



STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT



WATER RESOURCES
SPECIAL REPORT
No. 6

WATER USE IN LOUISIANA, 1990

Prepared by
U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY
In cooperation with
LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

1991

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By
John K. Lovelace
U.S. Geological Survey

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CONVERSION FACTORS

Multiply	By	To obtain
acre-foot (acre-ft)	0.00123	cubic hectometer
foot per year (ft/yr)	0.3048	meter per year
gallon per day (gal/d)	0.003785	cubic meter per day
gallon per minute (gal/min)	0.06308	liter per second
million gallons per day (Mgal/d)	3,785	cubic meters per day
	3.069	acre-feet per day
	1,120	acre feet per year
	1.547	cubic feet per second
	694.4	gallons per minute
	48.7934	million cubic feet per year

WATER USE IN LOUISIANA, 1990

by John K. Lovelace

ABSTRACT

In 1990, approximately 9,400 Mgal/d (million gallons per day) of water was withdrawn from ground- and surface-water sources in Louisiana. Total ground-water withdrawals were 1,300 Mgal/d, and total surface-water withdrawals were 8,000 Mgal/d. From 1985 to 1990, ground-water withdrawals in Louisiana decreased by 6.8 percent, and surface-water withdrawals decreased by 10 percent. Total water withdrawals in Louisiana decreased by 10 percent from 1985 to 1990.

Water withdrawal totals in 1990 for various categories of use were as follows: public supply, 630 Mgal/d; industry, 2,500 Mgal/d; power generation, 5,000 Mgal/d; rural domestic, 50 Mgal/d; livestock, 8.9 Mgal/d; rice irrigation, 650 Mgal/d; general irrigation, 62 Mgal/d; and aquaculture, 540 Mgal/d.

Forty-five percent (610 Mgal/d) of all ground water withdrawn was from the Chicot aquifer system. Another 21 percent (280 Mgal/d) was withdrawn from the Mississippi River alluvial aquifer. Seventy-two percent (5,800 Mgal/d) of all surface water withdrawn was from the Mississippi River.

INTRODUCTION

Background

Louisiana has abundant water resources in virtually every part of the State. Every day, large amounts of water are withdrawn from natural sources for public supply, industrial, power generation, rural domestic, livestock, irrigation, and aquaculture uses. Water-use data are essential to appraise effects of present use and plan future use of Louisiana's water resources. The U.S. Geological Survey, in cooperation with the Louisiana Department of Transportation and Development, has collected and published water withdrawal and use information on a 5-year basis since 1960.

Purpose and Scope

This report presents data from a 1990 inventory of water withdrawals in Louisiana. The report presents information on withdrawals from ground- and surface-water sources for use in public supply, industry, power generation,

rural domestic, livestock, irrigation, and aquaculture for each parish in Louisiana (fig. 1). Included in the report are tables of water use by category, parish, aquifer, and surface-water basin. The aquifers and aquifer systems in Louisiana for which ground-water withdrawals by aquifer are reported are presented in table 1 (D.J. Tomaszewski, U.S. Geological Survey, written commun., 1990). This report also presents trends in Louisiana water withdrawals based on data from previous 5-year reports since 1960.

Data in this report, with the exception of irrigation data, are based on water withdrawals made during the 1989 and 1990 calendar years. To facilitate the timely completion of this report, irrigation data from the 1989 growing season were used. The data are limited by the accuracy of the information reported by the individual facilities or users. All water-use data presented in this report are on file at the offices of the U.S. Geological Survey.

Presentation of Data

The 1990 water-use data in this report are aggregated by category of use, parish, water source, aquifer, and surface-water basin. The information is presented in several different formats to offer a complete description of water use in Louisiana. The section entitled "Water Use by Category" describes the 1990 water withdrawals for public supply, industry, power generation, rural domestic, livestock, irrigation, and aquaculture.

Following this section are graphical and tabular data for each parish, major aquifer, and surface-water basin in Louisiana. Data for the 64 parishes in Louisiana are presented by parish in alphabetical order. Water-use data are also presented for 13 major aquifers or aquifer systems and 10 surface-water basins in Louisiana. The aquifers are listed in order from youngest to oldest (table 1). The report also contains sections on total water withdrawals and trends in water withdrawals in Louisiana since 1960.

Previous Investigations

Previous 5-year investigations have been published in a series entitled, "Pumpage of Water in Louisiana," for the appropriate year (Snider and Forbes, 1961; Bieber and Forbes, 1966; Dial, 1970; Cardwell and Walter, 1979; Walter, 1982; and Lurry, 1987). In addition, Lurry (1985) and Stuart and Lurry (1988) discuss specific information about public water supplies in Louisiana.

Acknowledgments

This report was made possible with the assistance and cooperation of personnel at water-supply, industrial, and power-generation facilities throughout Louisiana. Special thanks are due to Z. "Bo" Bolourchi, Chief, Water Resources Section, Louisiana Department of Transportation and Development, who contributed significantly to the design and format of the report. The Capital Area Ground Water Conservation Commission provided information on the five-parish area under its jurisdiction. The Louisiana Cooperative Extension Service specialists and County Agents provided livestock, irrigation, and



Figure 1.--Parishes in Louisiana.

Table 1.--Geohydrologic column of aquifers and aquifer systems in Louisiana

[Modified from Smoot, 1989]

System	Series	Stratigraphic unit		Geohydrologic unit				
				Northern, central, and southwestern Louisiana	Southeastern Louisiana	Baton Rouge area	St. Tammany and Tangipahoa Parishes	
Quaternary	Holo-cene	Unnamed flood plain, beach, and marsh deposits		Unnamed aquifer	Unnamed aquifer	Unnamed aquifer	Shallow aquifer	
	?	Red River alluvial deposits		Red River alluvial aquifer	Mississippi River alluvial aquifer	Shallow aquifer		
	Plei-sto-cene	Mississippi River alluvial deposits		Mississippi River alluvial aquifer		Chicot equivalent/ southeast Louisiana aquifer system	"400-foot" aquifer	Upper Ponchatoula aquifer
		Northern Louisiana terrace deposits		Northern Louisiana terrace aquifer	"600-foot" aquifer			
		Unnamed Pleistocene deposits		Chicot aquifer system				
Tertiary	Plio-cene	Fleming Formation	Blounts Creek Member	Evangeline aquifer	Evangeline equivalent/ southeast Louisiana aquifer system	"800-foot" aquifer	Lower Ponchatoula aquifer	
			Castor Creek Member			Castor Creek confining unit		Unnamed confining unit
	Williamson Creek Member		Jasper aquifer system	Williamson Creek aquifer	Jasper equivalent/ southeast Louisiana aquifer system	"1,200-foot" aquifer	Tchefuncta aquifer	
	Dough Hills Member			Dough Hills confining unit		"2,000-foot" aquifer		
	Carnahan Bayou Member			Carnahan Bayou aquifer		"2,400-foot" aquifer		
	Lena Member		Lena confining unit	Unnamed confining unit	"2,800-foot" aquifer	Ramsay aquifer		
	?	Catahoula Formation		Catahoula aquifer	Catahoula equivalent/ southeast Louisiana aquifer system	Unnamed aquifer	Franklinton aquifer	
	Olig-ocene	Vicksburg Group, undifferentiated		Vicksburg confining unit	No freshwater occurs in deposits older than Miocene in southeastern Louisiana.			
		Jackson Group, undifferentiated		Jackson confining unit				
	Eo-cene	Claiborne Group	Cockfield Formation	Cockfield aquifer				
			Cook Mountain Formation	Cook Mountain confining unit				
			Sparta Formation	Sparta aquifer				
			Cane River Formation	Cane River confining unit				
			Carrizo Sand	Carrizo-Wilcox aquifer				
	?							
Pal-eco-cene	Wilcox Group, undifferentiated		Midway confining unit					
	Midway Group, undifferentiated							

aquaculture information. The U.S. Agricultural Stabilization and Conservation Service assisted with the collection of representative irrigation information from more than 6,000 farmers. The Sabine River Compact Administration provided information for the Sabine River-Toledo Bend Reservoir System. The U.S. Army Corps of Engineers provided information for the Sydney Murray, Jr., hydroelectric plant on the Mississippi River. The Louisiana State Planning Office and the U.S. Bureau of the Census provided information on parish and municipality populations and livestock populations. The U.S. Farmers Home Administration and the Louisiana Rural Water Works Association provided lists of rural water-supply facilities. The Louisiana Department of Health and Hospitals provided extensive lists of public and bottled water suppliers.

DATA COLLECTION

Information for public supply, industrial, and power generation facilities was primarily obtained directly from the facilities. A master list was created by combining lists from several sources. These sources included the following: lists of public and bottled water suppliers from the Louisiana Department of Health and Hospitals, lists of rural water suppliers from the U.S. Farmers Home Administration and the Louisiana Rural Water Association, and the "1990-91 Directory of Louisiana Manufacturers" (Louisiana Department of Economic Development, 1990).

Representative data for irrigation, collected by the U.S. Agricultural Stabilization and Conservation Service directly from farmers, were used to estimate total withdrawals based on crop acreage inventories made by the Louisiana Cooperative Extension Service. Aquaculture acreage and application rates also were obtained from the Louisiana Cooperative Extension Service and the Louisiana Department of Wildlife and Fisheries. Population data used for livestock and rural domestic use were obtained from reports by the U.S. Bureau of Census (1990; 1988; 1983). For consistency and comparability with past water-use reports, the per capita use rates for livestock from previous reports were used to estimate withdrawals for livestock. A per capita rural domestic water-use estimate of 80 gallons per person per day (Lurry, 1987) was used to estimate total rural domestic use.

The information for public supply, industrial, and power generation facilities was collected on a site-specific basis, that is, the location of the facility was known and recorded with the withdrawal data. The information for rural domestic, livestock, irrigation, and aquaculture withdrawals was estimated on a parish-wide basis, without the exact location of each user known. This type of information is referred to as aggregated withdrawals and was divided into the appropriate aquifers and surface-water basins with the use of well registration inventories and information from Louisiana Cooperative Extension Service agents in each parish. Estimated-use-rates were used to estimate withdrawal rates for some of the aggregated data when information was unavailable. Withdrawal estimates were also made for a few facilities when actual withdrawal information was unavailable.

Information obtained was input into a water-use data base at the U.S. Geological Survey. Withdrawal data were converted to millions of gallons

per day before input into the data base. Seasonal withdrawal, such as for irrigation and sugar cane processing, was prorated for the entire year. All withdrawal information in this report was retrieved from the data base. Tabulation totals in different sections of the report may differ slightly due to rounding.

WATER USE BY CATEGORY

Water use is defined in this report as water withdrawn or diverted from a ground- or surface-water source to be used for public supply, industry, power generation, rural domestic, livestock, irrigation, and aquaculture. The following definitions are included to clarify water-use terms discussed in this report:

Public-supply withdrawal refers to water withdrawn and delivered to a group of users by public and private water suppliers. The water is used for a variety of purposes such as domestic, commercial, industrial, and public water use.

Industrial withdrawal refers to water withdrawn for industrial purposes such as process and production water, boiler feed, air conditioning, cooling, sanitation, washing, and steam generation.

Power-generation withdrawal refers to water withdrawn for thermoelectric power-generation purposes such as cooling, sanitation, washing, and steam generation. Use of water for hydroelectric power generation is considered an instream use and not a withdrawal. Therefore, hydroelectric power-generation use is not included in surface-water withdrawals in this report, but is reported as an instream use.

Once-through cooling, refers to the one-time use of water for cooling and other industrial uses. Water used in this manner is usually returned to the source and little, if any, water is consumed.

Rural-domestic withdrawal refers to water withdrawn by a person or family for personal home use. These users are often in rural areas where public supplies are unavailable.

Livestock withdrawal refers to water withdrawn for use in the production of cattle, horses, sheep, swine, poultry, and other animals. The water can be used for livestock consumption, sanitation, and other on-farm needs.

Irrigation refers to any withdrawal of water for application to vegetation. This includes application to field crops, such as rice, corn, and cotton, fruit crops, and nurseries, as well as special applications such as the watering of golf courses and sporting fields.

Aquaculture withdrawal refers to the withdrawal of water for fish, crawfish, and alligator farming. Instream fish farming is not included in this category.

Instream use refers to the use of surface water without removal from its natural environment. Common instream uses include hydroelectric power generation, fishing, and navigation. Instream use is not included in surface water totals of this report because the water is not withdrawn.

Miscellaneous streams refers to surface-water sources from which water is withdrawn for the aggregated use categories, livestock, irrigation, and aquaculture, when specific water-body sources were not identified. The term, miscellaneous streams, also is used to indicate sources such as streams, lakes, bayous, and canals for which withdrawals would be insignificant if listed individually.

Standard Industrial Classification (SIC) is the standard used by Federal agencies for the classification of establishments by type of activity in which they are engaged. The SIC was created by the U.S. Office of Management and Budget to facilitate comparisons of economic statistics by the various government agencies (Office of Management and Budget, 1987).

Public Supply

Approximately 3.8 million people residing in Louisiana in 1990 (U.S. Bureau of Census, 1988) used about 630 Mgal/d of water provided by public suppliers (fig. 2). This water accounted for about 6.7 percent of the total water withdrawn in the State. The per capita use of this water was 160 gal/d. Of the 630 Mgal/d, about 280 Mgal/d came from ground-water sources, and about 340 Mgal/d came from surface-water sources. Eighty-six percent of the total Louisiana population is supplied with water from a public supplier. Of this percentage, 55 percent were supplied with water from a ground-water source and 45 percent were supplied with water from a surface-water source.

All of the major aquifers and aquifer systems in Louisiana were used as sources of public-supply water. However, the chief sources of ground water were the Sparta aquifer in northern Louisiana, the Jasper aquifer system in central Louisiana, the Chicot aquifer system in southwestern Louisiana, and the Jasper equivalent and Evangeline equivalent/southeast Louisiana aquifer systems in southeastern Louisiana.

The Mississippi River provided the largest source of surface water for public supplies; 240 Mgal/d of Mississippi River water were supplied primarily to parishes in southeastern Louisiana where ground-water supplies are limited or unavailable. Orleans Parish, with the largest parish population of 0.53 million (U.S. Bureau of Census, 1988), had the highest withdrawal, 130 Mgal/d, by public suppliers (fig. 3).

Public-supply withdrawals decreased by approximately 1.0 percent from 1985 to 1990, which reflect the State's population decrease of 1.6 percent from 1985 to 1988. Ground-water use increased by 1.0 percent, and surface-water use decreased by about 2.1 percent from 1985 to 1990.

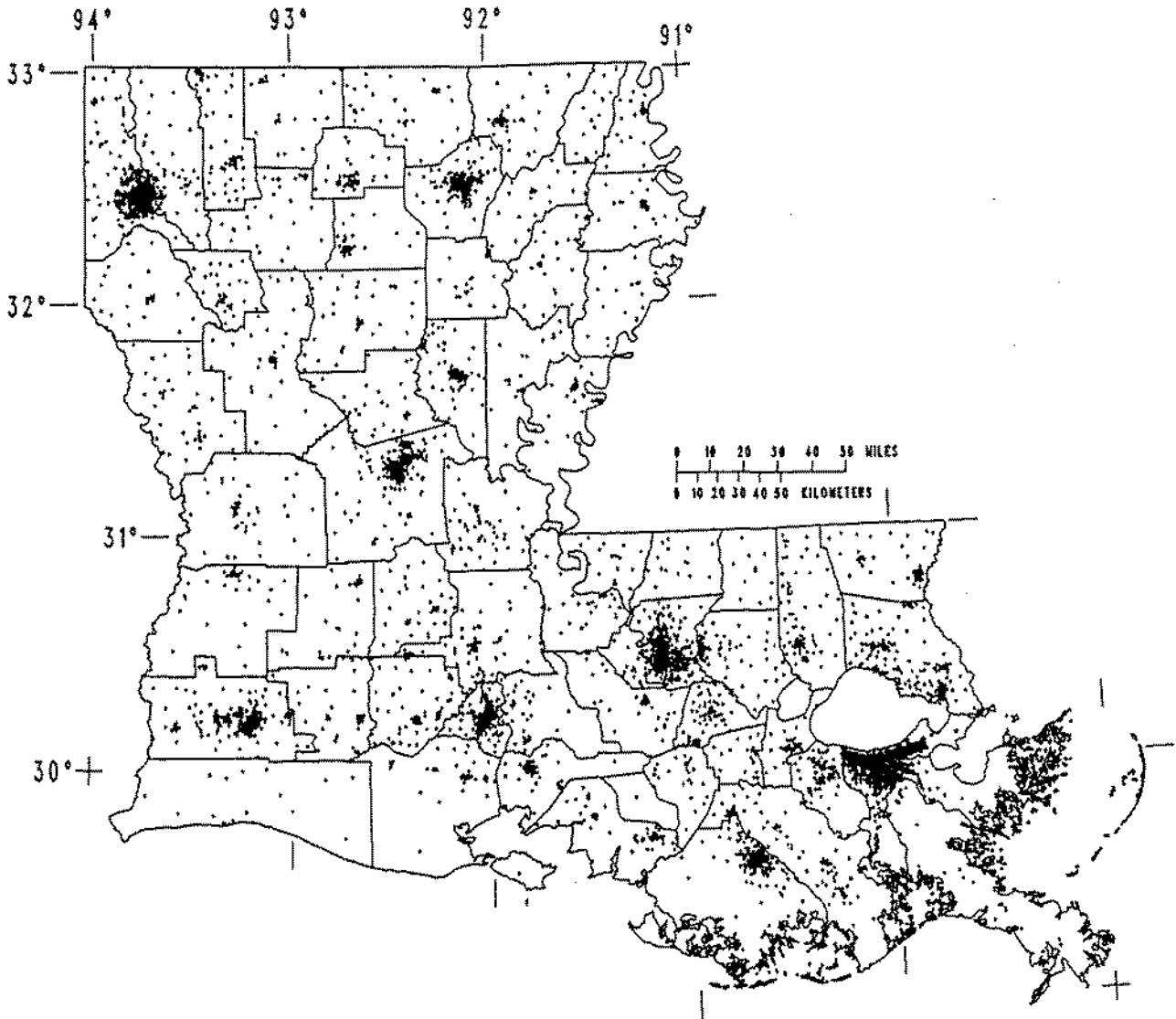


Figure 2.--Louisiana population distribution, 1985; each dot represents 1,000 people within a census tract. (Source: compiled by the U.S. Geological Survey for U.S. Bureau of Census data.)

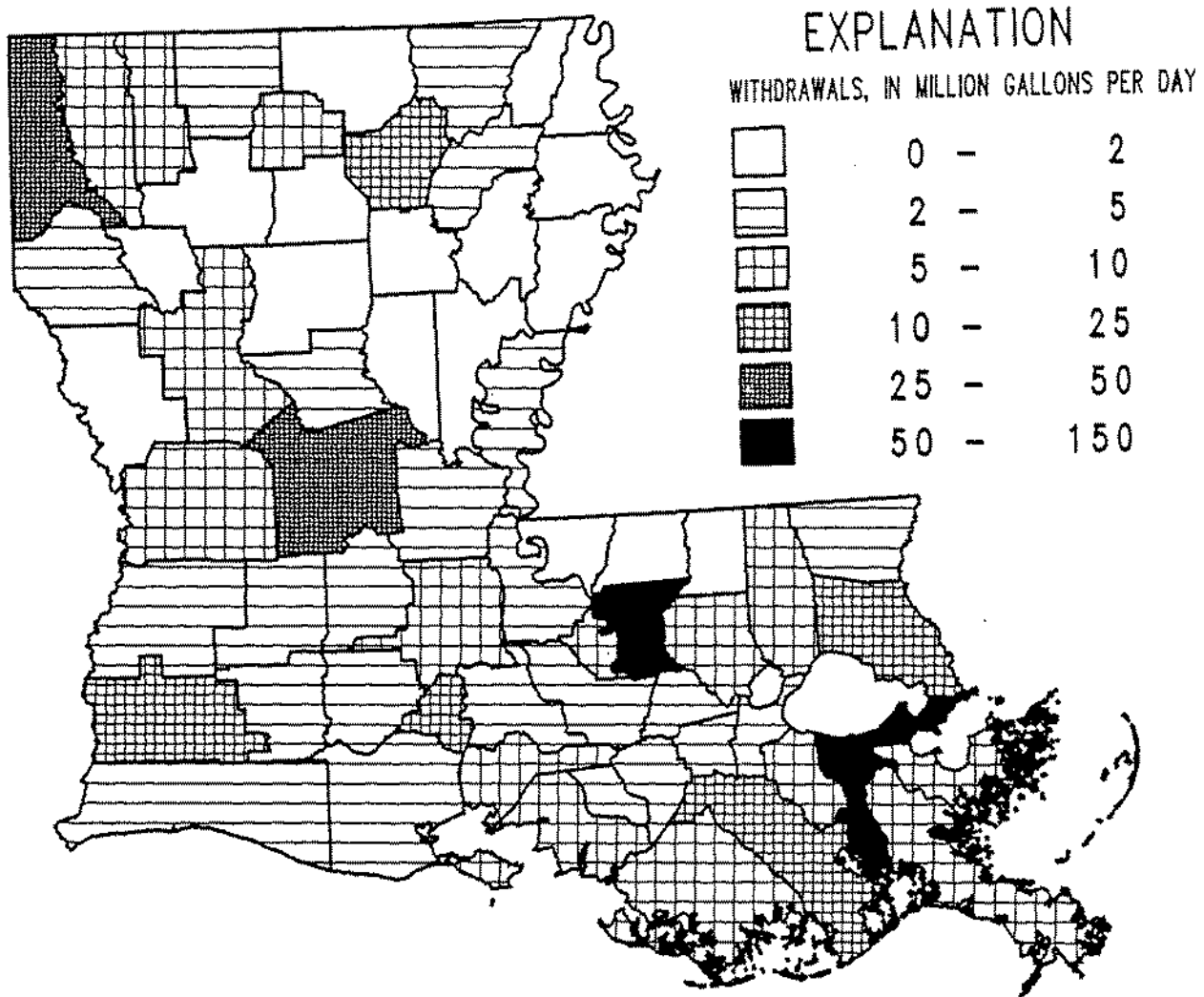


Figure 3.--Public-supply water withdrawals in Louisiana by parish, 1990.

