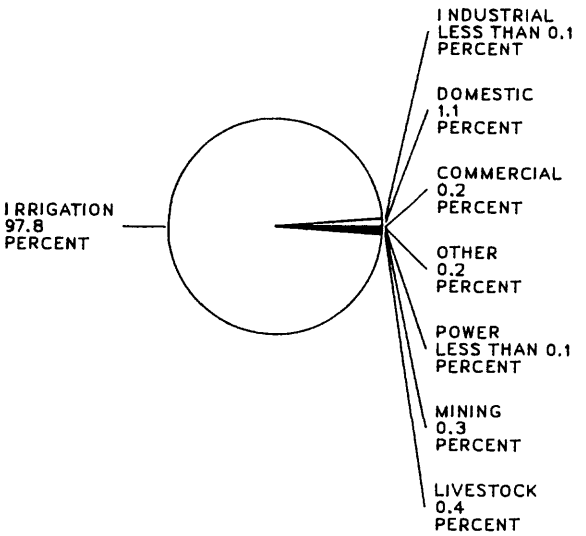
Population:

Public supplied	9,900
Self supplied	4,390
Total	14,290

Population density:
2.98 persons per square mile

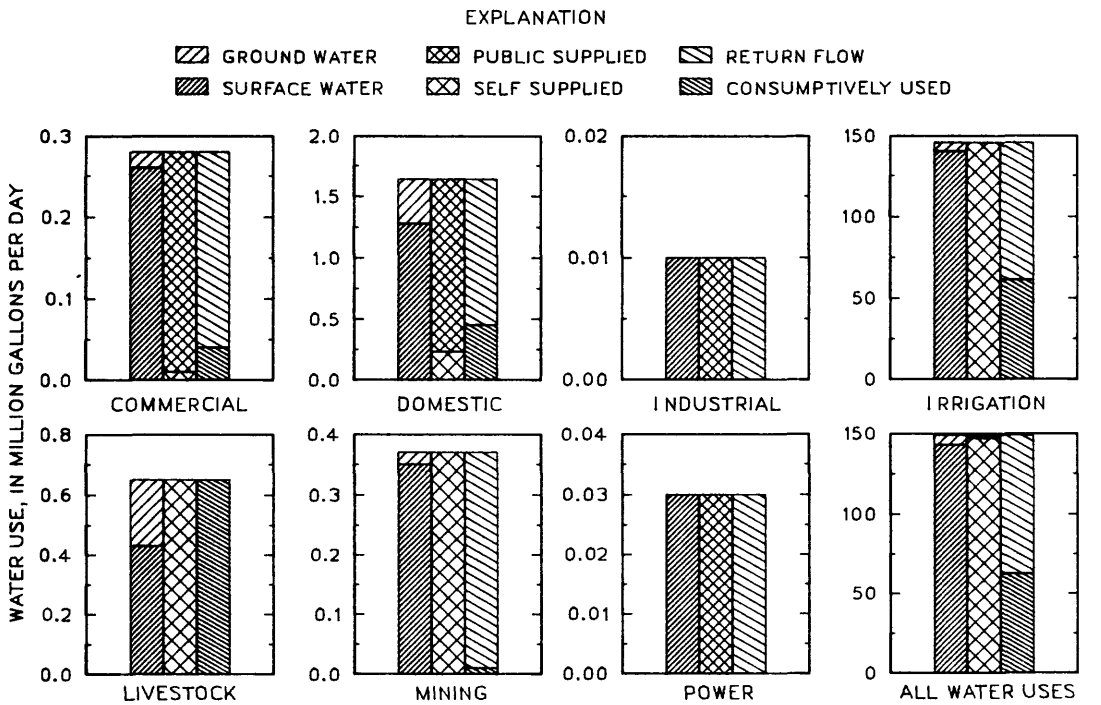
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.28
Domestic	1.64
Industrial	0.01
Irrigation	145.79
Livestock	0.65
Mining	0.37
Power:	
hydroelectric	0.00
thermoelectric	0.03
Other	0.31
Total	149.08



LINCOLN COUNTY

Area: 2,593 square miles

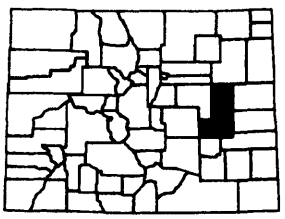
Irrigated land: 3,100 acres

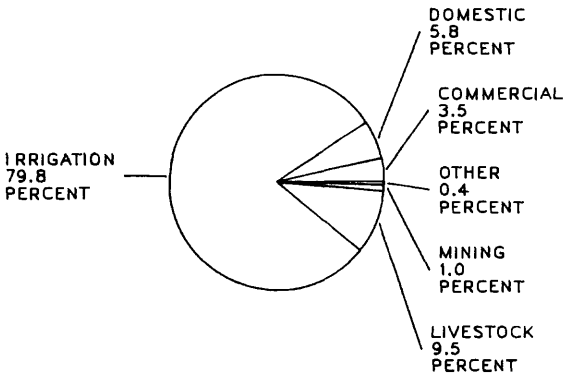
Population:

Public supplied	3,610
Self supplied	1,040
Total	4,650

Population density:
1.79 persons per square mile

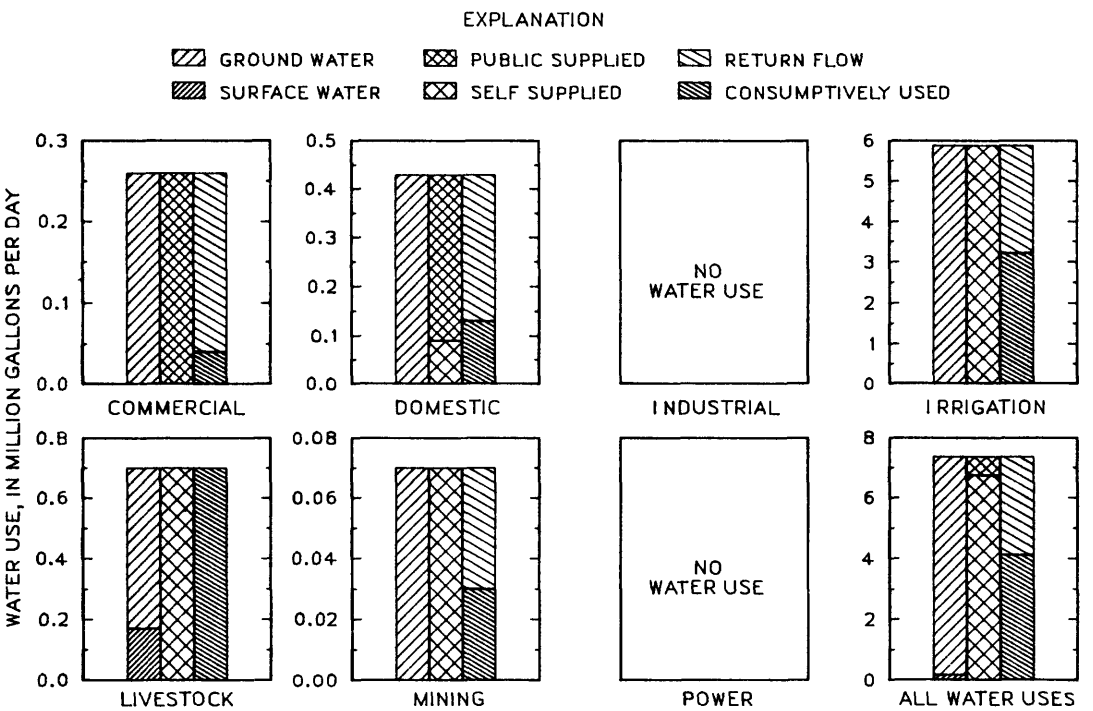
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.26
Domestic	0.43
Industrial	0.00
Irrigation	5.88
Livestock	0.70
Mining	0.07
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.03
Total	7.37



LOGAN COUNTY

Area: 1,849 square miles

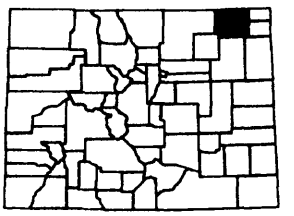
Irrigated land: 95,820 acres

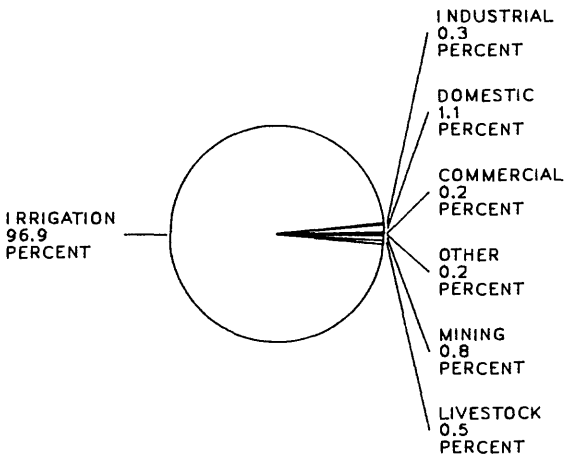
Population:

Public supplied	13,190
Self supplied	6,630
Total	19,820

Population density:
10.72 persons per square mile

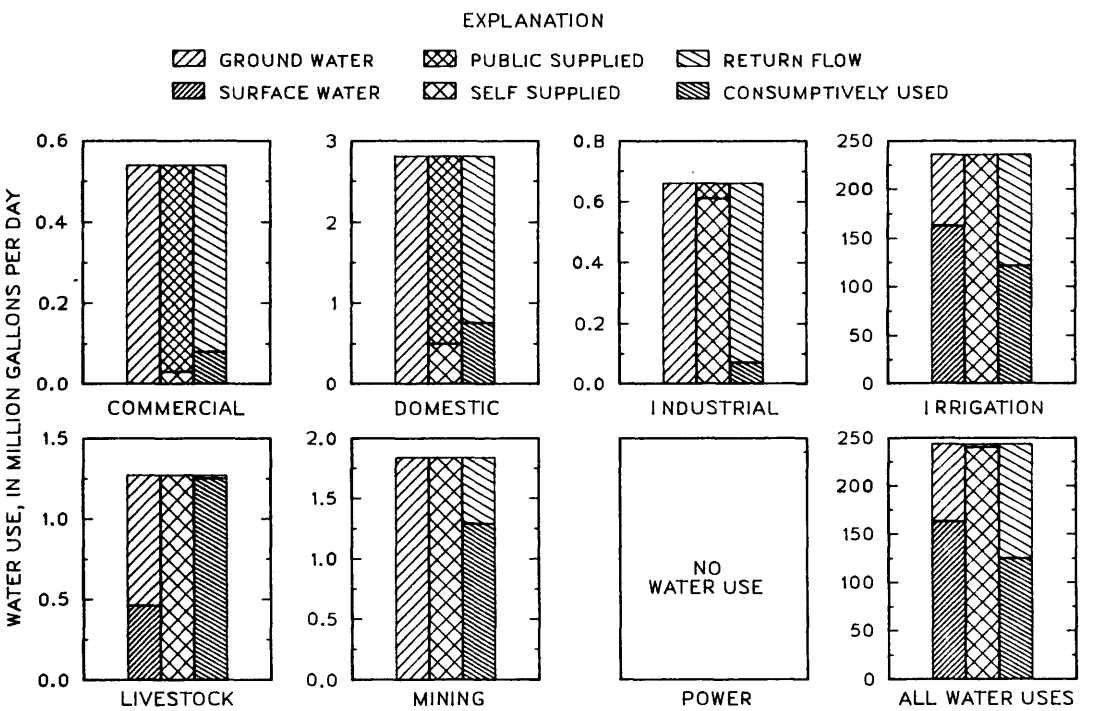
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.54
Domestic	2.81
Industrial	0.66
Irrigation	235.99
Livestock	1.27
Mining	1.84
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.48
Total	243.59



MESA COUNTY

Area: 3,334 square miles

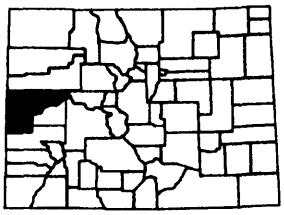
Irrigated land: 115,080 acres

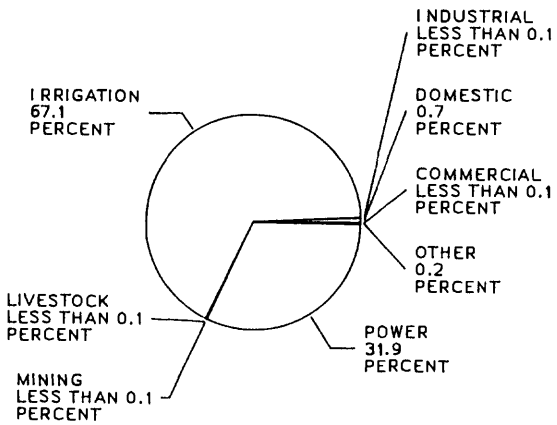
Population:

Public supplied	87,980
Self supplied	600
Total	88,580

Population density:
26.57 persons per square mile

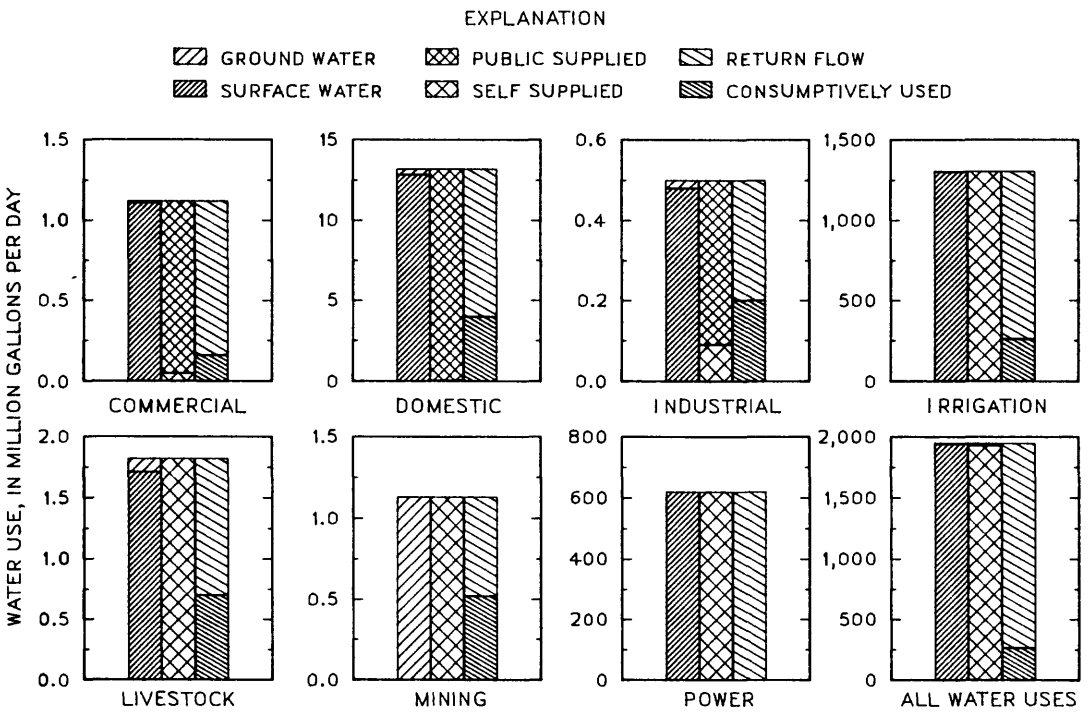
LOCATION MAP





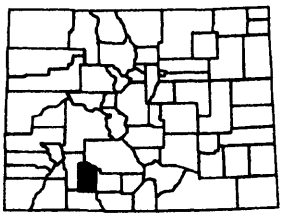
Estimated water use

Use category	Water use (million gallons per day)
Commercial	1.12
Domestic	13.19
Industrial	0.50
Irrigation	1304.63
Livestock	1.82
Mining	1.13
Power:	
hydroelectric	616.10
thermoelectric	3.26
Other	2.98
Total	1944.73



MINERAL COUNTY

LOCATION MAP



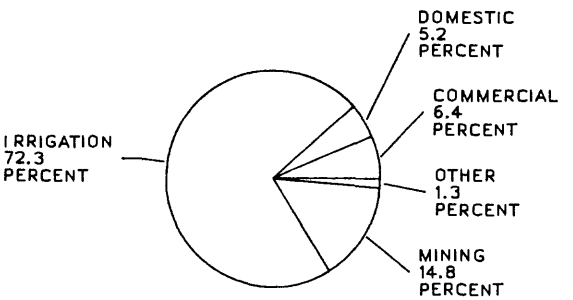
Area: 923 square miles

Irrigated land: 1,560 acres

Population:

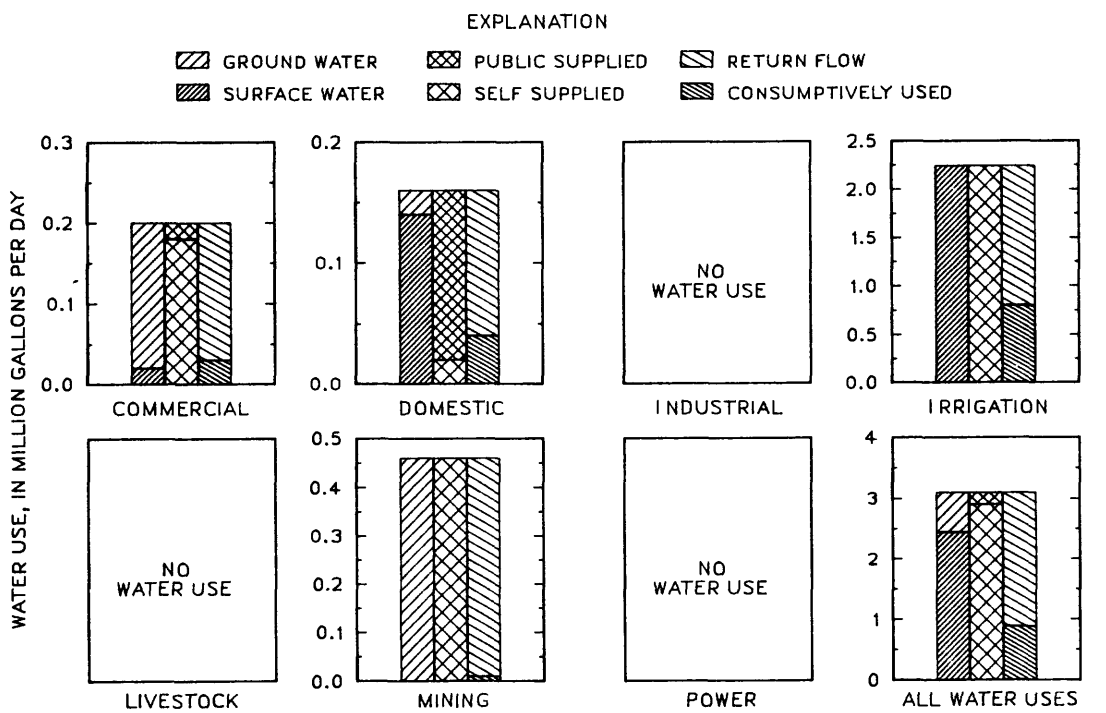
Public supplied	600
Self supplied	200
Total	800

Population density:
0.87 persons per square mile



Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.20
Domestic	0.16
Industrial	0.00
Irrigation	2.24
Livestock	0.00
Mining	0.46
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.04
Total	3.10



MOFFAT COUNTY

Area: 4,761 square miles

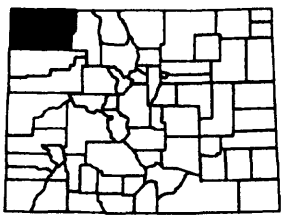
Irrigated land: 29,560 acres

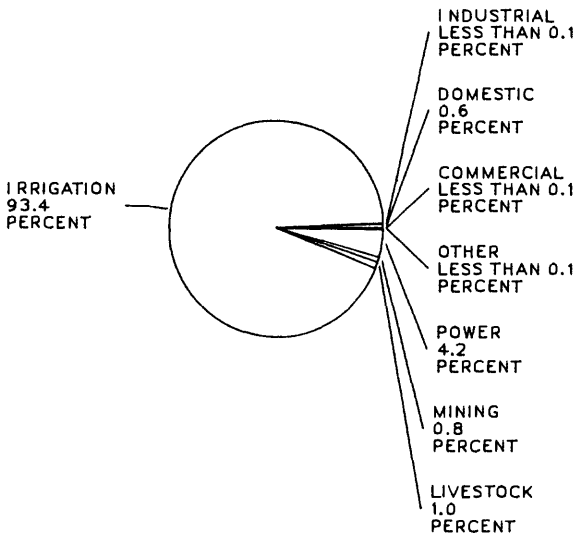
Population:

Public supplied	10,600
Self supplied	2,010
Total	12,610

Population density:
2.65 persons per square mile

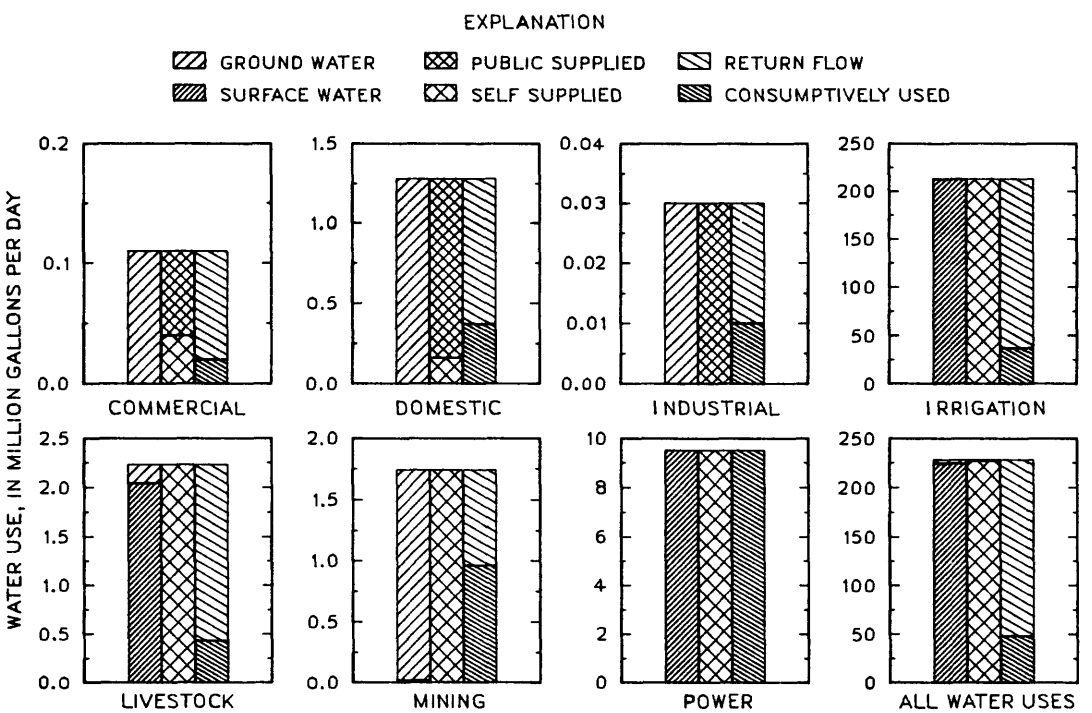
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.11
Domestic	1.28
Industrial	0.03
Irrigation	213.11
Livestock	2.23
Mining	1.74
Power:	
hydroelectric	0.00
thermoelectric	9.51
Other	0.03
Total	228.04



MONTEZUMA COUNTY

Area: 2,062 square miles

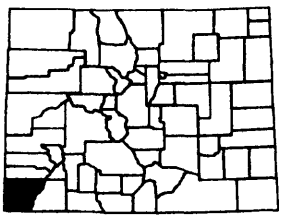
Irrigated land: 46,710 acres

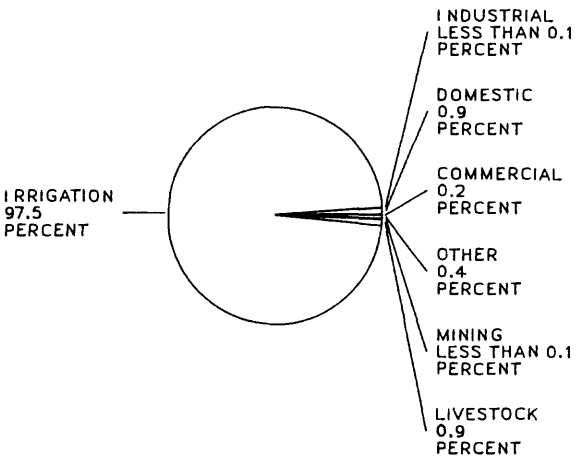
Population:

Public supplied	17,930
Self supplied	100
Total	18,030

Population density:
8.74 persons per square mile

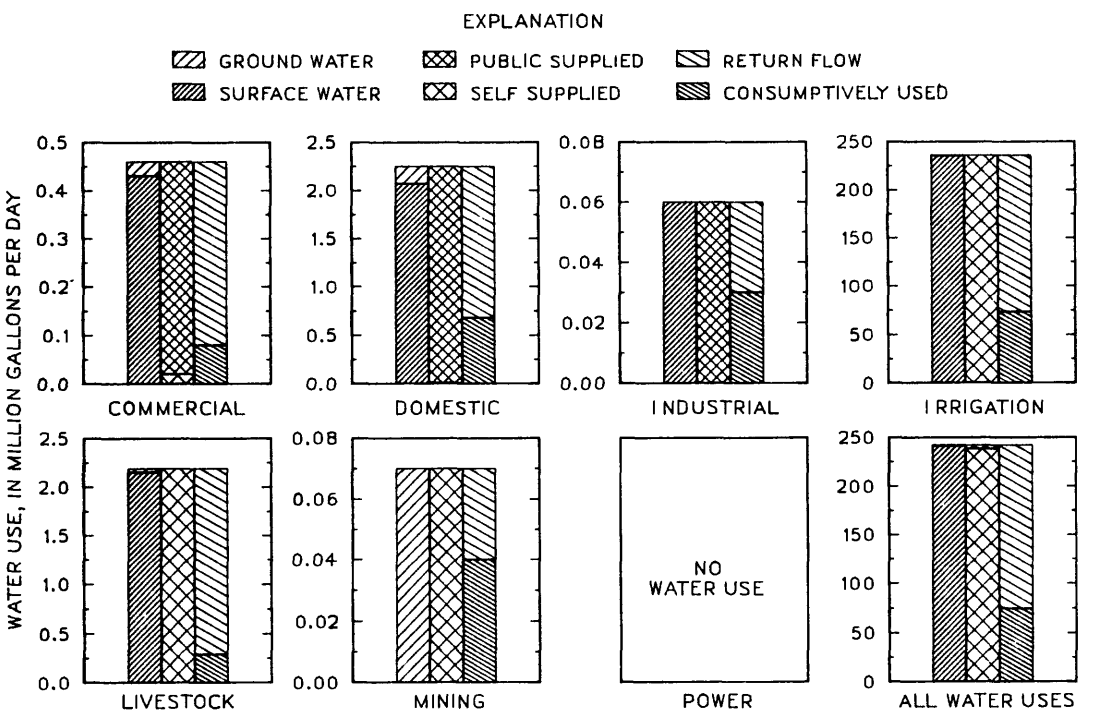
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.46
Domestic	2.25
Industrial	0.06
Irrigation	235.92
Livestock	2.19
Mining	0.07
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	1.02
Total	241.97



MONTROSE COUNTY

Area: 2,240 square miles

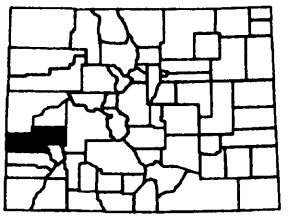
Irrigated land: 80,030 acres

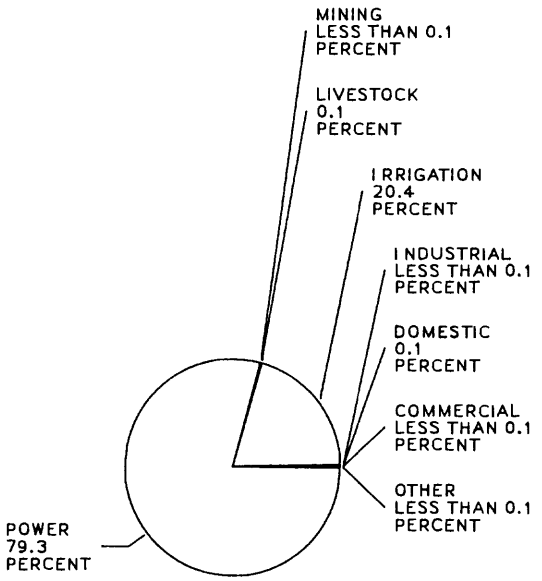
Population:

Public supplied	24,010
Self supplied	1,560
Total	25,570

Population density:
11.42 persons per square mile

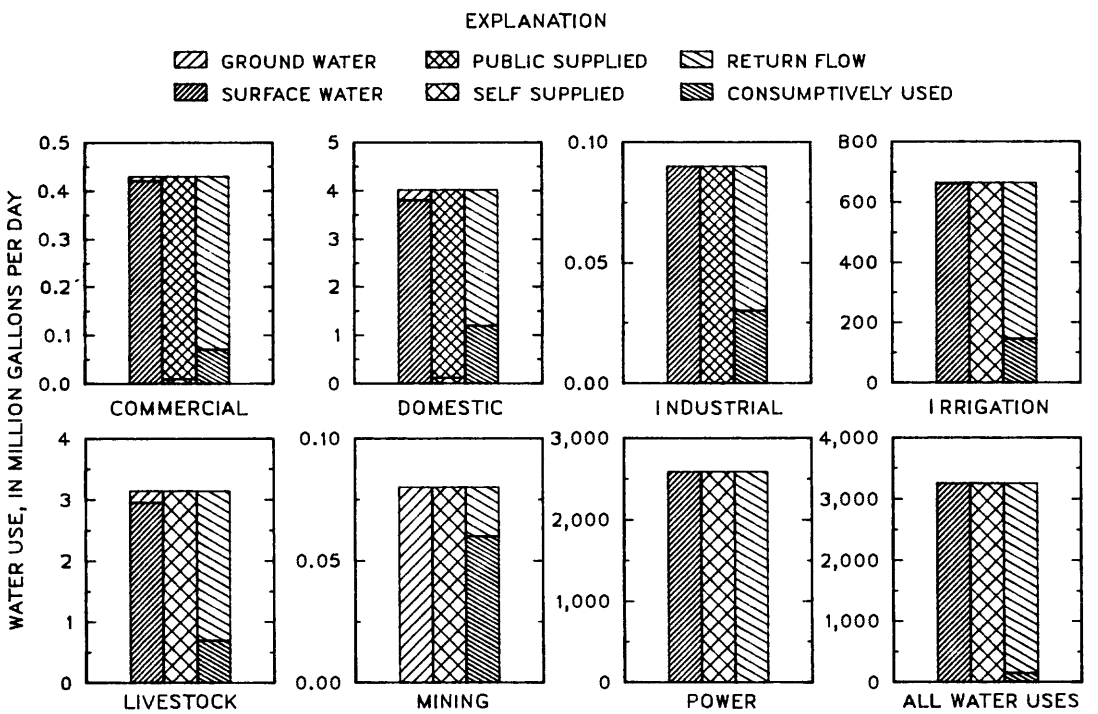
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.43
Domestic	4.02
Industrial	0.09
Irrigation	664.07
Livestock	3.14
Mining	0.08
Power:	
hydroelectric	2583.39
thermoelectric	0.00
Other	0.93
Total	3256.15



MORGAN COUNTY

Area: 1,300 square miles

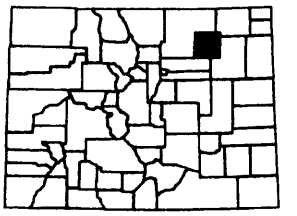
Irrigated land: 139,130 acres

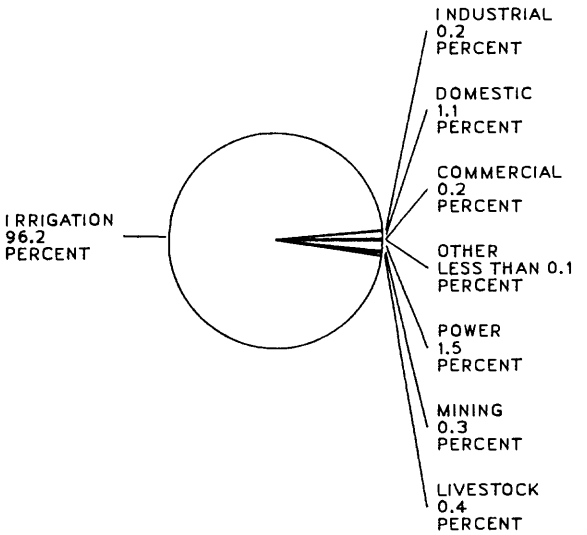
Population:

Public supplied	18,570
Self supplied	4,260
Total	22,830

Population density:
17.56 persons per square mile

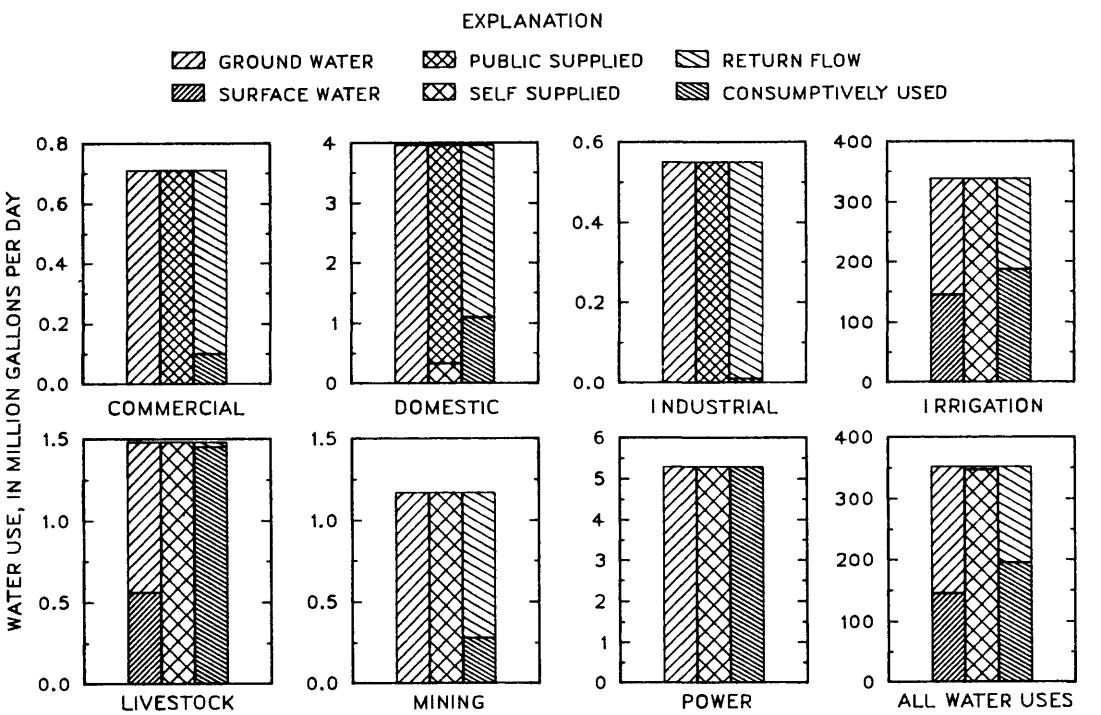
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.71
Domestic	3.96
Industrial	0.55
Irrigation	338.48
Livestock	1.48
Mining	1.17
Power:	
hydroelectric	0.00
thermoelectric	5.29
Other	0.13
Total	351.77



OTERO COUNTY

Area: 1,276 square miles

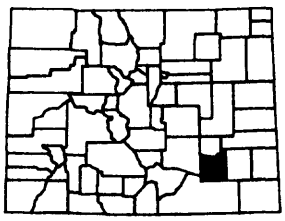
Irrigated land: 63,130 acres

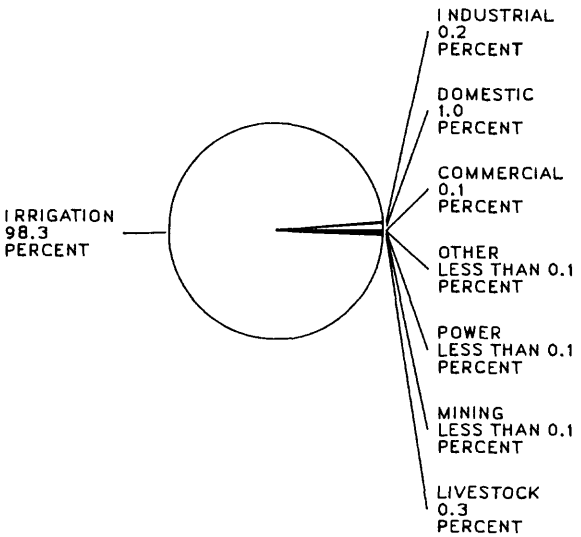
Population:

Public supplied	21,450
Self supplied	760
Total	22,210

Population density:
17.41 persons per square mile

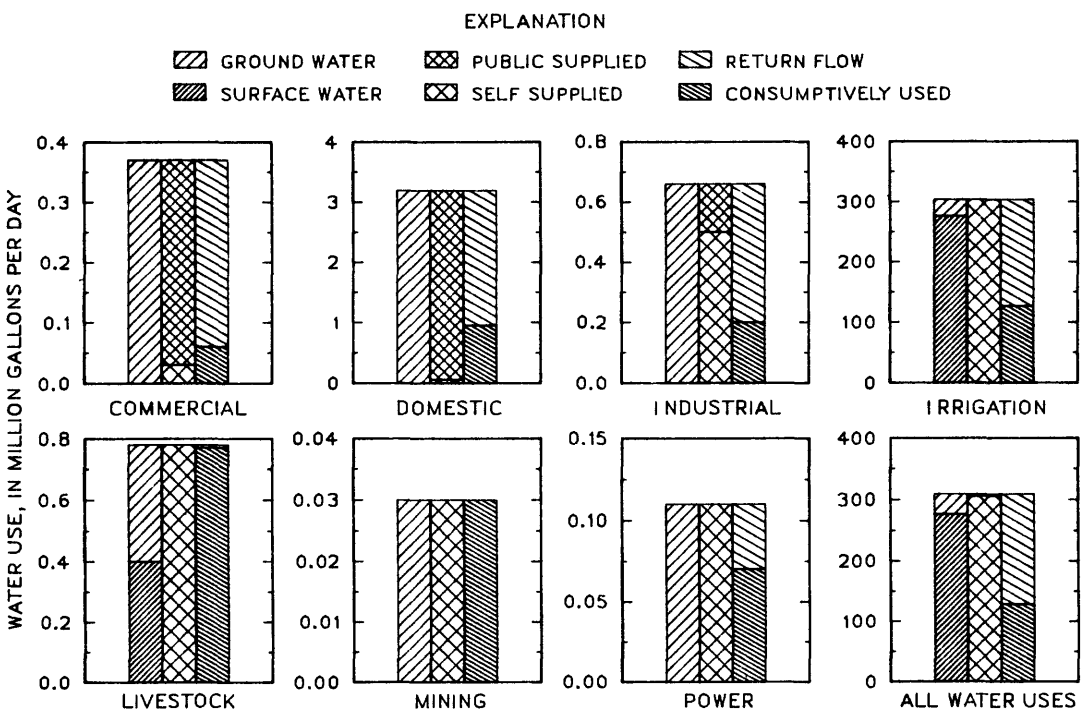
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.37
Domestic	3.19
Industrial	0.66
Irrigation	303.62
Livestock	0.78
Mining	0.03
Power:	
hydroelectric	0.00
thermoelectric	0.11
Other	0.26
Total	309.02



OURAY COUNTY

Area: 540 square miles

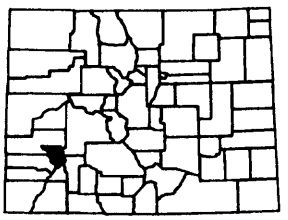
Irrigated land: 16,720 acres

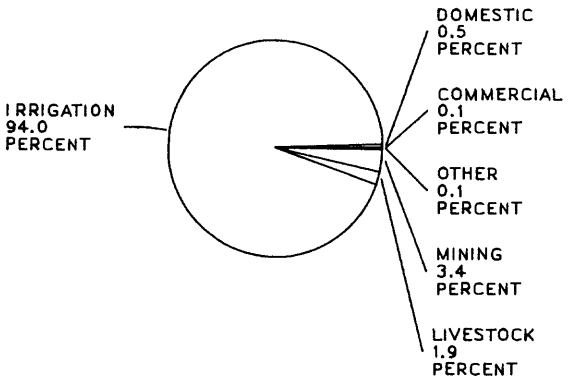
Population:

Public supplied	1,680
Self supplied	330
Total	2,010

Population density:
3.72 persons per square mile

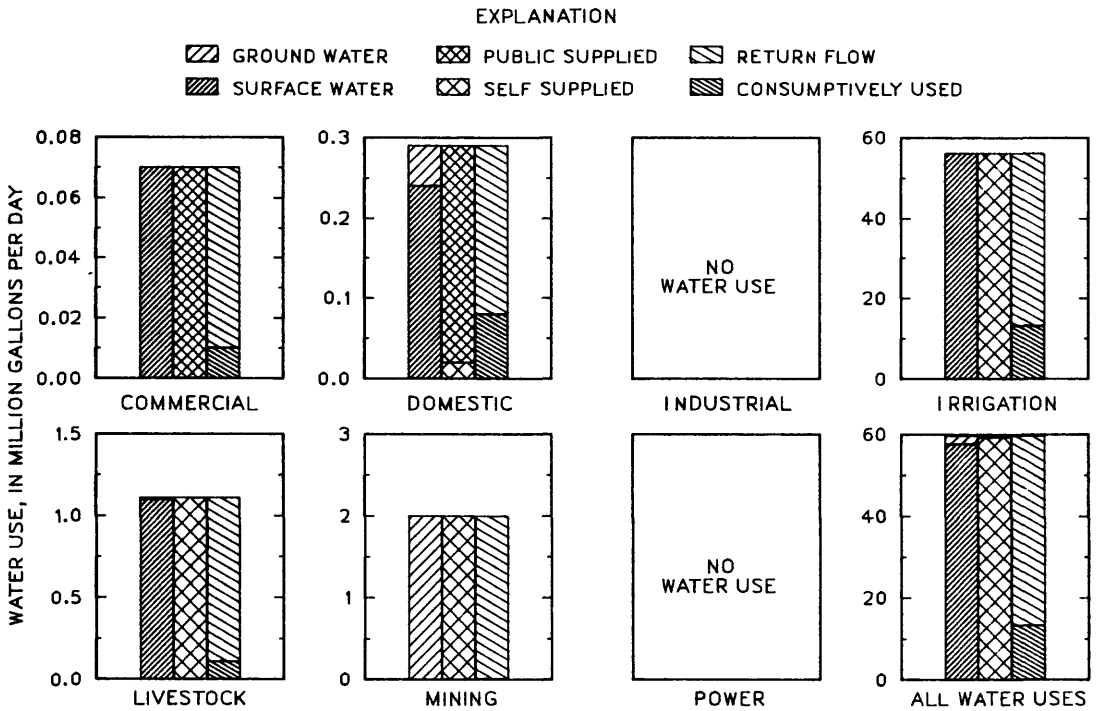
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.07
Domestic	0.29
Industrial	0.00
Irrigation	56.12
Livestock	1.11
Mining	2.00
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.08
Total	59.67



PARK COUNTY

Area: 2,178 square miles

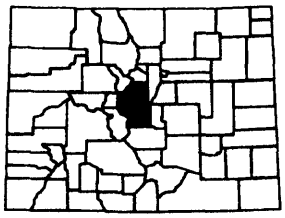
Irrigated land: 21,180 acres

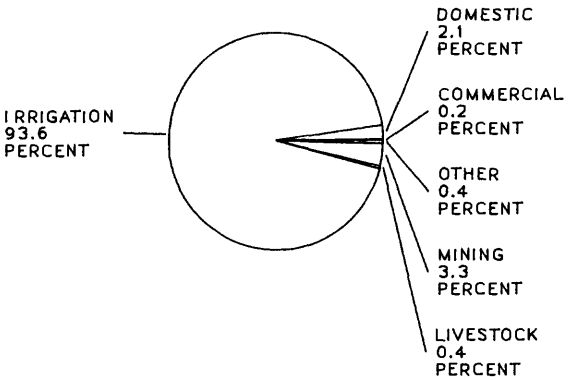
Population:

Public supplied	1,180
Self supplied	4,880
Total	6,060

Population density:
2.78 persons per square mile

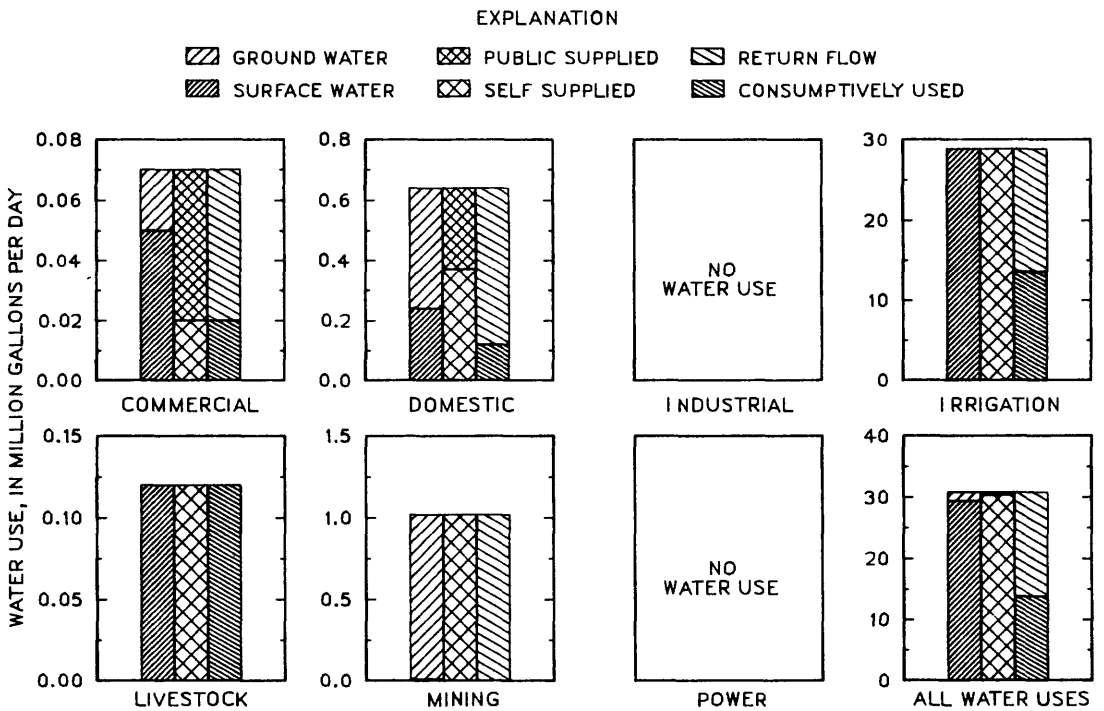
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.07
Domestic	0.64
Industrial	0.00
Irrigation	28.82
Livestock	0.12
Mining	1.02
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.12
Total	30.79



PHILLIPS COUNTY

Area: 680 square miles

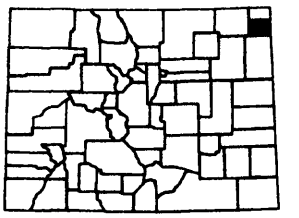
Irrigated land: 70,900 acres

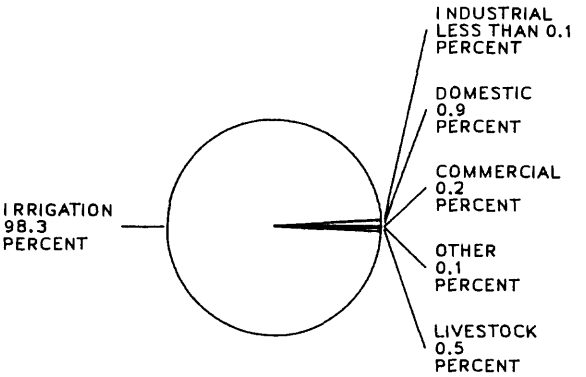
Population:

Public supplied	3,500
Self supplied	1,030
Total	4,530

Population density:
6.66 persons per square mile

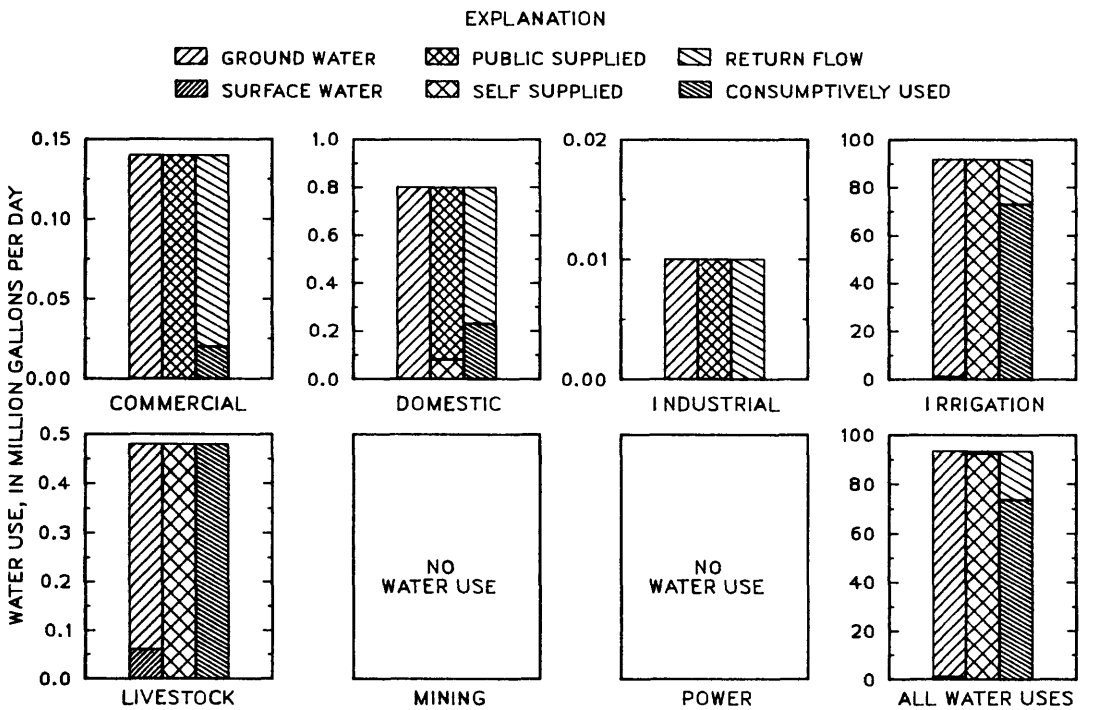
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.14
Domestic	0.80
Industrial	0.01
Irrigation	91.76
Livestock	0.48
Mining	0.00
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.14
Total	93.33



PITKIN COUNTY

Area: 975 square miles

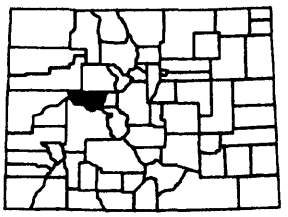
Irrigated land: 16,720 acres

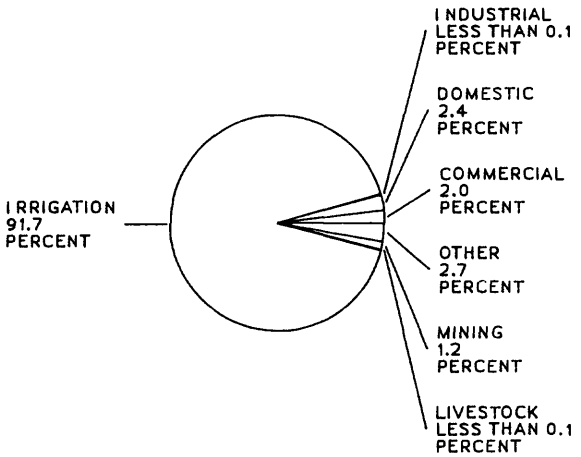
Population:

Public supplied	8,400
Self supplied	3,740
Total	12,140

Population density:
12.45 persons per square mile

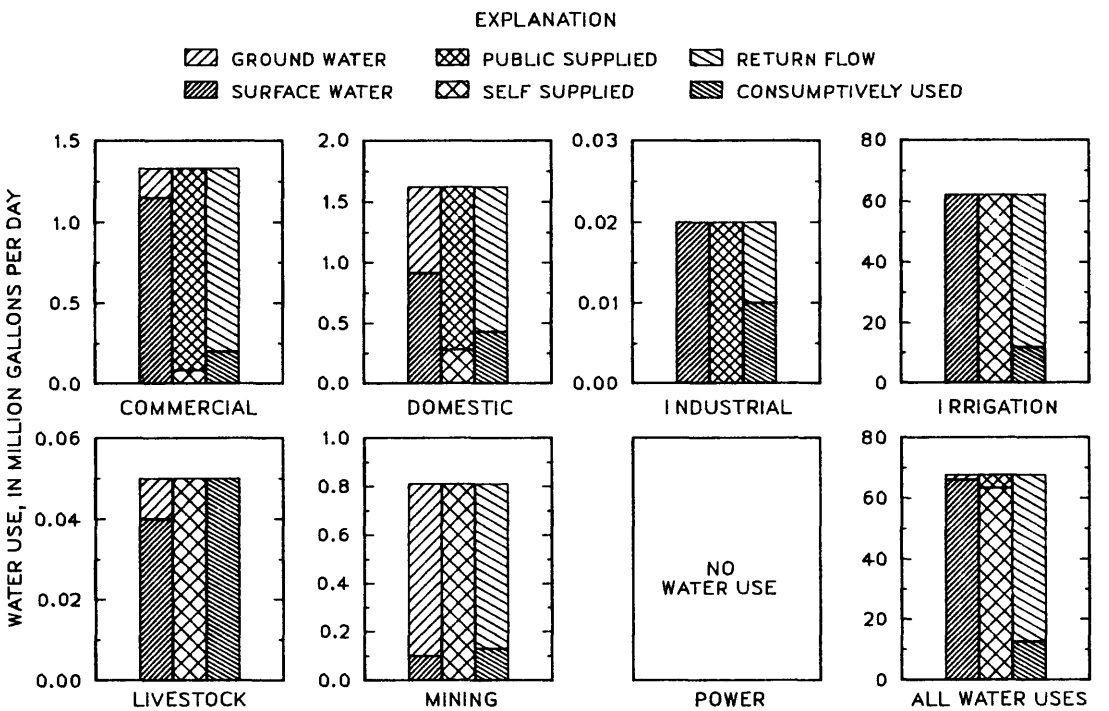
LOCATION MAP





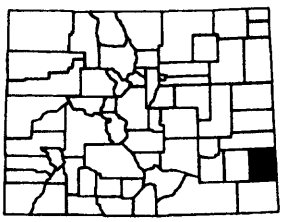
Estimated water use

Use category	Water use (million gallons per day)
Commercial	1.33
Domestic	1.62
Industrial	0.02
Irrigation	62.09
Livestock	0.05
Mining	0.81
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	1.81
Total	67.73



PROWERS COUNTY

LOCATION MAP



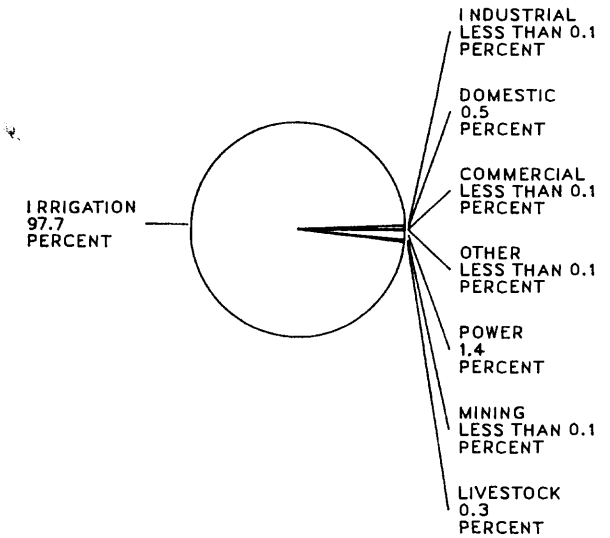
Area: 1,636 square miles

Irrigated land: 113,750 acres

Population:

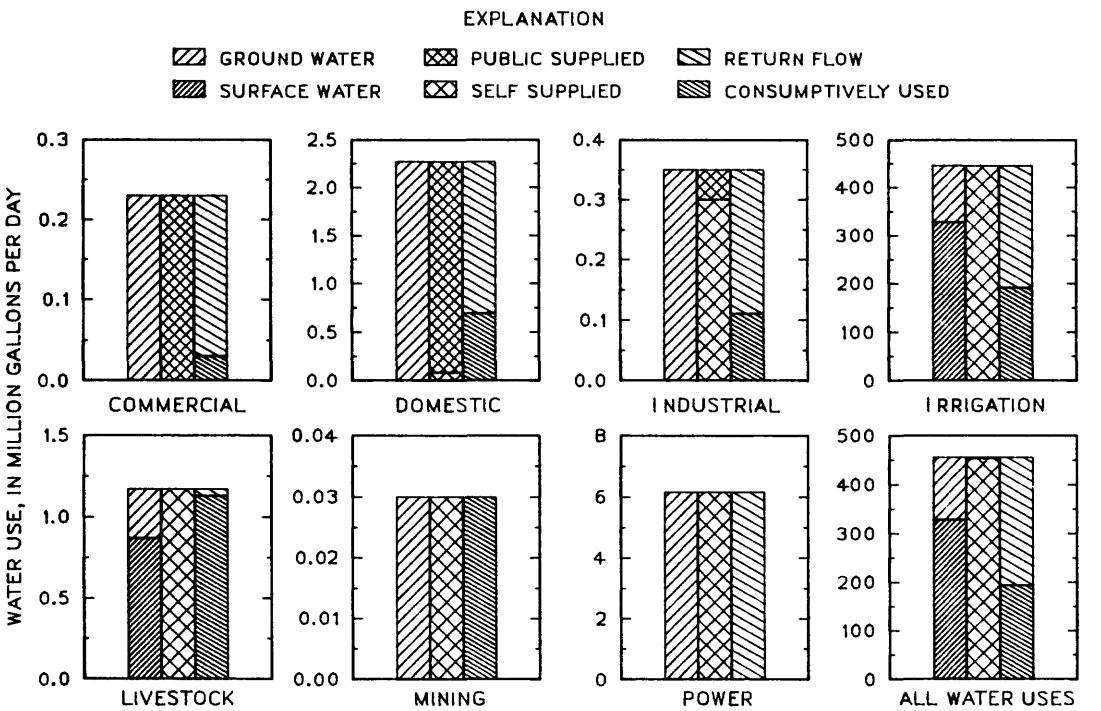
Public supplied	13,190
Self supplied	950
Total	14,140

Population density:
8.64 persons per square mile



Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.23
Domestic	2.27
Industrial	0.35
Irrigation	445.50
Livestock	1.17
Mining	0.03
Power:	
hydroelectric	0.00
thermoelectric	6.16
Other	0.12
Total	455.83



PUEBLO COUNTY

Area: 2,414 square miles

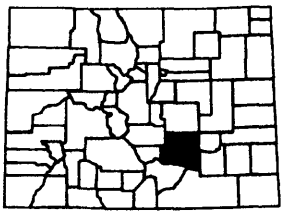
Irrigated land: 36,640 acres

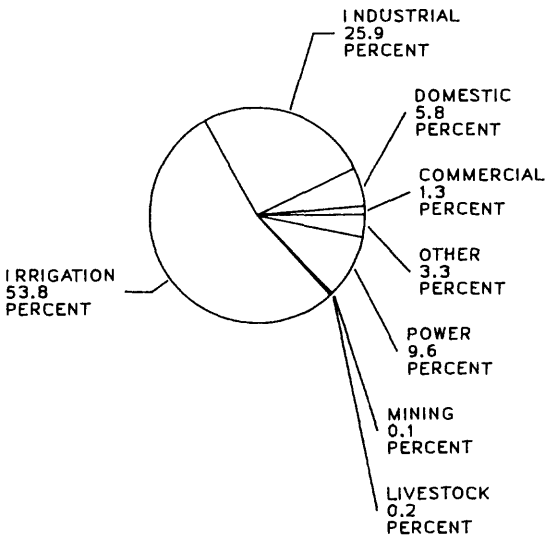
Population:

Public supplied	121,760
Self supplied	5,260
Total	127,020

Population density:
52.62 persons per square mile

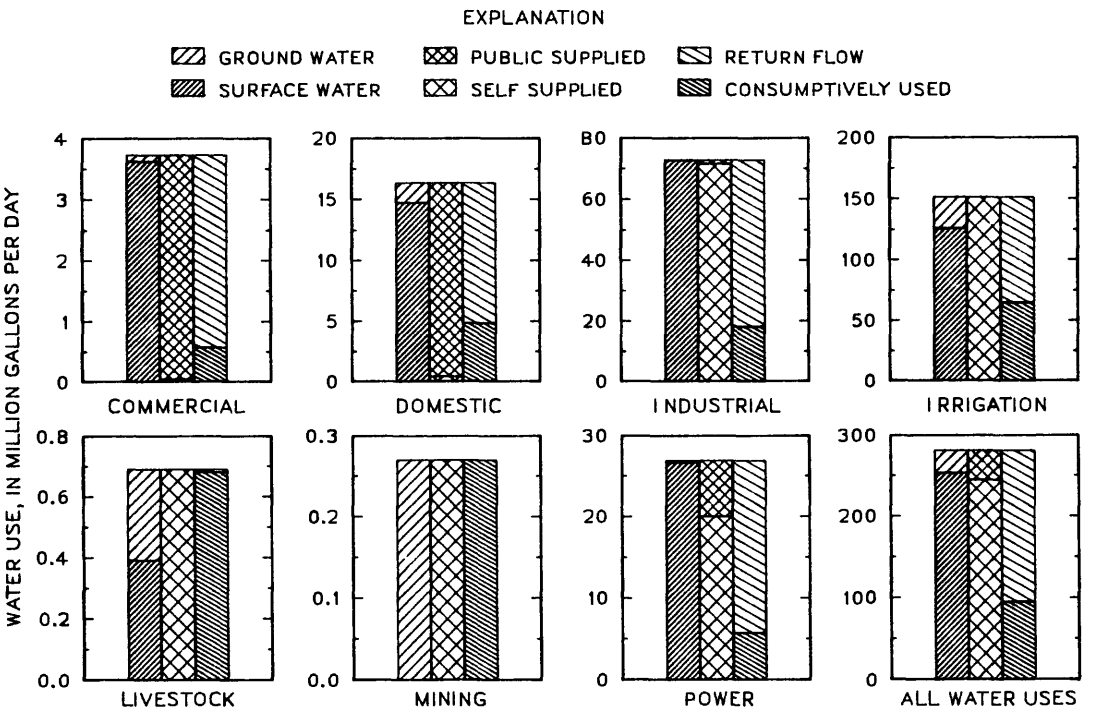
LOCATION MAP





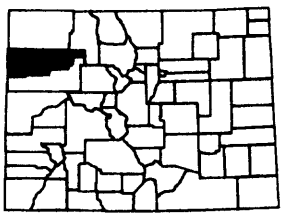
Estimated water use

Use category	Water use (million gallons per day)
Commercial	3.73
Domestic	16.37
Industrial	72.74
Irrigation	151.17
Livestock	0.69
Mining	0.27
Power:	
hydroelectric	0.00
thermoelectric	26.90
Other	9.18
Total	281.05



RIO BLANCO COUNTY

LOCATION MAP



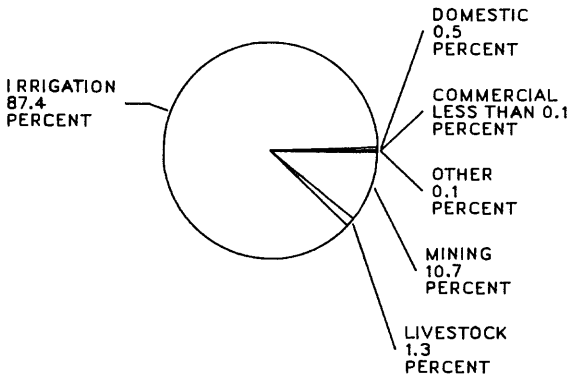
Area: 3,264 square miles

Irrigated land: 32,440 acres

Population:

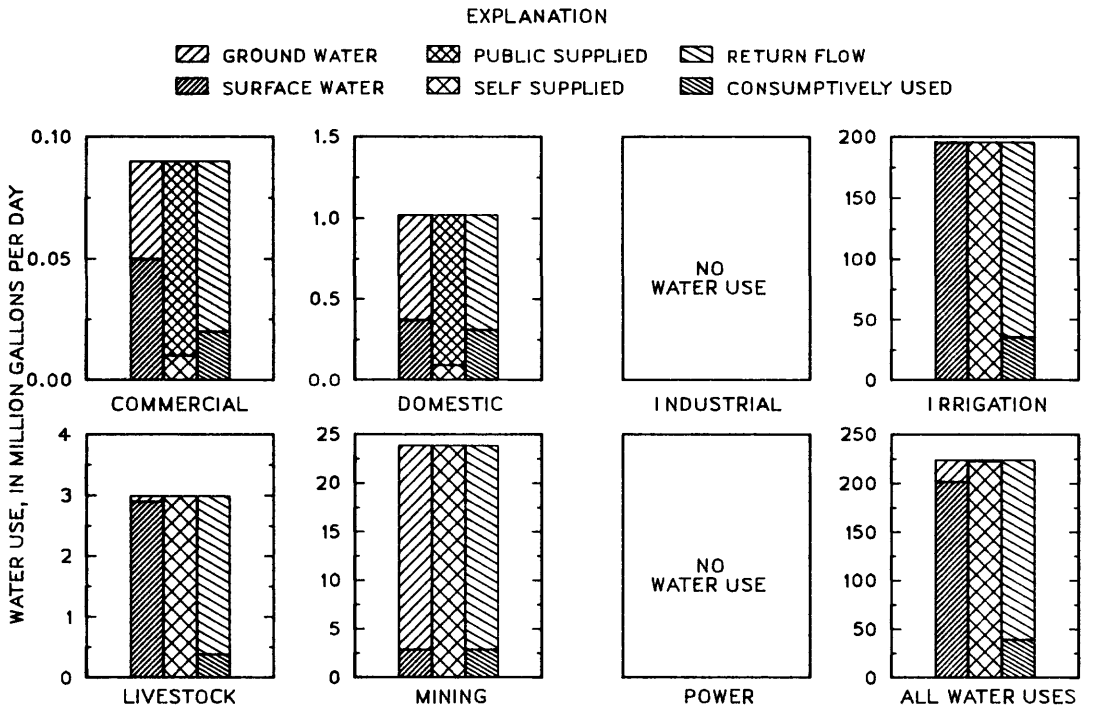
Public supplied	5,040
Self supplied	980
Total	6,020

Population density:
1.84 persons per square mile



Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.09
Domestic	1.02
Industrial	0.00
Irrigation	195.70
Livestock	2.99
Mining	23.84
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.25
Total	223.89



RIO GRANDE COUNTY

Area: 916 square miles

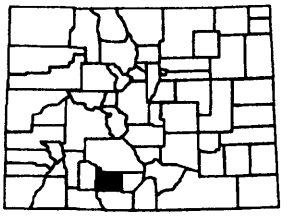
Irrigated land: 132,620 acres

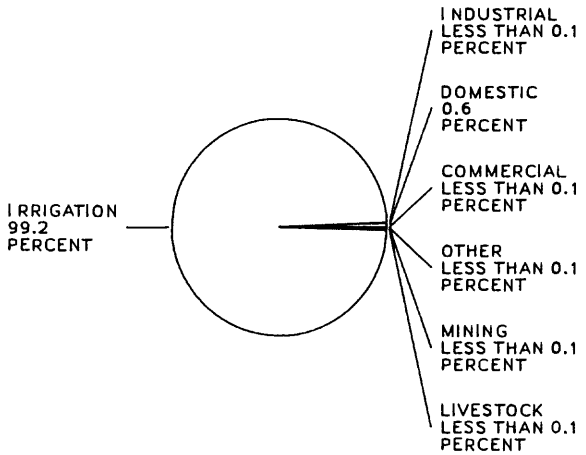
Population:

Public supplied	6,140
Self supplied	5,320
Total	11,460

Population density:
12.51 persons per square mile

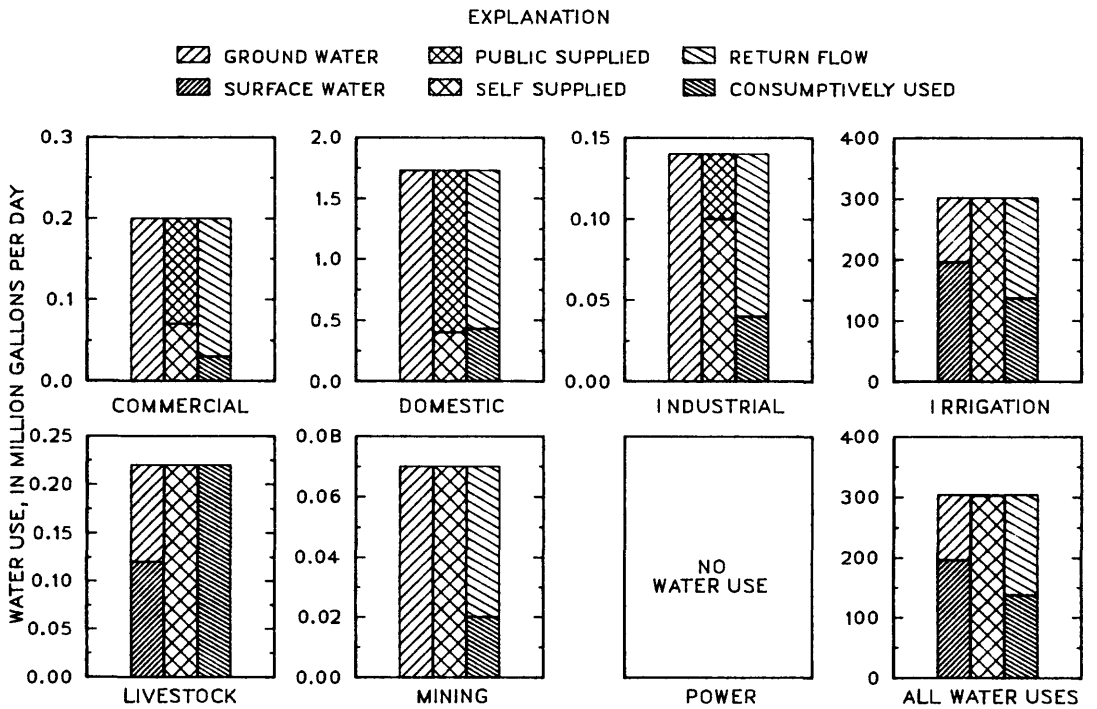
LOCATION MAP





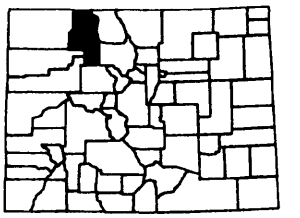
Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.20
Domestic	1.73
Industrial	0.14
Irrigation	301.84
Livestock	0.22
Mining	0.07
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.05
Total	304.25



ROUTT COUNTY

LOCATION MAP



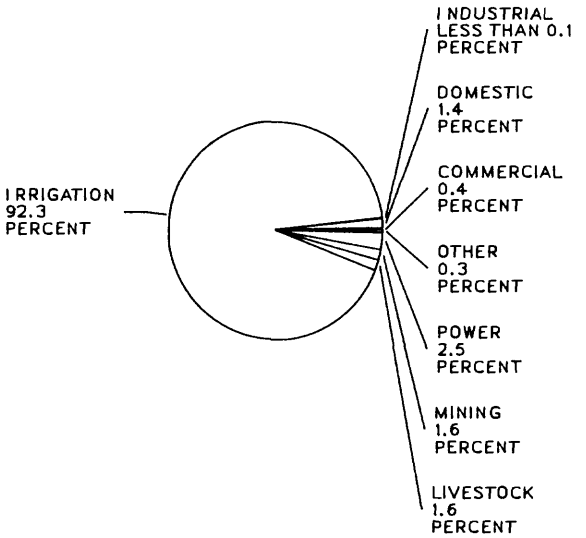
Area: 2,331 square miles

Irrigated land: 44,820 acres

Population:

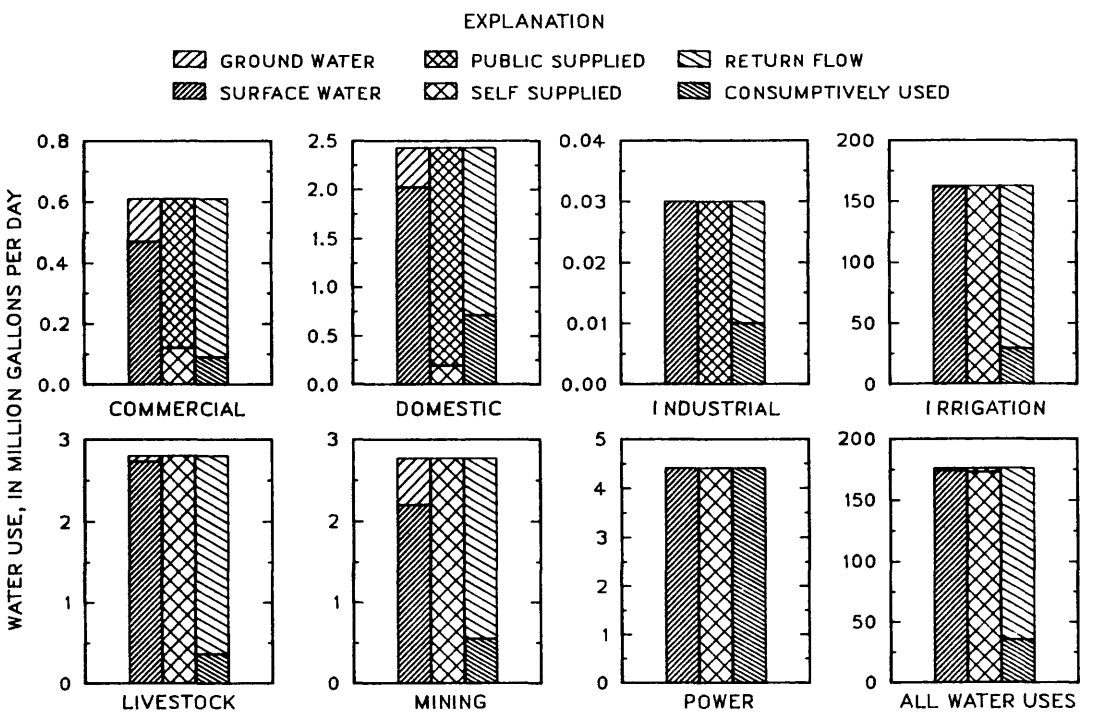
Public supplied	12,260
Self supplied	2,410
Total	14,670

Population density:
6.29 persons per square mile



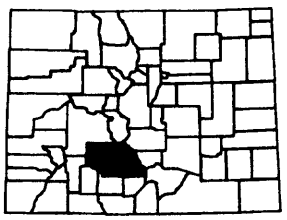
Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.61
Domestic	2.43
Industrial	0.03
Irrigation	162.53
Livestock	2.80
Mining	2.77
Power:	
hydroelectric	0.00
thermoelectric	4.41
Other	0.54
Total	176.12



SAGUACHE COUNTY

LOCATION MAP



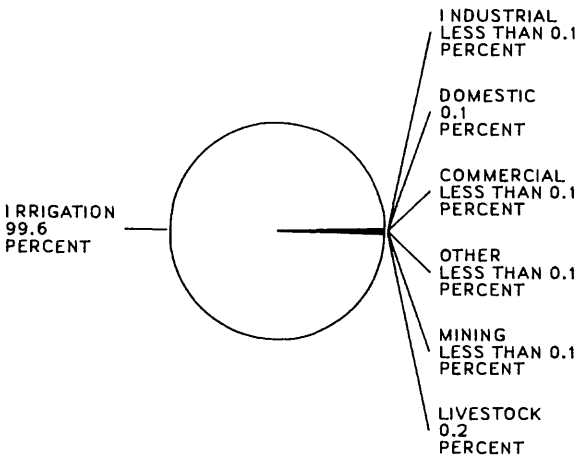
Area: 3,146 square miles

Irrigated land: 153,510 acres

Population:

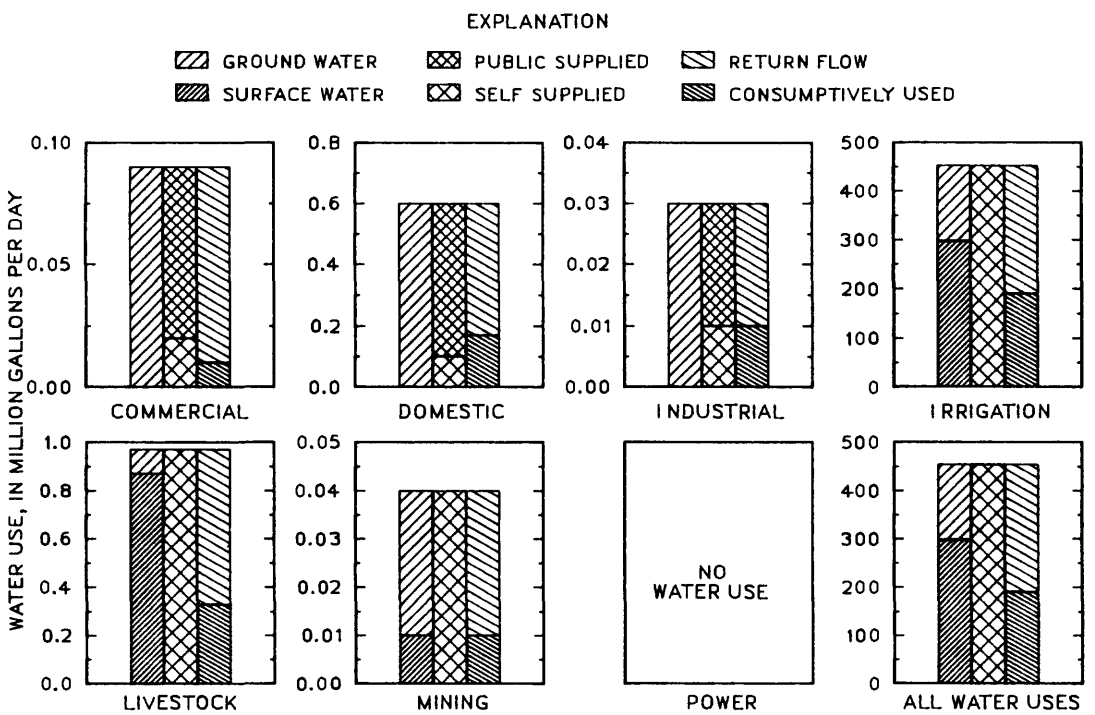
Public supplied	2,570
Self supplied	1,380
Total	3,950

Population density:
1.26 persons per square mile



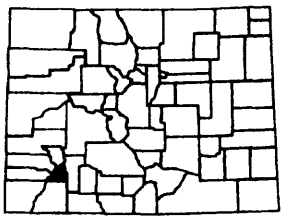
Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.09
Domestic	0.60
Industrial	0.03
Irrigation	452.35
Livestock	0.97
Mining	0.04
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.03
Total	454.11



SAN JUAN COUNTY

LOCATION MAP



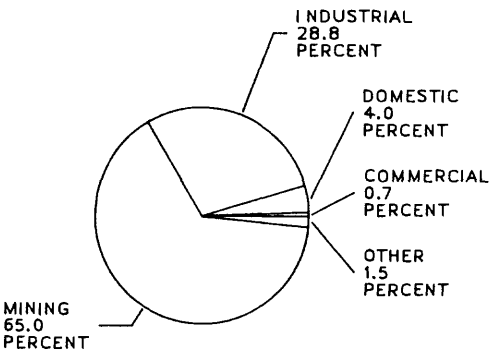
Area: 392 square miles

Irrigated land: NONE

Population:

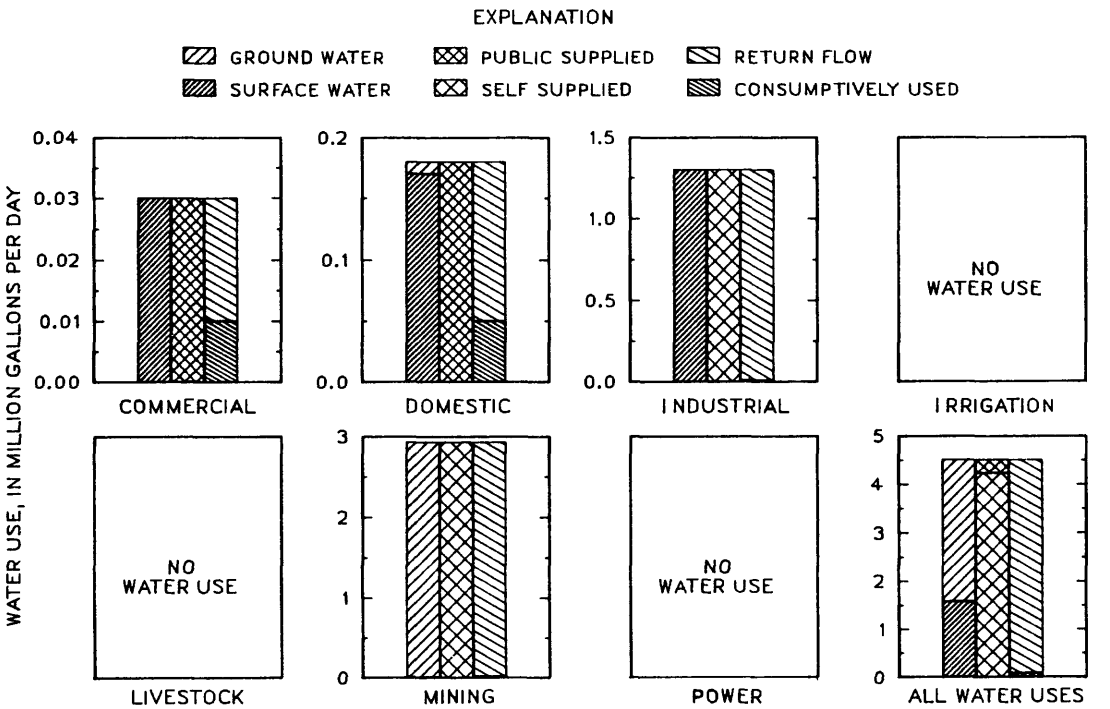
Public supplied	790
Self supplied	0
Total	790

Population density:
2.02 persons per square mile



Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.03
Domestic	0.18
Industrial	1.30
Irrigation	0.00
Livestock	0.00
Mining	2.93
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.07
Total	4.51



SAN MIGUEL COUNTY

Area: 1,284 square miles

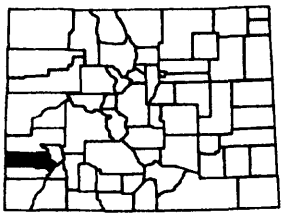
Irrigated land: 11,290 acres

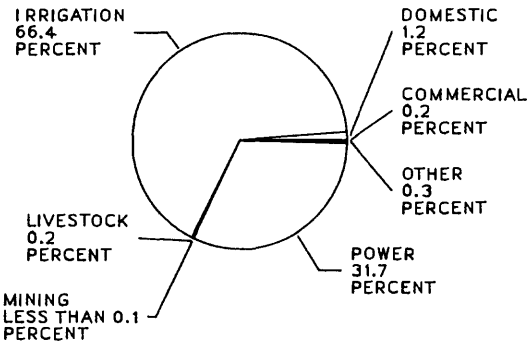
Population:

Public supplied	3,110
Self supplied	400
Total	3,510

Population density:
2.73 persons per square mile

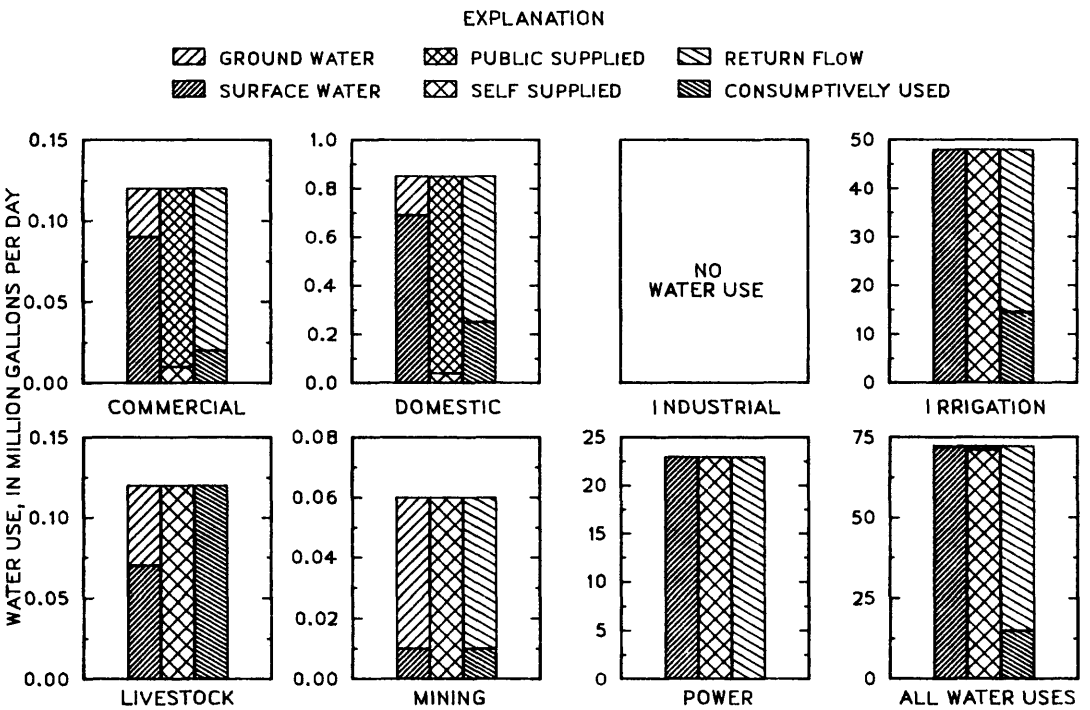
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.12
Domestic	0.85
Industrial	0.00
Irrigation	47.96
Livestock	0.12
Mining	0.06
Power:	
hydroelectric	22.94
thermoelectric	0.00
Other	0.20
Total	72.25



SEDGWICK COUNTY

Area: 554 square miles

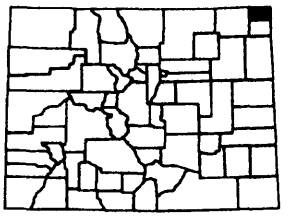
Irrigated land: 55,180 acres

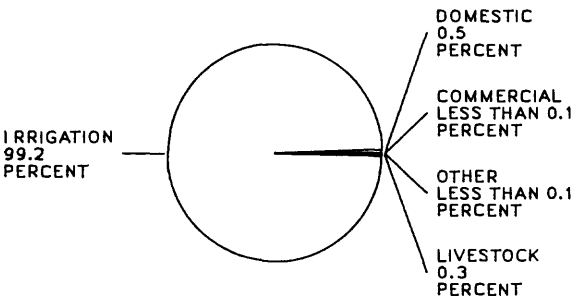
Population:

Public supplied	2,240
Self supplied	880
Total	3,120

Population density:
5.63 persons per square mile

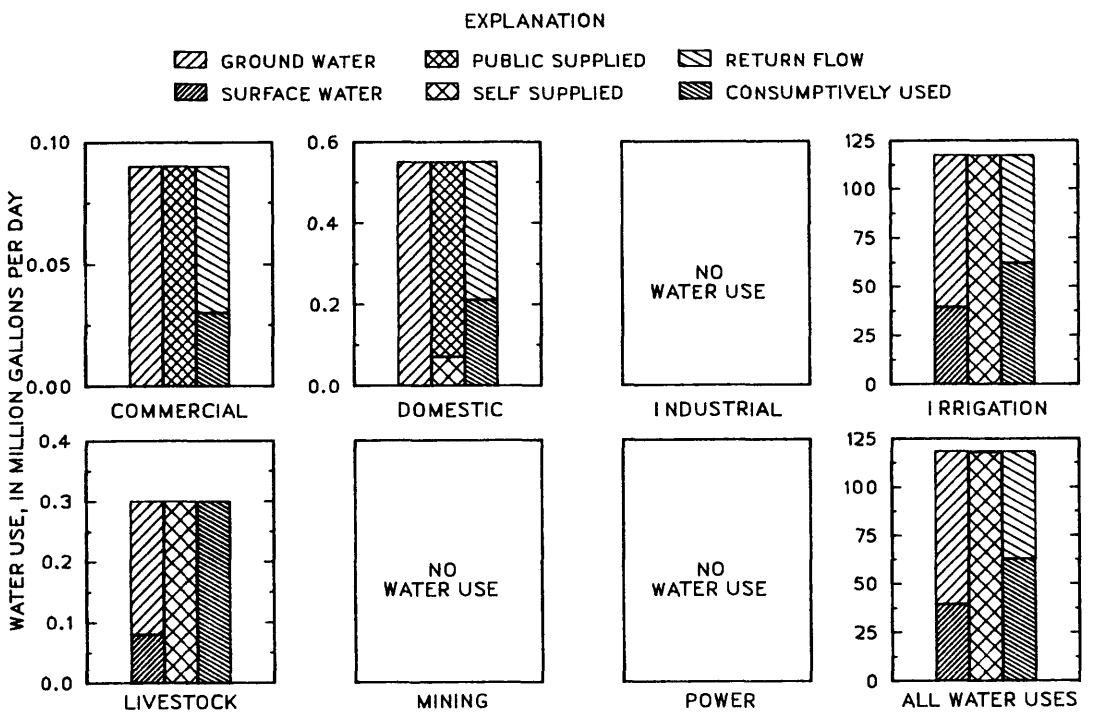
LOCATION MAP





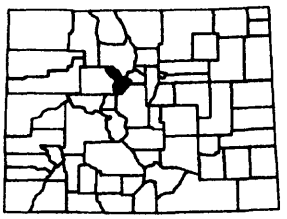
Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.09
Domestic	0.55
Industrial	0.00
Irrigation	117.38
Livestock	0.30
Mining	0.00
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.02
Total	118.34



SUMMIT COUNTY

LOCATION MAP



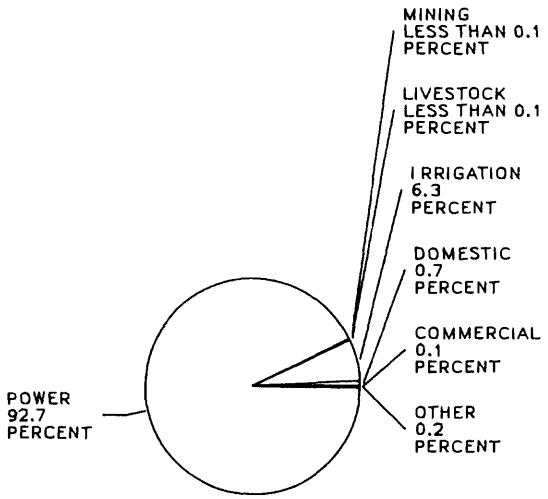
Area: 616 square miles

Irrigated land: 6,630 acres

Population:

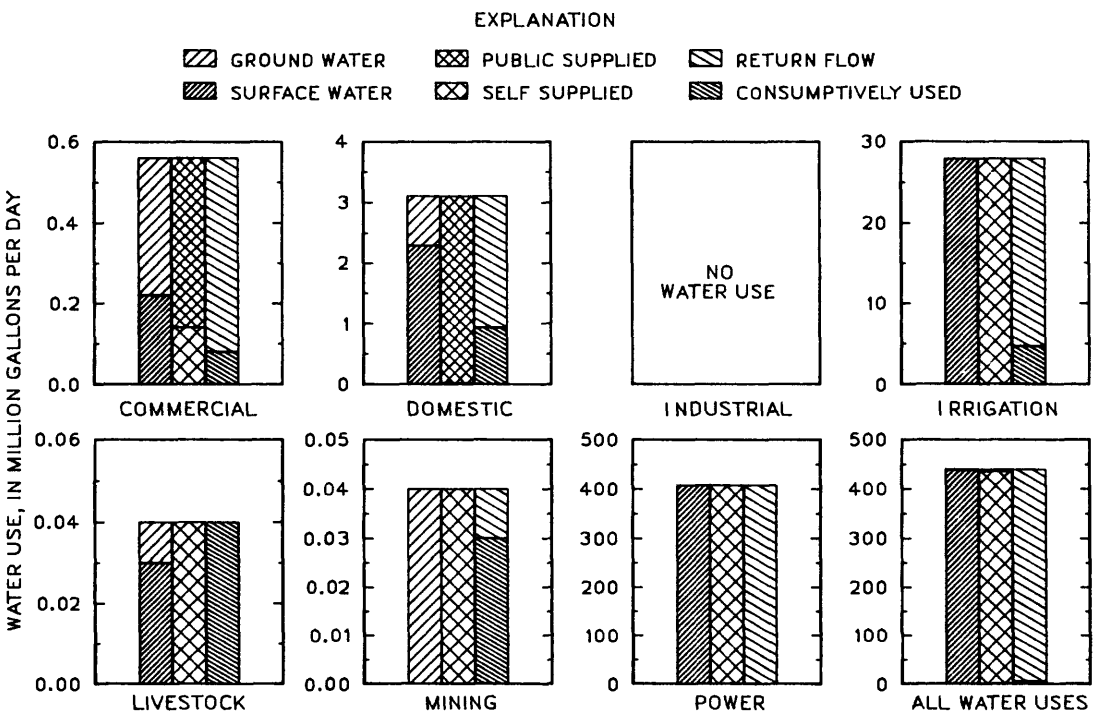
Public supplied	13,430
Self supplied	240
Total	13,670

Population density:
22.19 persons per square mile



Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.56
Domestic	3.11
Industrial	0.00
Irrigation	27.87
Livestock	0.04
Mining	0.04
Power:	
hydroelectric	407.66
thermoelectric	0.00
Other	0.64
Total	439.92



TELLER COUNTY

Area: 555 square miles

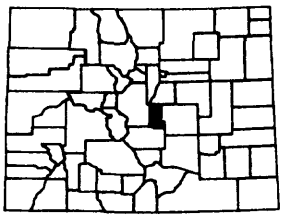
Irrigated land: 1,460 acres

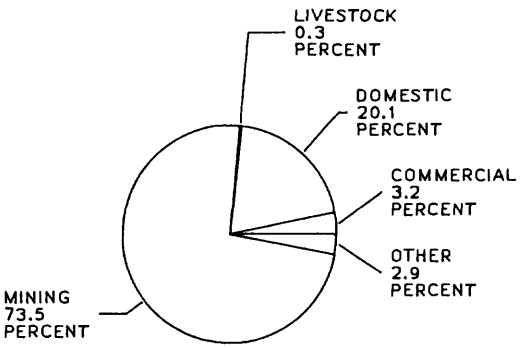
Population:

Public supplied	7,680
Self supplied	2,950
Total	10,630

Population density:
19.15 persons per square mile

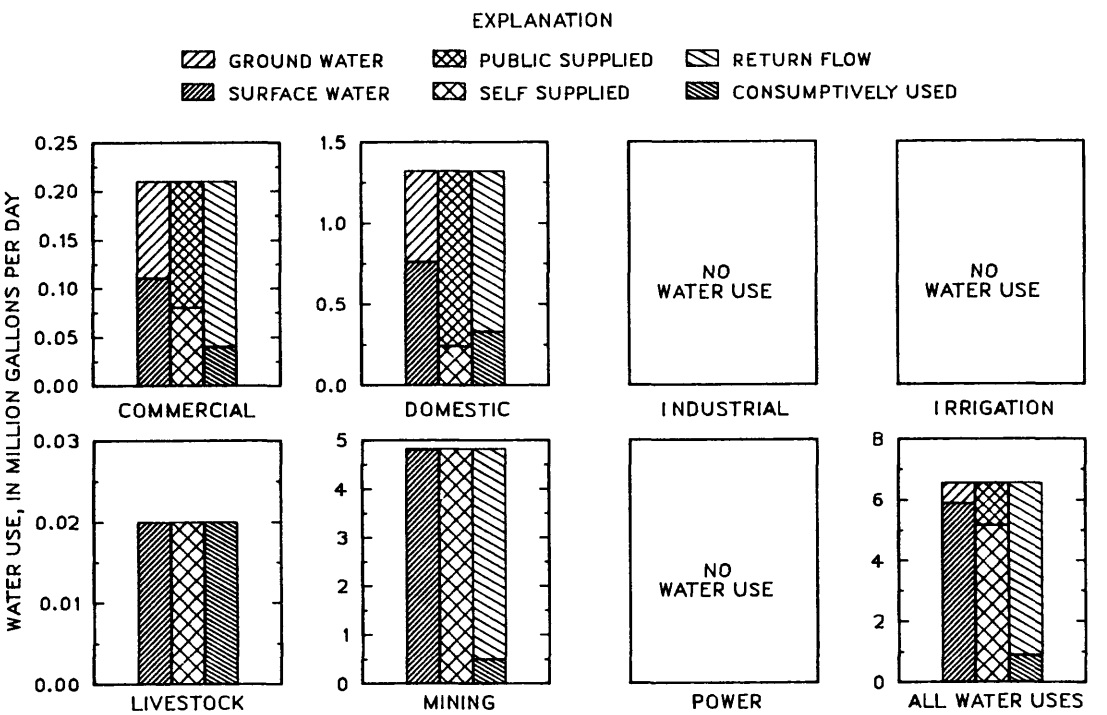
LOCATION MAP





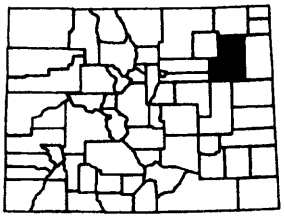
Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.21
Domestic	1.32
Industrial	0.00
Irrigation	0.00
Livestock	0.02
Mining	4.82
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.19
Total	6.56



WASHINGTON COUNTY

LOCATION MAP



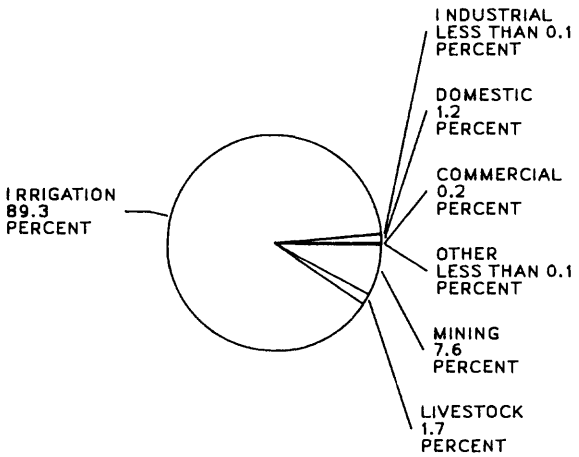
Area: 2,530 square miles

Irrigated land: 40,410 acres

Population:

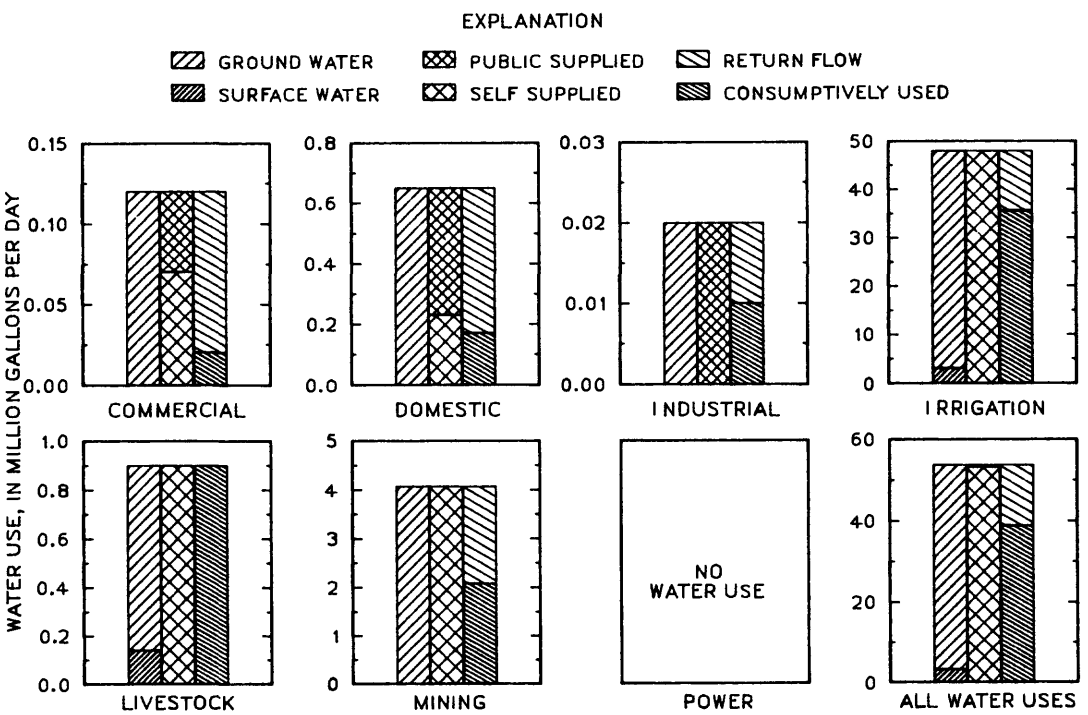
Public supplied	2,400
Self supplied	2,950
Total	5,350

Population density:
2.11 persons per square mile



Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.12
Domestic	0.65
Industrial	0.02
Irrigation	47.92
Livestock	0.90
Mining	4.07
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.01
Total	53.69



WELD COUNTY

Area: 4,033 square miles

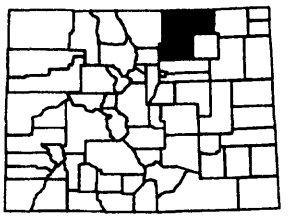
Irrigated land: 428,390 acres

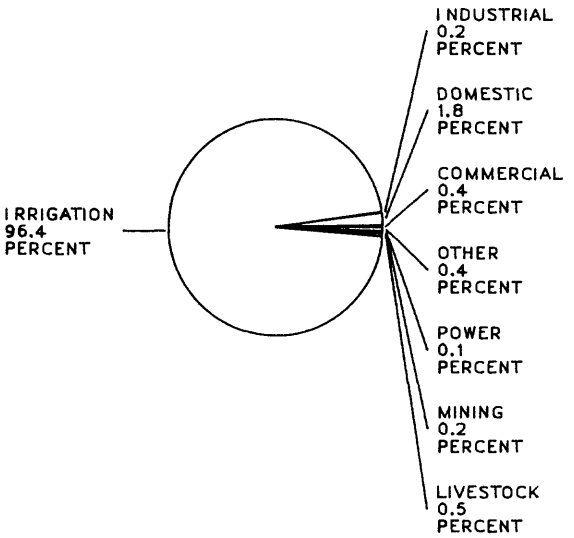
Population:

Public supplied	110,620
Self supplied	25,960
Total	136,580

Population density:
33.87 persons per square mile

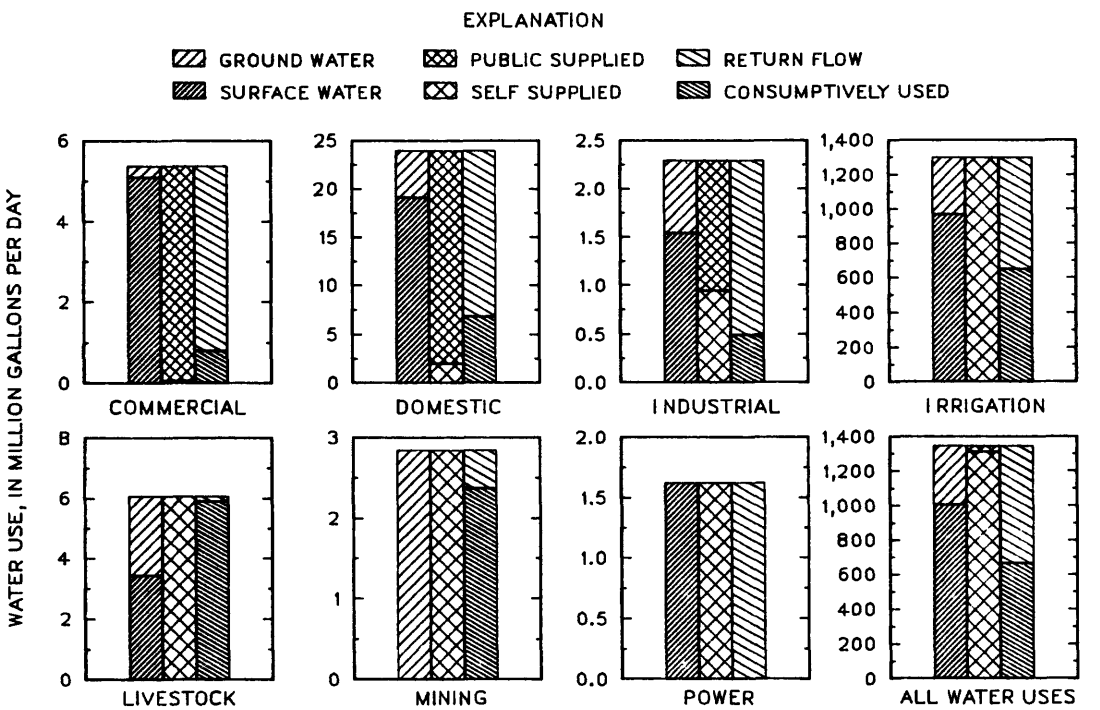
LOCATION MAP





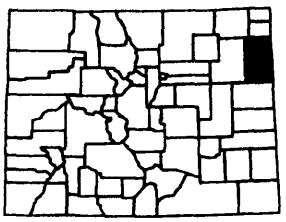
Estimated water use

Use category	Water use (million gallons per day)
Commercial	5.37
Domestic	23.96
Industrial	2.29
Irrigation	1297.03
Livestock	6.07
Mining	2.84
Power:	
hydroelectric	0.00
thermoelectric	1.62
Other	6.12
Total	1345.30



YUMA COUNTY

LOCATION MAP



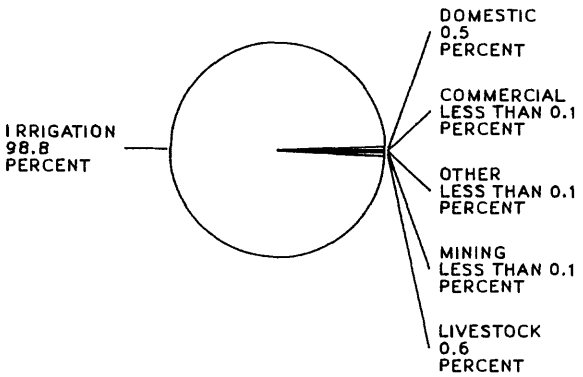
Area: 2,383 square miles

Irrigated land: 252,450 acres

Population:

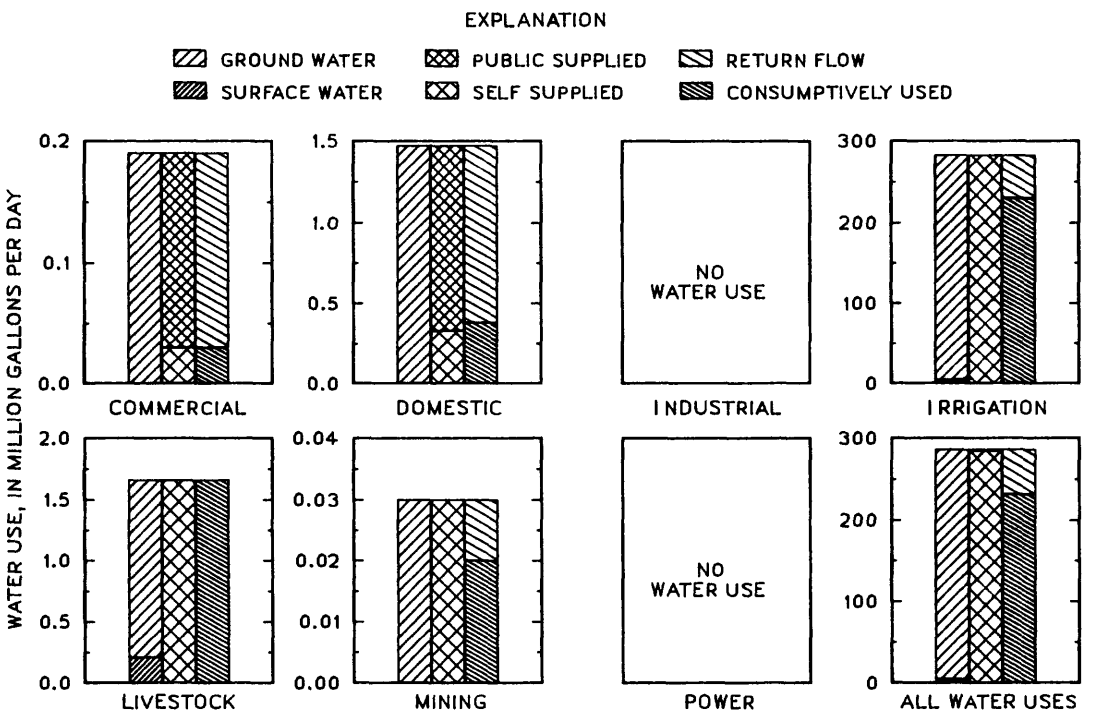
Public supplied	5,560
Self supplied	4,400
Total	9,960

Population density:
4.18 persons per square mile



Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.19
Domestic	1.47
Industrial	0.00
Irrigation	282.36
Livestock	1.66
Mining	0.03
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.05
Total	285.76



Hydrologic Subregion Data

SUBREGION 1018--NORTH PLATTE

Area: 2,067 square miles

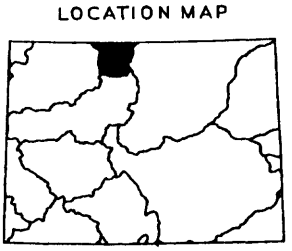
Irrigated land: 104,310 acres

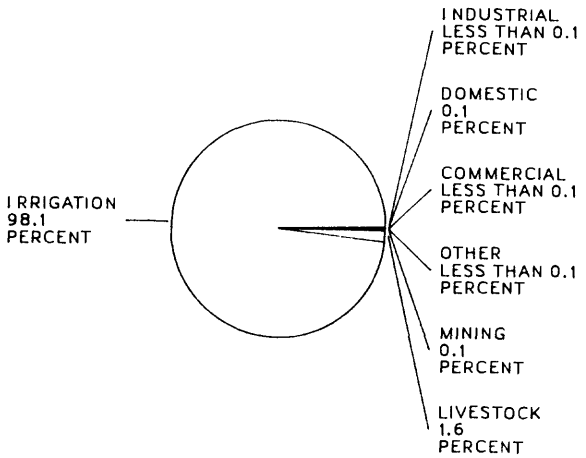
Population:

Public supplied	1,000
Self supplied	1,140
Total	2,140

Population density:
1.04 persons per square mile

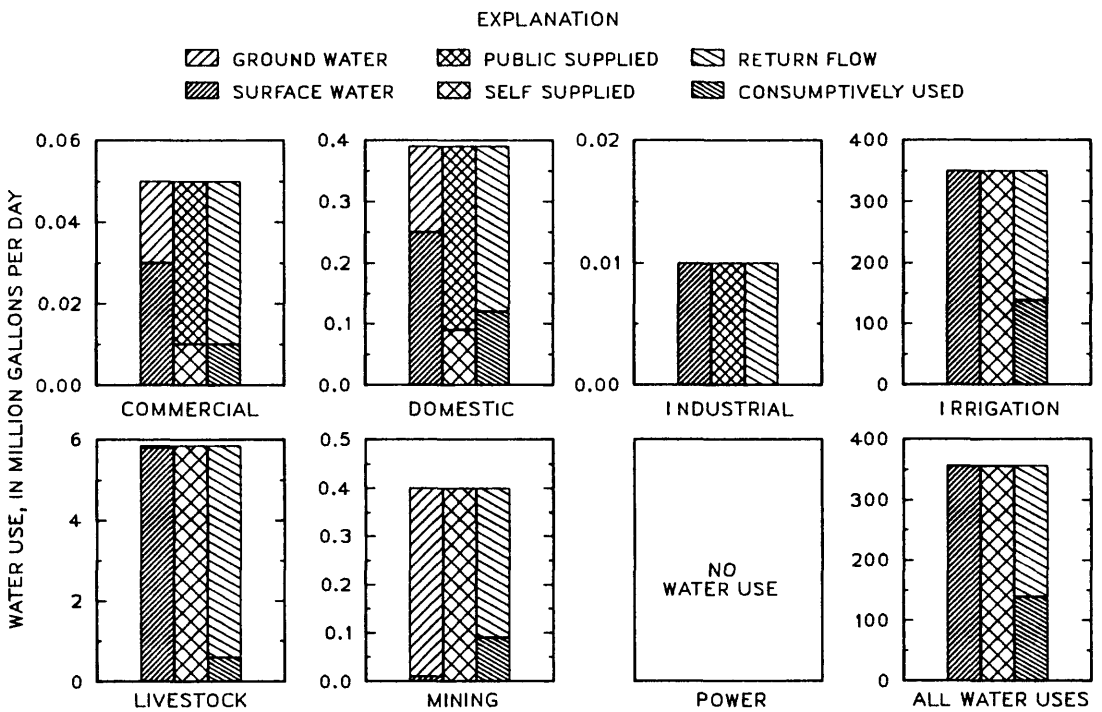
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.05
Domestic	0.39
Industrial	0.01
Irrigation	350.09
Livestock	5.84
Mining	0.40
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.12
Total	356.90



SUBREGION 1019--SOUTH PLATTE

Area: 18,928 square miles

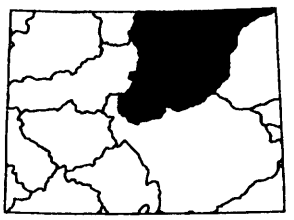
Irrigated land: 917,640 acres

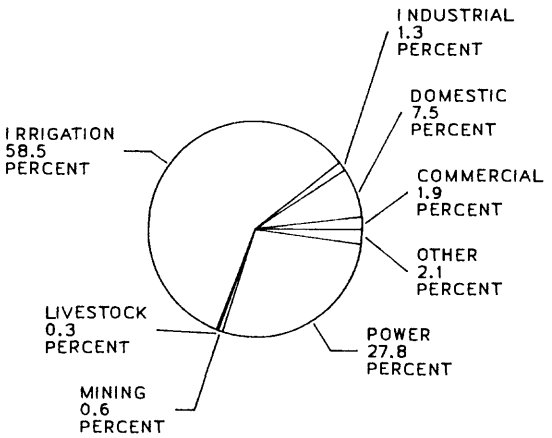
Population:

Public supplied	2,090,990
Self supplied	111,090
Total	2,202,080

Population density:
116.34 persons per square mile

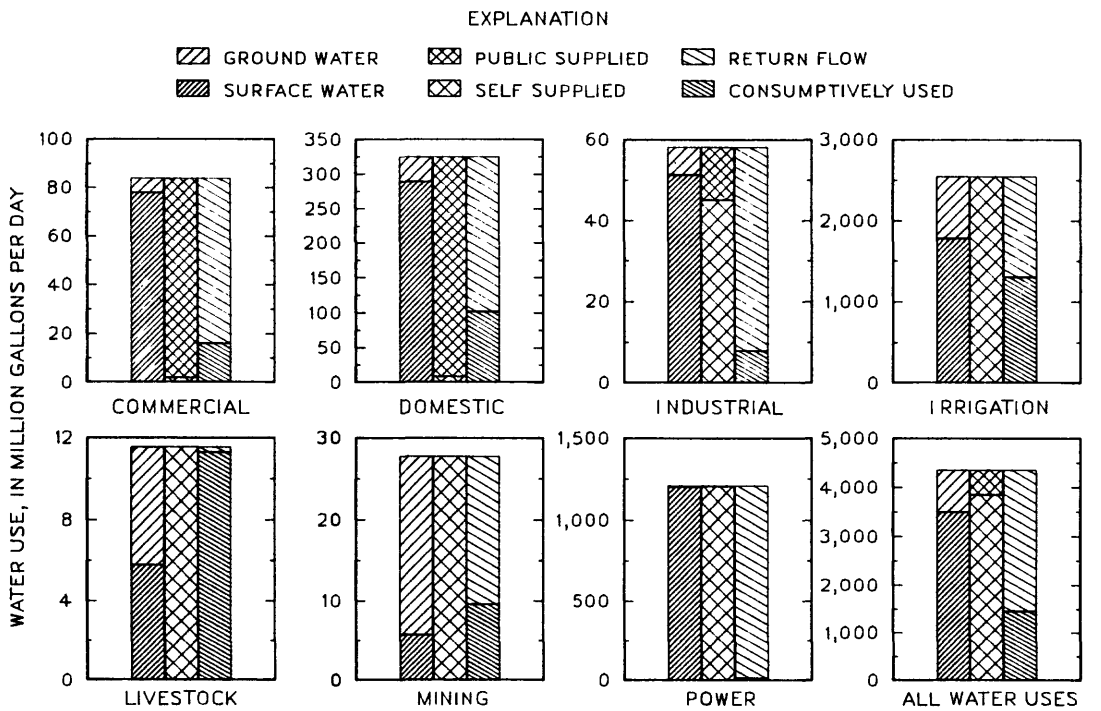
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	83.86
Domestic	324.63
Industrial	58.14
Irrigation	2,545.57
Livestock	11.55
Mining	27.75
Power:	
hydroelectric	1,175.61
thermoelectric	32.62
Other	91.34
Total	4,351.07



SUBREGION 1025--REPUBLICAN

Area: 7,883 square miles

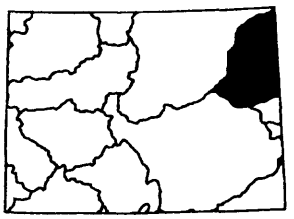
Irrigated land: 470,110 acres

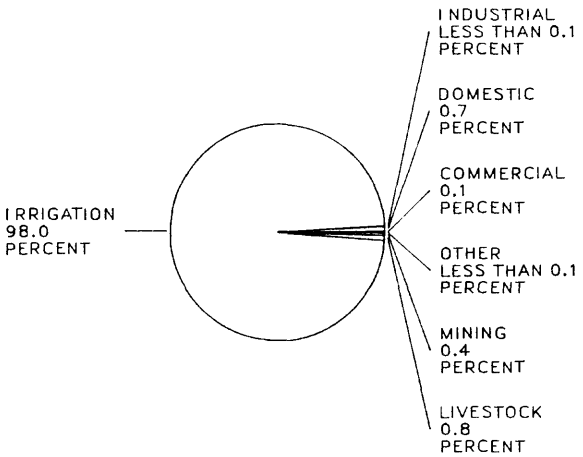
Population:

Public supplied	18,240
Self supplied	9,920
Total	28,160

Population density:
3.57 persons per square mile

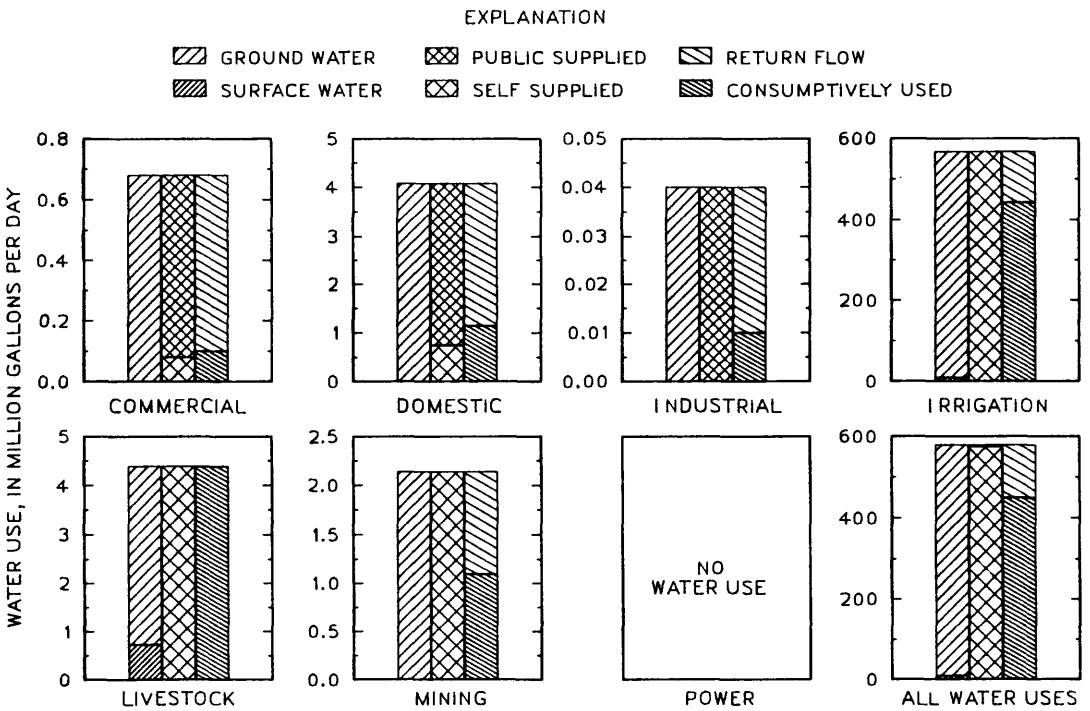
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.68
Domestic	4.08
Industrial	0.04
Irrigation	566.81
Livestock	4.39
Mining	2.14
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.22
Total	578.36