Industrial

Industry in Louisiana withdrew 2,500 Mgal/d of water in 1990, 290 Mgal/d from ground-water sources and 2,200 Mgal/d from surface-water sources. Industrial withdrawals in 1990 accounted for almost 26 percent of all withdrawals. However, most of the surface water withdrawn by industry was used for once-through cooling and was returned to its source after use. Chemical manufacturers withdrew 1,600 Mgal/d or 65 percent of total industrial withdrawals. Table 2 lists withdrawals in 1990 by SIC code for the major industrial groups.

The Chicot aquifer system provided 30 percent of the ground water and the Mississippi River provided about 80 percent of the surface water withdrawn by industry in Louisiana. Industrial withdrawals in Iberville Parish were the highest in the State, 540 Mgal/d, and accounted for 22 percent of all industrial withdrawals (fig. 4). Industrial ground-water use increased by 3.4 percent and surface-water use increased by 23 percent for an overall increase of 20 percent in withdrawals by industry between 1985 and 1990.

Table 2.--Water withdrawals in Louisiana by major industrial groups, 1990

[Withdrawals are in million gallons per day. Dashes indicate withdrawals are less than or equal to 0.005 Mgal/d. Source of Standard Industrial Classification: Office of Management and Budget, 1987]

Standard Industrial Classification	Ground water withdrawals	Surface water withdrawals
13 Oil and gas extraction.....	1.58	0.08
14 Nonfuels/nonmetals mining.....	.23	32.36
20 Food products.....	22.93	35.15
23 Apparel.....	1.37	---
24 Lumber.....	1.78	.40
26 Paper products.....	98.52	103.18
28 Chemicals.....	123.90	1,490.10
29 Petroleum refining.....	30.93	481.04
30 Rubber and plastics.....	1.23	---
32 Glass, clay, and concrete.....	1.64	.60
33 Primary metals.....	.16	26.48
34 Metal products.....	.01	.04
37 Transportation equipment.....	5.15	.01

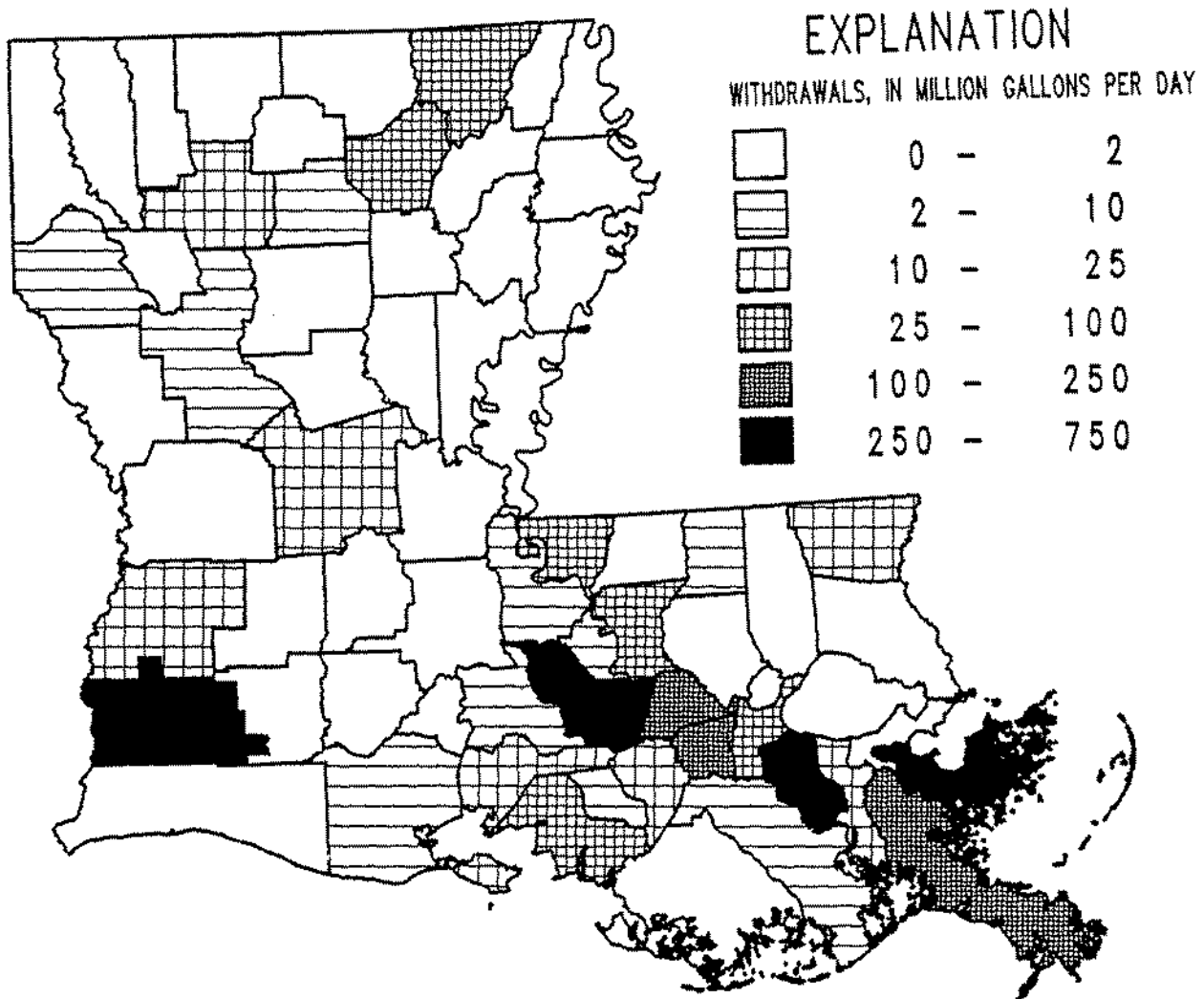


Figure 4.--Industrial water withdrawals in Louisiana by parish, 1990.

Power Generation

Power generation facilities withdrew approximately 5,000 Mgal/d, about 53 percent of all water withdrawn in 1990. Of this amount, only 40 Mgal/d came from ground-water sources. Seventy-eight percent (3,800 Mgal/d) of the surface water withdrawn for power generation purposes was provided by the Mississippi River in southeastern Louisiana, 2,100 Mgal/d of which was withdrawn in St. Charles Parish (fig. 5). Most surface water withdrawn for power generation purposes was, as in industry, used for cooling purposes and was returned to its source after use. Of the total water withdrawn for power generation, 40 Mgal/d of ground water and 3,800 Mgal/d of surface water were withdrawn for use in fossil fueled plants, and 0.07 Mgal/d of ground water and 1,100 Mgal/d of surface water were withdrawn for use in nuclear plants.

Ground-water withdrawals for power generation increased by 13 percent from 1985 to 1990. However, surface-water withdrawals decreased by 17 percent, causing an overall decrease of 17 percent for power generation withdrawals from 1985 to 1990.

In May 1990, Louisiana's second hydroelectric power plant began generating electricity. This plant uses water from the Mississippi River at the Old River Control Structure near Tarbert Landing, Mississippi. In 1990, an average of 19,500 Mgal/d passed through the plant's turbines.

The other hydroelectric power plant in Louisiana uses water impounded in the Toledo Bend Reservoir on the Louisiana-Texas border and releases the water through the turbines near Burkeville, Texas. Because the plant is located on the Louisiana-Texas border, one-half of the water used was counted in Louisiana's water-use inventory. In 1990, an average of 4,300 Mgal/d of water passed through the plant's turbines. Of this amount, 2,200 Mgal/d was counted as power generation instream use for Louisiana. Hydroelectric power generation instream use was not included in surface-water withdrawals in this report because the water was not withdrawn.

Rural Domestic

Approximately 14 percent of Louisiana's population, 628,000 people (U.S. Department of Commerce, 1988), using privately owned domestic wells, withdrew an estimated 50 Mgal/d of ground water for domestic use in 1990. For the purpose of this report, an average of 80 gallons per person per day was used to estimate withdrawals by the rural domestic portion of the population (Lurry, 1987). Little or no surface water is used for rural domestic purposes in Louisiana because suitable ground water generally is available that requires minimal treatment. Every major aquifer and aquifer system was used as a source for rural domestic water. St. Tammany Parish had the highest withdrawal rate of 5.1 Mgal/d (fig. 6).

Although rural-domestic withdrawals seemingly increased by 9.3 percent from 1985 to 1990, this increase could be the result of different calculation methods and should not be construed as a significant change in rural-domestic withdrawals.

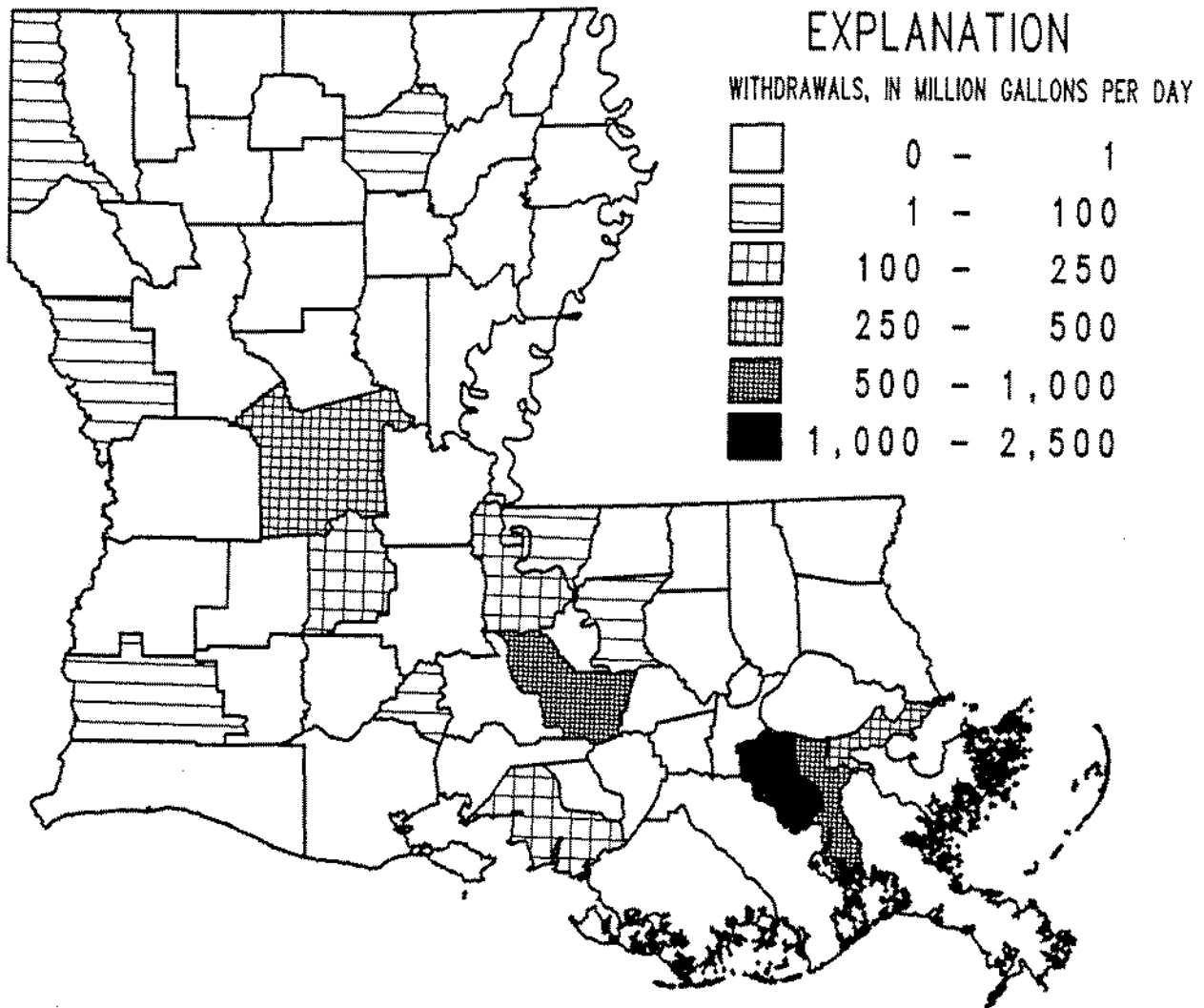


Figure 5.--Power-generation water withdrawals in Louisiana by parish, 1990.

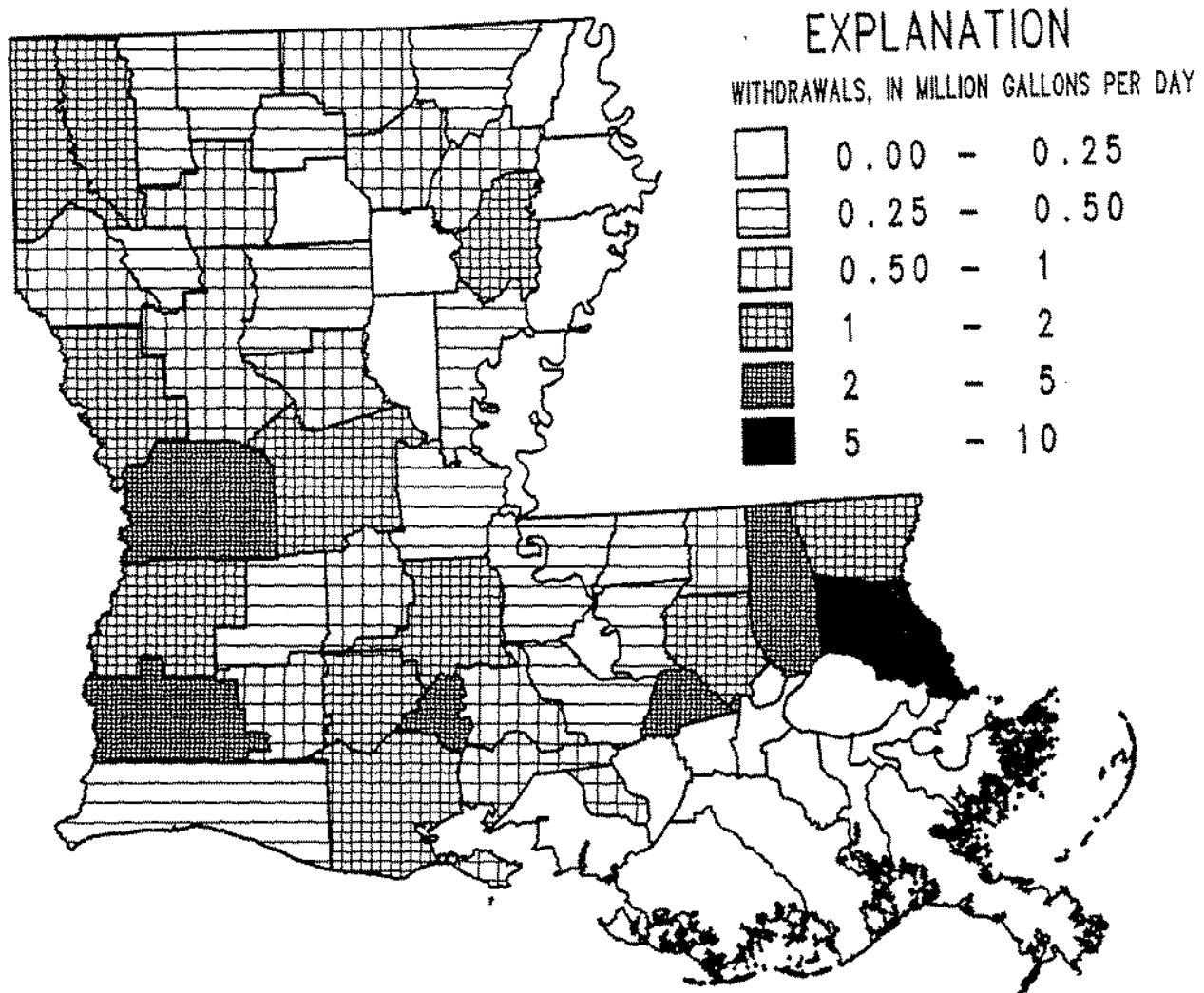


Figure 6.--Rural-domestic water withdrawals in Louisiana by parish, 1990.

Livestock

In 1990, livestock consumed approximately 8.9 Mgal/d of water supplied by individual ranchers and farmers. Of this total, 3.7 Mgal/d was ground water and 5.2 Mgal/d was surface water (fig. 7). Livestock in Louisiana that required significant amounts of water included cattle, horses, swine, sheep, and poultry (U.S. Bureau of Census, 1990). For the purpose of this report, estimates of livestock use rates were used to calculate water withdrawal for livestock. The rates used (in gallons per head per day) are: milk cows, 20; other cattle, 10; horses, 10; swine, 3; sheep, 2; and poultry, 0.04 (D.L. Lurry, U.S. Geological Survey, written commun., 1990).

Ground water used for livestock, which decreased by 52 percent from 1985 to 1990, came from most of the major aquifers and aquifer systems. Surface-water use, which increased by 44 percent from 1985 to 1990, generally was supplied by small streams, canals, and private ponds.

Rice Irrigation

For purposes of this report, the amount and distribution of water used for rice irrigation in 1990 is assumed to be the same as that for 1989. In 1989, approximately 496,000 acres of rice were harvested in 29 parishes, mainly in southwestern and northeastern Louisiana (Louisiana Cooperative Extension Service, 1990). All rice grown in Louisiana is assumed to be irrigated. The average yearly application rate in 1989 was about 1.5 acre-ft. Rice farmers withdrew approximately 650 Mgal/d of water to irrigate their fields in 1989. Of the total, 400 Mgal/d was ground water and 250 Mgal/d was surface water.

The Chicot aquifer system in southwestern Louisiana supplied 79 percent of the ground water used for rice irrigation. In northeastern Louisiana, the Mississippi River alluvial aquifer provided 21 percent of the total ground water used for rice irrigation. Surface water is withdrawn from many streams, lakes, bayous, and canals in the rice growing areas. Rice farmers in Jefferson Davis Parish withdrew more ground water, 94 Mgal/d, and rice farmers in Vermilion Parish withdrew more surface water, 95 Mgal/d, than did farmers in any other parish (fig. 8).

Ground-water withdrawal for rice irrigation decreased by 42 percent and surface-water withdrawal decreased by 67 percent from 1985 to 1990. Total withdrawal for rice irrigation decreased by 55 percent though the rice harvest increased by 9 percent (Louisiana Cooperative Extension Service, 1990). Much of the decrease may be attributed to the unusually wet growing season in 1989, the year for which the data were collected. The amount of precipitation during the growing season, from February to August, directly influences the amount of irrigation water applied to the fields (Zack, 1971). Another reason for the decrease could be due in part to the differences in data-collection procedures used in 1985 and 1990.

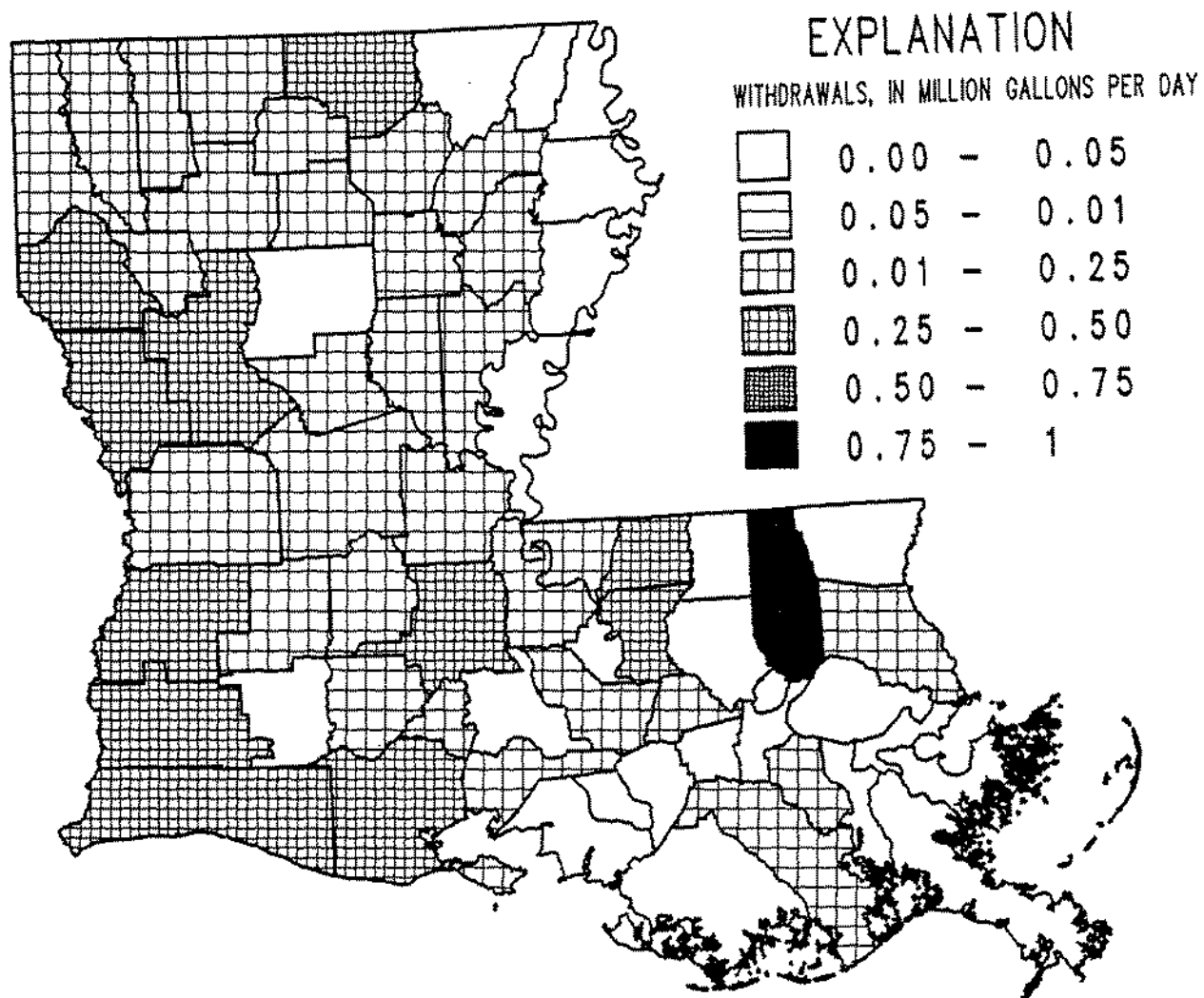


Figure 7.--Livestock water withdrawals in Louisiana by parish, 1990.