SUBREGION 1026--SMOKY HILL

Area: 969 square miles

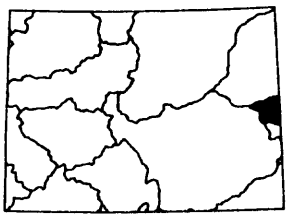
Irrigated land: 45,090 acres

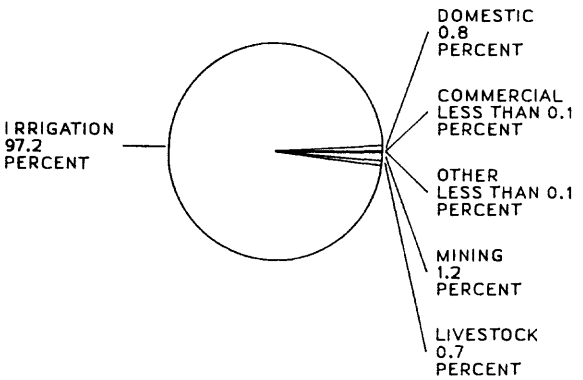
Population:

Public supplied	1,410
Self supplied	620
Total	2,030

Population density:
2.09 persons per square mile

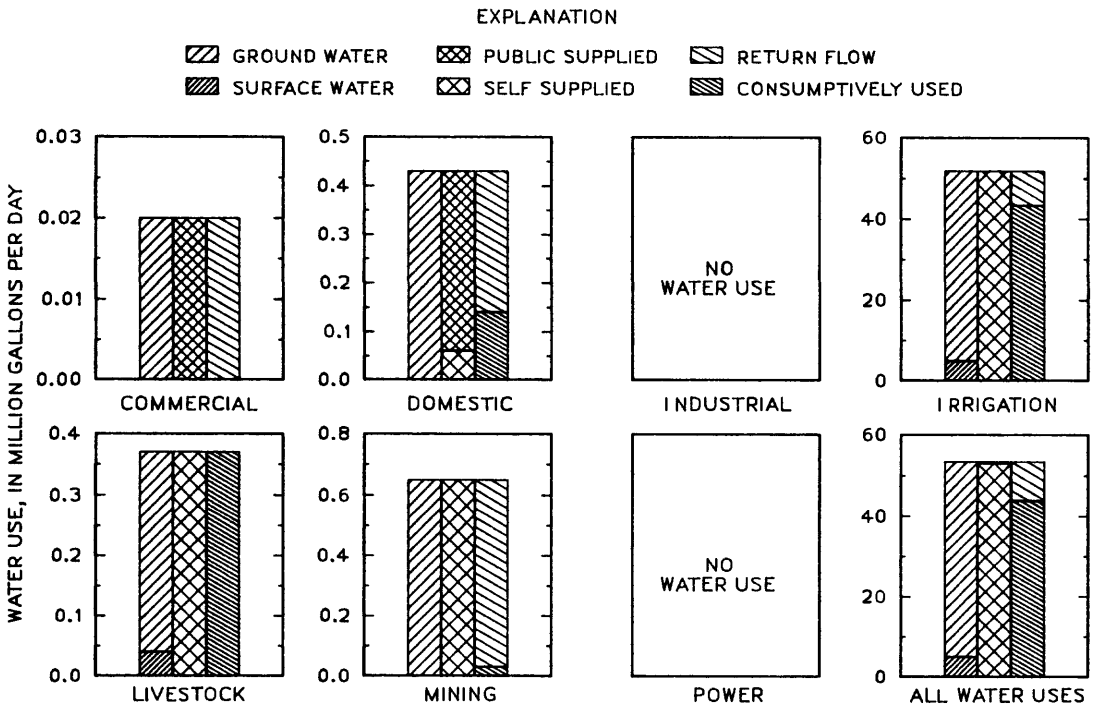
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.02
Domestic	0.43
Industrial	0.00
Irrigation	51.84
Livestock	0.37
Mining	0.65
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.02
Total	53.33



SUBREGION 1102--UPPER ARKANSAS

Area: 24,904 square miles

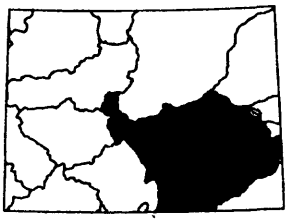
Irrigated land: 396,690 acres

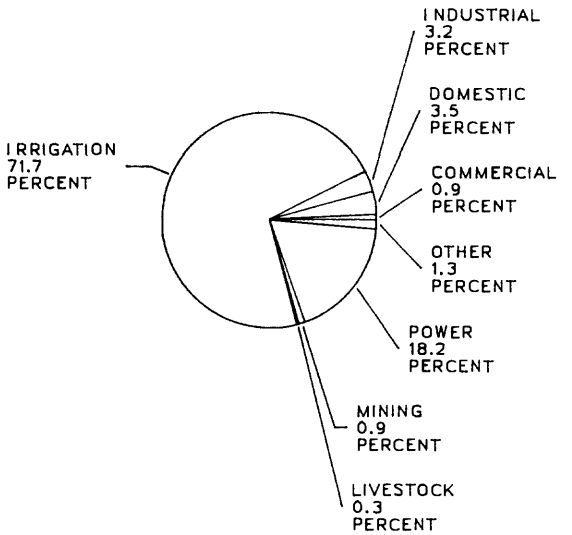
Population:

Public supplied	582,090
Self supplied	45,110
Total	627,200

Population density:
25.18 persons per square mile

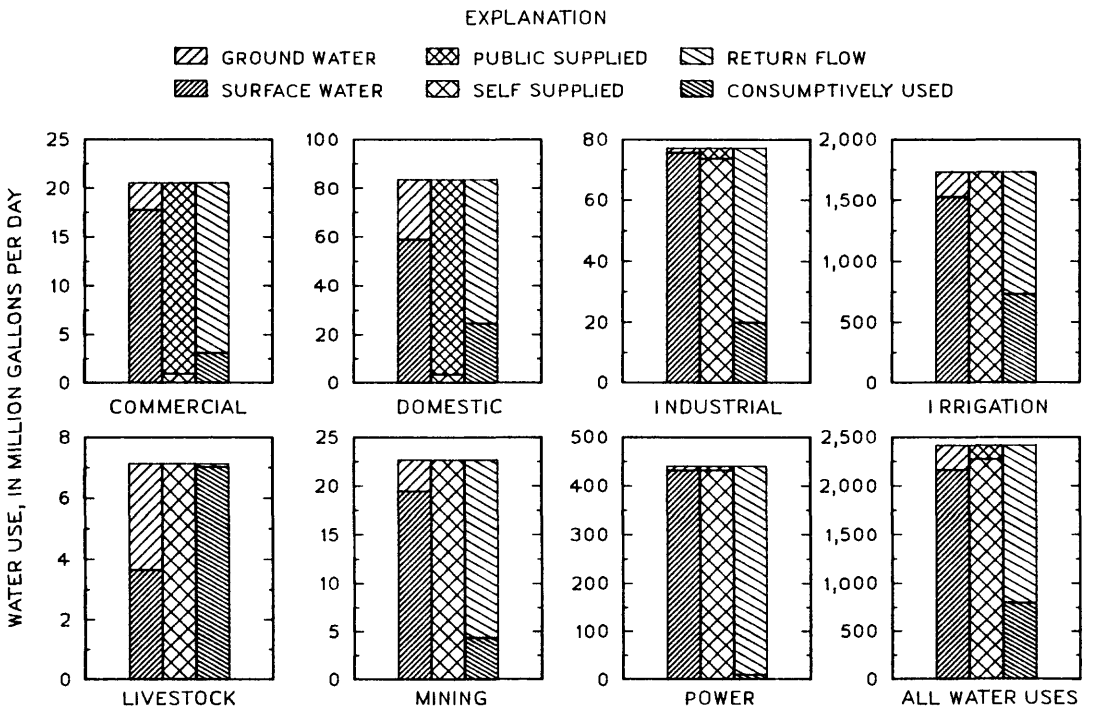
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	20.55
Domestic	83.52
Industrial	77.17
Irrigation	1,731.54
Livestock	7.13
Mining	22.66
Power:	
hydroelectric	367.62
thermoelectric	73.04
Other	31.88
Total	2,415.11



SUBREGION 1103--MIDDLE ARKANSAS

Area: 348 square miles

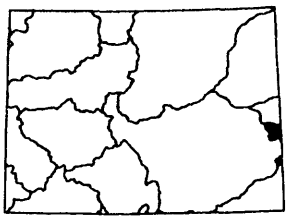
Irrigated land: 550 acres

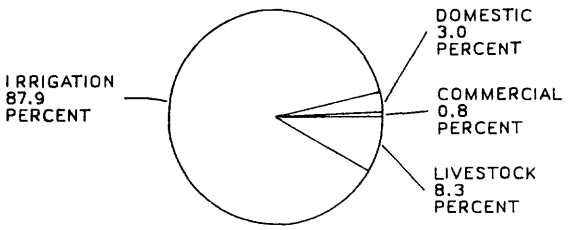
Population:

Public supplied	100
Self supplied	270
Total	370

Population density:
1.06 persons per square mile

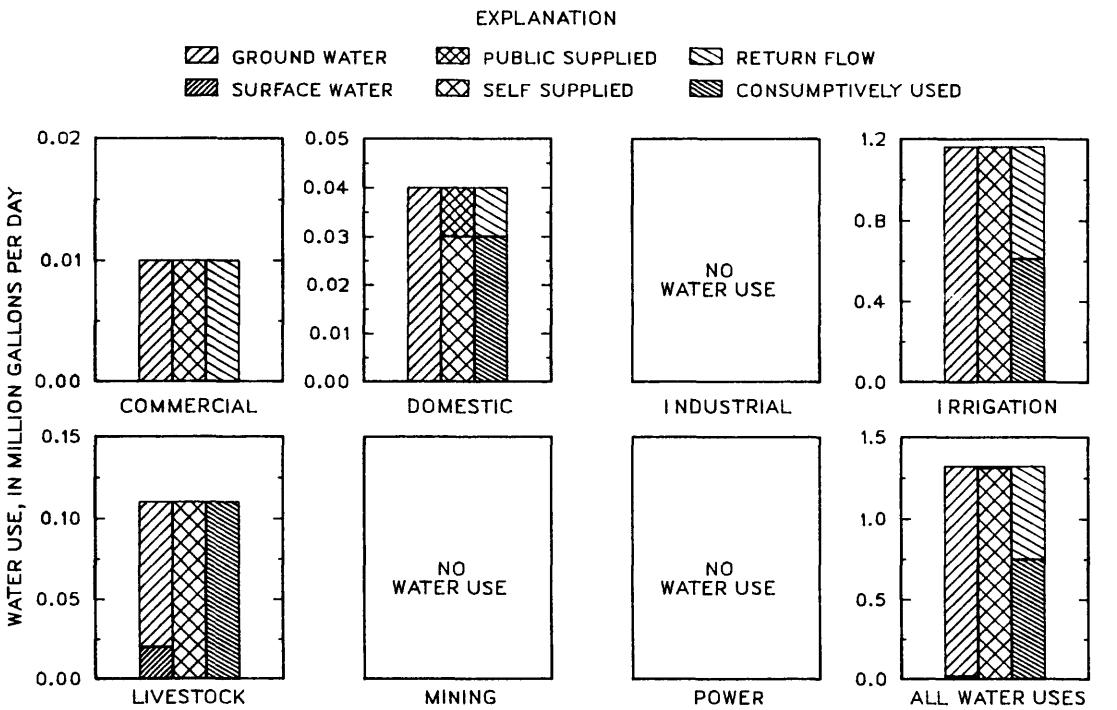
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.01
Domestic	0.04
Industrial	0.00
Irrigation	1.16
Livestock	0.11
Mining	0.00
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.00
Total	1.32



SUBREGION 1104--UPPER CIMARRON

Area: 2,941 square miles

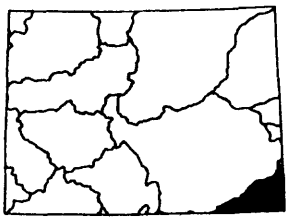
Irrigated land: 71,740 acres

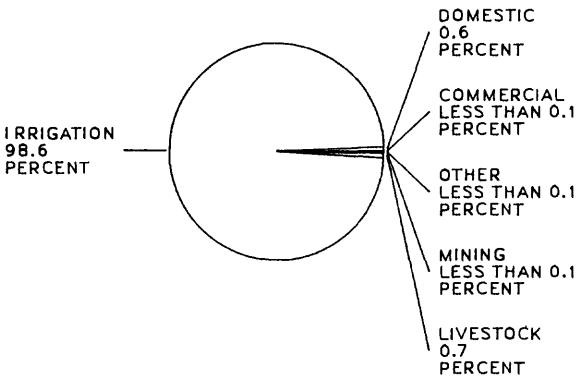
Population:

Public supplied	3,150
Self supplied	2,080
Total	5,230

Population density:
1.78 persons per square mile

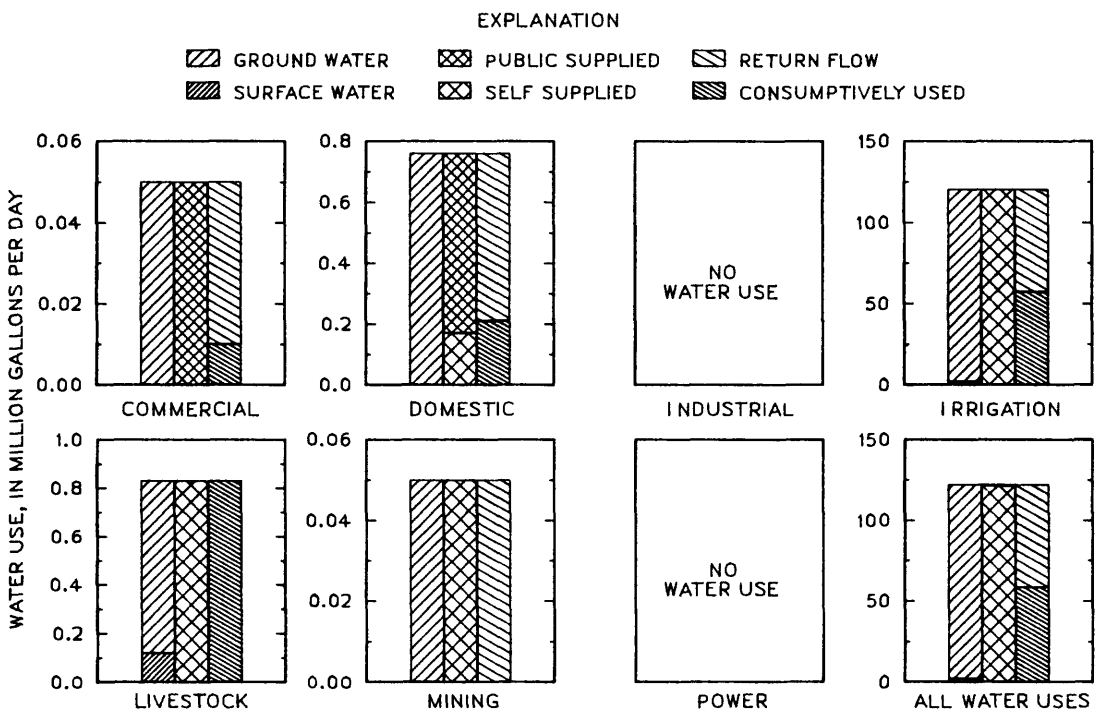
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.05
Domestic	0.76
Industrial	0.00
Irrigation	120.38
Livestock	0.83
Mining	0.05
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.01
Total	122.08



SUBREGION 1108--UPPER CANADIAN

Area: 67 square miles

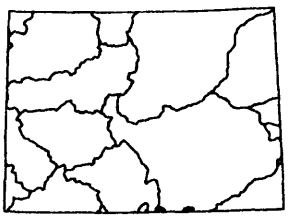
Irrigated land: NONE

Population:

Public supplied	0
Self supplied	0
Total	0

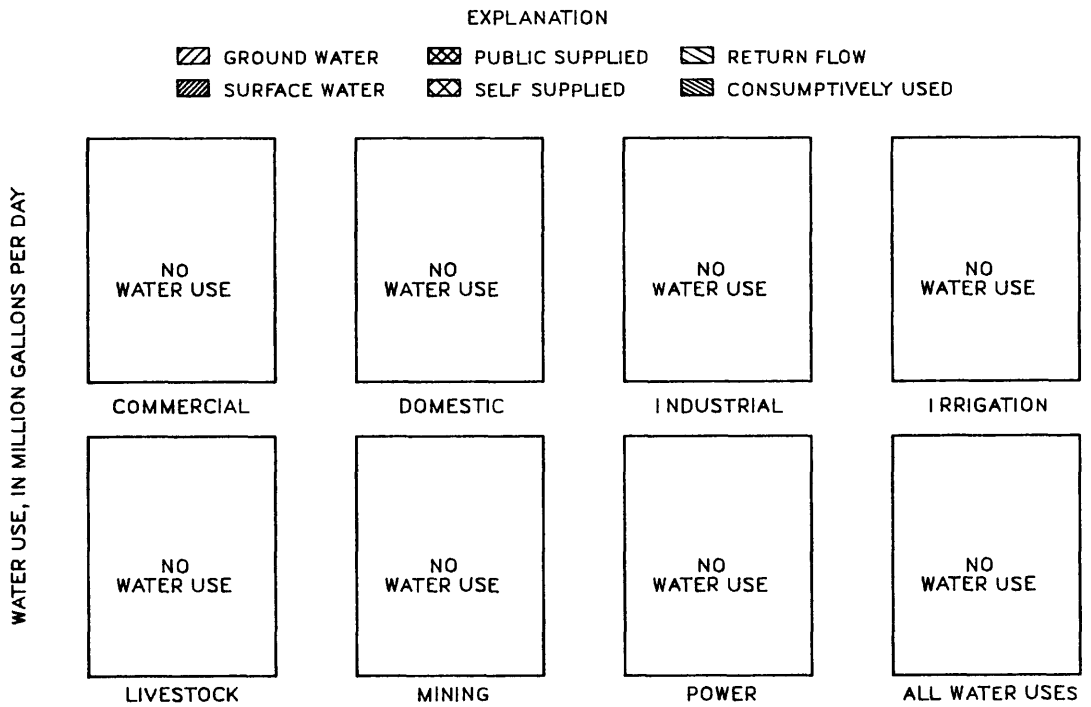
Population density:
0.00 persons per square mile

LOCATION MAP



Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.00
Domestic	0.00
Industrial	0.00
Irrigation	0.00
Livestock	0.00
Mining	0.00
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.00
Total	0.00



SUBREGION 1301--RIO GRANDE HEADWATERS

Area: 7,226 square miles

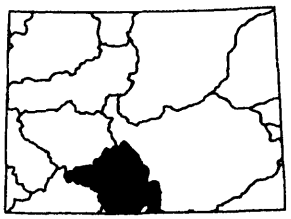
Irrigated land: 566,350 acres

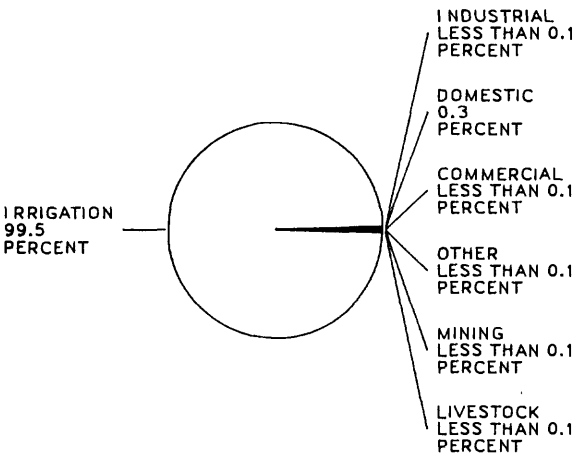
Population:

Public supplied	24,450
Self supplied	14,890
Total	39,340

Population density:
5.44 persons per square mile

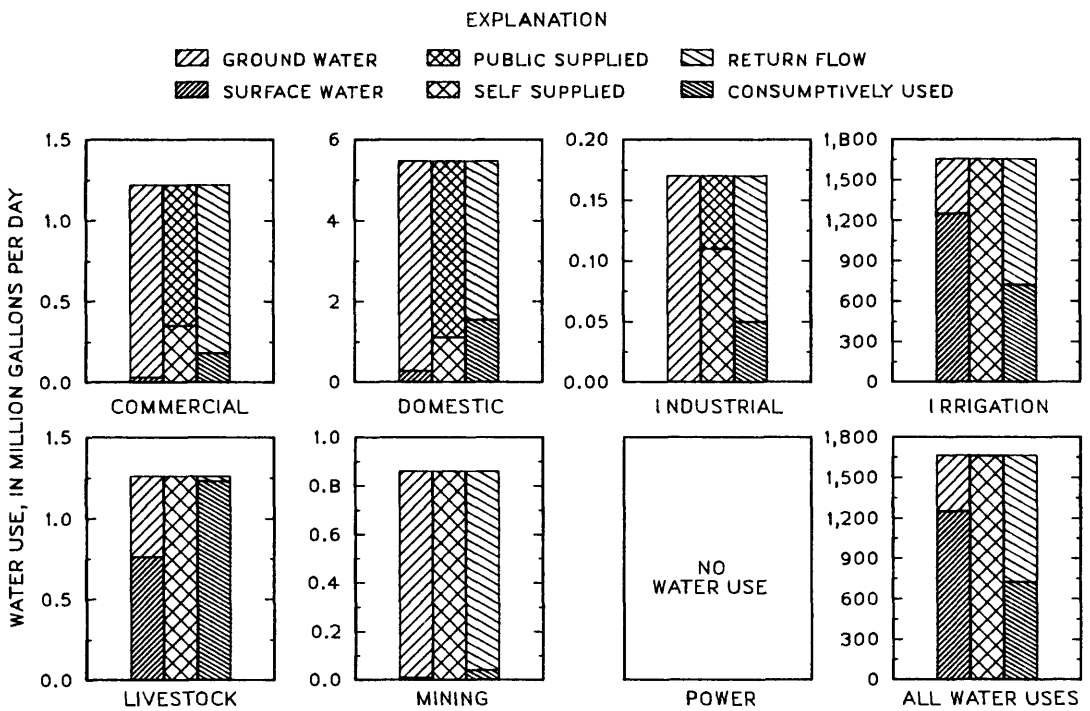
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	1.22
Domestic	5.47
Industrial	0.17
Irrigation	1,655.30
Livestock	1.26
Mining	0.86
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.23
Total	1,664.51



SUBREGION 1302--RIO GRANDE-ELEPHANT BUTTE

Area: 219 square miles

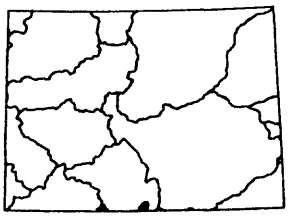
Irrigated land: 11,690 acres

Population:

Public supplied	100
Self supplied	200
Total	300

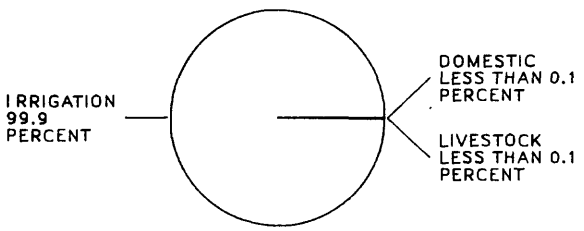
Population density:
1.37 persons per square mile

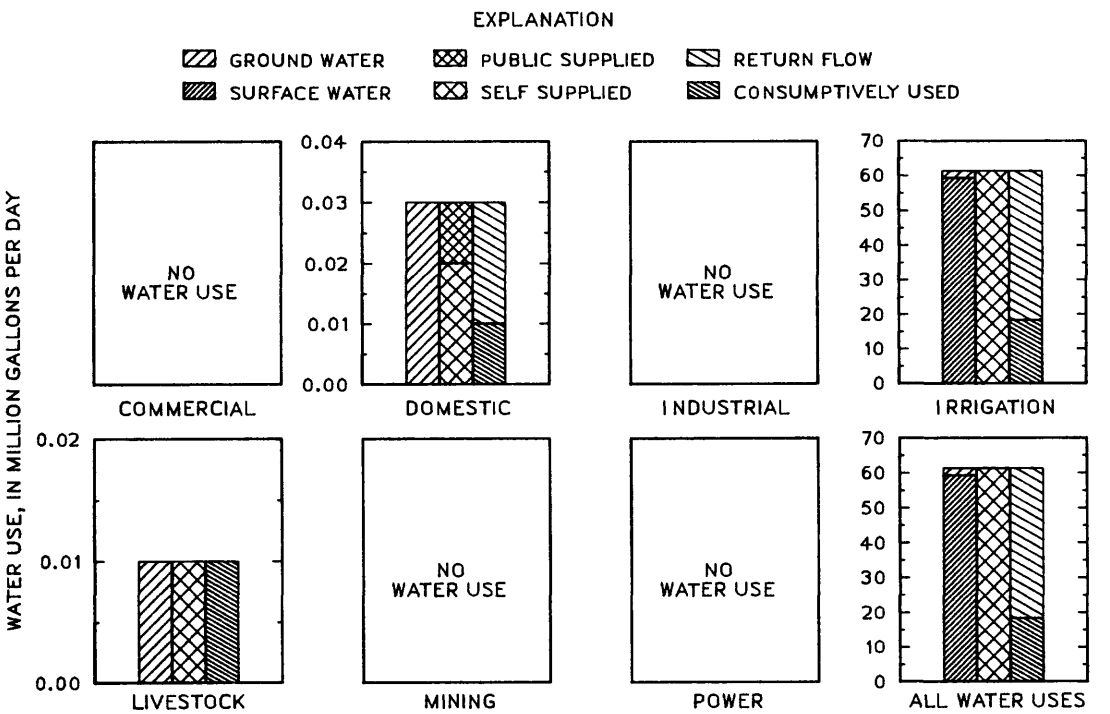
LOCATION MAP



Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.00
Domestic	0.03
Industrial	0.00
Irrigation	61.32
Livestock	0.01
Mining	0.00
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.00
Total	61.36





SUBREGION 1401--COLORADO HEADWATERS

Area: 9,801 square miles

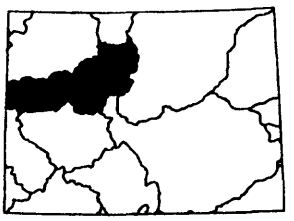
Irrigated land: 259,630 acres

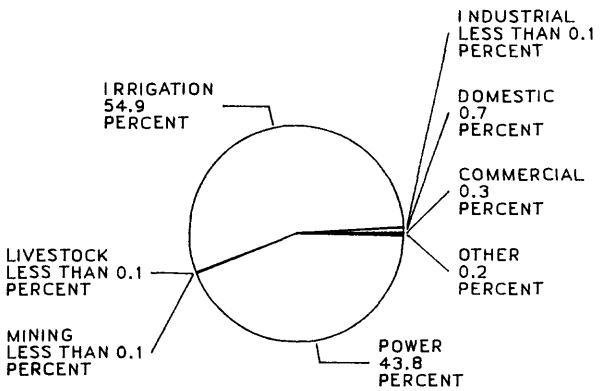
Population:

Public supplied	156,900
Self supplied	10,400
Total	167,300

Population density:
17.07 persons per square mile

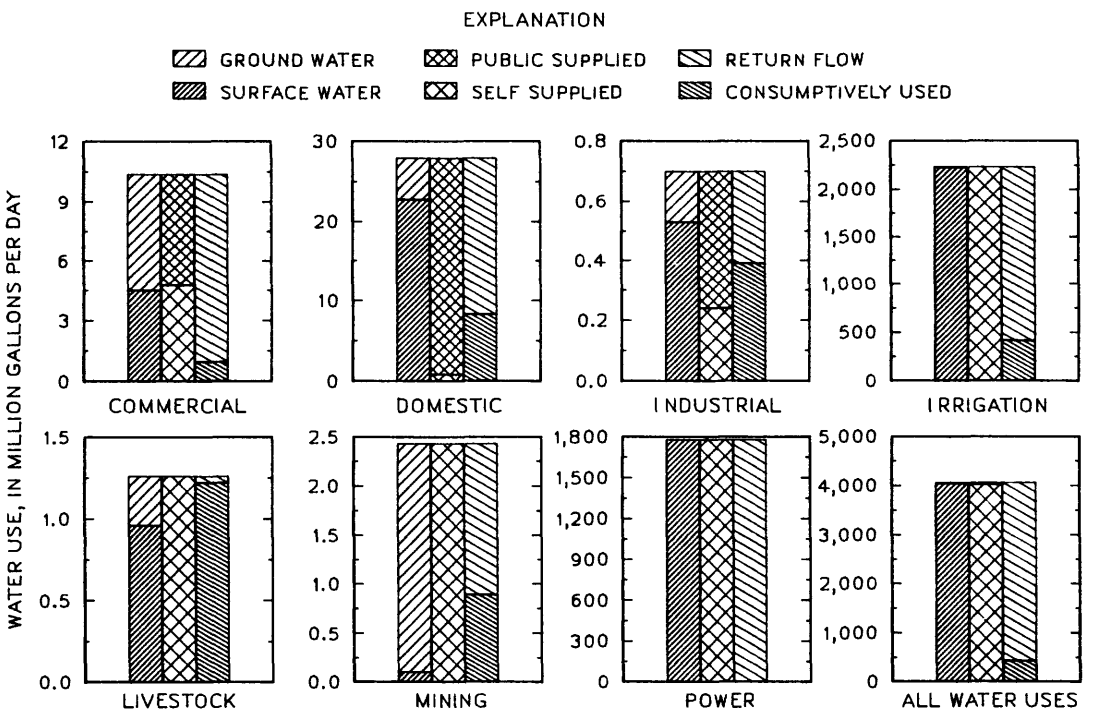
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	10.37
Domestic	27.90
Industrial	0.70
Irrigation	2,231.31
Livestock	1.26
Mining	2.43
Power:	
hydroelectric	1,774.75
thermoelectric	3.26
Other	9.17
Total	4,061.15



SUBREGION 1402--GUNNISON

Area: 7,970 square miles

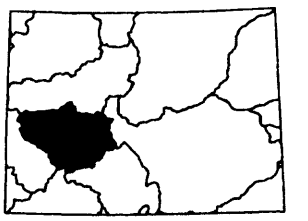
Irrigated land: 232,550 acres

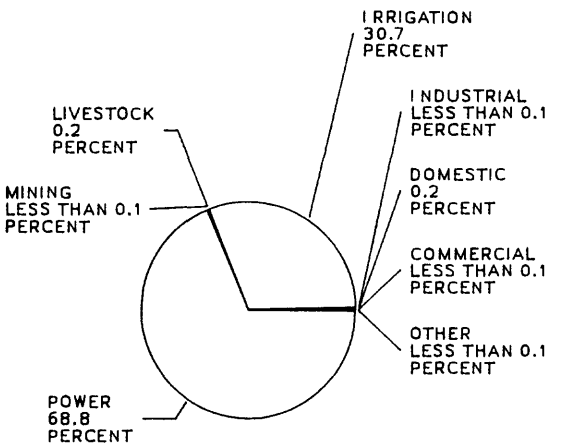
Population:

Public supplied	53,090
Self supplied	7,660
Total	60,750

Population density:
7.62 persons per square mile

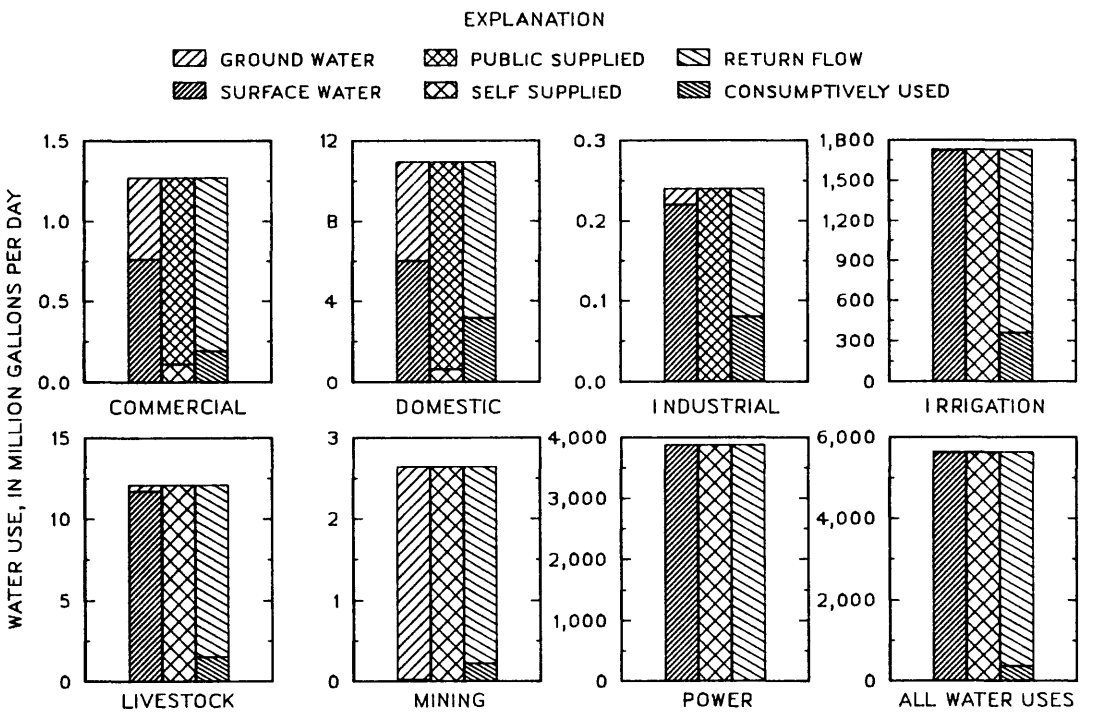
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	1.27
Domestic	10.93
Industrial	0.24
Irrigation	1,729.21
Livestock	12.09
Mining	2.64
Power:	
hydroelectric	3,876.36
thermoelectric	0.00
Other	1.80
Total	5,634.54



SUBREGION 1403--UPPER COLORADO-DOLORES

Area: 4,437 square miles

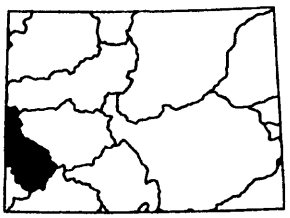
Irrigated land: 36,750 acres

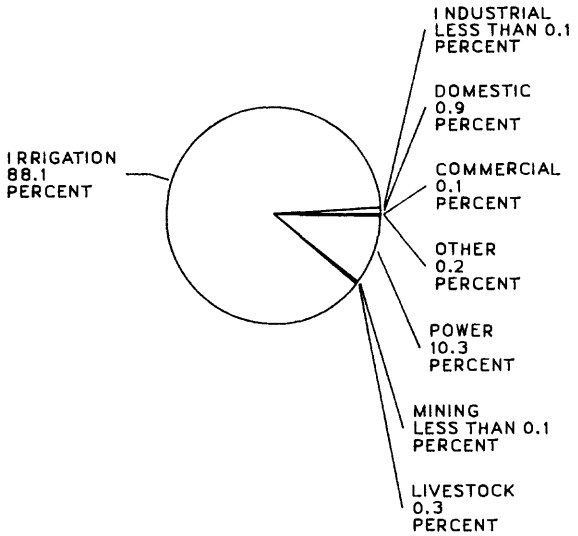
Population:

Public supplied	6,910
Self supplied	1,240
Total	8,150

Population density:
1.84 persons per square mile

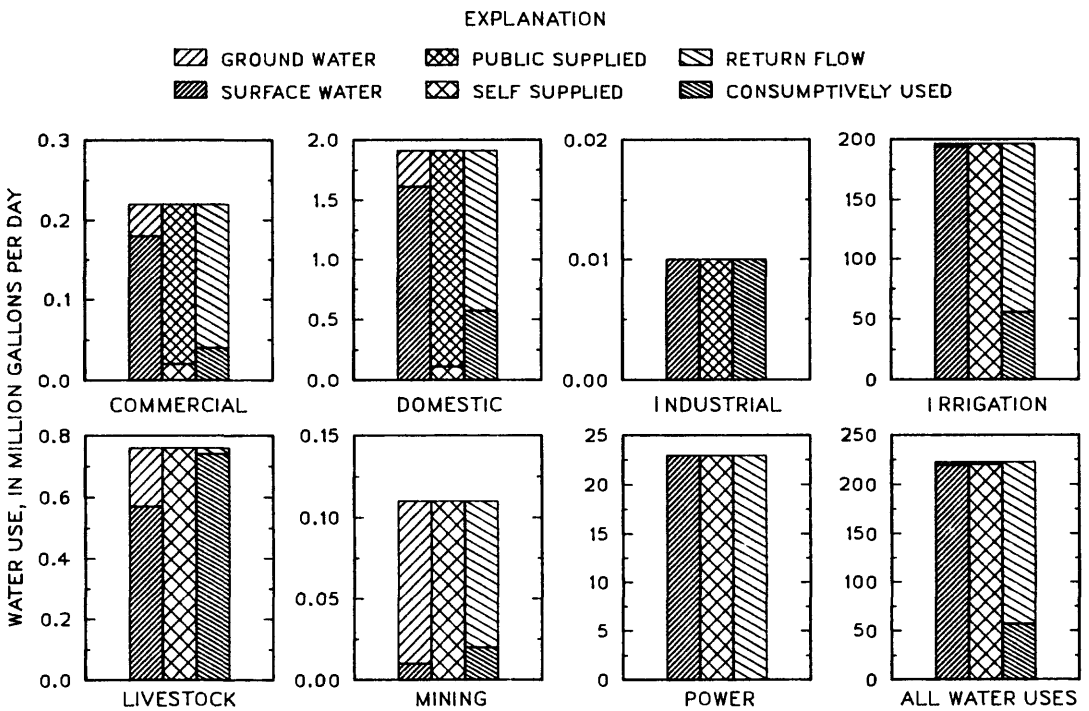
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.22
Domestic	1.91
Industrial	0.01
Irrigation	196.16
Livestock	0.76
Mining	0.11
Power:	
hydroelectric	22.94
thermoelectric	0.00
Other	0.44
Total	222.55



SUBREGION 1405--WHITE-YAMPA

Area: 9,728 square miles

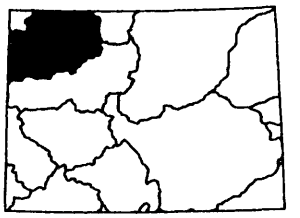
Irrigated land: 100,630 acres

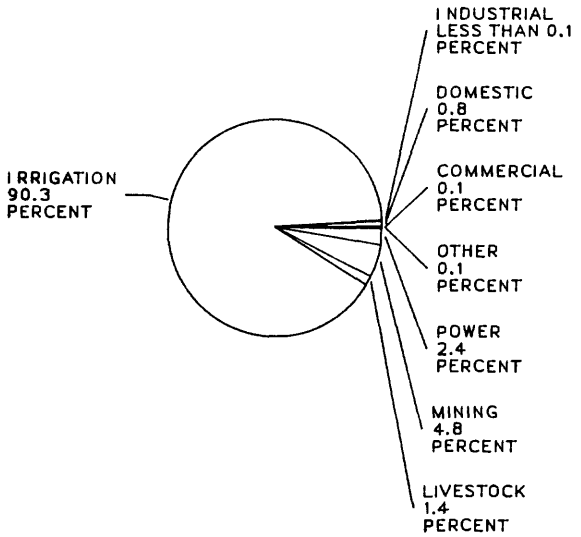
Population:

Public supplied	27,900
Self supplied	4,500
Total	32,400

Population density:
3.33 persons per square mile

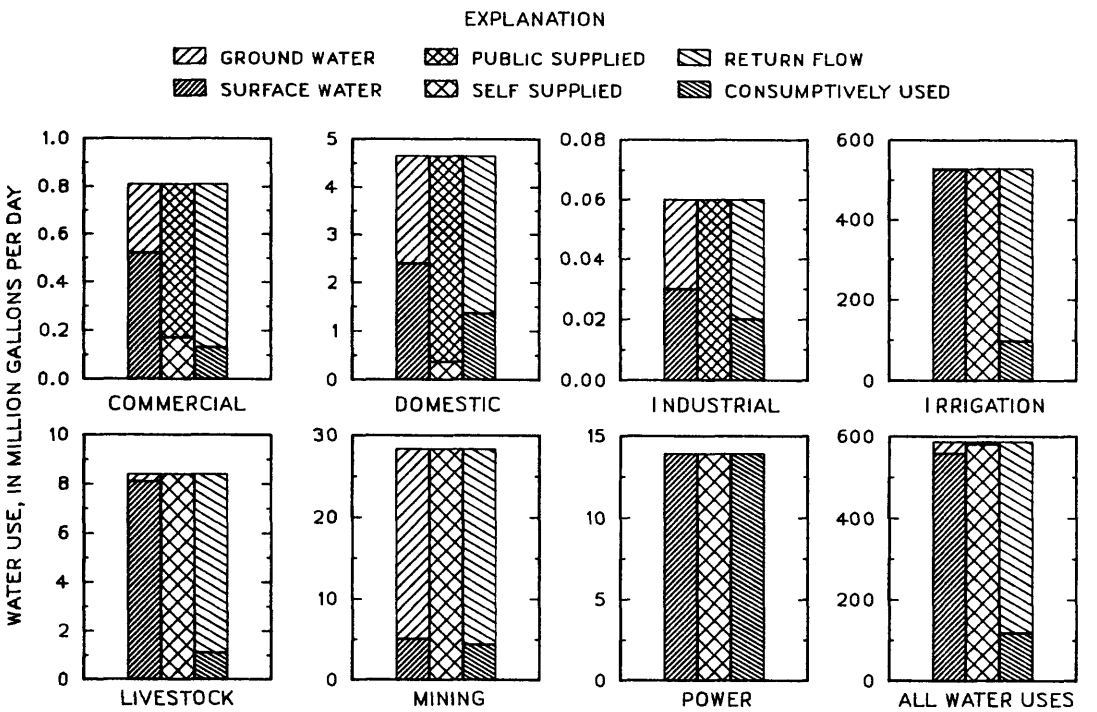
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.81
Domestic	4.65
Industrial	0.06
Irrigation	529.40
Livestock	8.40
Mining	28.35
Power:	
hydroelectric	0.00
thermoelectric	13.92
Other	0.82
Total	586.41



SUBREGION 1404--GREAT DIVIDE-UPPER GREEN

Area: 807 square miles

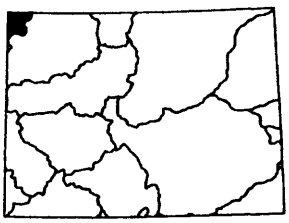
Irrigated land: 1,720 acres

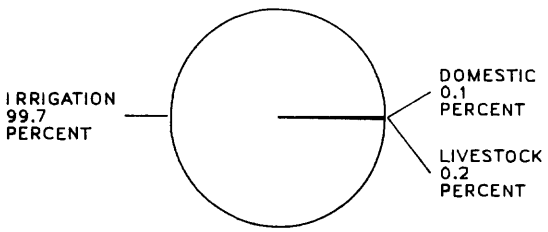
Population:

Public supplied	0
Self supplied	300
Total	300

Population density:
0.37 persons per square mile

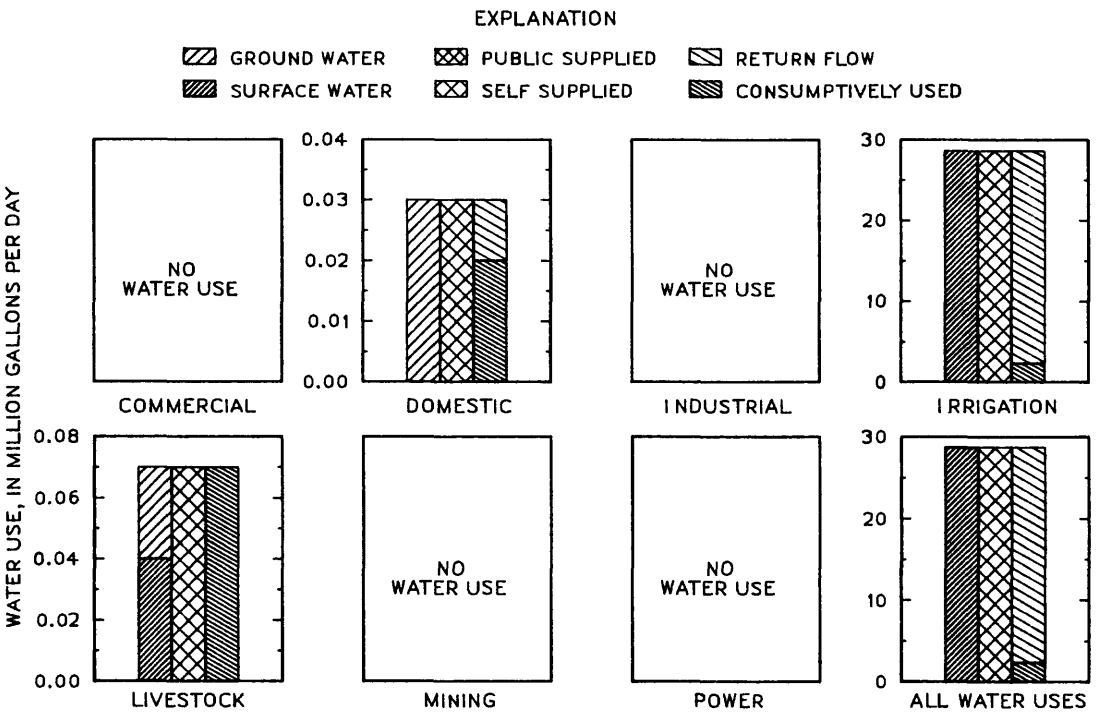
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.00
Domestic	0.03
Industrial	0.00
Irrigation	28.62
Livestock	0.07
Mining	0.00
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.00
Total	28.72



SUBREGION 1406--LOWER GREEN

Area: 94 square miles

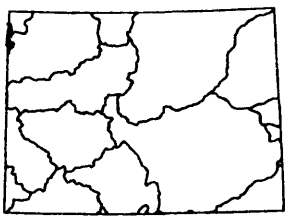
Irrigated land: NONE

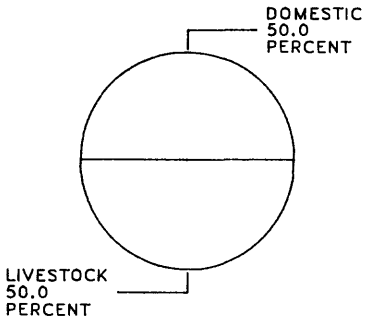
Population:

Public supplied	0
Self supplied	100
Total	100

Population density:
1.06 persons per square mile

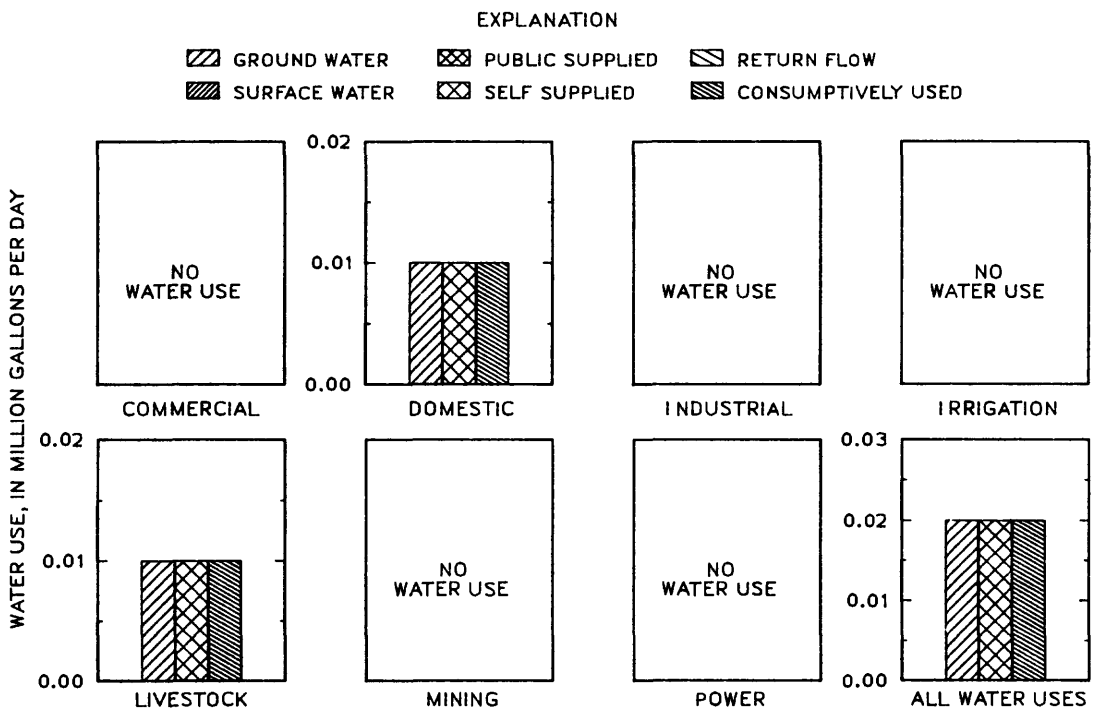
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	0.00
Domestic	0.01
Industrial	0.00
Irrigation	0.00
Livestock	0.01
Mining	0.00
Power:	
hydroelectric	0.00
thermoelectric	0.00
Other	0.00
Total	0.02



SUBREGION 1408--SAN JUAN

Area: 5,858 square miles

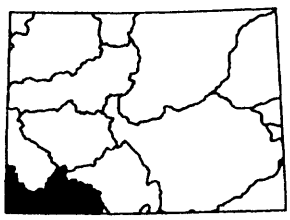
Irrigated land: 137,620 acres

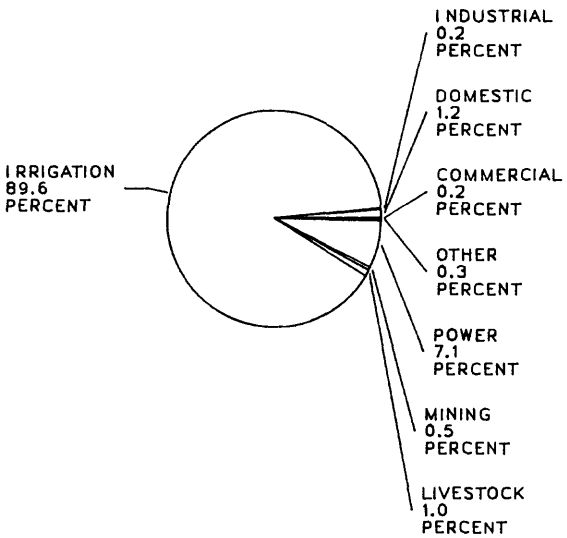
Population:

Public supplied	43,140
Self supplied	12,210
Total	55,350

Population density:
9.45 persons per square mile

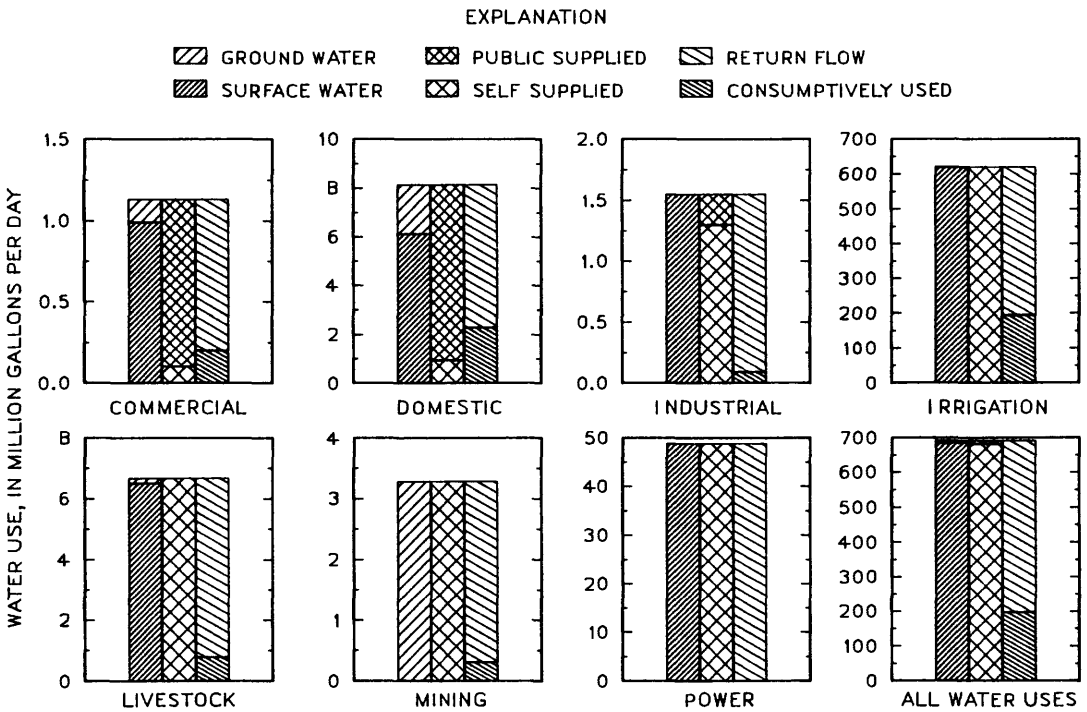
LOCATION MAP





Estimated water use

Use category	Water use (million gallons per day)
Commercial	1.13
Domestic	8.14
Industrial	1.55
Irrigation	619.90
Livestock	6.66
Mining	3.28
Power:	
hydroelectric	48.80
thermoelectric	0.00
Other	2.18
Total	691.64



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SUPPLEMENTAL DATA

County Water-Use Data Tables

Table 3.--*Public-supply-system data, by counties, 1985*

[Mgal/d, million gallons per day; CO, Commercial; DO, Domestic; IN, Industrial; PO, Power; OT, Other; gal/d, gallons per day]

County	Population served, in thousands			Water withdrawals, in Mgal/d			Water deliveries, by type of use, in Mgal/d					
	Source			Source								
	Ground water	Surface water	Total	Ground water	Surface water	Total	CO	DO	IN	PO	OT	Per capita use, in gal/d
Adams	65.6	202	268	11.2	43.6	54.8	8.75	35.8	1.34	0.00	8.81	204
Alamosa	8.87	.00	8.87	1.98	.00	1.98	.57	1.39	.00	.00	.02	223
Arapahoe	33.9	332	366	6.12	73.2	79.3	10.4	50.8	1.60	.00	16.5	217
Archuleta	.06	4.20	4.26	.01	.86	.87	.10	.64	.00	.00	.13	204
Baca	3.05	.00	3.05	.63	.00	.63	.05	.57	.00	.00	.01	206
Bent	3.40	.00	3.40	.51	.00	.51	.01	.49	.00	.00	.01	150
Boulder	4.52	199	204	.50	47.8	48.3	2.00	33.2	2.54	.00	10.6	237
Chaffee	6.13	3.24	9.37	2.10	1.58	3.68	.17	3.11	.00	.00	.40	393
Cheyenne	1.72	.00	1.72	.46	.00	.46	.02	.41	.00	.00	.03	267
Clear Creek	.56	5.18	5.74	.04	1.85	1.89	.15	1.19	.00	.00	.55	329
Conejos	3.82	.56	4.38	.76	.18	.94	.08	.77	.00	.00	.09	215
Costilla	1.99	.00	1.99	.25	.00	.25	.00	.24	.00	.00	.01	126
Crowley	2.71	.00	2.71	.42	.00	.42	.02	.39	.00	.00	.01	155
Custer	.96	.00	.96	.16	.00	.16	.01	.14	.00	.00	.01	166
Delta	8.66	11.5	20.2	2.48	3.11	5.59	.31	4.58	.13	.00	.57	277
Denver	.00	511	511	.00	150	150	36.9	79.4	3.70	3.77	25.9	293
Dolores	1.00	.00	1.00	.62	.00	.62	.01	.56	.00	.00	.05	619
Douglas	19.5	1.50	21.0	3.74	.45	4.19	.34	3.58	.05	.00	.22	199
Eagle	8.60	9.13	17.7	2.51	3.52	6.03	1.50	2.75	.00	.00	1.78	340
Elbert	2.18	.00	2.18	.34	.00	.34	.03	.30	.00	.00	.01	156
El Paso	78.6	271	350	11.4	70.7	82.2	13.1	45.8	1.83	2.36	19.1	235
Fremont	2.90	26.0	28.9	.27	6.42	6.69	1.03	3.73	.25	.00	1.68	231
Garfield	7.54	14.8	22.4	1.92	6.64	8.56	1.11	5.74	.03	.00	1.68	383
Gilpin	.00	.78	.78	.00	.22	.22	.05	.12	.00	.00	.05	282
Grand	1.63	5.66	7.29	.08	1.59	1.67	.26	1.12	.00	.00	.29	229
Gunnison	7.20	2.10	9.30	2.24	.53	2.77	.36	2.16	.02	.00	.23	298
Hinsdale	.25	.00	.25	.30	.00	.30	.05	.10	.00	.00	.15	1,200
Huerfano	.26	5.27	5.53	.03	2.16	2.19	.15	1.53	.03	.00	.48	396
Jackson	.20	.80	1.00	.08	.39	.47	.04	.30	.01	.00	.12	470
Jefferson	4.71	393	398	.67	80.2	80.8	10.7	55.2	.54	.00	14.4	203
Kiowa	1.27	.00	1.27	.15	.00	.15	.01	.13	.00	.00	.01	118
Kit Carson	5.76	.00	5.76	1.24	.00	1.24	.25	.96	.01	.00	.02	215
Lake	3.38	2.65	6.03	.75	.96	1.71	.30	1.20	.00	.00	.21	284
La Plata	3.43	16.9	20.3	.40	5.08	5.48	.49	3.81	.20	.00	.98	270
Larimer	6.52	160	166	.70	41.6	42.3	5.84	27.7	1.34	.00	7.44	255
Las Animas	.90	9.00	9.90	.15	1.88	2.03	.27	1.41	.01	.03	.31	205
Lincoln	3.61	.00	3.61	.63	.00	.63	.26	.34	.00	.00	.03	174
Logan	13.2	.00	13.2	3.35	.00	3.35	.51	2.31	.05	.00	.48	254
Mesa	2.26	85.7	88.0	.31	17.3	17.6	1.07	13.1	.41	.00	2.99	200
Mineral	.00	.60	.60	.00	.20	.20	.02	.14	.00	.00	.04	333

Table 3.--*Public-supply-system data, by counties, 1985*--Continued

County	Population served, in thousands			Water withdrawals, in Mgal/d			Water deliveries, by type of use, in Mgal/d					
	Source			Source								
	Ground water	Surface water	Total	Ground water	Surface water	Total	CO	DO	IN	PO	OT	Per capita use, in gal/d
Moffat	10.6	0.00	10.6	1.25	0.00	1.25	0.07	1.12	0.03	0.00	0.03	118
Montezuma	1.82	16.1	17.9	.20	3.56	3.76	.44	2.24	.06	.00	1.02	210
Montrose	1.20	22.8	24.0	.10	5.23	5.33	.42	3.90	.09	.00	.92	222
Morgan	18.6	.00	18.6	5.02	.00	5.02	.71	3.63	.55	.00	.13	270
Otero	21.5	.00	21.5	3.89	.00	3.89	.34	3.13	.16	.00	.26	181
Ouray	.21	1.47	1.68	.03	.39	.42	.07	.27	.00	.00	.08	250
Park	.25	.93	1.18	.03	.41	.44	.05	.27	.00	.00	.12	373
Phillips	3.50	.00	3.50	1.01	.00	1.01	.14	.72	.01	.00	.14	288
Pitkin	2.50	5.90	8.40	.66	3.76	4.42	1.25	1.34	.02	.00	1.81	526
Prowers	13.2	.00	13.2	2.59	.00	2.59	.23	2.19	.05	.00	.12	196
Pueblo	7.87	114	122	1.45	35.5	36.9	3.69	16.0	1.22	6.90	9.17	303
Rio Blanco	2.16	2.88	5.04	.65	.61	1.26	.08	.93	.00	.00	.25	250
Rio Grande	6.14	.00	6.14	1.55	.00	1.55	.13	1.33	.04	.00	.05	252
Routt	1.61	10.6	12.3	.24	3.07	3.31	.49	2.24	.03	.00	.55	270
Saguache	2.57	.00	2.57	.62	.00	.62	.07	.50	.02	.00	.03	241
San Juan	.03	.76	.79	.01	.27	.28	.03	.18	.00	.00	.07	354
San Miguel	.60	2.51	3.11	.14	.98	1.12	.11	.81	.00	.00	.20	360
Sedgwick	2.24	.00	2.24	.59	.00	.59	.09	.48	.00	.00	.02	263
Summit	3.38	10.0	13.4	1.05	3.09	4.14	.42	3.09	.00	.00	.63	308
Teller	2.81	4.87	7.68	.34	1.05	1.39	.13	1.08	.00	.00	.18	181
Washington	2.40	.00	2.40	.50	.00	.50	.05	.42	.02	.00	.01	208
Weld	15.4	95.2	111	3.22	31.6	34.8	5.31	22.0	1.35	.00	6.12	314
Yuma	5.56	.00	5.56	1.35	.00	1.35	.16	1.14	.00	.00	.05	243
Total	447	2,560	3,010	86.0	651	737	112	456	17.7	13.1	138	[1]245

[1]Average per capita use.