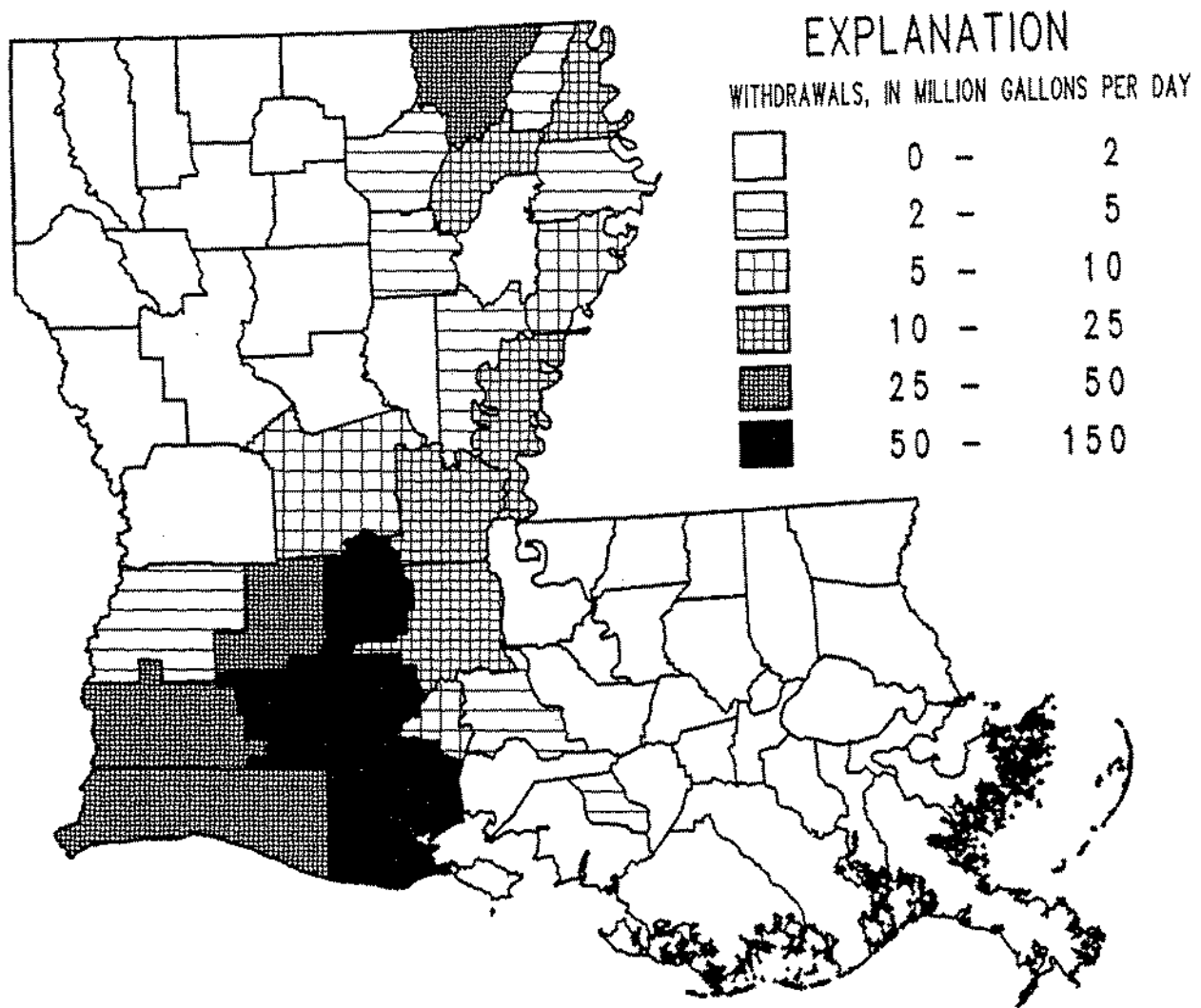


Figure 8.--Rice-irrigation water withdrawals in Louisiana by parish, 1990.

General Irrigation

As with rice irrigation, the amount and distribution of water used for general irrigation of crops other than rice, in 1990, is assumed to be the same as that reported for 1989. In 1989, farmers irrigated approximately 192,000 acres of crops other than rice (Louisiana Cooperative Extension Service, 1990). Crops with significant amounts of irrigated acreage included cotton, soybeans, corn, sorghum, sod, sweet potatoes, and strawberries. Based on 1989 irrigation data, the average application rate for these crops was about 0.33 acre-ft per year. Farmers withdrew approximately 53 Mgal/d of ground water and 8.1 Mgal/d of surface water. Irrigation of these crops occurred primarily in northeastern Louisiana, and 76 percent of the ground water was withdrawn from the Mississippi River alluvial aquifer in this area (fig. 9).

Ground-water withdrawals increased by 54 percent and surface-water withdrawals decreased by 7.7 percent from 1985 to 1990. Total withdrawals for general irrigation increased by 42 percent from 1985 to 1990.

Aquaculture

In 1990, approximately 540 Mgal/d of water was withdrawn for aquaculture in Louisiana. Of the total, 220 Mgal/d was ground water and 320 Mgal/d was surface water. Ninety-three percent of this water was used to maintain water levels on 38,400 acres of crawfish ponds, 6.5 percent on 10,250 acres of catfish ponds, and 0.56 percent at 135 alligator farms (Louisiana Cooperative Extension Service, 1990; Larry McNease, Louisiana Department of Wildlife and Fisheries, written commun., 1990). The Chicot aquifer system supplied 47 percent and the Mississippi River alluvial aquifer supplied 49 percent of the ground water used. Miscellaneous streams were used as sources of surface water. Ground-water withdrawals for aquaculture were highest in Acadia Parish, 36 Mgal/d, and surface-water withdrawals were highest in St. Martin Parish, 77 Mgal/d (fig. 10).

Ground-water withdrawals increased by 220 percent and surface-water withdrawals increased by 160 percent from 1985 to 1990. Total withdrawals for aquaculture increased by 180 percent. However, most of this increase is the result of refinements in the data-collection procedures used for aquaculture and did not result from changes in water application practices or a comparable increase in pond acreage.

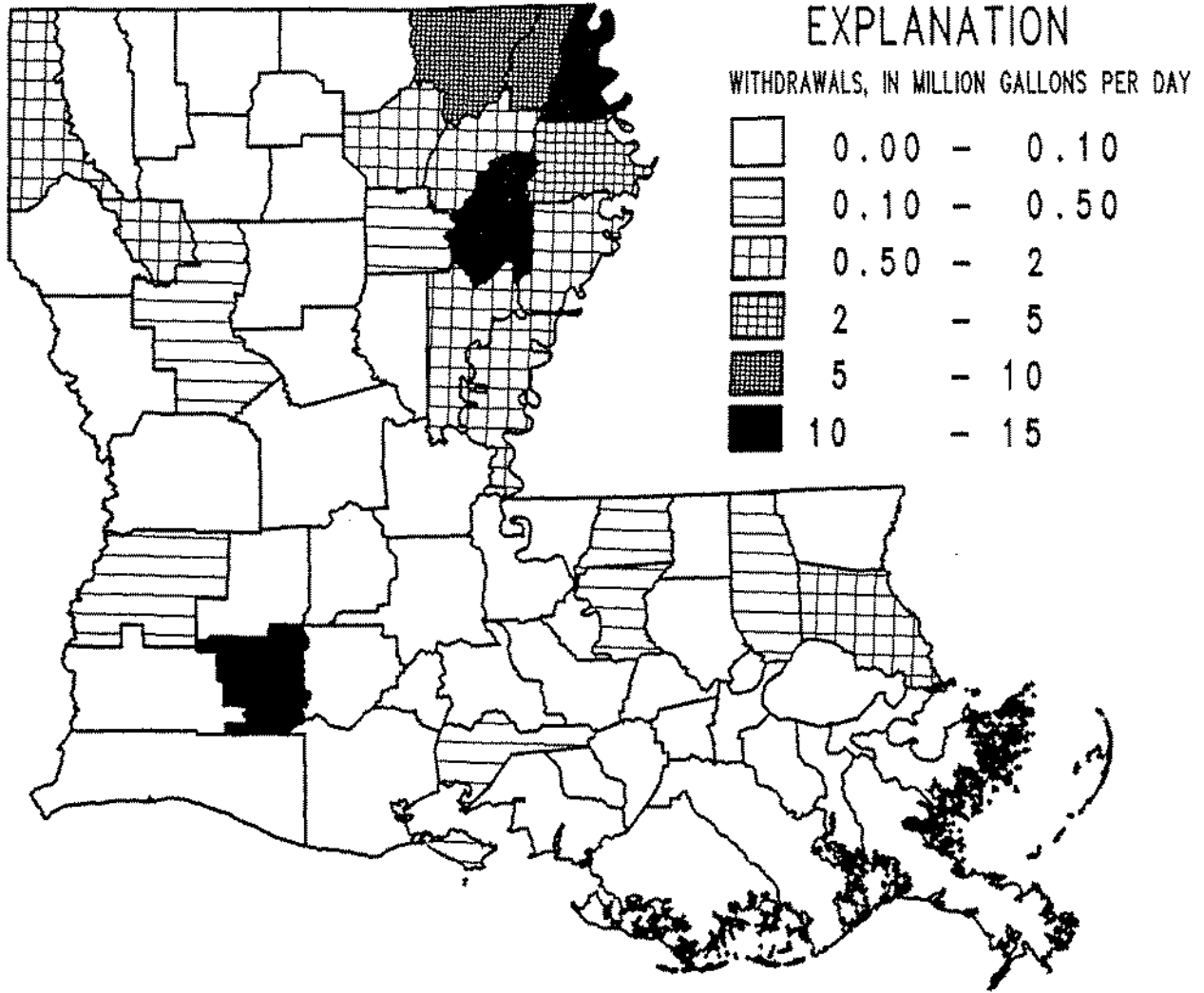


Figure 9.--General-irrigation water withdrawals in Louisiana by parish, 1990.

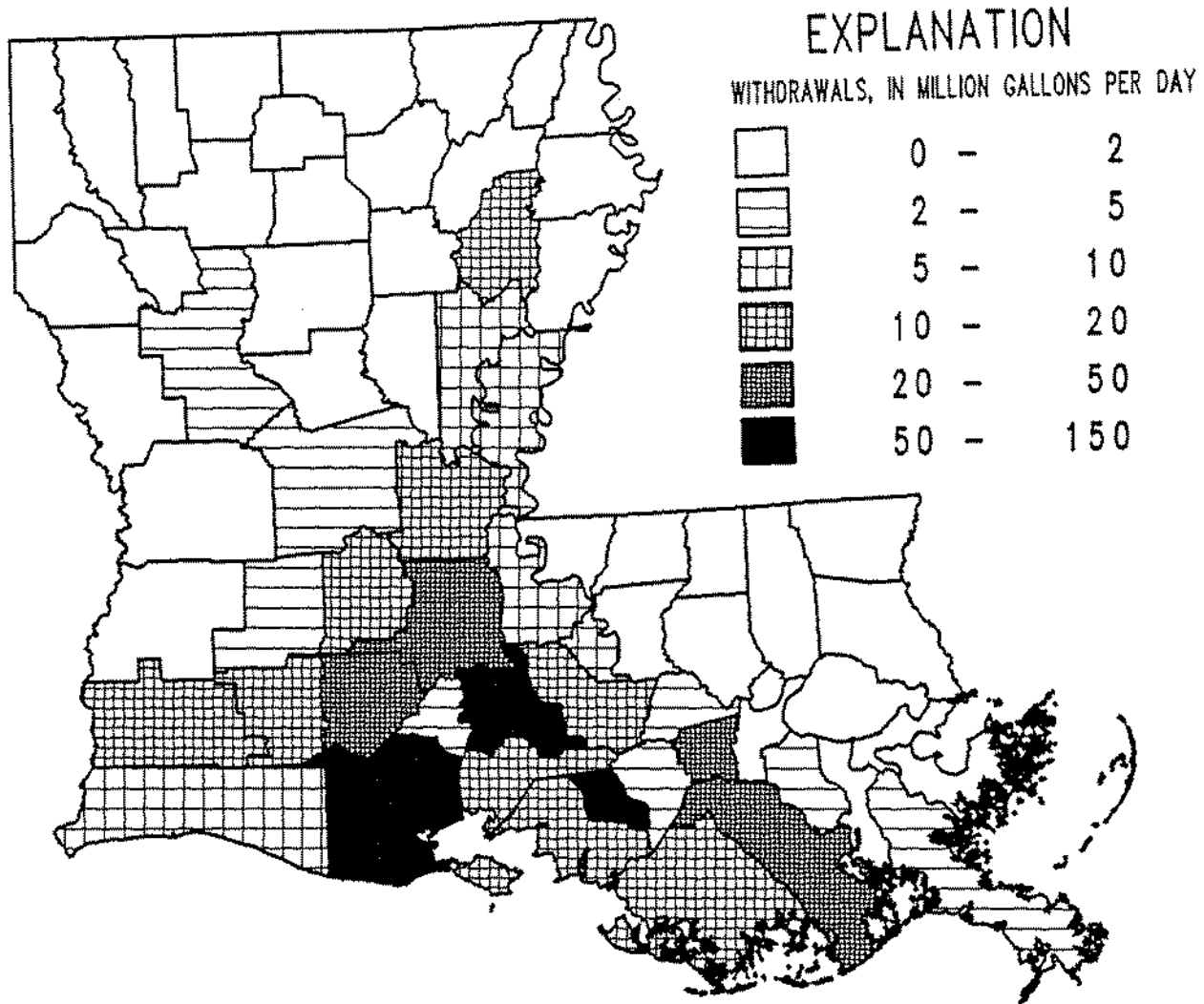


Figure 10.--Aquaculture water withdrawals in Louisiana by parish, 1990.

WATER USE BY PARISH

The one-page summaries of water-use information by parish presented in this section of the report contain tables of withdrawals by category of use, lists of major public suppliers, lists of major industrial groups, and bar charts of withdrawal trends since 1960. Also listed is the population, population served by public supply, per capita withdrawals, total irrigated acreage, and the amount of hydroelectric instream use for the parish. The per capita withdrawal rate is the average daily total amount of water withdrawn in the area divided by the total population for the area. A map shows the location of the parish within the State.

In each of the summaries, a table lists average daily withdrawals for the eight major categories of use. The withdrawals are totaled by the source of water used, that is, surface or ground, and by category. Totals for the parish also are shown.

A bar chart on each summary shows water-use trends since 1960 for the parish. The data were compiled from previous 5-year water-use reports, and no effort was made to interpret the graphs on an individual basis.

A table of withdrawals by major industrial groups sorted by SIC code lists withdrawals for ground- and surface-water sources. For the purposes of this table, a withdrawal was included only if it was greater than or equal to 0.01 Mgal/d and was used by the manufacturing sector of industry, rather than the service sector. Therefore, the totaled withdrawals in this table may be less than the totals for industry in the table of withdrawals by category of use.

A table of withdrawals by major public suppliers listed in alphabetical order is also presented. For the purposes of this table, public suppliers were included only if the withdrawal was greater than or equal to 0.02 Mgal/d. Therefore, totaled withdrawals from this table may be less than the totals for public supply in the table of withdrawals by category of use. Self-supplied institutions such as hospitals, prisons, and military installations, though included in the withdrawals for public supply, are not listed in this table. Water-use information for each of the 64 parishes in Louisiana is summarized in table 3. The table lists withdrawals and totals for each parish and each major category of use in Louisiana.

ACADIA

Population: 57,900
 Population served by public supply: 38,793
 Per capita withdrawals (gal/d): 2,651
 Acres irrigated: 75,742
 Hydroelectric power instream use (Mgal/d): 0.00



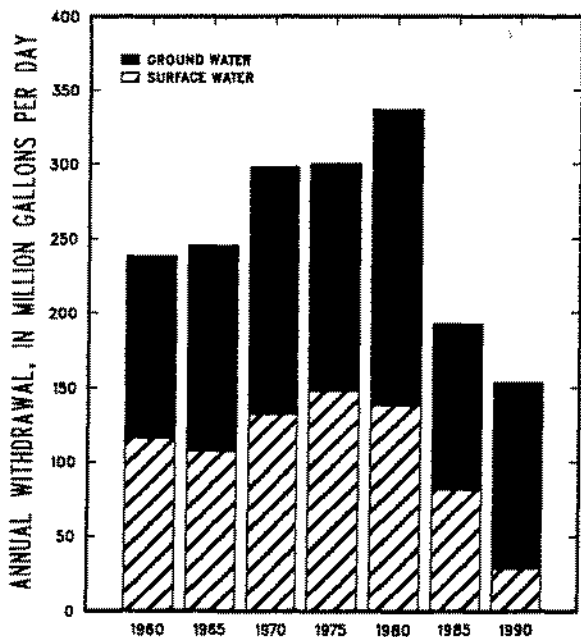
Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	4.40	0.00	4.40
Industrial	1.71	.00	1.71
Power generation	.00	.00	.00
Rural domestic	1.53	.00	1.53
Livestock	.05	.05	.10
Rice irrigation	81.37	19.42	100.80
General irrigation	.00	.00	.00
Aquaculture	36.05	8.92	44.97
TOTALS	125.10	28.39	153.50

Withdrawals by Major Industrial Groups (Mgal/d)

Standard Industrial Classification	GW	SW
13 Oil and gas extraction	0.02	
29 Petroleum refining	1.69	

Withdrawals by Major Public Suppliers (Mgal/d)

Public Supplier	GW	SW
Church Point Water System	0.54	
Crowley Water System	2.03	
Estherwood Water System	.07	
Iola Water System	.16	
Mermentau Water System	.06	
Morse Water System	.06	
North of Crowley Water Corp.	.11	
Rayne Water System	1.25	
South Rayne Water Corp.	.04	



WITHDRAWAL TRENDS SINCE 1960

ALLEN

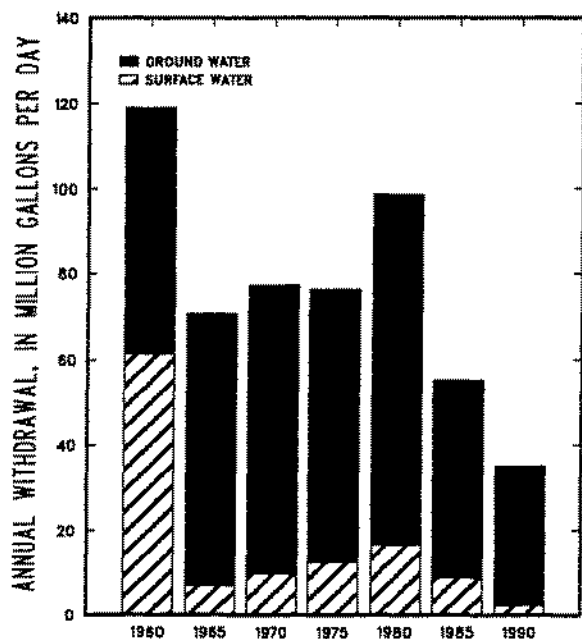
Population: 22,300
 Population served by public supply: 17,617
 Per capita withdrawals (gal/d): 1,570
 Acres irrigated: 26,410
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	2.74	0.00	2.74
Industrial	.43	.00	.43
Power generation	.00	.00	.00
Rural domestic	.37	.00	.37
Livestock	.04	.06	.11
Rice irrigation	27.09	2.22	29.32
General irrigation	.00	.00	.00
Aquaculture	2.05	.00	2.05
TOTALS	32.73	2.29	35.02

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
26 Paper products	0.21	
28 Chemicals	.21	

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Allen Water Dist. 1	0.11	
E. Allen Water District	.13	
Elizabeth Water System	.06	
Fairview Water System	.03	
Kinder Water System	.20	
Oakdale Water System	1.52	
Oberlin Water System	.18	
S. Oakdale Water System	.10	
S.W. Allen W.W. Dist. 2	.24	
W. Allen Water District	.17	



WITHDRAWAL TRENDS SINCE 1960

ASCENSION

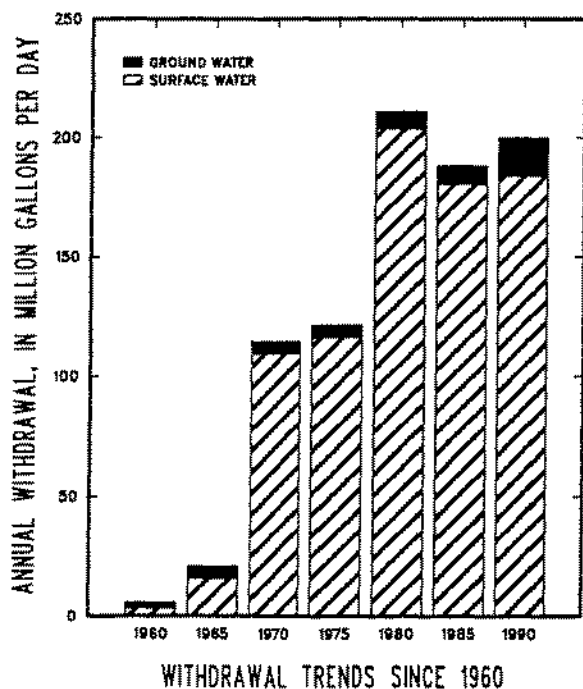
Population: 58,700
 Population served by public supply: 30,700
 Per capita withdrawals (gal/d): 3,404
 Acres irrigated: 0
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	1.82	1.57	3.39
Industrial	11.67	180.05	191.72
Power generation	.00	.00	.00
Rural domestic	2.24	.00	2.24
Livestock	.05	.03	.08
Rice irrigation	.00	.00	.00
General irrigation	.00	.00	.00
Aquaculture	.12	2.29	2.41
TOTALS	15.90	183.94	199.83

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
20 Food products	7.15	
28 Chemicals	4.32	180.05

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Capitol Utilities Corp.	0.55	
Gonzales Water System	.89	
Lambert's Water & Sewage	.28	
People's Water Service		1.57



ASSUMPTION

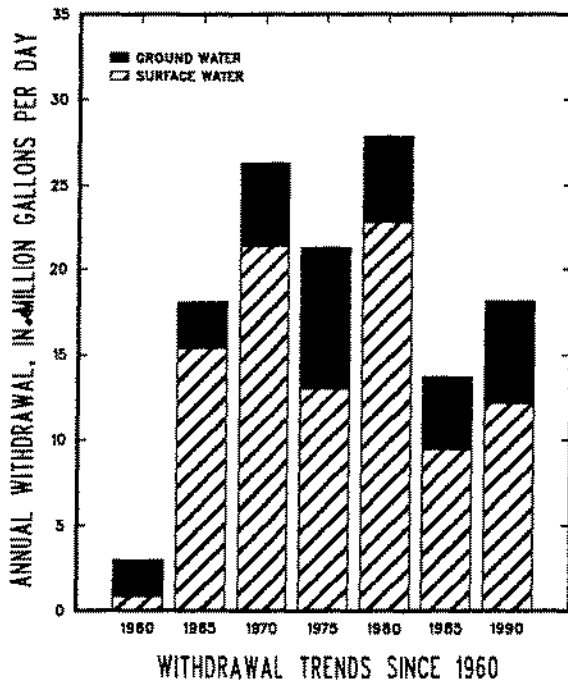
Population: 22,700
 Population served by public supply: 22,109
 Per capita withdrawals (gal/d): 797
 Acres irrigated: 0
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	0.00	2.63	2.63
Industrial	5.91	4.62	10.53
Power generation	.00	.00	.00
Rural domestic	.05	.00	.05
Livestock	.00	.00	.00
Rice irrigation	.00	.00	.00
General irrigation	.00	.00	.00
Aquaculture	.00	4.91	4.91
TOTALS	5.95	12.16	18.11

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
20 Food products	0.16	4.62
28 Chemicals	5.74	

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Assumption W.W. Dist. 1		2.63



AVOYELLES

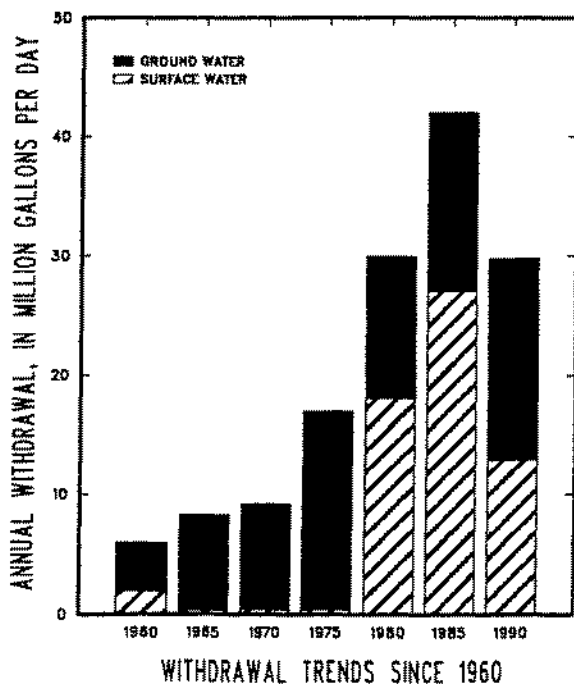
Population: 42,300
 Population served by public supply: 37,816
 Per capita withdrawals (gal/d): 703
 Acres irrigated: 8,519
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	3.22	0.00	3.22
Industrial	.18	.00	.18
Power generation	.00	.00	.00
Rural domestic	.36	.00	.36
Livestock	.09	.09	.18
Rice irrigation	2.55	10.17	12.72
General irrigation	.01	.00	.01
Aquaculture	10.46	2.60	13.06
TOTALS	16.88	12.86	29.74

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
20 Food products	0.18	

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Avoyelles Ward 3 W.W. Dist.	0.03	
Brouillette Water System	.17	
Collonport Water System	.43	
Evergreen Water System	.12	
Fifth Ward Water System	.38	
Hessmer Water System	.19	
Mansura Water System	.04	
Marksville Water System	.98	
Moreauville Water System	.14	
Morrow Water System	.07	
Plaucheville Water System	.23	
Simmesport Water System	.27	
S.W. Avoyelles W.W. Dist.	.07	
Ward 1 Water System	.12	



BEAUREGARD

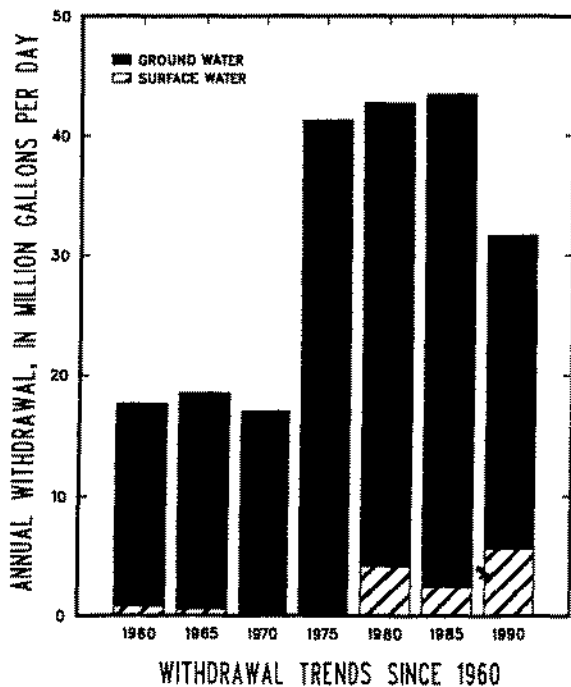
Population: 32,300
 Population served by public supply: 19,089
 Per capita withdrawals (gal/d): 979
 Acres irrigated: 3,350
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	3.52	0.00	3.52
Industrial	18.63	4.99	23.62
Power generation	.00	.00	.00
Rural domestic	1.06	.00	1.06
Livestock	.15	.15	.30
Rice irrigation	2.55	.45	3.01
General irrigation	.09	.03	.12
Aquaculture	.00	.00	.00
TOTALS	26.00	5.62	31.62

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
14 Non-fuels/non-metals mining		4.99
26 Paper products	18.22	
28 Chemicals	.40	

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Beauregard Dist. 2 Ward 5	0.12	
DeRidder Water System	2.50	
Green Acres Water & Sewer	.08	
Merryville Water System	.15	
S. Beauregard W.W. Dist. 3	.65	
S. Merryville Water System	.02	



BIENVILLE

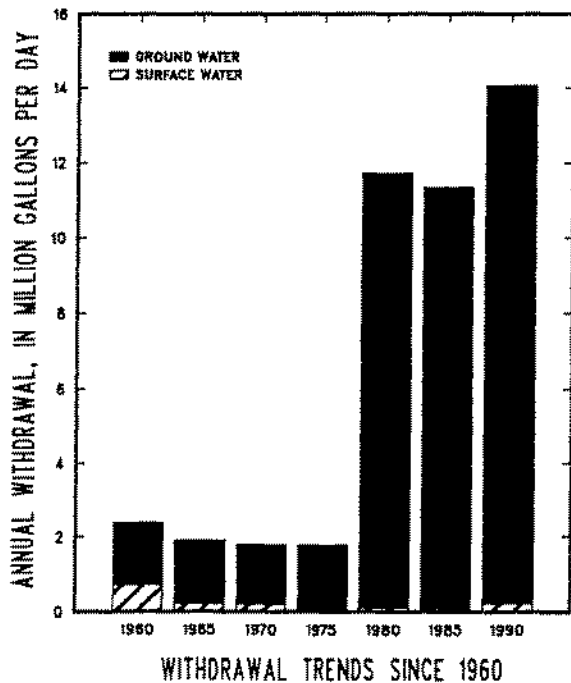
Population: 16,600
 Population served by public supply: 9,843
 Per capita withdrawals (gal/d): 846
 Acres irrigated: 0
 Hydroelectric power instream use (Mgal/d): 0.00



	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	0.97	0.00	0.97
Industrial	12.24	.17	12.41
Power generation	.00	.00	.00
Rural domestic	.54	.00	.54
Livestock	.08	.05	.13
Rice irrigation	.00	.00	.00
General irrigation	.00	.00	.00
Aquaculture	.00	.00	.00
TOTALS	13.83	.22	14.05

Standard Industrial Classification	GW	SW
24 Lumber	0.01	0.17
26 Paper products	12.22	

Public Supplier	GW	SW
Alabama Water System	0.03	
Alberta Water System	.05	
Arcadia Water System	.33	
Bryceland Water System	.03	
Friendship Water System	.06	
Gibsland Water System	.15	
Lucky Water System	.03	
Mt. Calm Water System	.02	
Mt. Olive Water System	.02	
Old Saline Comm. Water Sys.	.02	
Ringgold Water System	.15	
Social Springs Water System	.02	
Taylor Water System	.03	



BOSSIER

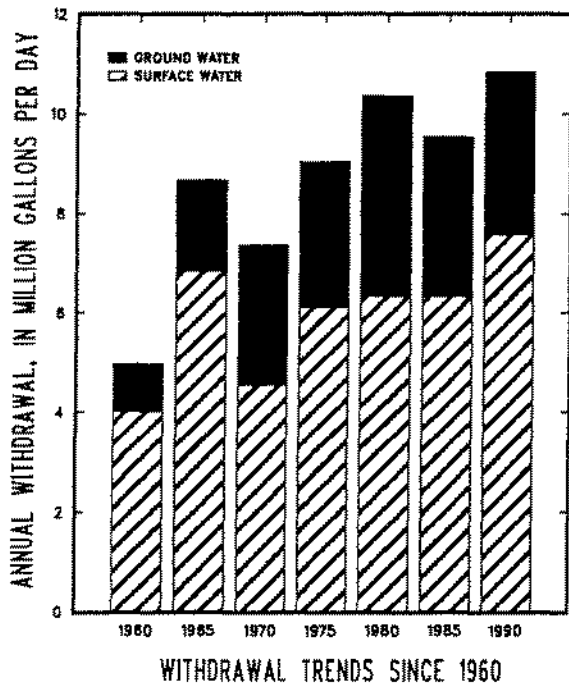
Population: 90,400
 Population served by public supply: 75,212
 Per capita withdrawals (gal/d): 119
 Acres irrigated: 80
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	1.32	7.49	8.81
Industrial	.44	.01	.45
Power generation	.00	.00	.00
Rural domestic	1.21	.00	1.21
Livestock	.12	.08	.19
Rice irrigation	.02	.00	.02
General irrigation	.00	.00	.00
Aquaculture	.16	.00	.16
TOTALS	3.26	7.57	10.83

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
29 Petroleum refining	0.42	0.01

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Bossier City Water System		7.49
Haughton Water System	0.16	
Plain Dealing Water System	.26	
Red Chute Utilities Co.	.23	
S. Bossier Water System	.06	
Village Water System	.53	



CADDO

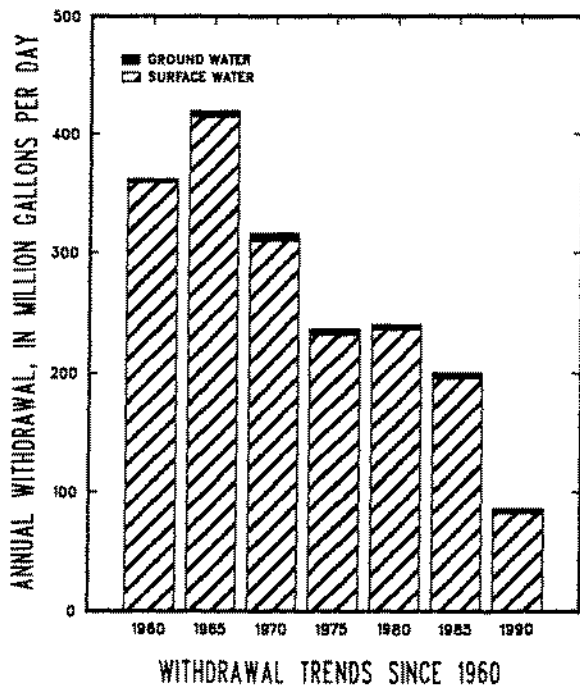
Population: 268,700
 Population served by public supply: 245,323
 Per capita withdrawals (gal/d): 320
 Acres irrigated: 3,112
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	0.99	38.12	39.11
Industrial	.04	.36	.40
Power generation	.00	43.53	43.53
Rural domestic	1.87	.00	1.87
Livestock	.14	.09	.23
Rice irrigation	.08	.00	.08
General irrigation	.91	.04	.95
Aquaculture	.03	.00	.03
TOTALS	4.07	82.13	86.20

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
29 Petroleum refining	0.04	0.36

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Bel-Di-Gil Water System	0.13	
Blanchard Water System		0.58
Caddo Water Dist. 1		.27
Caddo Water Dist. 7		.14
Four Forks Water System	.02	
Greenwood Comm. Water System	.20	
Hosston Mira Water System	.06	
Ida Water System	.02	
Mooringsport Water System		.11
Pine Hills Water Works	.24	
Rodessa Water System	.03	
Shreveport Water System		36.75
Vivian Water System		.40



CALCASIEU

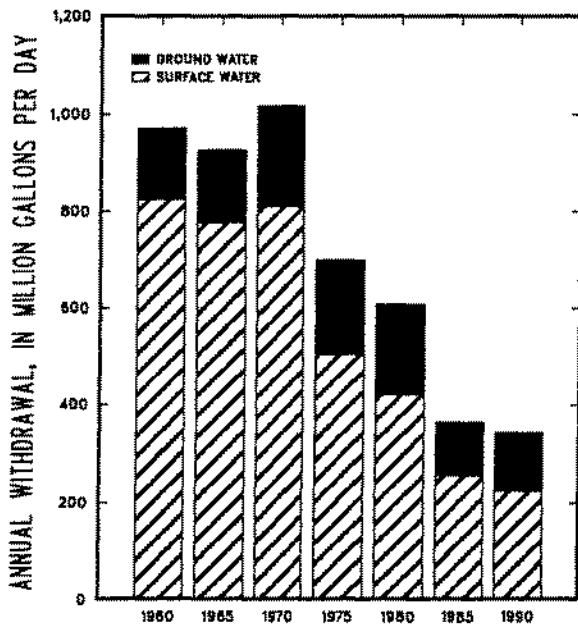
Population: 172,400
 Population served by public supply: 139,126
 Per capita withdrawals (gal/d): 1,978
 Acres irrigated: 31,209
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	21.50	0.10	21.60
Industrial	67.65	191.83	259.48
Power generation	7.91	10.71	18.62
Rural domestic	2.66	.00	2.66
Livestock	.11	.16	.27
Rice irrigation	11.58	14.62	26.20
General irrigation	.00	.00	.00
Aquaculture	5.72	6.62	12.34
TOTALS	117.12	224.04	341.16

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
28 Chemicals	47.19	117.30
29 Petroleum refining	20.06	74.53
37 Transportation equipment	.02	

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Brigas Subdivision	0.02	
Calcasieu Water Dist. 5	.18	
Calcasieu W.W. Dist. 4	.38	
Calcasieu W.W. Dist. 7	.20	
Calcasieu W.W. Dist. 9	.41	
Community Land & Util.	.05	
DeQuincy Water System	.59	
Hayes Water System	.05	
Houston River W.W. Dist. 11		0.10
Iowa Water System	.50	
Lake Charles Water Co.	11.39	
Lake Street Water Co.	.02	
Ponderosa Water Co.	.02	
St. Charles Raintree Cove	.02	
Starks Water and Gas	.02	
Sulphur Water System	4.20	
Util. Services of L.C.	.02	
Vinton Water System	.83	
Westlake Water System	1.10	
W.W. Dist. 1 of Ward 1	1.22	
W.W. Dist. 2 of Ward 4	.09	



WITHDRAWAL TRENDS SINCE 1960

CALDWELL

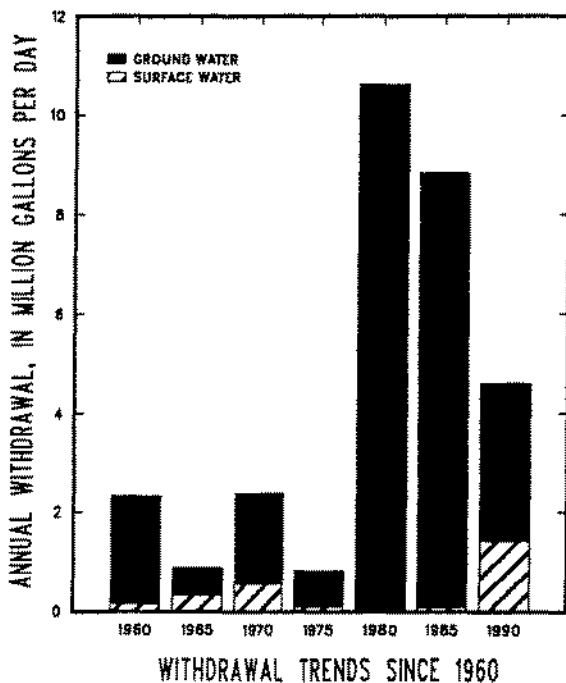
Population: 11,300
 Population served by public supply: 9,141
 Per capita withdrawals (gal/d): 408
 Acres irrigated: 3,054
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	0.71	0.00	0.71
Industrial	.00	.00	.00
Power generation	.00	.00	.00
Rural domestic	.17	.00	.17
Livestock	.00	.07	.07
Rice irrigation	1.27	1.27	2.55
General irrigation	.32	.05	.37
Aquaculture	.71	.03	.74
TOTALS	3.19	1.42	4.61

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Clarks Water System	0.08	
Columbia Heights Water Dist.	.10	
Columbia Water System	.10	
Cottonplant Water System	.02	
E. Columbia Water Dist.	.14	
Grayson Water System	.04	
Hebert Water System	.13	
Holum Water System	.03	
Kelly Water System	.05	



CAMERON

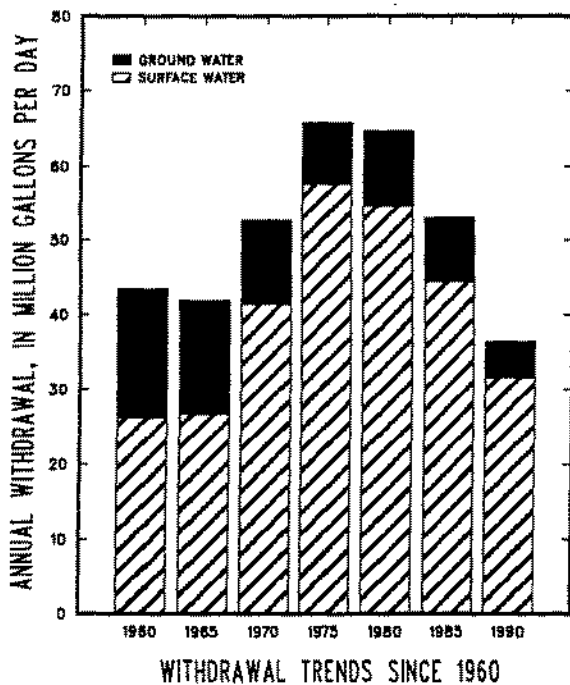
Population: 9,300
 Population served by public supply: 4,919
 Per capita withdrawals (gal/d): 3,908
 Acres irrigated: 22,873
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	2.14	0.00	2.14
Industrial	.19	1.33	1.52
Power generation	.00	.00	.00
Rural domestic	.35	.00	.35
Livestock	.00	.30	.30
Rice irrigation	1.25	24.77	26.02
General irrigation	.00	.00	.00
Aquaculture	.90	5.12	6.02
TOTALS	4.83	31.51	36.35

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
20 Food products	0.02	1.32
29 Petroleum refining		.02

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Cameron W.W. Dist. 1	0.63	
Cameron W.W. Dist. 11	.16	
Cameron W.W. Dist. 2	.82	
Cameron W.W. Dist. 7	.17	
Cameron W.W. Dist. 9	.37	



CATAHOULA

Population: 12,100
 Population served by public supply: 8,603
 Per capita withdrawals (gal/d): 1,278
 Acres irrigated: 5,447
 Hydroelectric power instream use (Mgal/d): 0.00



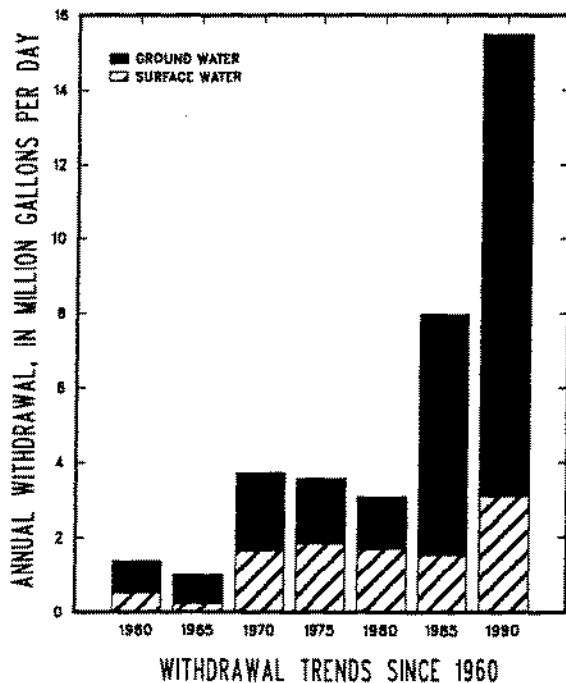
Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	0.92	0.00	0.92
Industrial	.00	.00	.00
Power generation	.00	.00	.00
Rural domestic	.28	.00	.28
Livestock	.00	.08	.08
Rice irrigation	3.03	.00	3.03
General irrigation	1.60	.05	1.65
Aquaculture	6.54	2.97	9.51
TOTALS	12.37	3.10	15.47

Withdrawals by Major Industrial Groups (Mgal/d)

Standard Industrial Classification	GW	SW

Withdrawals by Major Public Suppliers (Mgal/d)

Public Supplier	GW	SW
Black River Water System	0.06	
Enterprise W.W. Dist. 1	.03	
Harrisonburg Water System	.05	
Jonesville Water System	.27	
Larto Mayna Water System	.03	
Leland Water System	.04	
Maitland W.W. District	.04	
Manifest-Rhinehart W.S.	.06	
S. Boyou Macon Water System	.07	
Sandy Lake Water System	.19	
Sicily Island Water System	.06	
Whitehall Water System	.02	



CLAIBORNE

Population: 18,300
 Population served by public supply: 12,352
 Per capita withdrawals (gal/d): 165
 Acres irrigated: 0
 Hydroelectric power instream use (Mgal/d): 0.00