Table 4.--*Waste-water treatment facilities, by counties, 1985*

[Mgal/d, million gallons per day]

County	Number of facilities		Total releases by public facilities, in Mgal/d
	Public	Other	
Adams	11	27	162
Alamosa	2	4	.75
Arapahoe	4	12	22.9
Archuleta	4	2	.37
Baca	0	2	.00
Bent	1	2	.25
Boulder	9	29	25.0
Chaffee	1	10	.49
Cheyenne	1	0	.13
Clear Creek	5	12	1.00
Conejos	5	2	.34
Costilla	1	0	.05
Crowley	2	0	.04
Custer	1	0	.03
Delta	5	11	1.11
Denver	0	9	.00
Dolores	1	2	.04
Douglas	8	4	1.04
Eagle	8	6	4.41
Elbert	4	0	.16
El Paso	11	12	32.0
Fremont	2	12	2.50
Garfield	7	15	1.72
Gilpin	1	4	.09
Grand	6	4	.85

Table 4.--*Waste-water treatment facilities, by counties, 1985*--Continued

County	Number of facilities		Total releases by public facilities, in Mgal/d
	Public	Other	
Gunnison	4	8	1.32
Hinsdale	1	0	.04
Huerfano	2	3	.50
Jackson	1	5	.16
Jefferson	10	15	8.26
Kiowa	1	0	.05
Kit Carson	4	1	.44
Lake	3	7	.62
La Plata	13	10	2.08
Larimer	8	19	15.5
Las Animas	1	5	.80
Lincoln	4	0	.23
Logan	2	5	1.97
Mesa	7	16	7.30
Mineral	1	3	.07
Moffat	1	9	.65
Montezuma	6	3	.98
Montrose	9	8	1.62
Morgan	2	4	1.90
Otero	4	5	1.86
Ouray	2	5	.13
Park	2	4	.08
Phillips	2	0	.32
Pitkin	4	4	2.95
Prowers	2	2	.92

Table 4.--*Waste-water treatment facilities, by counties, 1985*--Continued

County	Number of facilities		Total releases by public facilities, in Mgal/d
	Public	Other	
Pueblo	6	10	12.6
Rio Blanco	2	0	.37
Rio Grande	3	8	1.33
Routt	8	16	1.66
Saguache	2	2	.24
San Juan	2	4	.09
San Miguel	2	4	.40
Sedgwick	3	0	.30
Summit	7	11	1.60
Teller	4	1	.15
Washington	2	0	.18
Weld	16	20	8.41
Yuma	2	1	.48
Total	255	399	336

Table 5.--*Commercial water use, by counties, in million gallons per day, 1985*

County	Self-supplied water withdrawals			Public-supplied water deliveries	Total	
	Source		Total		Withdrawals and deliveries	Consumptive use
	Ground water	Surface water				
Adams	0.20	0.00	0.20	8.75	8.95	3.03
Alamosa	.02	.00	.02	.57	.59	.09
Arapahoe	.42	.00	.42	10.4	10.8	1.62
Archuleta	.01	.00	.01	.10	.11	.02
Baca	.00	.00	.00	.05	.05	.01
Bent	.12	.00	.12	.01	.13	.02
Boulder	.19	.07	.26	2.00	2.26	.34
Chaffee	.13	.00	.13	.17	.30	.05
Cheyenne	.00	.00	.00	.02	.02	.00
Clear Creek	.06	.04	.10	.15	.25	.04
Conejos	.05	.00	.05	.08	.13	.02
Costilla	.01	.00	.01	.00	.01	.00
Crowley	.00	.00	.00	.02	.02	.00
Custer	.03	.00	.03	.01	.04	.00
Delta	.02	.00	.02	.31	.33	.05
Denver	.06	.00	.06	36.9	37.0	5.55
Dolores	.00	.00	.00	.01	.01	.01
Douglas	.18	.00	.18	.34	.52	.07
Eagle	.20	.00	.20	1.50	1.70	.26
Elbert	.03	.00	.03	.03	.06	.02
El Paso	.37	.00	.37	13.1	13.5	2.03
Fremont	.14	.00	.14	1.03	1.17	.17
Garfield	4.11	.00	4.11	1.11	5.22	.19
Gilpin	.03	.00	.03	.05	.08	.01
Grand	.16	.01	.17	.26	.43	.06
Gunnison	.07	.00	.07	.36	.43	.06
Hinsdale	.01	.01	.02	.05	.07	.01
Huerfano	.01	.00	.01	.15	.16	.02
Jackson	.01	.00	.01	.04	.05	.01
Jefferson	.25	.00	.25	10.7	11.0	3.27
Kiowa	.02	.00	.02	.01	.03	.00
Kit Carson	.02	.00	.02	.25	.27	.04
Lake	.01	.00	.01	.30	.31	.05
La Plata	.06	.02	.08	.49	.57	.09
Larimer	.08	.05	.13	5.84	5.97	.89
Las Animas	.01	.00	.01	.27	.28	.04
Lincoln	.00	.00	.00	.26	.26	.04
Logan	.03	.00	.03	.51	.54	.08
Mesa	.01	.04	.05	1.07	1.12	.16
Mineral	.18	.00	.18	.02	.20	.03
Moffat	.04	.00	.04	.07	.11	.02
Montezuma	.02	.00	.02	.44	.46	.08
Montrose	.01	.00	.01	.42	.43	.07
Morgan	.00	.00	.00	.71	.71	.10
Otero	.03	.00	.03	.34	.37	.06

Table 5.--*Commercial water use, by counties, in million gallons per day, 1985*--Continued

County	Self-supplied water withdrawals			Public-supplied water deliveries	Total	
	Source		Total		Withdrawals and deliveries	Consumptive use
	Ground water	Surface water				
Ouray	0.00	0.00	0.00	0.07	0.07	0.01
Park	.02	.00	.02	.05	.07	.02
Phillips	.00	.00	.00	.14	.14	.02
Pitkin	.06	.02	.08	1.25	1.33	.20
Prowers	.00	.00	.00	.23	.23	.03
Pueblo	.04	.00	.04	3.69	3.73	.57
Rio Blanco	.01	.00	.01	.08	.09	.02
Rio Grande	.07	.00	.07	.13	.20	.03
Routt	.12	.00	.12	.49	.61	.09
Saguache	.02	.00	.02	.07	.09	.01
San Juan	.00	.00	.00	.03	.03	.01
San Miguel	.01	.00	.01	.11	.12	.02
Sedgwick	.00	.00	.00	.09	.09	.03
Summit	.12	.02	.14	.42	.56	.08
Teller	.08	.00	.08	.13	.21	.04
Washington	.07	.00	.07	.05	.12	.02
Weld	.06	.00	.06	5.31	5.37	.80
Yuma	.03	.00	.03	.16	.19	.03
Total	8.12	.28	8.40	112	120	20.8

Table 6.--*Domestic water use, by counties, 1985*

[Mgal/d, million gallons per day; gal/d, gallons per day]

County	Self supplied					Public supplied			Total	
	Population, in thousands	Water withdrawals, in Mgal/d			Per capita use, in gal/d	Population served, in thousands	Water deliveries, in Mgal/d	Per capita use, in gal/d	With-drawals and de-liveries, in Mgal/d	Consump-tive use, in Mgal/d
		Source		Total						
		Ground water	Surface water							
Adams	8.57	0.64	0.00	0.64	74.7	268	35.8	134	36.5	16.4
Alamosa	3.63	.27	.00	.27	74.4	8.87	1.39	157	1.66	.60
Arapahoe	5.52	.27	.00	.27	48.9	366	50.8	139	51.1	15.3
Archuleta	.97	.08	.00	.08	82.5	4.26	.64	150	.72	.21
Baca	1.77	.15	.00	.15	84.8	3.05	.57	187	.72	.22
Bent	2.34	.19	.00	.19	81.2	3.40	.49	144	.68	.20
Boulder	6.71	.51	.00	.51	76.0	204	33.2	163	33.7	10.0
Chaffee	2.90	.22	.00	.22	75.9	9.37	3.11	332	3.33	.95
Cheyenne	.75	.07	.00	.07	93.5	1.72	.41	238	.48	.17
Clear Creek	1.99	.15	.00	.15	75.4	5.74	1.19	207	1.34	.37
Conejos	3.62	.27	.00	.27	74.6	4.38	.77	176	1.04	.26
Costilla	1.40	.11	.00	.11	78.6	1.99	.24	121	.35	.09
Crowley	.55	.04	.00	.04	72.9	2.71	.39	144	.43	.13
Custer	1.17	.09	.00	.09	77.0	.96	.14	146	.23	.07
Delta	3.81	.34	.00	.34	89.2	20.2	4.58	227	4.92	1.39
Denver	.00	.00	.00	.00	.00	511	79.4	155	79.4	23.8
Dolores	.58	.05	.00	.05	86.4	1.00	.56	559	.61	.18
Douglas	15.7	1.18	.00	1.18	75.1	21.0	3.58	170	4.76	1.18
Eagle	.53	.04	.00	.04	75.5	17.7	2.75	155	2.79	.83
Elbert	6.31	.48	.00	.48	76.1	2.18	.30	138	.78	.14
El Paso	18.7	1.42	.00	1.42	75.9	350	45.8	131	47.2	13.9
Fremont	1.40	.11	.00	.11	78.6	28.9	3.73	129	3.84	1.12
Garfield	2.78	.21	.00	.21	75.5	22.4	5.74	257	5.95	1.74
Gilpin	1.98	.14	.00	.14	70.7	.78	.12	154	.26	.05
Grand	2.37	.18	.00	.18	75.9	7.29	1.12	154	1.30	.37
Gunnison	1.87	.14	.00	.14	74.9	9.30	2.16	232	2.30	.67
Hinsdale	.16	.01	.00	.01	62.9	.25	.10	398	.11	.03
Huerfano	1.72	.13	.00	.13	75.6	5.53	1.53	277	1.66	.48
Jackson	.64	.05	.00	.05	78.1	1.00	.30	300	.35	.11
Jefferson	17.5	1.32	.00	1.32	75.5	398	55.2	139	56.5	16.7
Kiowa	.62	.06	.00	.06	96.9	1.27	.13	102	.19	.07
Kit Carson	2.03	.15	.00	.15	73.9	5.76	.96	167	1.11	.34
Lake	.95	.07	.00	.07	73.7	6.03	1.20	199	1.27	.37
La Plata	10.5	.78	.00	.78	74.2	20.3	3.81	187	4.59	1.21
Larimer	4.07	.30	.00	.30	73.7	166	27.7	167	28.0	8.35
Las Animas	4.39	.23	.00	.23	52.4	9.90	1.41	142	1.64	.45
Lincoln	1.04	.09	.00	.09	86.6	3.61	.34	94.2	.43	.13
Logan	6.63	.50	.00	.50	75.4	13.2	2.31	175	2.81	.76
Mesa	.60	.05	.00	.05	83.3	88.0	13.1	149	13.2	3.96
Mineral	.20	.02	.00	.02	101	.60	.14	233	.16	.04

Table 6.--*Domestic water use, by counties, 1985*--Continued

County	Self supplied					Public supplied			Total	
	Population, in thousands	Water withdrawals, in Mgal/d			Per capita use, in gal/d	Population served, in thousands	Water deliveries, in Mgal/d	Per capita use, in gal/d	Withdrawals and deliveries, in Mgal/d	Consumptive use, in Mgal/d
		Source		Total						
		Ground water	Surface water							
Moffat	2.01	0.16	0.00	0.16	79.6	10.6	1.12	106	1.28	0.37
Montezuma	.10	.01	.00	.01	100	17.9	2.24	125	2.25	.68
Montrose	1.56	.12	.00	.12	76.9	24.0	3.90	162	4.02	1.19
Morgan	4.26	.33	.00	.33	77.5	18.6	3.63	195	3.96	1.10
Otero	.76	.06	.00	.06	79.1	21.5	3.13	146	3.19	.95
Ouray	.33	.02	.00	.02	60.6	1.68	.27	161	.29	.08
Park	4.88	.37	.00	.37	75.8	1.18	.27	229	.64	.12
Phillips	1.03	.08	.00	.08	77.8	3.50	.72	206	.80	.23
Pitkin	3.74	.28	.00	.28	74.9	8.40	1.34	160	1.62	.43
Prowers	.95	.08	.00	.08	84.3	13.2	2.19	166	2.27	.69
Pueblo	5.26	.41	.00	.41	77.9	122	16.0	131	16.4	4.84
Rio Blanco	.98	.09	.00	.09	91.8	5.04	.93	185	1.02	.31
Rio Grande	5.32	.40	.00	.40	75.2	6.14	1.33	217	1.73	.43
Routt	2.41	.19	.00	.19	78.8	12.3	2.24	183	2.43	.71
Saguache	1.38	.10	.00	.10	72.5	2.57	.50	194	.60	.17
San Juan	.00	.00	.00	.00	.00	.79	.18	228	.18	.05
San Miguel	.40	.04	.00	.04	100	3.11	.81	260	.85	.25
Sedgwick	.88	.07	.00	.07	79.6	2.24	.48	214	.55	.21
Summit	.24	.02	.00	.02	83.3	13.4	3.09	230	3.11	.93
Teller	2.95	.24	.00	.24	81.4	7.68	1.08	141	1.32	.33
Washington	2.95	.23	.00	.23	78.0	2.40	.42	175	.65	.17
Weld	26.0	1.96	.00	1.96	75.5	111	22.0	199	24.0	6.81
Yuma	4.40	.33	.00	.33	75.0	5.56	1.14	205	1.47	.38
Total	222	16.7	.00	16.7	[1]75.3	3,010	456	[1]152	473	145

[1]Average per capita use.

Table 7.--*Industrial water use, by counties, in million gallons per day, 1985*

County	Self-supplied water withdrawals			Public-supplied water deliveries	Total	
	Source		Total		Withdrawals and deliveries	Consumptive use
	Ground water	Surface water				
Adams	0.54	0.06	0.60	1.34	1.94	0.71
Alamosa	.00	.00	.00	.00	.00	.00
Arapahoe	.14	.00	.14	1.60	1.74	.52
Archuleta	.00	.00	.00	.00	.00	.00
Baca	.00	.00	.00	.00	.00	.00
Bent	.00	.00	.00	.00	.00	.00
Boulder	.32	.00	.32	2.54	2.86	.86
Chaffee	.30	.30	.60	.00	.60	.18
Cheyenne	.00	.00	.00	.00	.00	.00
Clear Creek	.00	.00	.00	.00	.00	.00
Conejos	.00	.00	.00	.00	.00	.00
Costilla	.00	.00	.00	.00	.00	.00
Crowley	.00	.00	.00	.00	.00	.00
Custer	.00	.00	.00	.00	.00	.00
Delta	.00	.00	.00	.13	.13	.04
Denver	1.34	.00	1.34	3.70	5.04	1.51
Dolores	.00	.00	.00	.00	.00	.00
Douglas	.05	.90	.95	.05	1.00	.02
Eagle	.00	.00	.00	.00	.00	.00
Elbert	.01	.00	.01	.00	.01	.00
El Paso	.05	.00	.05	1.83	1.88	.56
Fremont	.00	.65	.65	.25	.90	.73
Garfield	.14	.00	.14	.03	.17	.17
Gilpin	.00	.00	.00	.00	.00	.00
Grand	.01	.00	.01	.00	.01	.01

Table 7.--*Industrial water use, by counties, in million gallons per day, 1985*--Continued

County	Self-supplied water withdrawals			Public-supplied water deliveries	Total	
	Source		Total		Withdrawals and deliveries	Consumptive use
	Ground water	Surface water				
Gunnison	0.00	0.00	0.00	0.02	0.02	0.01
Hinsdale	.00	.00	.00	.00	.00	.00
Huerfano	.00	.00	.00	.03	.03	.01
Jackson	.00	.00	.00	.01	.01	.00
Jefferson	2.09	38.0	40.1	.54	40.6	3.27
Kiowa	.00	.00	.00	.00	.00	.00
Kit Carson	.00	.00	.00	.01	.01	.00
Lake	.00	.00	.00	.00	.00	.00
La Plata	.00	.00	.00	.20	.20	.06
Larimer	.05	.05	.10	1.34	1.44	.43
Las Animas	.00	.00	.00	.01	.01	.00
Lincoln	.00	.00	.00	.00	.00	.00
Logan	.61	.00	.61	.05	.66	.07
Mesa	.02	.07	.09	.41	.50	.20
Mineral	.00	.00	.00	.00	.00	.00
Moffat	.00	.00	.00	.03	.03	.01
Montezuma	.00	.00	.00	.06	.06	.03
Montrose	.00	.00	.00	.09	.09	.03
Morgan	.00	.00	.00	.55	.55	.01
Otero	.50	.00	.50	.16	.66	.20
Ouray	.00	.00	.00	.00	.00	.00
Park	.00	.00	.00	.00	.00	.00
Phillips	.00	.00	.00	.01	.01	.00
Pitkin	.00	.00	.00	.02	.02	.01
Prowers	.30	.00	.30	.05	.35	.11

Table 7.--*Industrial water use, by counties, in million gallons per day, 1985*--Continued

County	Self-supplied water withdrawals			Public-supplied water deliveries	Total	
	Source		Total		Withdrawals and deliveries	Consumptive use
	Ground water	Surface water				
Pueblo	0.12	71.4	71.5	1.22	72.7	18.1
Rio Blanco	.00	.00	.00	.00	.00	.00
Rio Grande	.10	.00	.10	.04	.14	.04
Routt	.00	.00	.00	.03	.03	.01
Saguache	.01	.00	.01	.02	.03	.01
San Juan	.00	1.30	1.30	.00	1.30	.01
San Miguel	.00	.00	.00	.00	.00	.00
Sedgwick	.00	.00	.00	.00	.00	.00
Summit	.00	.00	.00	.00	.00	.00
Teller	.00	.00	.00	.00	.00	.00
Washington	.00	.00	.00	.02	.02	.01
Weld	.74	.20	.94	1.35	2.29	.49
Yuma	.00	.00	.00	.00	.00	.00
Total	7.44	113	120	17.7	138	28.4

Table 8.--*Irrigation water use, by counties, in thousand acre-feet per year and million gallons per day, 1985*

County	Irrigated land by type, in thousand acres		Thousand acre-feet per year						Million gallons per day					
			Withdrawals						Withdrawals					
			By source						By source					
	Spray	Flood	Ground water	Surface water	Re-claimed sewage	Total	Convey-ance losses	Consump-tive use	Ground water	Surface water	Re-claimed sewage	Total	Convey-ance losses	Consump-tive use
Adams	6.06	21.4	41.2	36.6	0.78	78.6	16.7	42.6	36.8	32.7	0.70	70.2	14.9	38.0
Alamosa	16.0	93.2	115	274	.00	389	115	171	102	245	.00	347	103	152
Arapahoe	3.39	1.52	8.88	1.01	.64	10.5	.85	7.07	7.92	.90	.57	9.39	.76	6.31
Archuleta	.53	8.22	.09	34.1	.00	34.2	2.19	10.9	.08	30.4	.00	30.5	1.95	9.72
Baca	8.86	50.2	98.8	.53	.00	99.3	10.1	45.9	88.1	.47	.00	88.6	8.99	41.0
Bent	.38	61.3	28.7	381	.00	409	155	170	25.6	340	.00	365	138	152
Boulder	.88	41.9	14.1	172	.00	186	69.6	89.0	12.6	154	.00	166	62.1	79.4
Chaffee	.92	17.4	.00	62.7	.00	62.7	25.1	26.3	.00	55.9	.00	55.9	22.4	23.5
Cheyenne	11.4	6.14	19.8	5.89	.00	25.7	3.40	20.1	17.7	5.25	.00	22.9	3.03	17.9
Clear Creek	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Conejos	3.83	137	32.4	558	.00	590	225	239	28.9	498	.00	526	200	213
Costilla	6.30	48.7	17.6	163	.00	180	69.4	67.5	15.7	145	.00	161	61.9	60.2
Crowley	.66	21.5	2.39	128	.00	130	51.2	54.3	2.13	114	.00	116	45.7	48.5
Custer	.63	16.2	.00	37.1	.00	37.1	14.8	15.5	.00	33.1	.00	33.1	13.2	13.9
Delta	1.01	85.1	3.00	841	.00	844	68.2	171	2.68	751	.00	753	60.8	153
Denver	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Dolores	.10	1.10	.19	5.64	.00	5.83	.62	1.64	.17	5.03	.00	5.20	.55	1.46
Douglas	1.87	1.64	2.40	6.48	.00	8.88	2.71	4.91	2.14	5.78	.00	7.92	2.42	4.38
Eagle	1.50	31.9	.64	244	.00	244	59.3	43.0	.57	217	.00	218	52.9	38.4
Elbert	2.43	2.58	8.54	2.85	.00	11.4	1.69	6.05	7.62	2.54	.00	10.2	1.51	5.40
El Paso	4.31	5.25	12.8	12.4	1.61	26.9	6.00	13.3	11.4	11.1	1.44	24.0	5.35	11.8
Fremont	.38	9.94	.36	51.7	.00	52.0	20.7	21.8	.32	46.1	.00	46.4	18.5	19.4
Garfield	2.93	59.0	2.65	609	.00	612	149	107	2.36	544	.00	546	133	95.4
Gilpin	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Grand	.61	31.0	.00	159	.00	159	39.5	25.4	.00	142	.00	142	35.3	22.7
Gunnison	.19	47.4	1.87	257	.00	259	19.5	55.3	1.67	229	.00	231	17.3	49.3
Hinsdale	.00	1.20	.00	3.67	.00	3.67	.35	.83	.00	3.27	.00	3.27	.31	.74
Huerfano	.02	12.0	4.58	56.7	.00	61.2	23.0	25.4	4.09	50.5	.00	54.6	20.5	22.7
Jackson	.03	100	.00	382	.00	382	95.4	151	.00	340	.00	340	85.1	134
Jefferson	.76	4.06	1.00	18.0	.78	19.8	7.24	10.0	.89	16.0	.70	17.6	6.46	8.94
Kiowa	2.29	1.51	8.22	.83	.00	9.05	.99	4.46	7.33	.74	.00	8.07	.88	3.98
Kit Carson	61.4	61.5	161	.00	.00	161	8.05	128	144	.00	.00	144	7.18	115
Lake	.00	4.72	.00	3.73	.00	3.73	1.49	1.56	.00	3.33	.00	3.33	1.33	1.39
La Plata	.98	82.0	1.00	404	.00	405	25.7	126	.89	360	.00	361	23.0	112
Larimer	7.92	99.0	70.3	257	.00	328	105	161	62.7	230	.00	292	93.5	144
Las Animas	1.60	28.4	6.22	157	.00	163	63.4	68.6	5.55	140	.00	146	56.6	61.2
Lincoln	1.49	1.61	6.59	.00	.00	6.59	.48	3.60	5.88	.00	.00	5.88	.43	3.21
Logan	19.2	76.7	82.2	182	.00	265	77.1	136	73.3	163	.00	236	68.7	121
Mesa	3.84	111	4.63	1,460	.00	1,460	319	289	4.13	1,300	.00	1,300	284	258
Mineral	.16	1.40	.00	2.51	.00	2.51	.57	.90	.00	2.24	.00	2.24	.51	.80

Table 8.--*Irrigation water use, by counties, in thousand acre-feet per year and million gallons per day, 1985*--Continued

County	Irrigated land by type, in thousand acres		Thousand acre-feet per year						Million gallons per day					
			Withdrawals						Withdrawals					
			By source						By source					
	Spray	Flood	Ground water	Surface water	Re-claimed sewage	Total	Convey-ance losses	Consump-tive use	Ground water	Surface water	Re-claimed sewage	Total	Convey-ance losses	Consump-tive use
Moffat	2.07	27.5	0.71	238	0.00	239	44.3	41.2	0.63	212	0.00	213	39.5	36.7
Montezuma	2.38	44.3	.78	264	.00	264	19.6	82.4	.70	235	.00	236	17.5	73.5
Montrose	1.45	78.6	4.48	740	.00	744	60.1	163	4.00	660	.00	664	53.7	145
Morgan	41.7	97.4	217	162	.00	379	75.7	209	194	145	.00	338	67.5	187
Otero	1.26	61.9	31.2	309	.00	340	126	142	27.8	276	.00	304	113	127
Ouray	.00	16.7	.00	62.9	.00	62.9	3.36	14.7	.00	56.1	.00	56.1	3.00	13.1
Park	.08	21.1	.00	32.3	.00	32.3	12.9	15.2	.00	28.8	.00	28.8	11.5	13.5
Phillips	46.8	24.1	102	1.20	.00	103	5.56	81.8	90.7	1.07	.00	91.8	4.96	72.9
Pitkin	.50	16.2	.00	69.6	.00	69.6	16.1	13.2	.00	62.1	.00	62.1	14.3	11.8
Prowers	17.2	96.5	132	367	.00	499	158	215	118	328	.00	446	141	192
Pueblo	5.50	31.1	28.3	141	.00	169	58.7	72.4	25.3	126	.00	151	52.4	64.6
Rio Blanco	.85	31.6	.82	219	.00	219	39.8	39.8	.73	195	.00	196	35.5	35.5
Rio Grande	33.2	99.5	119	220	.00	338	93.8	153	106	196	.00	302	83.6	137
Routt	.31	44.5	.98	181	.00	182	34.3	32.8	.87	162	.00	163	30.6	29.3
Saguache	39.2	114	174	333	.00	507	116	212	155	297	.00	452	103	190
San Juan	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
San Miguel	.45	10.8	.00	53.8	.00	53.8	3.62	16.3	.00	48.0	.00	48.0	3.23	14.6
Sedgwick	19.4	35.8	87.4	44.1	.00	132	22.0	69.7	78.0	39.4	.00	117	19.7	62.2
Summit	.00	6.63	.00	31.2	.00	31.2	7.62	5.24	.00	27.9	.00	27.9	6.80	4.67
Teller	.00	1.46	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Washington	30.3	10.1	50.3	3.44	.00	53.7	3.89	39.9	44.8	3.07	.00	47.9	3.47	35.6
Weld	42.5	386	369	1,080	1.69	1,450	452	727	329	967	1.50	1,300	403	649
Yuma	215	37.9	312	5.02	.00	317	17.6	258	278	4.48	.00	282	15.7	230
Total	674	2,680	2,390	11,500	5.50	13,900	3,220	5,120	2,130	10,300	4.91	12,400	2,880	4,570

Table 9.--*Livestock water use, by counties, in million gallons per day, 1985*

County	Withdrawals			Consumptive use
	By source		Total	
	Ground water	Surface water		
Adams	0.44	0.13	0.57	0.57
Alamosa	.15	.03	.18	.18
Arapahoe	.10	.01	.11	.11
Archuleta	.04	1.40	1.44	.17
Baca	.68	.04	.72	.72
Bent	.33	.29	.62	.61
Boulder	.06	.18	.24	.23
Chaffee	.02	.09	.11	.11
Cheyenne	.46	.08	.54	.54
Clear Creek	.00	.00	.00	.00
Conejos	.13	.39	.52	.50
Costilla	.04	.04	.08	.08
Crowley	.50	.20	.70	.69
Custer	.05	.08	.13	.13
Delta	.18	2.50	2.68	.42
Denver	.00	.00	.00	.00
Dolores	.02	.14	.16	.07
Douglas	.08	.09	.17	.17
Eagle	.06	.18	.24	.23
Elbert	.48	.15	.63	.63
El Paso	.34	.21	.55	.54
Fremont	.04	.08	.12	.12
Garfield	.12	.65	.77	.32
Gilpin	.00	.00	.00	.00
Grand	.05	.17	.22	.21

Table 9.--*Livestock water use, by counties, in million gallons per day, 1985*--Continued

County	Withdrawals			Consumptive use
	By source		Total	
	Ground water	Surface water		
Gunnison	0.05	3.41	3.46	0.39
Hinsdale	.00	.11	.11	.02
Huerfano	.05	.32	.37	.35
Jackson	.01	4.70	4.71	.46
Jefferson	.02	.05	.07	.07
Kiowa	.29	.11	.40	.40
Kit Carson	1.00	.25	1.25	1.24
Lake	.00	.01	.01	.01
La Plata	.08	2.90	2.98	.36
Larimer	.19	1.72	1.91	.88
Las Animas	.22	.43	.65	.65
Lincoln	.53	.17	.70	.70
Logan	.81	.46	1.27	1.25
Mesa	.11	1.71	1.82	.70
Mineral	.00	.00	.00	.00
Moffat	.19	2.04	2.23	.43
Montezuma	.04	2.15	2.19	.29
Montrose	.19	2.95	3.14	.69
Morgan	.92	.56	1.48	1.45
Otero	.38	.40	.78	.77
Ouray	.01	1.10	1.11	.11
Park	.00	.12	.12	.12
Phillips	.42	.06	.48	.48
Pitkin	.01	.04	.05	.05
Prowers	.30	.87	1.17	1.13

Table 9.--*Livestock water use, by counties, in million gallons per day, 1985*--Continued

County	Withdrawals			Consumptive use
	By source		Total	
	Ground water	Surface water		
Pueblo	0.30	0.39	0.69	0.68
Rio Blanco	.09	2.90	2.99	.38
Rio Grande	.10	.12	.22	.22
Routt	.07	2.73	2.80	.36
Saguache	.10	.87	.97	.33
San Juan	.00	.00	.00	.00
San Miguel	.05	.07	.12	.12
Sedgwick	.22	.08	.30	.30
Summit	.01	.03	.04	.04
Teller	.00	.02	.02	.02
Washington	.76	.14	.90	.90
Weld	2.65	3.42	6.07	5.90
Yuma	1.45	.21	1.66	1.66
Total	16.0	44.7	60.7	31.3