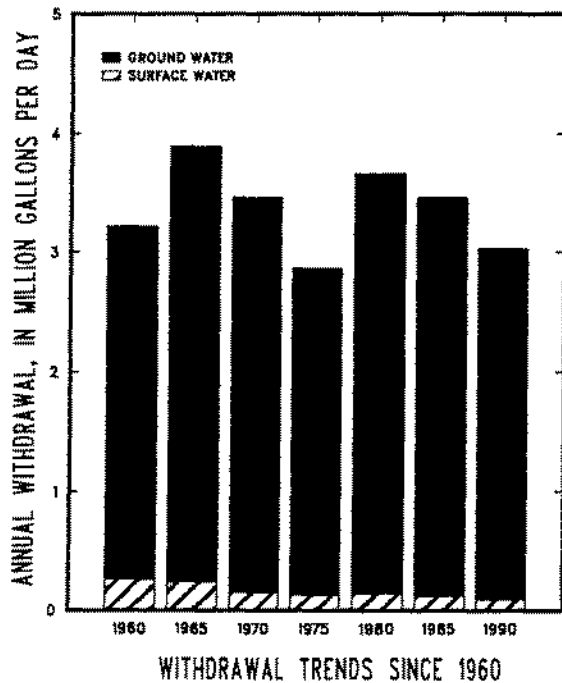
Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	2.05	0.00	2.05
Industrial	.33	.00	.33
Power generation	.00	.00	.00
Rural domestic	.48	.00	.48
Livestock	.09	.09	.18
Rice irrigation	.00	.00	.00
General irrigation	.00	.00	.00
Aquaculture	.00	.00	.00
TOTALS	2.94	.09	3.03

Withdrawals by Major Industrial Groups (Mgal/d)

Standard Industrial Classification	GW	SW
26 Paper products	0.32	

Withdrawals by Major Public Suppliers (Mgal/d)

Public Supplier	GW	SW
Athens Water System	0.05	
Central Claiborne Water Sys.	.11	
Claiborne Ward 9 Water Sys.	.02	
Haynesville Water System	.59	
Homer Water System	.89	
Junction City Water System	.05	
Lisbon Water System	.02	
Norton Shop Water System	.02	
Pine Hill Water System	.02	
S. Claiborne Water System	.18	
Summerfield Water System	.07	



CONCORDIA

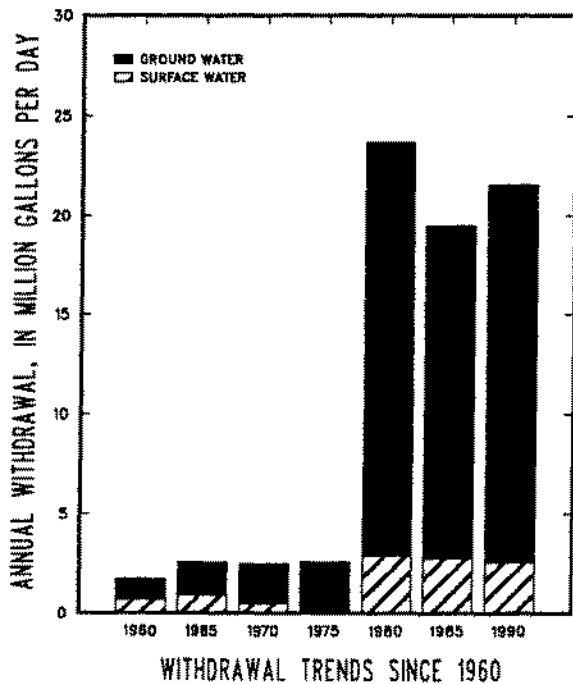
Population: 22,500
 Population served by public supply: 21,285
 Per capita withdrawals (gal/d): 958
 Acres irrigated: 10,607
 Hydroelectric power instream use (Mgal/d): 19,510.69



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	2.18	0.92	3.10
Industrial	.00	.00	.00
Power generation	.00	.00	.00
Rural domestic	.10	.00	.10
Livestock	.03	.00	.04
Rice irrigation	9.64	1.52	11.15
General irrigation	1.20	.11	1.31
Aquaculture	5.85	.03	5.87
TOTALS	18.99	2.58	21.57

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Clayton Water System	0.06	
Concordia W.W. Dist. 1	.86	
Ferriday Water System		0.92
Lake St. John Water Dist.	.16	
Monterey Rural Water System	.25	
Ridgecrest Water System	.05	
Vidalia Water System	.79	



DE SOTO

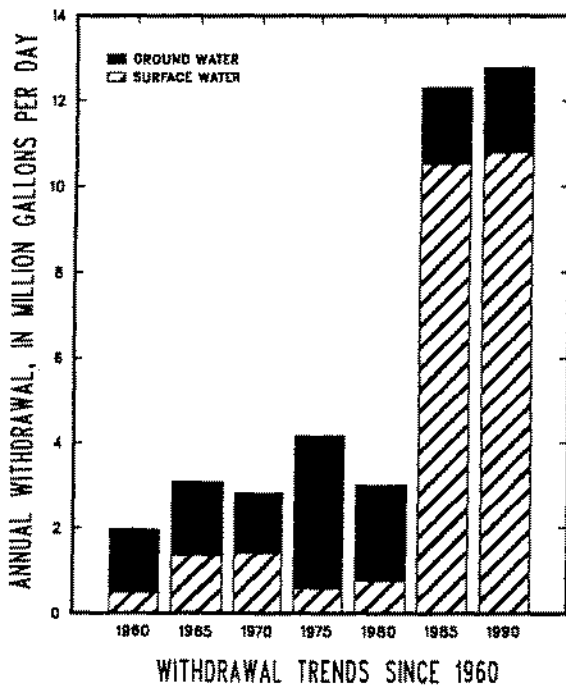
Population: 26,900
 Population served by public supply: 17,673
 Per capita withdrawals (gal/d): 474
 Acres irrigated: 0
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	1.22	1.11	2.33
Industrial	.00	9.23	9.23
Power generation	.00	.00	.00
Rural domestic	.74	.00	.74
Livestock	.00	.45	.45
Rice irrigation	.00	.00	.00
General irrigation	.00	.00	.00
Aquaculture	.02	.00	.02
TOTALS	1.98	10.79	12.76

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
26 Paper products		9.23

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Bayou Pierre Water System	0.07	
E. De Soto Water System	.08	
Grand Cane Water System	.04	
Keatchie Water System	.20	
Logansport Water System		0.66
Mansfield Water System	.32	.45
N. De Soto Water System	.15	
Ramin-Wallace Water System	.05	
S. De Soto Water System	.05	
S. Mansfield Water System	.14	
Stanley Water System	.03	



EAST BATON ROUGE

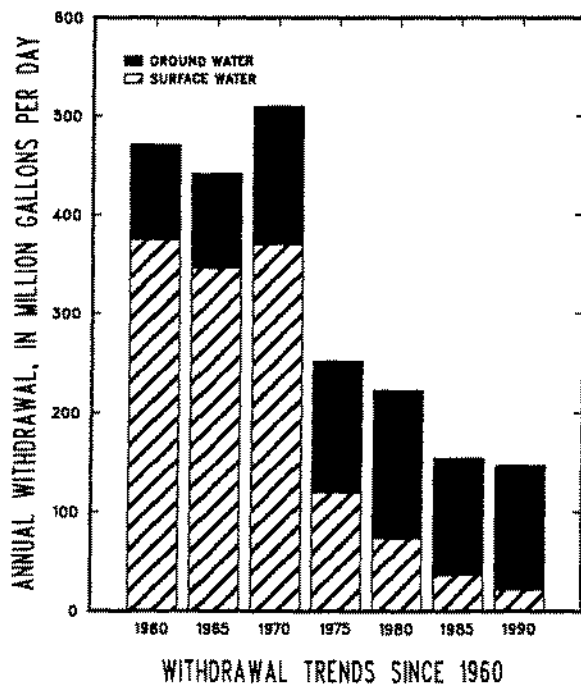
Population: 384,300
 Population served by public supply: 379,304
 Per capita withdrawals (gal/d): 383
 Acres irrigated: 0
 Hydroelectric power instream use (Mgal/d): 0.00



	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	54.80	0.00	54.80
Industrial	63.45	21.53	84.98
Power generation	5.77	.00	5.77
Rural domestic	.40	.00	.40
Livestock	.24	.03	.26
Rice irrigation	.00	.00	.00
General irrigation	.12	.00	.12
Aquaculture	.95	.00	.95
TOTALS	125.73	21.56	147.29

Standard Industrial Classification	GW	SW
20 Food products	0.27	
26 Paper products	33.08	
28 Chemicals	23.66	
29 Petroleum refining	4.48	21.53
30 Rubber and plastics	1.16	
32 Glass, clay, and concrete	.01	
33 Primary metals	.16	

Public Supplier	GW	SW
Alsen Water Works Co.	0.10	
Baker Water System	1.95	
Baton Rouge Water Works	43.38	
Bellingrath Water System	.19	
Lambert's Water & Sewage	.02	
Parish Water Co.	7.13	
Red Oak Water Co.	.59	
Slaughter Water System	.08	
Zachary Water System	1.23	



EAST CARROLL

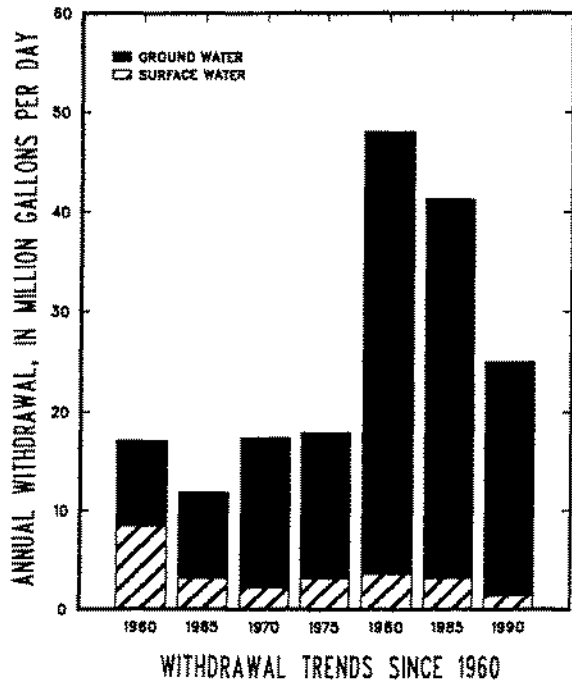
Population: 10,900
 Population served by public supply: 9,722
 Per capita withdrawals (gal/d): 2,284
 Acres irrigated: 39,552
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	1.27	0.00	1.27
Industrial	.00	.00	.00
Power generation	.00	.00	.00
Rural domestic	.09	.00	.09
Livestock	.00	.01	.01
Rice irrigation	11.06	.44	11.50
General irrigation	10.42	.99	11.41
Aquaculture	.61	.00	.61
TOTALS	23.46	1.44	24.90

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Lake Providence Water System	1.27	



EAST FELICIANA

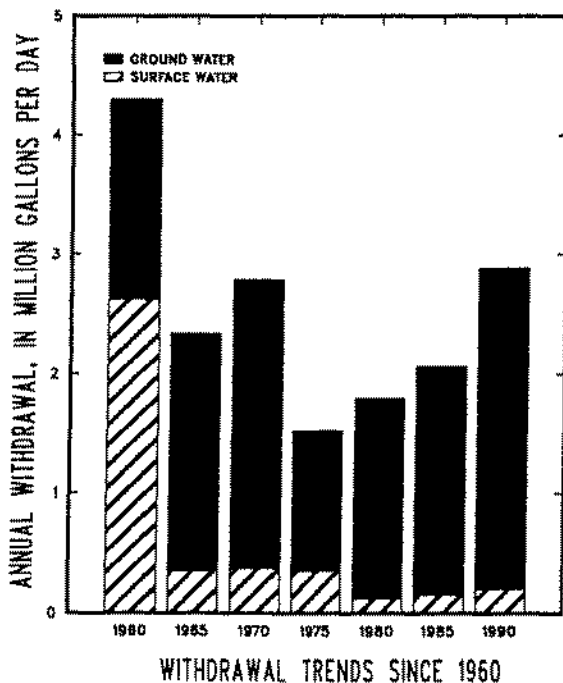
Population: 20,400
 Population served by public supply: 14,810
 Per capita withdrawals (gal/d): 141
 Acres irrigated: 205
 Hydroelectric power instream use (Mgal/d): 0.00



	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	1.91	0.00	1.91
Industrial	.03	.00	.03
Power generation	.00	.00	.00
Rural domestic	.45	.00	.45
Livestock	.07	.20	.27
Rice irrigation	.00	.00	.00
General irrigation	.23	.00	.23
Aquaculture	.00	.00	.00
TOTALS	2.68	.20	2.89

Standard Industrial Classification	GW	SW

Public Supplier	GW	SW
Clinton Water System	0.19	
E. Feliciana Rural Water	.75	
E. Feliciana W.W. Dist. 1	.06	
E. Feliciana W.W. Dist. 7	.06	
Jackson Water System	.18	
Norwood Water System	.04	
Plantation Utilities	.05	
Slaughter Water System	.05	



EVANGELINE

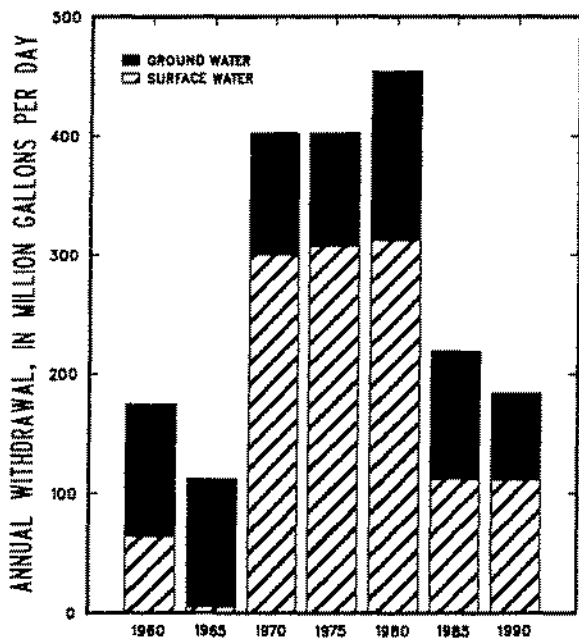
Population: 34,200
 Population served by public supply: 26,231
 Per capita withdrawals (gal/d): 5,375
 Acres irrigated: 42,756
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	3.66	0.00	3.66
Industrial	1.95	.00	1.95
Power generation	.00	104.32	104.32
Rural domestic	.63	.00	.63
Livestock	.09	.02	.11
Rice irrigation	49.33	5.23	54.56
General irrigation	.02	.00	.02
Aquaculture	16.73	1.86	18.58
TOTALS	72.41	111.43	183.84

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
20 Food products	0.05	
28 Chemicals	1.90	

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Basile Water System	0.41	
Chataignier Water System	.06	
East Side Water System	.22	
Evangeline Water Dist. 1	.12	
Mamou Road Water District	.15	
Mamou Water System	.58	
Point Blue Water System	.15	
Reddell-Vidrine Water Dist.	.13	
Savoy-Swords Water System	.26	
Te Mamou Water District	.19	
Turkey Creek Water System	.25	
Ville Platte Water System	1.10	



WITHDRAWAL TRENDS SINCE 1960

FRANKLIN

Population: 23,700
 Population served by public supply: 10,878
 Per capita withdrawals (gal/d): 1,325
 Acres irrigated: 38,890
 Hydroelectric power instream use (Mgal/d): 0.00



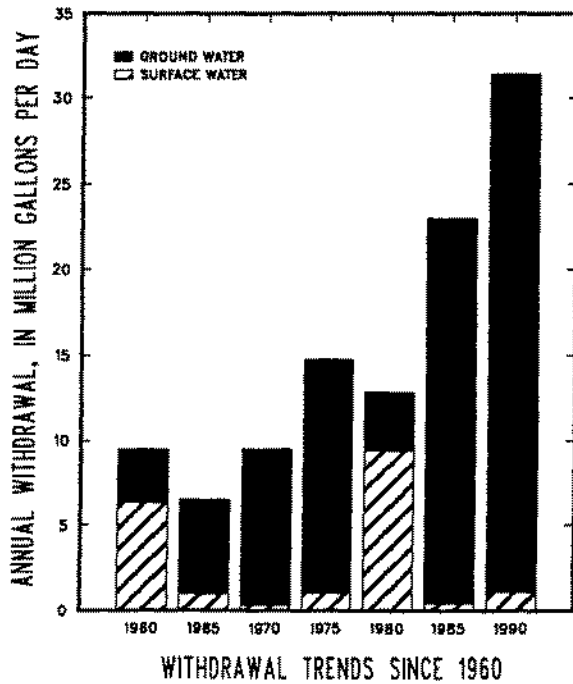
Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	1.10	0.00	1.10
Industrial	.20	.00	.20
Power generation	.00	.00	.00
Rural domestic	1.03	.00	1.03
Livestock	.14	.01	.15
Rice irrigation	.17	.75	.92
General irrigation	11.58	.35	11.93
Aquaculture	16.08	.00	16.08
TOTALS	30.30	1.11	31.41

Withdrawals by Major Industrial Groups (Mgal/d)

Standard Industrial Classification	GW	SW
20 Food products	0.19	

Withdrawals by Major Public Suppliers (Mgal/d)

Public Supplier	GW	SW
Gilbert Water System	0.10	
W. Winnsboro Water System	.13	
Winnsboro Water System	.65	
Wisner Water System	.22	



GRANT

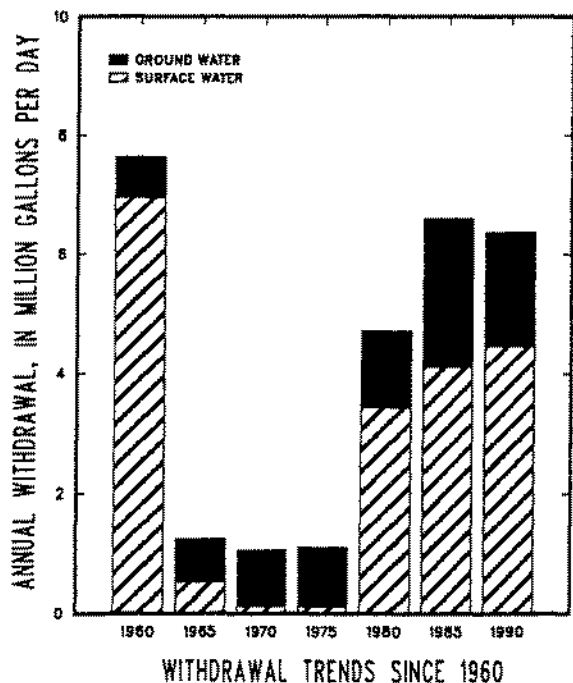
Population: 18,300
 Population served by public supply: 11,510
 Per capita withdrawals (gal/d): 347
 Acres irrigated: 0
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	1.26	2.54	3.80
Industrial	.08	1.87	1.95
Power generation	.00	.00	.00
Rural domestic	.54	.00	.54
Livestock	.02	.05	.07
Rice irrigation	.00	.00	.00
General irrigation	.00	.00	.00
Aquaculture	.00	.00	.00
TOTALS	1.91	4.46	6.37

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
23 Apparel	0.05	
24 Lumber	.03	
28 Chemicals		1.87

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Colfax Water System	0.53	
Dry Prong Water System	.06	
Georgetown Water System		0.02
Montgomery Water System	.10	
Pollock Area Water System	.10	
Pollock Water System	.05	
Rapides W.W. Dist. 3		2.53
Red Hill Water Works	.02	
S. Grant Water Corp.	.19	
W. Grant Water Assoc.	.13	
Zone 2 Water System	.08	



IBERIA

Population: 66,400
 Population served by public supply: 54,647
 Per capita withdrawals (gal/d): 565
 Acres irrigated: 1,264
 Hydroelectric power instream use (Mgal/d): 0.00



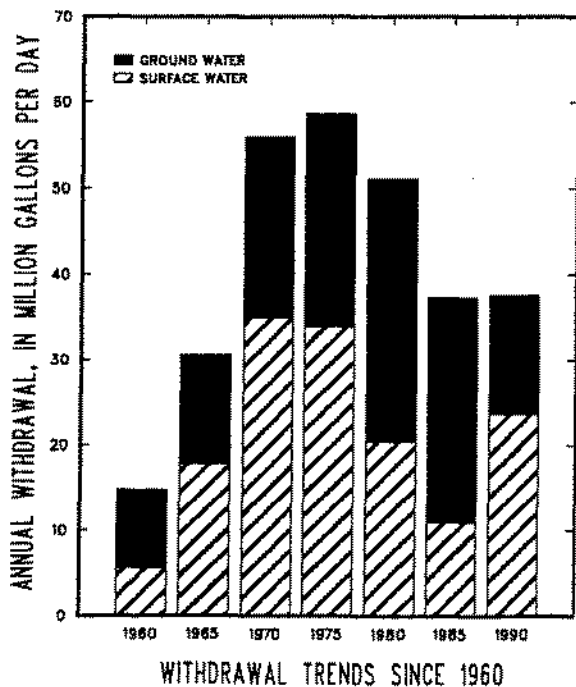
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	7.77	0.00	7.77
Industrial	2.84	7.67	10.51
Power generation	.00	.00	.00
Rural domestic	.94	.00	.94
Livestock	.07	.01	.08
Rice irrigation	1.34	.07	1.41
General irrigation	.11	.00	.11
Aquaculture	.86	15.89	16.75
TOTALS	13.93	23.64	37.58

Withdrawals by Major Industrial Groups (Mgal/d)

Standard Industrial Classification	GW	SW
14 Non-fuels/non-metals mining	0.23	2.23
20 Food products	1.17	.33
28 Chemicals	1.42	5.11
37 Transportation equipment	.01	

Withdrawals by Major Public Suppliers (Mgal/d)

Public Supplier	GW	SW
Bayou Teche Water Works	0.53	
Coleau Water System	.20	
Jeanerette Water System	1.06	
Loreauville Water System	.09	
Lydia Water System	.14	
New Iberia Water System	5.73	



IBERVILLE

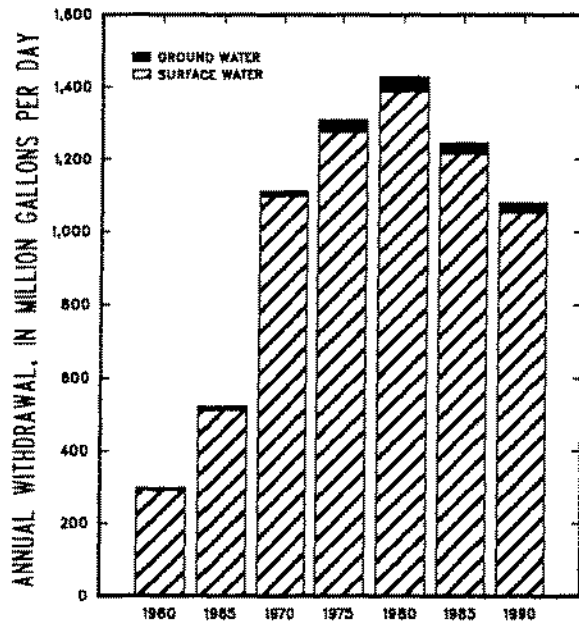
Population: 33,200
 Population served by public supply: 29,780
 Per capita withdrawals (gal/d): 32,514
 Acres irrigated: 0
 Hydroelectric power instream use (Mgal/d): 0.00



	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	3.69	0.00	3.69
Industrial	20.81	516.39	537.20
Power generation	1.31	525.74	527.04
Rural domestic	.27	.00	.27
Livestock	.06	.01	.07
Rice irrigation	.00	.00	.00
General irrigation	.00	.00	.00
Aquaculture	.06	11.15	11.21
TOTALS	26.20	1,053.28	1,079.48

Standard Industrial Classification	GW	SW
13 Oil and gas extraction		3.77
20 Food products	2.47	
28 Chemicals	18.33	512.61
34 Metal products	.01	

Public Supplier	GW	SW
Iberville W.W. Dist. 2	0.62	
Iberville W.W. Dist. 3	1.04	
Iberville W.W. Dist. 4	.25	
Maringouin Water System	1.25	
Rosedale Water System	.06	
White Castle Water System	.19	



WITHDRAWAL TRENDS SINCE 1960

JACKSON

Population: 17,500
 Population served by public supply: 14,542
 Per capita withdrawals (gal/d): 243
 Acres irrigated: 0
 Hydroelectric power instream use (Mgal/d): 0.00



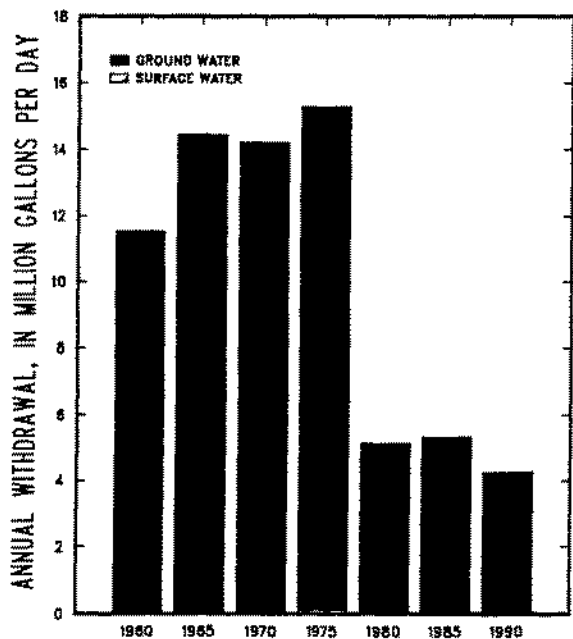
Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	1.44	0.00	1.44
Industrial	2.49	.00	2.49
Power generation	.00	.00	.00
Rural domestic	.24	.00	.24
Livestock	.00	.07	.07
Rice irrigation	.00	.00	.00
General irrigation	.00	.00	.00
Aquaculture	.02	.00	.02
TOTALS	4.19	.07	4.26

Withdrawals by Major Industrial Groups (Mgal/d)

Standard Industrial Classification	GW	SW
26 Paper products	2.49	

Withdrawals by Major Public Suppliers (Mgal/d)

Public Supplier	GW	SW
Bear Creek Water System	0.03	
Chatham Water System	.08	
Clay Water System	.02	
E. Hodge Water System	.04	
Eros Comm. Water System	.03	
Eros Water System	.04	
Hodge Water System	.08	
Jonesboro Water System	.68	
McDonald Water System	.05	
N. Hodge Water System	.05	
New Hope-St. Clair Water Sys.	.02	
Punkin-Hilltop Water System	.09	
Quitman Water System	.04	
St. Rest Water System	.03	
Weston Water System	.10	



WITHDRAWAL TRENDS SINCE 1960

JEFFERSON

Population: 471,400
 Population served by public supply: 470,928
 Per capita withdrawals (gal/d): 2,248
 Acres irrigated: 0
 Hydroelectric power instream use (Mgal/d): 0.00



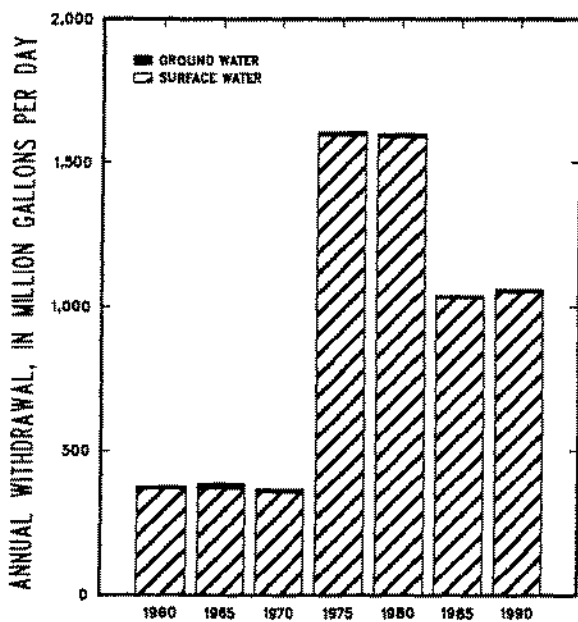
Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	0.00	82.62	82.62
Industrial	7.31	7.19	14.50
Power generation	3.12	959.49	962.62
Rural domestic	.04	.00	.04
Livestock	.00	.02	.02
Rice irrigation	.00	.00	.00
General irrigation	.07	.00	.07
Aquaculture	.00	.00	.00
TOTALS	10.54	1,049.32	1,059.86

Withdrawals by Major Industrial Groups (Mgal/d)

Standard Industrial Classification	GW	SW
20 Food products	1.78	
26 Paper products	.41	
28 Chemicals		7.15
34 Metal products		.04
37 Transportation equipment	5.12	

Withdrawals by Major Public Suppliers (Mgal/d)

Public Supplier	GW	SW
E. Jefferson W.W. Dist. 1		51.88
Gretna Water Works		3.91
W. Jefferson W.W. Dist. 2		24.92
Westwego Water System		1.90



WITHDRAWAL TRENDS SINCE 1960

JEFFERSON DAVIS

Population: 32,400
 Population served by public supply: 24,364
 Per capita withdrawals (gal/d): 5,022
 Acres irrigated: 138,521
 Hydroelectric power instream use (Mgal/d): 0.00



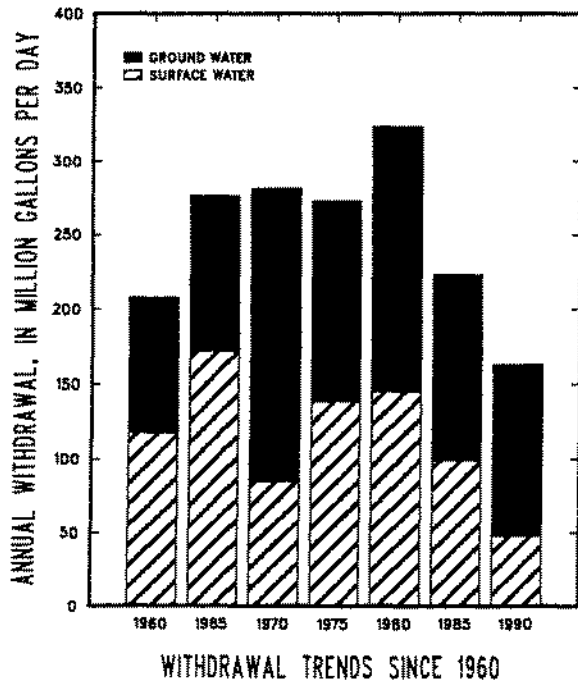
Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	2.78	0.00	2.78
Industrial	.61	.00	.61
Power generation	.00	.00	.00
Rural domestic	.64	.00	.64
Livestock	.00	.01	.01
Rice irrigation	94.25	40.43	134.69
General irrigation	8.83	2.06	10.89
Aquaculture	7.90	5.20	13.10
TOTALS	115.01	47.70	162.72

Withdrawals by Major Industrial Groups (Mgal/d)

Standard Industrial Classification	GW	SW
28 Chemicals	0.58	
29 Petroleum refining	.03	

Withdrawals by Major Public Suppliers (Mgal/d)

Public Supplier	GW	SW
Fenton Water System	0.03	
Jeff Davis Central W.W.	.22	
Jeff Davis W.W. Dist. 1	.02	
Jeff Davis W.W. Dist. 4	.13	
Jennings Water System	1.52	
Lacassine Water System	.03	
Lake Arthur Water System	.33	
Welsh Water System	.49	



LAFAYETTE

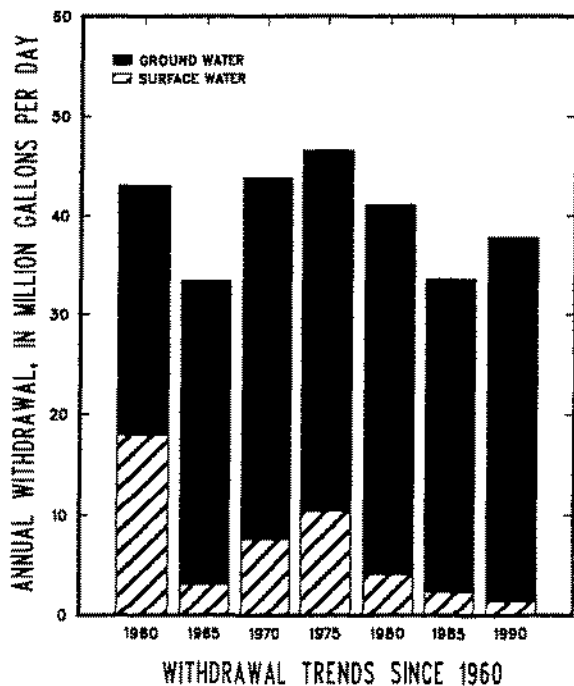
Population: 164,700
 Population served by public supply: 125,501
 Per capita withdrawals (gal/d): 229
 Acres irrigated: 6,207
 Hydroelectric power instream use (Mgal/d): 0.00



	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	18.63	0.00	18.63
Industrial	.34	.00	.34
Power generation	1.35	.00	1.35
Rural domestic	3.14	.00	3.14
Livestock	.12	.01	.13
Rice irrigation	7.85	1.38	9.23
General irrigation	.02	.00	.02
Aquaculture	4.92	.00	4.92
TOTALS	36.36	1.39	37.75

Standard Industrial Classification	GW	SW
20 Food products	0.32	
28 Chemicals	.02	

Public Supplier	GW	SW
Acadiana Treatment System	0.31	
Broussard Water System	.26	
Carencro Water System	1.00	
Driftwood Util. Co.	.02	
Duson Water System	.17	
Lafayette Water System	16.09	
Milton Water System	.21	
S. Lafayette W.W. Dist.	.22	
Youngsville Water System	.14	



LAFOURCHE

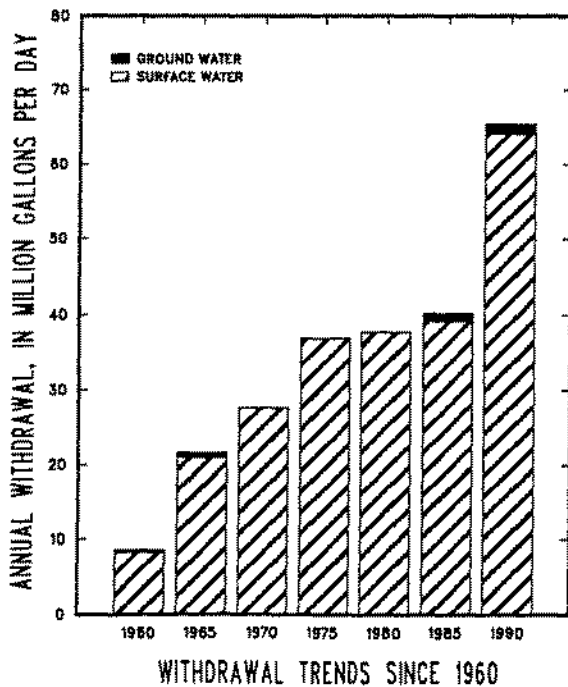
Population: 85,100
 Population served by public supply: 84,759
 Per capita withdrawals (gal/d): 767
 Acres irrigated: 0
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	0.00	19.94	19.94
Industrial	1.02	8.17	9.19
Power generation	.00	.00	.00
Rural domestic	.03	.00	.03
Livestock	.12	.03	.15
Rice irrigation	.00	.00	.00
General irrigation	.00	.00	.00
Aquaculture	.09	35.94	36.02
TOTALS	1.26	64.08	65.34

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
20 Food products		4.08
26 Paper products		3.30
28 Chemicals	1.02	.79

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Lafourche W.W. Dist. 1		7.94
Lockport Water System		.20
Terrebonne W.W. Dist. 1		9.17
Thibodaux Water System		2.62



LA SALLE

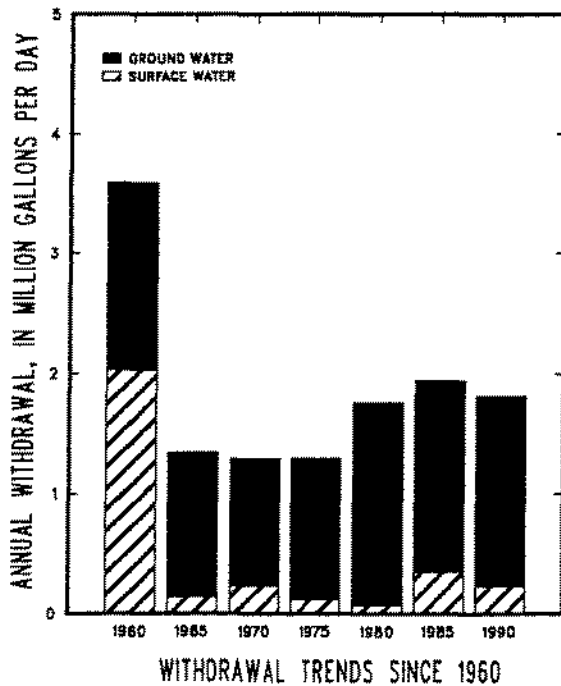
Population: 16,500
 Population served by public supply: 14,140
 Per capita withdrawals (gal/d): 109
 Acres irrigated: 0
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	1.33	0.00	1.33
Industrial	.02	.13	.15
Power generation	.00	.00	.00
Rural domestic	.19	.00	.19
Livestock	.00	.06	.06
Rice irrigation	.00	.00	.00
General irrigation	.03	.03	.05
Aquaculture	.01	.01	.02
TOTALS	1.58	.23	1.80

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
2 4 Lumber	0.02	0.13

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Belah-Fellowship Water Sys.	0.05	
E. Jena Water System	.06	
Jena Water System	.48	
La Salle W.W. Dist. 1	.16	
Nebo Water System	.05	
Olla Water System	.27	
Rogers Comm. Water System	.04	
Summerville-Rosefield Water	.14	
Tullos Water System	.08	



LINCOLN

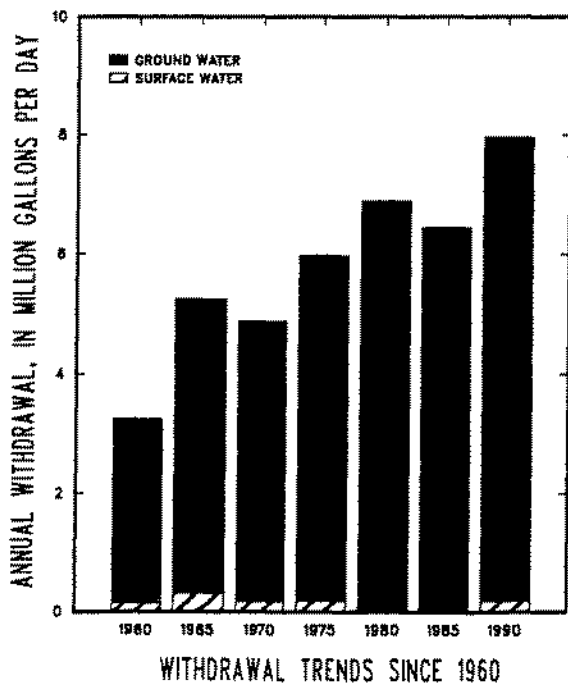
Population: 42,500
 Population served by public supply: 37,017
 Per capita withdrawals (gal/d): 187
 Acres irrigated: 0
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	6.06	0.00	6.06
Industrial	1.26	.00	1.26
Power generation	.00	.00	.00
Rural domestic	.44	.00	.44
Livestock	.01	.19	.20
Rice irrigation	.00	.00	.00
General irrigation	.00	.00	.00
Aquaculture	.00	.00	.00
TOTALS	7.77	.19	7.96

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
13 Oil and gas extraction	0.97	
24 Lumber	.27	
32 Glass, clay, and concrete	.02	

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Choudrant Water System	0.08	
Culbertson Water System	.10	
Dubach Water System	.20	
Fellowship Water System	.03	
Grambling Water System	.58	
Greater Word One W.W.	.22	
Hico Water System	.18	
Lincoln W.W. Dist. 3	.16	
Mineral Springs Water System	.05	
Mt. Olive Water Dist.	.09	
Mt. Zion Water System	.05	
Ruston Water and Light	3.52	
Simsboro Water System	.17	
Wesley Chapel Water System	.13	



LIVINGSTON

Population: 72,800
 Population served by public supply: 48,921
 Per capita withdrawals (gal/d): 101
 Acres irrigated: 150
 Hydroelectric power instream use (Mgal/d): 0.00



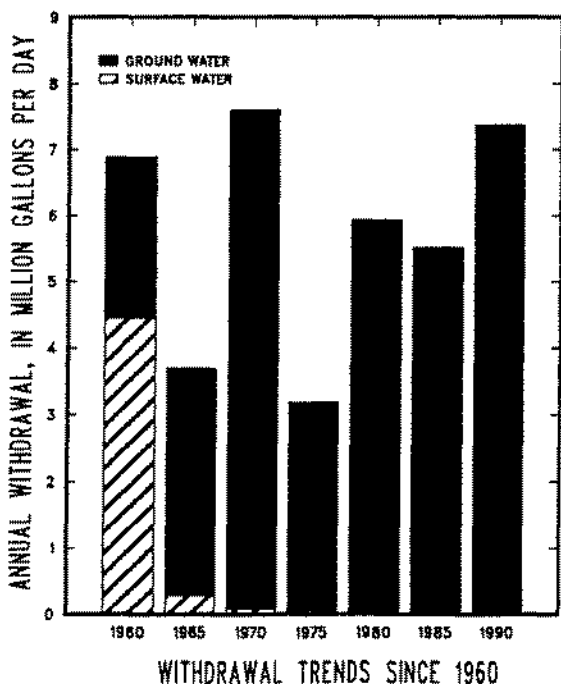
Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	5.26	0.00	5.26
Industrial	.03	.00	.03
Power generation	.00	.00	.00
Rural domestic	1.91	.00	1.91
Livestock	.00	.01	.01
Rice irrigation	.00	.00	.00
General irrigation	.05	.00	.05
Aquaculture	.10	.00	.10
TOTALS	7.35	.01	7.36

Withdrawals by Major Industrial Groups (Mgal/d)

Standard Industrial Classification	GW	SW
24 Lumber	0.01	

Withdrawals by Major Public Suppliers (Mgal/d)

Public Supplier	GW	SW
Albany Water System	0.18	
Capitol Utilities Corp.	.08	
Colyell Comm. Water Assoc.	.11	
Denham Springs Water System	2.61	
Fourth Ward Water Assoc.	.14	
French Settlement Water Co.	.22	
Livingston Water System	.23	
Port Vincent Water System	.03	
Walker Water System	.51	
Ward 2 Water District	1.00	
Water Dist. 2	.05	



MADISON

Population: 14,700
 Population served by public supply: 13,347
 Per capita withdrawals (gal/d): 762
 Acres irrigated: 14,201
 Hydroelectric power instream use (Mgal/d): 0.00



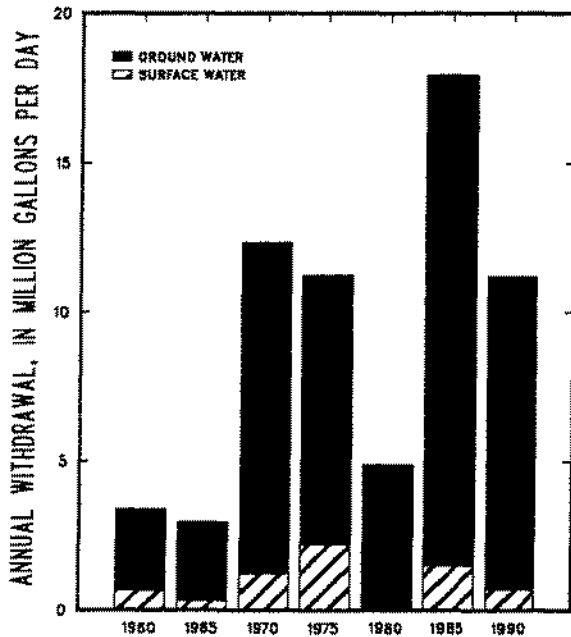
Withdrawals, in million gallons per day (Mgal/d)	GROUND WATER (GW)		TOTALS
	WATER (GW)	SURFACE WATER (SW)	
Public supply	1.81	0.00	1.81
Industrial	.00	.00	.00
Power generation	.00	.00	.00
Rural domestic	.11	.00	.11
Livestock	.03	.00	.03
Rice irrigation	4.25	.55	4.81
General irrigation	3.14	.12	3.26
Aquaculture	1.19	.00	1.19
TOTALS	10.52	.68	11.20

Withdrawals by Major Industrial Groups (Mgal/d)

Standard Industrial Classification	GW	SW

Withdrawals by Major Public Suppliers (Mgal/d)

Public Supplier	GW	SW
Delta Water System	0.02	
People's Water Service	1.23	
Walnut Bayou Water Assoc.	.56	