Table 10.--*Mining water use, by counties, in million gallons per day, 1985*

County	Withdrawals			Consumptive use
	By source		Total	
	Ground water	Surface water		
Adams	1.90	0.00	1.90	1.62
Alamosa	.00	.00	.00	.00
Arapahoe	1.55	.00	1.55	1.19
Archuleta	.11	.00	.11	.10
Baca	.05	.00	.05	.00
Bent	.03	.00	.03	.03
Boulder	.56	.01	.57	.54
Chaffee	.02	.00	.02	.00
Cheyenne	.64	.00	.64	.02
Clear Creek	7.04	5.70	12.7	.00
Conejos	.30	.00	.30	.00
Costilla	.00	.00	.00	.00
Crowley	.00	.00	.00	.00
Custer	.00	.00	.00	.00
Delta	.09	.00	.09	.08
Denver	.00	.00	.00	.00
Dolores	.03	.00	.03	.01
Douglas	.10	.00	.10	.10
Eagle	.03	.00	.03	.03
Elbert	.02	.00	.02	.02
El Paso	.27	.00	.27	.27
Fremont	.07	.00	.07	.07
Garfield	.39	.00	.39	.15
Gilpin	.01	.01	.02	.00
Grand	.03	.00	.03	.03

Table 10.--*Mining water use, by counties, in million gallons per day, 1985*--Continued

County	Withdrawals			Consumptive use
	By source		Total	
	Ground water	Surface water		
Gunnison	0.45	0.02	0.47	0.07
Hinsdale	.01	.00	.01	.00
Huerfano	.01	.00	.01	.00
Jackson	.39	.01	.40	.09
Jefferson	.80	.00	.80	.21
Kiowa	.71	.00	.71	.02
Kit Carson	.01	.00	.01	.01
Lake	1.73	14.3	16.0	3.11
La Plata	.17	.00	.17	.15
Larimer	1.15	.00	1.15	.92
Las Animas	.02	.35	.37	.01
Lincoln	.07	.00	.07	.03
Logan	1.84	.00	1.84	1.29
Mesa	1.13	.00	1.13	.52
Mineral	.46	.00	.46	.01
Moffat	1.72	.02	1.74	.96
Montezuma	.07	.00	.07	.04
Montrose	.08	.00	.08	.06
Morgan	1.17	.00	1.17	.28
Otero	.03	.00	.03	.03
Ouray	2.00	.00	2.00	.01
Park	1.01	.01	1.02	.00
Phillips	.00	.00	.00	.00
Pitkin	.71	.10	.81	.13
Prowers	.03	.00	.03	.03

Table 10.--*Mining water use, by counties, in million gallons per day, 1985*--Continued

County	Withdrawals			Consumptive use
	By source		Total	
	Ground water	Surface water		
Pueblo	0.27	0.00	0.27	0.27
Rio Blanco	21.0	2.84	23.8	2.86
Rio Grande	.07	.00	.07	.02
Routt	.57	2.20	2.77	.55
Saguache	.03	.01	.04	.01
San Juan	2.92	.01	2.93	.02
San Miguel	.05	.01	.06	.01
Sedgwick	.00	.00	.00	.00
Summit	.04	.00	.04	.03
Teller	.02	4.80	4.82	.50
Washington	4.07	.00	4.07	2.08
Weld	2.84	.00	2.84	2.37
Yuma	.03	.00	.03	.02
Total	60.9	30.4	91.3	21.0

Table 11.--*Thermoelectric power water use, by counties, 1985*

[Mgal/d, million gallons per day; GWh, gigawatt hours]

County	By source, in Mgal/d			Total, in Mgal/d		
	Self-supplied withdrawals		Public-supplied deliveries	Withdrawals and deliveries	Consumptive use	Total power generated in GWh
	Ground Water	Surface Water				
Adams	0.00	0.00	0.00	0.00	0.00	0.00
Alamosa	.00	.00	.00	.00	.00	.00
Arapahoe	.00	.00	.00	.00	.00	.00
Archuleta	.00	.00	.00	.00	.00	.00
Baca	.00	.00	.00	.00	.00	.00
Bent	.00	.00	.00	.00	.00	.00
Boulder	.00	2.83	.00	2.83	.01	691
Chaffee	.00	.00	.00	.00	.00	.00
Cheyenne	.00	.00	.00	.00	.00	.00
Clear Creek	.00	.00	.00	.00	.00	.00
Conejos	.00	.00	.00	.00	.00	.00
Costilla	.00	.00	.00	.00	.00	.00
Crowley	.00	.00	.00	.00	.00	.00
Custer	.00	.00	.00	.00	.00	.00
Delta	.00	.00	.00	.00	.00	5.67
Denver	.87	14.6	3.77	19.2	4.52	4,230
Dolores	.00	.00	.00	.00	.00	.00
Douglas	.00	.00	.00	.00	.00	.00
Eagle	.00	.00	.00	.00	.00	.00
Elbert	.00	.00	.00	.00	.00	.00

Table 11.--*Thermoelectric power water use, by counties, 1985*--Continued

County	By source, in Mgal/d			Total, in Mgal/d		
	Self-supplied withdrawals		Public-supplied deliveries	Withdrawals and deliveries	Consumptive use	Total power generated in GWh
	Ground Water	Surface Water				
El Paso	1.48	0.00	2.36	3.84	3.84	2,700
Fremont	.00	36.0	.00	36.0	.00	267
Garfield	.00	.00	.00	.00	.00	.00
Gilpin	.00	.00	.00	.00	.00	.00
Grand	.00	.00	.00	.00	.00	.00
Gunnison	.00	.00	.00	.00	.00	.00
Hinsdale	.00	.00	.00	.00	.00	.00
Huerfano	.00	.00	.00	.00	.00	.00
Jackson	.00	.00	.00	.00	.00	.00
Jefferson	.00	.00	.00	.00	.00	.00
Kiowa	.00	.00	.00	.00	.00	.00
Kit Carson	.00	.00	.00	.00	.00	.00
Lake	.00	.00	.00	.00	.00	.00
La Plata	.00	.00	.00	.00	.00	.00
Larimer	.00	3.66	.00	3.66	3.66	1,920
Las Animas	.00	.00	.03	.03	.00	5.83
Lincoln	.00	.00	.00	.00	.00	.00
Logan	.00	.00	.00	.00	.00	.00
Mesa	.00	3.26	.00	3.26	.03	300
Mineral	.00	.00	.00	.00	.00	.00
Moffat	.00	9.51	.00	9.51	9.51	6,470
Montezuma	.00	.00	.00	.00	.00	.00
Montrose	.00	.00	.00	.00	.00	.00
Morgan	5.29	.00	.00	5.29	5.29	3,010
Otero	.11	.00	.00	.11	.07	32.6

Table 11.--*Thermoelectric power water use, by counties, 1985*--Continued

County	By source, in Mgal/d			Total, in Mgal/d		Total power generated in GWh
	Self-supplied withdrawals		Public-supplied deliveries	Withdrawals and deliveries	Consumptive use	
	Ground Water	Surface Water				
Ouray	0.00	0.00	0.00	0.00	0.00	0.00
Park	.00	.00	.00	.00	.00	.00
Phillips	.00	.00	.00	.00	.00	.00
Pitkin	.00	.00	.00	.00	.00	.00
Prowers	6.16	.00	.00	6.16	.00	43.5
Pueblo	.00	20.0	6.90	26.9	5.70	3,620
Rio Blanco	.00	.00	.00	.00	.00	.00
Rio Grande	.00	.00	.00	.00	.00	.00
Routt	.00	4.41	.00	4.41	4.41	3,190
Saguache	.00	.00	.00	.00	.00	.00
San Juan	.00	.00	.00	.00	.00	.00
San Miguel	.00	.00	.00	.00	.00	.00
Sedgwick	.00	.00	.00	.00	.00	.00
Summit	.00	.00	.00	.00	.00	.00
Teller	.00	.00	.00	.00	.00	.00
Washington	.00	.00	.00	.00	.00	.00
Weld	.00	1.62	.00	1.62	.00	5.80
Yuma	.00	.00	.00	.00	.00	.16
Total	13.9	95.9	13.1	123	37.0	26,500

Table 12.--*Hydroelectric power water use, by counties, 1985*--Continued

County	Water use		Power generated, in GWh
	Mgal/d	Thousand acre-feet per year	
Gunnison	1,280	1,430	427
Hinsdale	13.4	15.1	3.84
Huerfano	.00	.00	.00
Jackson	.00	.00	.00
Jefferson	60.5	67.8	.57
Kiowa	.00	.00	.00
Kit Carson	.00	.00	.00
Lake	339	380	135
La Plata	48.8	54.7	39.3
Larimer	1,090	1,220	635
Las Animas	.00	.00	.00
Lincoln	.00	.00	.00
Logan	.00	.00	.00
Mesa	616	691	86.3
Mineral	.00	.00	.00
Moffat	.00	.00	.00
Montezuma	.00	.00	.00
Montrose	2,580	2,900	806
Morgan	.00	.00	.00
Otero	.00	.00	.00
Ouray	.00	.00	.00
Park	.00	.00	.00
Phillips	.00	.00	.00
Pitkin	.00	.00	.00
Prowers	.00	.00	.00

Table 12.--*Hydroelectric power water use, by counties, 1985*--Continued

County	Water use		Power generated, in GWh
	Mgal/d	Thousand acre-feet per year	
Gunnison	1,280	1,430	427
Hinsdale	13.4	15.1	3.84
Huerfano	.00	.00	.00
Jackson	.00	.00	.00
Jefferson	60.5	67.8	.57
Kiowa	.00	.00	.00
Kit Carson	.00	.00	.00
Lake	339	380	135
La Plata	48.8	54.7	39.3
Larimer	1,090	1,220	635
Las Animas	.00	.00	.00
Lincoln	.00	.00	.00
Logan	.00	.00	.00
Mesa	616	691	86.3
Mineral	.00	.00	.00
Moffat	.00	.00	.00
Montezuma	.00	.00	.00
Montrose	2,580	2,900	806
Morgan	.00	.00	.00
Otero	.00	.00	.00
Ouray	.00	.00	.00
Park	.00	.00	.00
Phillips	.00	.00	.00
Pitkin	.00	.00	.00
Prowers	.00	.00	.00

Table 12.--*Hydroelectric power water use, by counties, 1985*--Continued

County	Water use		Power generated, in GWh
	Mgal/d	Thousand acre-feet per year	
Pueblo	0.00	0.00	0.00
Rio Blanco	.00	.00	.00
Rio Grande	.00	.00	.00
Routt	.00	.00	.00
Saguache	.00	.00	.00
San Juan	.00	.00	.00
San Miguel	22.9	25.7	16.0
Sedgwick	.00	.00	.00
Summit	408	457	81.2
Teller	.00	.00	.00
Washington	.00	.00	.00
Weld	.00	.00	.00
Yuma	.00	.00	.00
Total	7,270	8,150	2,400

Table 13.--*Total water use, by counties, in million gallons per day (except where noted), 1985*

[gal/d, gallons per day]

County	Population in thousands	Per capita use in gal/d	Water use				
			By source			Total, excluding reclaimed sewage	Consumptive use
			Ground water	Surface water	Reclaimed sewage		
Adams	276	462	51.7	76.4	0.70	128	60.3
Alamosa	12.5	27,900	105	245	.00	349	153
Arapahoe	372	242	16.5	74.1	.57	90.6	24.9
Archuleta	5.23	6,290	.33	32.6	.00	33.0	10.1
Baca	4.82	18,700	89.6	.5	.00	90.1	41.9
Bent	5.74	63,900	26.7	340	.00	367	153
Boulder	211	1,130	14.8	224	.00	239	91.4
Chaffee	12.3	6,110	2.79	72.2	.00	75.0	24.8
Cheyenne	2.47	9,720	19.3	5.3	.00	24.6	18.6
Clear Creek	7.73	3,300	7.29	18.2	.00	25.5	.41
Conejos	8.00	66,100	30.4	498	.00	529	214
Costilla	3.39	47,600	16.1	145	.00	161	60.4
Crowley	3.26	35,900	3.09	114	.00	117	49.3
Custer	2.13	15,700	.33	33.2	.00	33.5	14.1
Delta	24.0	31,800	5.79	756	.00	762	155
Denver	511	326	2.27	164	.00	167	35.4
Dolores	1.58	3,830	.89	5.1	.00	6.06	1.72
Douglas	36.8	400	7.47	7.2	.00	14.7	5.92
Eagle	18.3	12,300	3.41	221	.00	224	39.7
Elbert	8.49	1,370	8.98	2.6	.00	11.7	6.19
El Paso	369	334	26.8	96.5	1.44	123	33.0
Fremont	30.3	2,980	.95	89.2	.00	90.2	21.6
Garfield	25.2	48,600	9.25	1,210	.00	1,220	98.0
Gilpin	2.76	149	.18	.2	.00	.41	.06
Grand	9.66	24,300	.51	234	.00	234	23.3
Gunnison	11.2	136,000	4.62	1,510	.00	1,520	50.5
Hinsdale	.41	41,800	.33	16.8	.00	17.2	.80
Huerfano	7.25	7,910	4.32	53.0	.00	57.3	23.5
Jackson	1.64	211,000	.54	345	.00	346	135
Jefferson	415	485	6.04	195	.70	201	32.4
Kiowa	1.89	4,600	8.56	.8	.00	9.41	4.45
Kit Carson	7.79	18,800	146	.2	.00	146	116
Lake	6.98	51,600	2.56	357	.00	360	4.93
La Plata	30.8	13,600	2.38	417	.00	420	114
Larimer	170	8,380	65.1	1,360	.00	1,430	159
Las Animas	14.3	10,400	6.18	143	.00	149	62.3
Lincoln	4.65	1,570	7.20	.1	.00	7.37	4.08
Logan	19.8	12,200	80.5	163	.00	244	124
Mesa	88.6	22,000	5.76	1,940	.00	1,940	264
Mineral	.80	3,870	.66	2.4	.00	3.10	.88
Moffat	12.6	18,000	3.99	224	.00	228	47.4
Montezuma	18.0	13,400	1.04	241	.00	242	74.6
Montrose	25.6	127,000	4.50	3,250	.00	3,260	147
Morgan	22.8	15,400	207	145	.00	352	195
Otero	22.2	13,900	32.8	276	.00	309	129

Table 13.--*Total water use, by counties, in million gallons per day (except where noted), 1985*--Continued

County	Population in thousands	Per capita use in gal/d	Water use				
			By source			Total, excluding reclaimed sewage	Consumptive use
			Ground water	Surface water	Reclaimed sewage		
Ouray	2.01	29,700	2.06	57.6	0.00	59.7	13.3
Park	6.06	5,080	1.43	29.4	.00	30.8	13.8
Phillips	4.53	20,600	92.2	1.1	.00	93.3	73.7
Pitkin	12.1	5,580	1.72	66.0	.00	67.7	12.6
Prowers	14.1	32,200	127	329	.00	456	194
Pueblo	127	2,210	27.9	253	.00	281	94.7
Rio Blanco	6.02	33,800	22.6	201	.00	224	39.1
Rio Grande	11.5	26,500	108	196	.00	304	137
Routt	14.7	12,000	2.06	174	.00	176	35.4
Saguache	3.95	115,000	156	298	.00	454	190
San Juan	.79	5,710	2.93	1.5	.00	4.51	.09
San Miguel	3.51	20,600	.29	72.0	.00	72.3	15.0
Sedgwick	3.12	37,900	78.9	39.5	.00	118	62.7
Summit	13.7	32,200	1.24	439	.00	440	5.75
Teller	10.6	616	.68	5.8	.00	6.55	.89
Washington	5.35	9,270	50.5	3.2	.00	53.7	36.7
Weld	137	9,840	340	1,000	1.50	1,340	665
Yuma	9.96	28,700	281	4.6	.00	286	232
Total	3,230	[1]6,440	2,340	18,500	4.91	20,800	4,840

[1]Average per capita use.

Hydrologic Subregion Water-Use Data Tables

Table 14.--*Public-supply-system data, by hydrologic subregions, 1985*

[Mgal/d, million gallons per day; CO, Commercial; DO, Domestic; IN, Industrial; PO, Power; OT, Other; gal/d, gallons per day]

Hydrologic subregion code	Population served, in thousands			Water withdrawals, in Mgal/d			Water deliveries, by type of use, in Mgal/d					
	Source			Source								
	Ground water	Surface water	Total	Ground water	Surface water	Total	CO	DO	IN	PO	OT	Per capita use, in gal/d
1018	0.20	0.80	1.00	0.08	0.39	0.47	0.04	0.30	0.01	0.00	0.12	470
1019	188	1,900	2,090	35.5	471	507	82.0	316	13.1	3.77	91.3	242
1025	18.2	.00	18.2	4.20	.00	4.20	.60	3.34	.04	.00	.22	230
1026	1.41	.00	1.41	.41	.00	.41	.02	.37	.00	.00	.02	291
1102	148	434	582	24.8	120	144	19.6	80.1	3.55	9.29	31.9	248
1103	.10	.00	.10	.01	.00	.01	.00	.01	.00	.00	.00	99.0
1104	3.15	.00	3.15	.65	.00	.65	.05	.59	.00	.00	.01	206
1108	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
1301	23.3	1.16	24.5	5.15	.38	5.53	.87	4.36	.06	.00	.24	226
1302	.10	.00	.10	.01	.00	.01	.00	.01	.00	.00	.00	99.0
1401	25.8	131	157	6.52	35.8	42.3	5.61	27.1	.46	.00	9.17	270
1402	17.0	36.1	53.1	5.11	8.39	13.5	1.16	10.3	.24	.00	1.79	254
1403	1.33	5.58	6.91	.21	2.24	2.45	.20	1.80	.01	.00	.44	355
1404	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
1405	14.4	13.5	27.9	2.14	3.68	5.82	.64	4.29	.06	.00	.83	209
1406	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
1408	6.24	36.9	43.1	1.22	9.45	10.7	1.03	7.21	.25	.00	2.18	247
Total	447	2,560	3,010	86.0	651	737	112	456	17.7	13.1	138	[1]245

[1]Average per capita use.

Table 15.--*Waste-water treatment facilities, by hydrologic subregions, 1985*

[Mgal/d, million gallons per day]

Hydrologic subregion code	Number of facilities		Total releases by public facilities, in Mgal/d
	Public	Other	
1018	1	5	0.16
1019	87	164	249
1025	12	2	1.45
1026	1	0	.13
1102	41	69	53.0
1103	0	0	.00
1104	0	2	.00
1108	0	0	.00
1301	14	19	2.78
1302	0	0	.00
1401	39	56	18.8
1402	20	27	4.02
1403	5	10	.71
1404	0	0	.00
1405	11	25	2.68
1406	0	0	.00
1408	24	20	3.45
Total	255	399	336

Table 16.--*Commercial water use, by hydrologic subregions, in million gallons per day, 1985*

Hydrologic subregion code	Self-supplied water withdrawals			Public-supplied water deliveries	Total	
	Source		Total		Withdrawals and deliveries	Consumptive use
	Ground water	Surface water				
1018	0.01	0.00	0.01	0.04	0.05	0.01
1019	1.72	.16	1.88	82.0	83.9	15.9
1025	.08	.00	.08	.60	.68	.10
1026	.00	.00	.00	.02	.02	.00
1102	.91	.00	.91	19.6	20.5	3.09
1103	.01	.00	.01	.00	.01	.00
1104	.00	.00	.00	.05	.05	.01
1108	.00	.00	.00	.00	.00	.00
1301	.35	.00	.35	.87	1.22	.18
1302	.00	.00	.00	.00	.00	.00
1401	4.67	.09	4.76	5.61	10.4	.95
1402	.10	.01	.11	1.16	1.27	.19
1403	.02	.00	.02	.20	.22	.04
1404	.00	.00	.00	.00	.00	.00
1405	.17	.00	.17	.64	.81	.13
1406	.00	.00	.00	.00	.00	.00
1408	.08	.02	.10	1.03	1.13	.20
Total	8.12	.28	8.40	112	120	20.8

Table 17.--*Domestic water use, by hydrologic subregions, 1985*

[Mgal/d, million gallons per day; gal/d, gallons per day]

Hydrologic subregion code	Self supplied					Public supplied			Total	
	Population, in thousands	Water withdrawals, in Mgal/d			Per capita use, in gal/d	Population served, in thousands	Water deliveries, in Mgal/d	Per capita use, in gal/d	Withdrawals and deliveries, in Mgal/d	Consumptive use, in Mgal/d
		Source		Total						
		Ground water	Surface water							
1018	1.14	0.09	0.00	0.09	78.9	1.00	0.30	300	0.39	0.12
1019	111	8.24	.00	8.24	74.2	2,090	316	151	325	101
1025	9.92	.74	.00	.74	74.6	18.2	3.34	183	4.08	1.14
1026	.62	.06	.00	.06	96.9	1.41	.37	262	.43	.14
1102	45.1	3.39	.00	3.39	75.1	582	80.1	138	83.5	24.5
1103	.27	.03	.00	.03	112	.10	.01	99.0	.04	.03
1104	2.08	.17	.00	.17	81.8	3.15	.59	187	.76	.21
1108	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
1301	14.9	1.11	.00	1.11	74.6	24.5	4.36	178	5.47	1.55
1302	.20	.02	.00	.02	101	.10	.01	99.0	.03	.01
1401	10.4	.79	.00	.79	76.0	157	27.1	173	27.9	8.23
1402	7.66	.62	.00	.62	80.9	53.1	10.3	194	10.9	3.15
1403	1.24	.11	.00	.11	88.7	6.91	1.80	260	1.91	.57
1404	.30	.03	.00	.03	101	.00	.00	.00	.03	.02
1405	4.50	.36	.00	.36	80.0	27.9	4.29	154	4.65	1.36
1406	.10	.01	.00	.01	102	.00	.00	.00	.01	.01
1408	12.2	.93	.00	.93	76.2	43.1	7.21	167	8.14	2.28
Total	222	16.7	.00	16.7	[1]75.3	3,010	456	[1]152	473	145

[1]Average per capita use.

Table 18.--Industrial water use, by hydrologic subregions, in million gallons per day, 1985

Hydrologic subregion code	Self-supplied water withdrawals			Public-supplied water deliveries	Total	
	Source		Total		Withdrawals and deliveries	Consumptive use
	Ground water	Surface water				
1018	0.00	0.00	0.00	0.01	0.01	0.00
1019	5.89	39.2	45.1	13.1	58.1	7.89
1025	.00	.00	.00	.04	.04	.01
1026	.00	.00	.00	.00	.00	.00
1102	1.27	72.4	73.6	3.55	77.2	19.9
1103	.00	.00	.00	.00	.00	.00
1104	.00	.00	.00	.00	.00	.00
1108	.00	.00	.00	.00	.00	.00
1301	.11	.00	.11	.06	.17	.05
1302	.00	.00	.00	.00	.00	.00
1401	.17	.07	.24	.46	.70	.39
1402	.00	.00	.00	.24	.24	.08
1403	.00	.00	.00	.01	.01	.01
1404	.00	.00	.00	.00	.00	.00
1405	.00	.00	.00	.06	.06	.02
1406	.00	.00	.00	.00	.00	.00
1408	.00	1.30	1.30	.25	1.55	.09
Total	7.44	113	120	17.7	138	28.4

Table 19.--*Irrigation water use, by hydrologic subregions, in thousand acre-feet per year and million gallons per day, 1985*

Hydrologic subregion code	Irrigated land by type, in thousand acres		Thousand acre-feet per year						Million gallons per day					
			Withdrawals						Withdrawals					
			By source						By source					
	Spray	Flood	Ground water	Surface water	Re-claimed sewage	Total	Convey-ance losses	Consump-tive use	Ground water	Surface water	Re-claimed sewage	Total	Convey-ance losses	Consump-tive use
1018	0.03	104	0.00	392	0.00	392	98.1	155	0.00	350	0.00	350	87.5	138
1019	141	777	863	1,990	3.89	2,850	838	1,450	770	1,770	3.47	2,550	747	1,300
1025	343	127	626	9.86	.00	635	35.2	495	558	8.80	.00	567	31.4	442
1026	25.0	20.1	52.6	5.52	.00	58.1	4.83	48.6	46.9	4.92	.00	51.8	4.31	43.3
1102	31.5	365	231	1,710	1.61	1,940	702	818	206	1,520	1.44	1,730	626	730
1103	.27	.28	1.30	.00	.00	1.30	.07	.68	1.16	.00	.00	1.16	.06	.61
1104	15.1	56.6	133	2.32	.00	135	14.2	64.2	118	2.07	.00	120	12.7	57.3
1108	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
1301	97.2	469	455	1,400	.00	1,860	583	807	406	1,250	.00	1,660	520	720
1302	1.34	10.4	2.33	66.4	.00	68.7	30.0	20.5	2.08	59.2	.00	61.3	26.8	18.3
1401	9.03	251	7.50	2,490	.00	2,500	588	462	6.69	2,220	.00	2,230	524	413
1402	2.51	230	7.36	1,930	.00	1,940	150	403	6.57	1,720	.00	1,730	134	359
1403	1.12	35.6	2.74	217	.00	220	19.8	62.1	2.44	194	.00	196	17.6	55.4
1404	.12	1.60	.00	32.1	.00	32.1	6.54	2.57	.00	28.6	.00	28.6	5.83	2.29
1405	3.12	97.5	2.52	591	.00	593	108	109	2.25	527	.00	529	96.1	97.2
1406	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
1408	3.86	134	1.72	693	.00	695	46.6	217	1.53	618	.00	620	41.6	194
Total	674	2,680	2,390	11,500	5.50	13,900	3,220	5,120	2,130	10,300	4.91	12,400	2,880	4,570

Table 20.--Livestock water use, by hydrologic subregions, in million gallons per day, 1985

Hydrologic subregion code	Withdrawals			Consumptive use
	By source		Total	
	Ground water	Surface water		
1018	0.04	5.80	5.84	0.59
1019	5.78	5.77	11.5	11.3
1025	3.66	.73	4.39	4.38
1026	.33	.04	.37	.37
1102	3.49	3.64	7.13	7.02
1103	.09	.02	.11	.11
1104	.71	.12	.83	.83
1108	.00	.00	.00	.00
1301	.50	.76	1.26	1.23
1302	.01	.00	.01	.01
1401	.30	.96	1.26	1.22
1402	.39	11.7	12.1	1.51
1403	.19	.57	.76	.74
1404	.03	.04	.07	.07
1405	.30	8.10	8.40	1.10
1406	.01	.00	.01	.01
1408	.16	6.50	6.66	.78
Total	16.0	44.7	60.7	31.3

Table 21.--*Mining water use, by hydrologic subregions, in million gallons per day, 1985*

Hydrologic subregion code	Withdrawals			Consumptive use
	By source		Total	
	Ground water	Surface water		
1018	0.39	0.01	0.40	0.09
1019	22.0	5.73	27.8	9.58
1025	2.14	.00	2.14	1.09
1026	.65	.00	.65	.03
1102	3.21	19.5	22.7	4.34
1103	.00	.00	.00	.00
1104	.05	.00	.05	.00
1108	.00	.00	.00	.00
1301	.85	.01	.86	.04
1302	.00	.00	.00	.00
1401	2.33	.10	2.43	.89
1402	2.62	.02	2.64	.22
1403	.10	.01	.11	.02
1404	.00	.00	.00	.00
1405	23.3	5.06	28.3	4.37
1406	.00	.00	.00	.00
1408	3.27	.01	3.28	.31
Total	60.9	30.4	91.3	21.0

Table 22.--Thermoelectric power water use, by hydrologic subregions, 1985

[Mgal/d, million gallons per day; GWh, gigawatt hours]

Hydrologic subregion code	By source, in Mgal/d			Total, in Mgal/d		Total power generated in GWh
	Self-supplied withdrawals		Public-supplied deliveries	Withdrawals and deliveries	Consumptive use	
	Ground Water	Surface Water				
1018	0.00	0.00	0.00	0.00	0.00	0.00
1019	6.16	22.7	3.77	32.6	13.5	9,850
1025	.00	.00	.00	.00	.00	.16
1026	.00	.00	.00	.00	.00	.00
1102	7.75	56.0	9.29	73.0	9.61	6,670
1103	.00	.00	.00	.00	.00	.00
1104	.00	.00	.00	.00	.00	.00
1108	.00	.00	.00	.00	.00	.00
1301	.00	.00	.00	.00	.00	.00
1302	.00	.00	.00	.00	.00	.00
1401	.00	3.26	.00	3.26	.03	300
1402	.00	.00	.00	.00	.00	5.67
1403	.00	.00	.00	.00	.00	.00
1404	.00	.00	.00	.00	.00	.00
1405	.00	13.9	.00	13.9	13.9	9,660
1406	.00	.00	.00	.00	.00	.00
1408	.00	.00	.00	.00	.00	.00
Total	13.9	95.9	13.1	123	37.0	26,500

Table 23.--Hydroelectric power water use, by hydrologic subregions, 1985

[Mgal/d, million gallons per day; GWh, gigawatt hours]

Hydrologic subregion code	Water use		Power generated, in GWh
	Mgal/d	Thousand acre-feet per year	
1018	0.00	0.00	0.00
1019	1,180	1,320	660
1025	.00	.00	.00
1026	.00	.00	.00
1102	368	412	165
1103	.00	.00	.00
1104	.00	.00	.00
1108	.00	.00	.00
1301	.00	.00	.00
1302	.00	.00	.00
1401	1,770	1,990	282
1402	3,880	4,350	1,240
1403	22.9	25.7	16.0
1404	.00	.00	.00
1405	.00	.00	.00
1406	.00	.00	.00
1408	48.8	54.7	39.3
Total	7,270	8,150	2,400

Table 24.--Total water use, by hydrologic subregions, in million gallons per day (except when noted), 1985

[gal/d, gallons per day]

Hydrologic subregion code	Population in thousands	Per capita use in gal/d	Water use				
			By source			Total, excluding reclaimed sewage	Consumptive use
			Ground water	Surface water	Reclaimed sewage		
1018	2.14	167,000	0.61	356	0.00	357	139
1019	2,200	1,980	855	3,500	3.47	4,350	1,450
1025	28.2	20,500	569	9.53	.00	578	447
1026	2.03	26,000	48.4	4.96	.00	53.3	43.9
1102	627	3,850	251	2,160	1.44	2,420	798
1103	.37	3,570	1.30	.02	.00	1.32	.75
1104	5.23	23,300	120	2.19	.00	122	58.3
1108	.00	.00	.00	.00	.00	.00	.00
1301	39.3	42,300	414	1,250	.00	1,660	723
1302	.30	205,000	2.12	59.2	.00	61.4	18.3
1401	167	24,300	21.5	4,040	.00	4,060	424
1402	60.8	92,700	15.4	5,620	.00	5,630	364
1403	8.15	27,300	3.07	219	.00	223	56.7
1404	.30	95,700	.06	28.7	.00	28.7	2.38
1405	32.4	17,400	28.5	558	.00	586	117
1406	.10	200	.02	.00	.00	.02	.02
1408	55.3	12,500	7.19	684	.00	692	197
Total	3,230	[1]6,440	2,340	18,500	4.91	20,800	4,840

[1]Average per capita use.

*U.S. GOVERNMENT PRINTING OFFICE: 1988-0-673-196/00001