WITHDRAWAL TRENDS SINCE 1960

MOREHOUSE

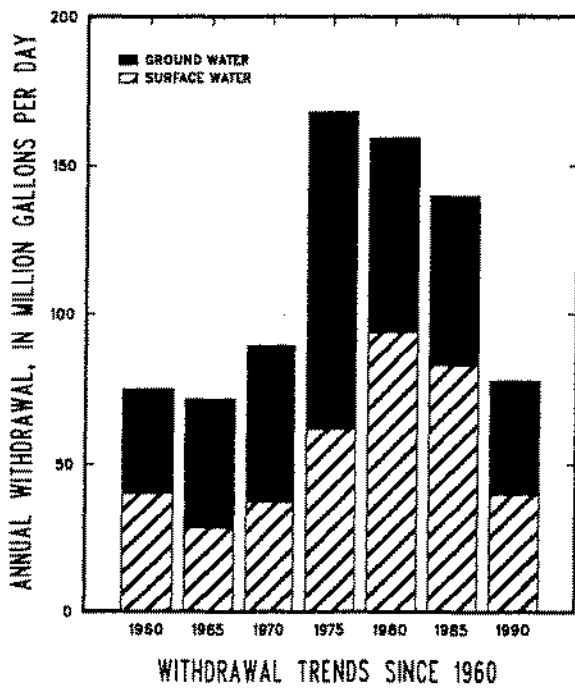
Population: 35,600
 Population served by public supply: 30,260
 Per capita withdrawals (gal/d): 2,185
 Acres irrigated: 40,727
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	3.51	0.00	3.51
Industrial	6.09	24.67	30.77
Power generation	.00	.00	.00
Rural domestic	.43	.00	.43
Livestock	.00	.01	.01
Rice irrigation	23.54	13.21	36.75
General irrigation	4.41	1.92	6.33
Aquaculture	.00	.00	.00
TOTALS	37.99	39.81	77.80

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
26 Paper products	6.09	24.67

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Bayou Bonne Idee Water Sys.	0.07	
Beekman Water System	.05	
Bonita Water System	.08	
Collinston Water System	.05	
Jones-McGinty Water System	.12	
Mer Rouge Water System	.11	
Morehouse Central Water Sys.	.05	
Morehouse W.W. Dist. 1	.13	
Morehouse W.W. Dist. 2	.22	
Oak Ridge Water System	.03	
People's Water Service	2.30	
S. Bonne Idee Water System	.02	
Ward 3 Water System	.29	



NATCHITOCHES

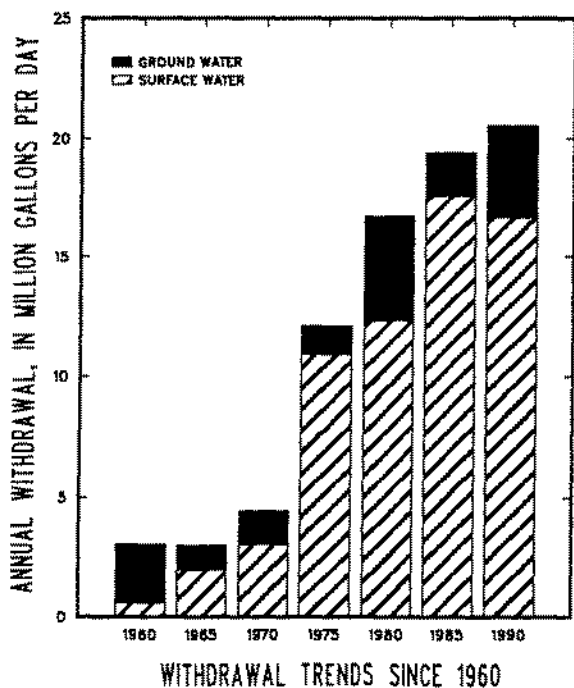
Population: 39,000
 Population served by public supply: 28,002
 Per capita withdrawals (gal/d): 525
 Acres irrigated: 2,548
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	0.83	4.70	5.53
Industrial	.00	8.56	8.56
Power generation	.00	.00	.00
Rural domestic	.89	.00	.89
Livestock	.08	.34	.43
Rice irrigation	.12	.28	.40
General irrigation	.05	.35	.40
Aquaculture	1.89	2.42	4.30
TOTALS	3.86	16.64	20.51

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
26 Paper products		8.56

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Campli Water System	0.19	
Chee Chee Bay Water System	.02	
Clarence Water System	.06	
Creston Water System	.05	
Goldonna Water System	.03	
Hagewood Water System	.03	
Natchitoches Water System		4.70
Natchitoches W.W. Dist. 2	.31	
Powhatan Water System	.03	
Provencal Water System	.04	
Robeline-Marthaville Water	.06	



ORLEANS

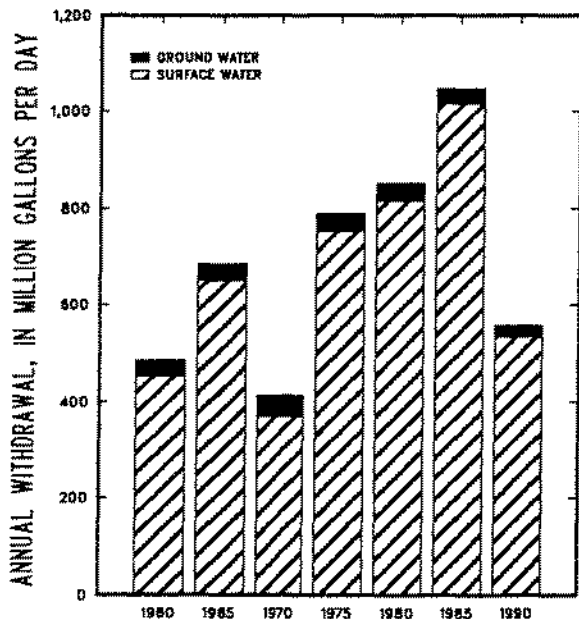
Population: 531,700
 Population served by public supply: 529,573
 Per capita withdrawals (gal/d): 1,045
 Acres irrigated: 0
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	0.80	127.00	127.80
Industrial	1.94	.00	1.94
Power generation	19.06	406.79	425.86
Rural domestic	.17	.00	.17
Livestock	.00	.00	.00
Rice irrigation	.00	.00	.00
General irrigation	.02	.00	.02
Aquaculture	.00	.00	.00
TOTALS	21.99	533.79	555.79

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
20 Food products	0.90	
28 Chemicals	.90	
32 Glass, clay, and concrete	.14	

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
New Orleans Sewage & Water		127.00



WITHDRAWAL TRENDS SINCE 1960

OUACHITA

Population: 144,000
 Population served by public supply: 135,504
 Per capita withdrawals (gal/d): 910
 Acres irrigated: 5,204
 Hydroelectric power instream use (Mgal/d): 0.00



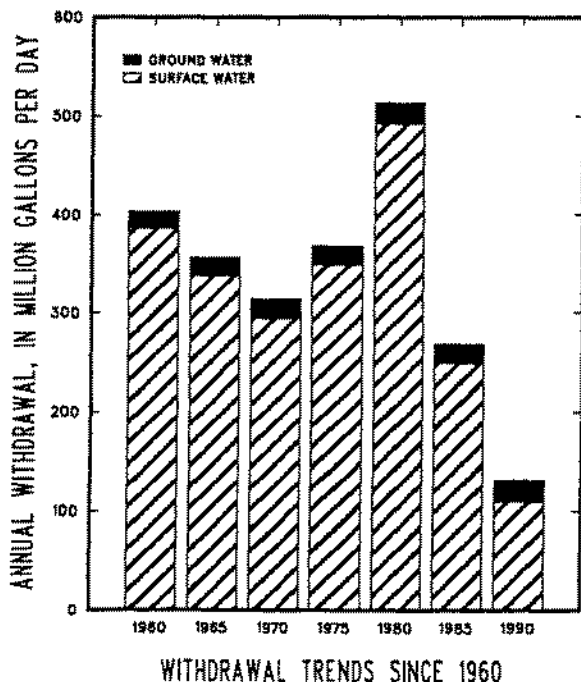
Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	7.19	10.40	17.59
Industrial	10.48	30.46	40.94
Power generation	.19	66.50	66.69
Rural domestic	.68	.00	.68
Livestock	.01	.09	.10
Rice irrigation	2.01	2.01	4.02
General irrigation	.61	.32	.93
Aquaculture	.09	.06	.15
TOTALS	21.26	109.84	131.10

Withdrawals by Major Industrial Groups (Mgal/d)

Standard Industrial Classification	GW	SW
14 Non-fuels/non-metals mining		6.68
26 Paper products	10.27	18.00
28 Chemicals	.21	5.77

Withdrawals by Major Public Suppliers (Mgal/d)

Public Supplier	GW	SW
Better Water Works	0.17	
Cadeville Water Dist.	.13	
Calhoun Water System	.04	
Cheniere-Drew Water System	.57	
Frost Town Water System	.06	
Greater Ouachita Water Co.	2.21	
Hillside Park Subdivision	.05	
Indian Village Water System	.03	
L & R Utilities	.08	
McClendon Water System	.05	
Monroe Water System		10.40
Pine Bayou-Tanglewood Water	.16	
Prairie Road Water System	.27	
S.W. Ouachita Water Dist.	.38	
Tidwell Enterprises	.17	
W. Monroe Water System	2.79	



PLAQUEMINES

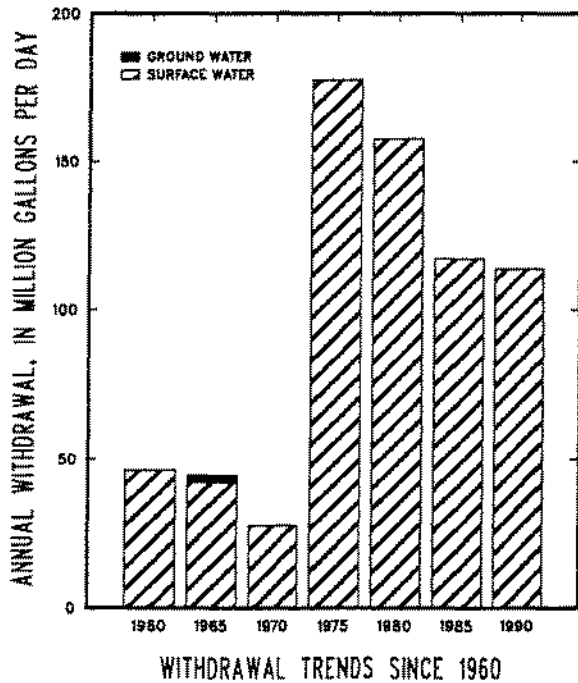
Population: 26,100
 Population served by public supply: 23,907
 Per capita withdrawals (gal/d): 4,359
 Acres irrigated: 0
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	0.00	5.74	5.74
Industrial	.00	105.44	105.44
Power generation	.00	.00	.00
Rural domestic	.18	.00	.18
Livestock	.00	.00	.00
Rice irrigation	.00	.00	.00
General irrigation	.00	.00	.00
Aquaculture	.00	2.42	2.42
TOTALS	.18	113.60	113.77

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
28 Chemicals		9.86
29 Petroleum refining		94.28
33 Primary metals		1.30

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Plaquemines Parish W.W.		5.74



POINTE COUPEE

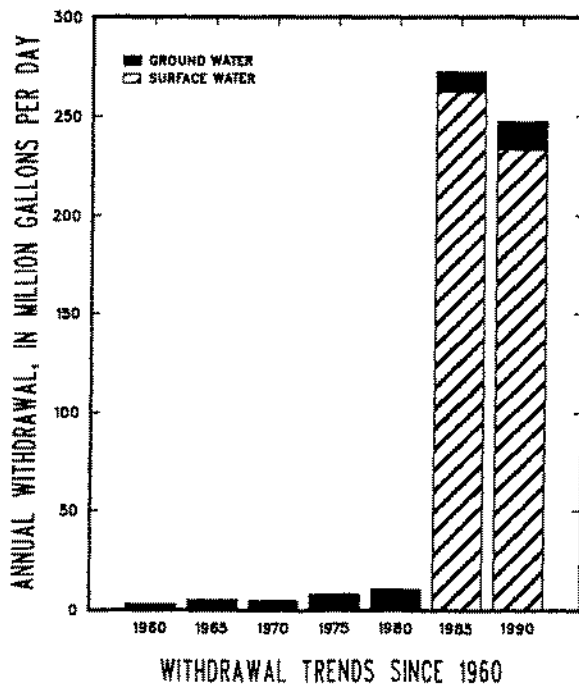
Population: 24,200
 Population served by public supply: 18,488
 Per capita withdrawals (gal/d): 10,210
 Acres irrigated: 1,194
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	2.12	0.00	2.12
Industrial	2.39	.00	2.39
Power generation	1.55	233.27	234.82
Rural domestic	.46	.00	.46
Livestock	.16	.04	.20
Rice irrigation	1.40	.00	1.40
General irrigation	.00	.00	.00
Aquaculture	5.69	.00	5.69
TOTALS	13.78	233.31	247.09

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
20 Food products	0.93	
29 Petroleum refining	.01	
32 Glass, clay, and concrete	1.46	

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Brownview Comm. Water System	0.05	
False River W.W. Corp.	.28	
Fardoche Water System	.10	
Innis Water Works	.14	
Livonia Water System	.10	
Lottie Water Works	.02	
M & S Water System	.06	
Morganza Water System	.07	
New Roads Water System	1.02	
Pointe Coupee Water Dist. 1	.15	
Pointe Coupee W.W. Corp.	.08	
Pointe Coupee W.W. Dist. 2	.05	



RAPIDES

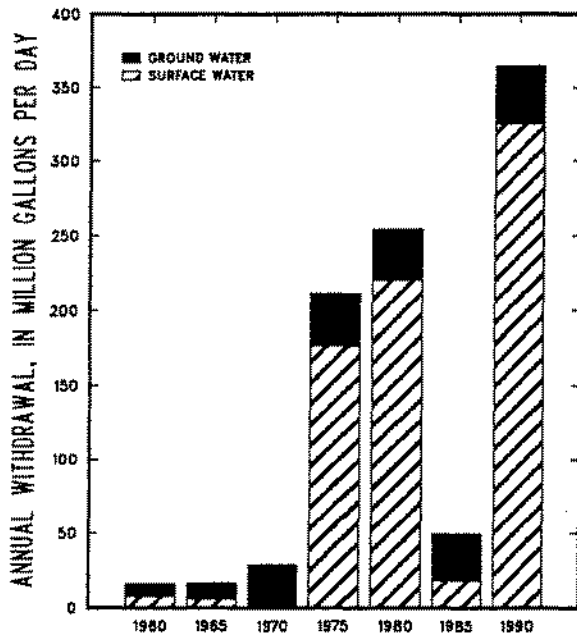
Population: 137,800
 Population served by public supply: 124,020
 Per capita withdrawals (gal/d): 2,644
 Acres irrigated: 5,705
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	33.09	0.00	33.09
Industrial	.05	13.38	13.43
Power generation	.12	307.19	307.31
Rural domestic	1.10	.00	1.10
Livestock	.00	.24	.24
Rice irrigation	.36	4.65	5.01
General irrigation	.00	.00	.00
Aquaculture	4.03	.19	4.22
TOTALS	38.75	325.65	364.40

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
14 Non-fuels/non-metals mining		13.38
20 Food products	0.01	
24 Lumber	.04	

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Alexandria Water System	22.55	
Boyce Water System	.09	
Buckeye Water Dist. 50	.48	
Bunkie Water System	.73	
Cheneyville Water System	.13	
Elmer-Melder-Col Water Sys.	.15	
Forest Hill Water System	.25	
Gardner Comm. Water System	.20	
Glenmora Water System	.16	
Hammock Water System	.04	
Hineston Water System	.08	
Kolin-Ruby-Wise Water Dist.	.28	
Lecompte Water System	.22	
Lena Water System	.11	
McNary Water System	.05	
Pineville Water System	5.50	
Pollock Area Water System	.05	
Rapides Island Water Assoc.	.33	
Rapides W.W. Dist. 3	.66	
Sieper Area Water System	.05	
Word 1 Water System	.12	
Woodworth Water System	.09	



WITHDRAWAL TRENDS SINCE 1960

RED RIVER

Population: 10,900
 Population served by public supply: 6,496
 Per capita withdrawals (gal/d): 153
 Acres irrigated: 1,380
 Hydroelectric power instream use (Mgal/d): 0.00



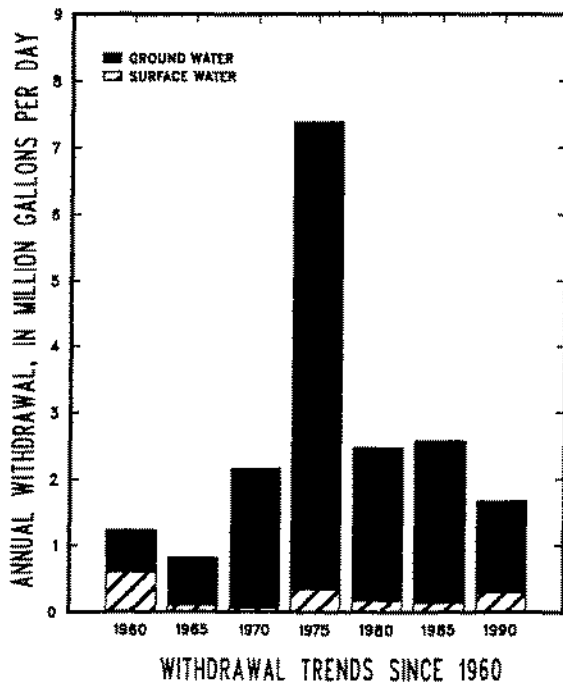
Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	0.55	0.00	0.55
Industrial	.00	.00	.00
Power generation	.00	.00	.00
Rural domestic	.35	.00	.35
Livestock	.06	.09	.15
Rice irrigation	.00	.00	.00
General irrigation	.42	.20	.62
Aquaculture	.00	.00	.00
TOTALS	1.38	.29	1.67

Withdrawals by Major Industrial Groups (Mgal/d)

Standard Industrial Classification	GW	SW

Withdrawals by Major Public Suppliers (Mgal/d)

Public Supplier	GW	SW
Coushatta Water System	0.30	
E. Cross Water System	.03	
Edgefield Water System	.02	
Halfway-Carroll Water System	.03	
Hall Summit Water System	.04	
Hickory Grove Water System	.06	
Martin Water System	.06	
Social Springs Water System	.02	



SABINE

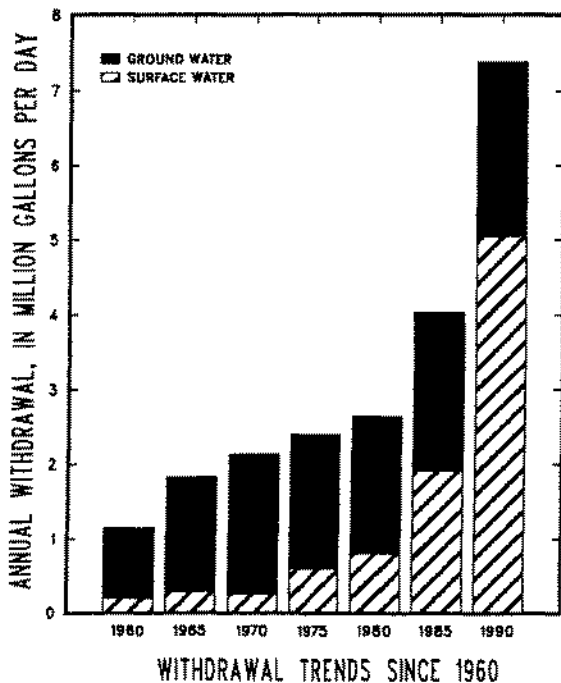
Population: 27,100
 Population served by public supply: 11,300
 Per capita withdrawals (gal/d): 271
 Acres irrigated: 0
 Hydroelectric power instream use (Mgal/d): 2,156.59



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	0.45	1.35	1.80
Industrial	.26	.09	.36
Power generation	.00	3.55	3.55
Rural domestic	1.26	.00	1.26
Livestock	.35	.04	.39
Rice irrigation	.00	.00	.00
General irrigation	.00	.00	.00
Aquaculture	.00	.00	.00
TOTALS	2.33	5.04	7.37

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
2 4 Lumber	0.26	0.09

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Converse Water System	0.03	
Ebarb Water Works Dist.		0.19
Fisher Water System	.02	
Many Water System		1.08
Noble Water System	.02	
Pendleton Water Assoc.		.06
Pirates Cove Water Works		.02
Pleasant Hill Water System	.10	
Union Springs Water System	.03	
Zwolle Water System	.18	



ST. BERNARD

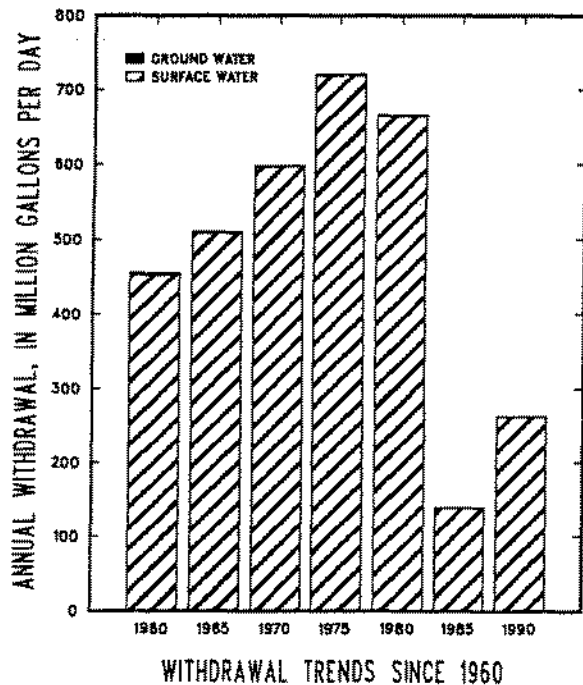
Population: 68,500
 Population served by public supply: 68,500
 Per capita withdrawals (gal/d): 3,821
 Acres irrigated: 0
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	0.00	9.52	9.52
Industrial	.05	252.22	252.26
Power generation	.00	.00	.00
Rural domestic	.00	.00	.00
Livestock	.00	.00	.00
Rice irrigation	.00	.00	.00
General irrigation	.00	.00	.00
Aquaculture	.00	.00	.00
TOTALS	.05	261.74	261.79

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
13 Oil and gas extraction		0.08
20 Food products	0.05	14.32
29 Petroleum refining		237.82

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
St. Bernard Water & Sewage		9.52



ST. CHARLES

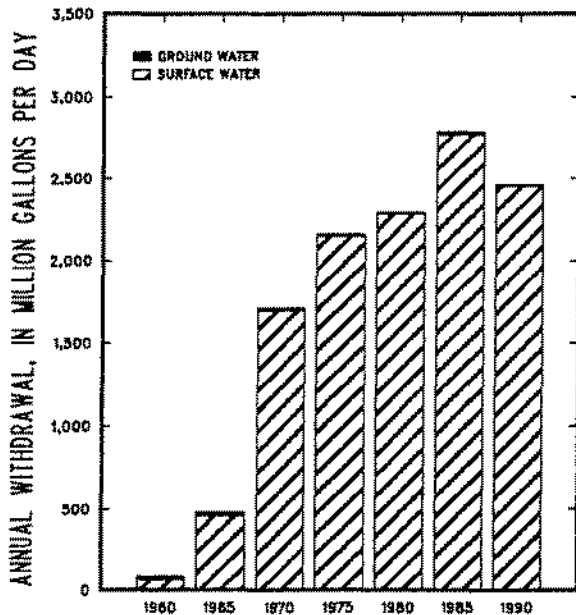
Population: 43,700
 Population served by public supply: 43,394
 Per capita withdrawals (gal/d): 56,300
 Acres irrigated: 0
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	0.00	7.16	7.16
Industrial	4.58	377.13	381.71
Power generation	.00	2,068.12	2,068.12
Rural domestic	.02	.00	.02
Livestock	.03	.03	.06
Rice irrigation	.00	.00	.00
General irrigation	.00	.00	.00
Aquaculture	.00	3.24	3.24
TOTALS	4.64	2,455.68	2,460.32

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
28 Chemicals	4.58	377.12

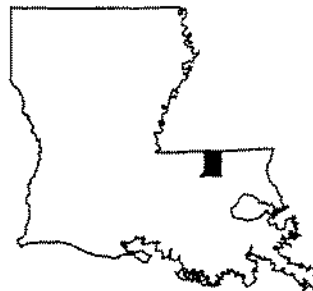
Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
St. Charles W.W. Dist. 1		3.35
St. Charles W.W. Dist. 2		3.81



WITHDRAWAL TRENDS SINCE 1960

ST. HELENA

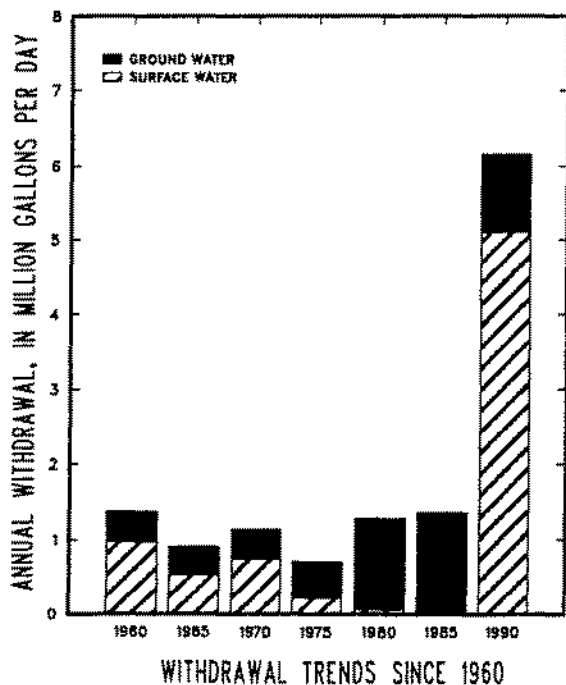
Population: 10,200
 Population served by public supply: 2,754
 Per capita withdrawals (gal/d): 602
 Acres irrigated: 0
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	0.45	0.00	0.45
Industrial	.00	5.08	5.08
Power generation	.00	.00	.00
Rural domestic	.60	.00	.60
Livestock	.00	.02	.02
Rice irrigation	.00	.00	.00
General irrigation	.00	.00	.00
Aquaculture	.00	.00	.00
TOTALS	1.05	5.10	6.15

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
14 Non-fuels/non-metals mining		5.08

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Crossroad Water Works	0.05	
Darlington W.W. Assoc.	.02	
Dennis Mills W.W. Assoc.	.05	
Greensburg Water System	.12	
Montpelier Water System	.02	
Pine Grove W.W. Assoc.	.02	
St. Helena W.W. Dist. 2	.18	



ST. JAMES

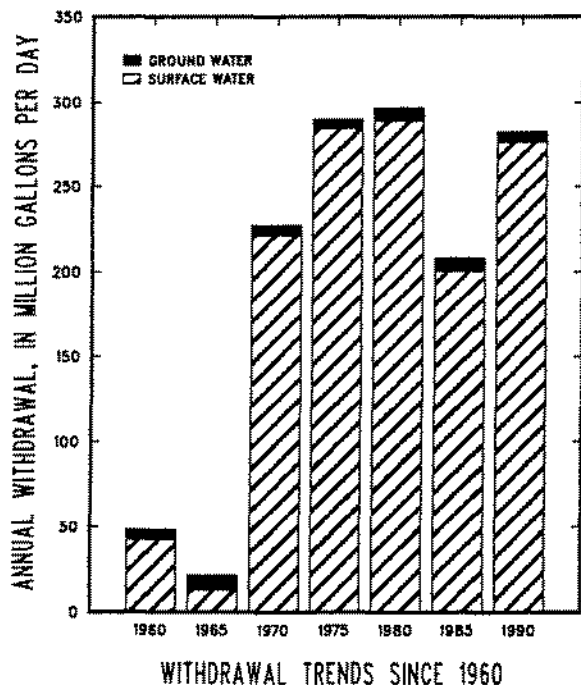
Population: 22,100
 Population served by public supply: 21,746
 Per capita withdrawals (gal/d): 12,777
 Acres irrigated: 0
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	0.00	2.44	2.44
Industrial	5.97	224.87	230.84
Power generation	.00	.00	.00
Rural domestic	.03	.00	.03
Livestock	.00	.00	.00
Rice irrigation	.00	.00	.00
General irrigation	.00	.00	.00
Aquaculture	.00	49.06	49.06
TOTALS	6.00	276.37	282.37

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
20 Food products	3.77	6.19
28 Chemicals	2.20	213.20
29 Petroleum refining		5.48

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Gramercy Water System		0.34
Lutcher Water System		.46
St. James W.W. Dist. 1		.74
St. James W.W. Dist. 2		.91



ST. JOHN THE BAPTIST

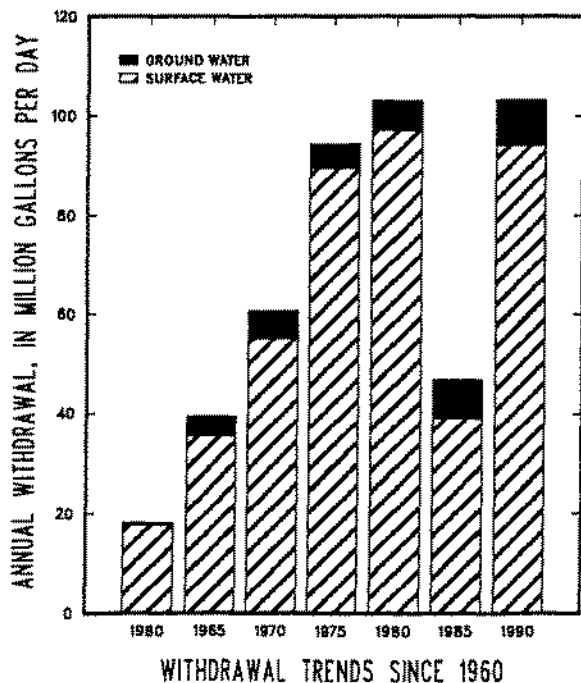
Population: 41,200
 Population served by public supply: 40,664
 Per capita withdrawals (gal/d): 2,505
 Acres irrigated: 0
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	2.34	2.46	4.81
Industrial	6.77	91.00	97.77
Power generation	.00	.00	.00
Rural domestic	.04	.00	.04
Livestock	.00	.00	.00
Rice irrigation	.00	.00	.00
General irrigation	.00	.00	.00
Aquaculture	.00	.60	.60
TOTALS	9.16	94.06	103.22

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
20 Food products	0.36	3.55
28 Chemicals	6.41	56.82
29 Petroleum refining		4.51
33 Primary metals		25.18

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
St. John W.W. Dist. 3	2.34	2.46



ST. LANDRY

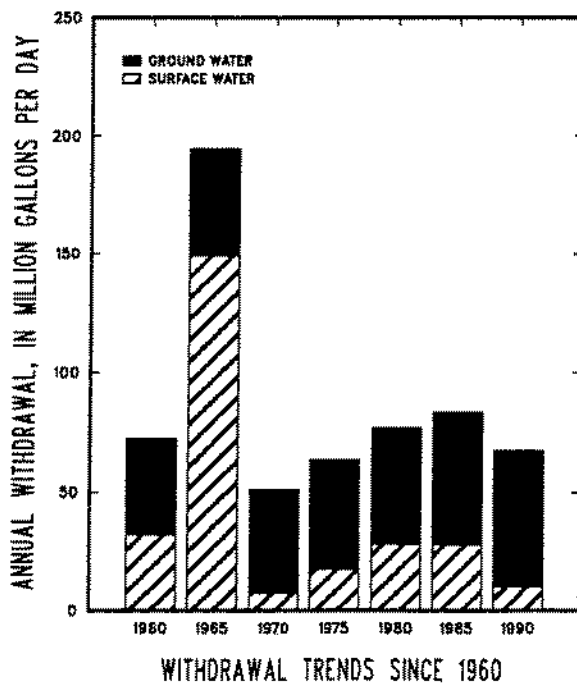
Population: 85,700
 Population served by public supply: 71,730
 Per capita withdrawals (gal/d): 785
 Acres irrigated: 19,016
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	9.20	0.00	9.20
Industrial	1.63	.00	1.63
Power generation	.00	.00	.00
Rural domestic	1.12	.00	1.12
Livestock	.04	.21	.25
Rice irrigation	13.82	3.01	16.83
General irrigation	.00	.00	.00
Aquaculture	31.37	6.91	38.28
TOTALS	57.18	10.13	67.31

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
13 Oil and gas extraction	0.02	
24 Lumber	.03	
29 Petroleum refining	1.58	

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Arnaudville Water System	0.24	
Cankton Water System	.07	
Eunice Water System	1.79	
Garland-Whiteville Water	.05	
Grand Coteau Water System	.11	
Krotz Springs Water System	.10	
Lattell W.W. Dist. 1	.24	
Leonville Water System	.44	
Lewisburg-Bellevue W.S.	.28	
Melville Water System	.53	
Morrow Water System	.04	
Opelousas Water System	4.05	
Palmello Water System	.13	
Plaisance Water System	.41	
Port Barre Water System	.22	
Prairie Ronde Water System	.15	
Sunset Water System	.20	
Washington Water System	.13	



ST. MARTIN

Population: 45,000
 Population served by public supply: 33,345
 Per capita withdrawals (gal/d): 2,686
 Acres irrigated: 5,658
 Hydroelectric power instream use (Mgal/d): 0.00



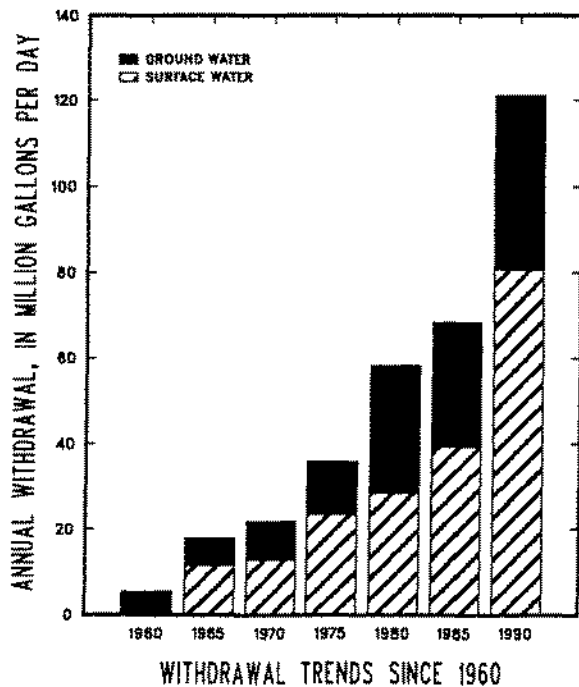
Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	3.91	0.00	3.91
Industrial	1.81	.63	2.43
Power generation	.00	.00	.00
Rural domestic	.93	.00	.93
Livestock	.03	.00	.03
Rice irrigation	.35	3.15	3.50
General irrigation	.00	.00	.00
Aquaculture	33.34	76.75	110.09
TOTALS	40.37	80.54	120.91

Withdrawals by Major Industrial Groups (Mgal/d)

Standard Industrial Classification	GW	SW
13 Oil and gas extraction	0.01	
20 Food products	.04	0.63
23 Apparel	1.32	
28 Chemicals	.43	

Withdrawals by Major Public Suppliers (Mgal/d)

Public Supplier	GW	SW
Acadiana Treatment System	0.03	
Breaux Bridge Water System	.82	
Catahoula Water System	.11	
Cecelia Water System	.70	
Henderson-Nina Water System	.21	
Parks Water System	.71	
St. Martinville Water System	1.17	
United Water System	.16	



ST. MARY

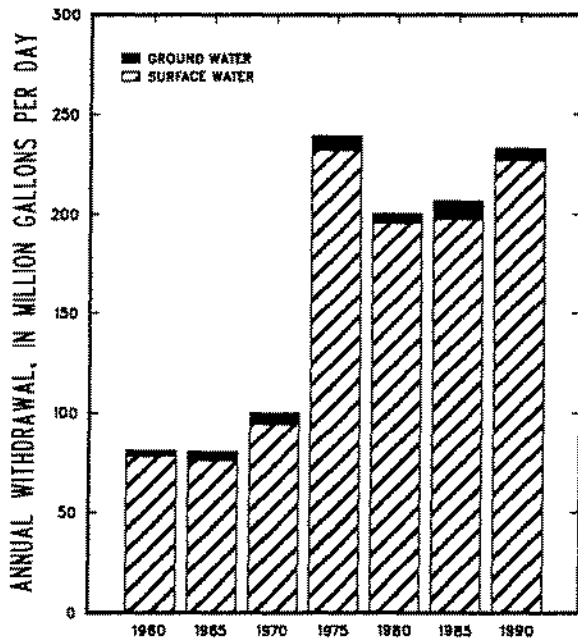
Population: 60,100
 Population served by public supply: 58,116
 Per capita withdrawals (gal/d): 3,877
 Acres irrigated: 0
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	0.15	8.17	8.32
Industrial	2.26	45.14	47.39
Power generation	.00	162.27	162.27
Rural domestic	.16	.00	.16
Livestock	.01	.01	.02
Rice irrigation	.00	.00	.00
General irrigation	.00	.00	.00
Aquaculture	2.97	11.89	14.87
TOTALS	5.55	227.48	233.03

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
20 Food products	0.41	0.06
28 Chemicals	1.85	1.97
29 Petroleum refining		42.51
32 Glass, clay, and concrete		.60

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Berwick-Bayou Vista W.W.		1.25
Franklin Water System		1.20
Glencoe Comm. Water System	0.02	
Morgan City Water System		2.91
Patterson Water System		.46
St. Mary Water Dist. 3		.64
St. Mary Water Dist. 5		1.00
St. Mary Water Dist. 6		.71
St. Mary W.W. Dist. 7	.13	



WITHDRAWAL TRENDS SINCE 1960

ST. TAMMANY

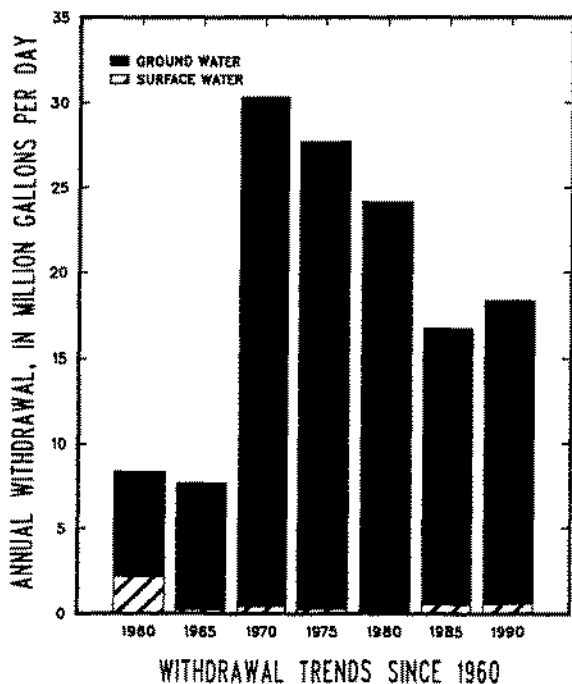
Population: 150,400
 Population served by public supply: 86,780
 Per capita withdrawals (gal/d): 121
 Acres irrigated: 1,125
 Hydroelectric power instream use (Mgal/d): 0.00



	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	11.70	0.00	11.70
Industrial	.07	.00	.07
Power generation	.00	.00	.00
Rural domestic	5.09	.00	5.09
Livestock	.09	.06	.14
Rice irrigation	.00	.00	.00
General irrigation	.75	.50	1.26
Aquaculture	.05	.00	.05
TOTALS	17.75	.56	18.31

Standard Industrial Classification	GW	SW
30 Rubber and plastics	0.07	

Public Supplier	GW	SW
Abita Springs Water System	0.14	
Bayou Liberty Water Co.	.53	
Beau Chene Subdivision	.54	
Covington Water System	1.15	
Cross Gates Utilities Co.	.21	
Folsom Water System	.07	
Greenleaves Utility Corp.	.12	
Kings Forest Utility Co.	.02	
LA Water Service	.79	
Lakeside Utilities	.35	
Lee Road Water Co.	.24	
Madisonville Water System	.13	
Mandeville Water System	1.05	
Resolve Water System	.40	
Royal Gardens Subdivision	.02	
Slidell Water System	4.45	
Southeastern LA Water & Sewage	.48	
St. Tammany Water Dist. 2	.27	
St. Tammany Water Dist. 3	.29	
Sun Water System	.04	
Tchefuncte Club Estates	.10	



TANGIPAHOO

Population: 90,400
 Population served by public supply: 56,590
 Per capita withdrawals (gal/d): 149
 Acres irrigated: 950
 Hydroelectric power instream use (Mgal/d): 0.00



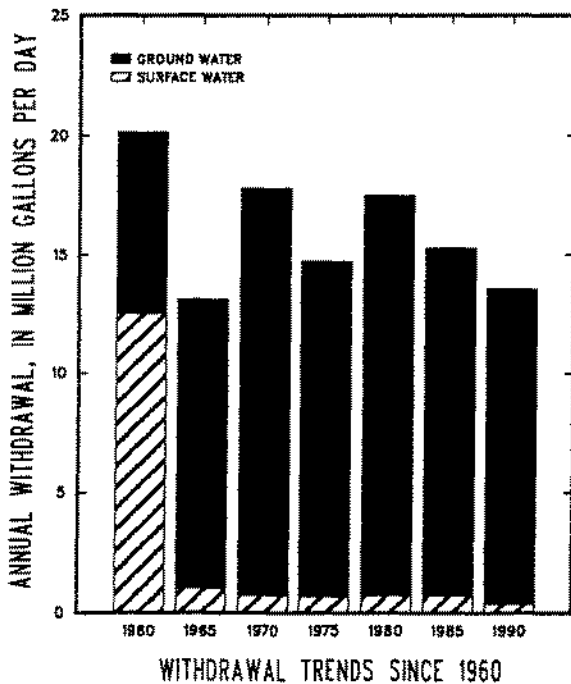
Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	8.69	0.00	8.69
Industrial	.49	.00	.49
Power generation	.00	.00	.00
Rural domestic	2.69	.00	2.69
Livestock	.53	.36	.89
Rice irrigation	.00	.00	.00
General irrigation	.45	.02	.46
Aquaculture	.32	.02	.34
TOTALS	13.17	.39	13.55

Withdrawals by Major Industrial Groups (Mgal/d)

Standard Industrial Classification	GW	SW
20 Food products	0.40	
24 Lumber	.08	

Withdrawals by Major Public Suppliers (Mgal/d)

Public Supplier	GW	SW
Amite Water System	1.00	
Bon Aire Estates Util. Co.	.02	
Eastern Heights Water Works	.08	
Fluker Water Works	.02	
French Settlement Water Co.	.23	
Hammond Heights Water Co.	.15	
Hammond Water System	4.19	
Independence Water System	.24	
Kentwood Water System	.27	
Pine Hill Forest Subd.	.02	
Ponchaloula Water System	.82	
Roseland Water System	.22	
Tangipahoo Water Works	.03	
Tickfaw Water System	.04	
Westview Water Works	.10	
Water Dist. 2	.61	



TENSAS

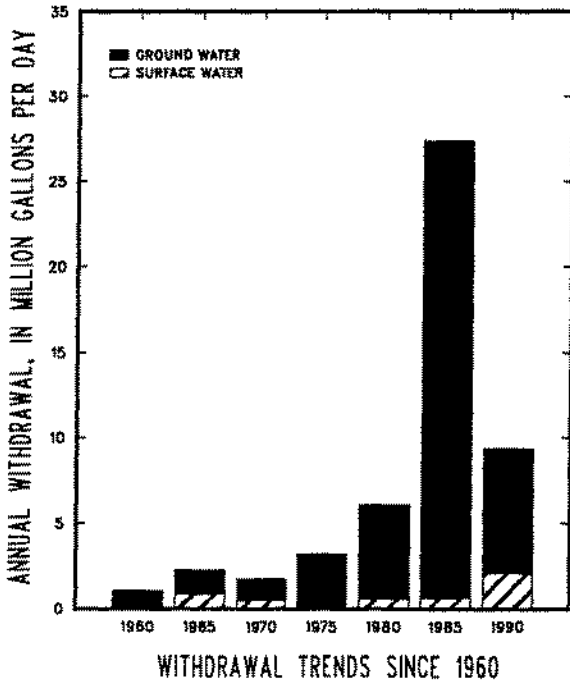
Population: 8,100
 Population served by public supply: 5,394
 Per capita withdrawals (gal/d): 1,150
 Acres irrigated: 8,898
 Hydroelectric power instream use (Mgal/d): 0.00



	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	0.50	0.64	1.15
Industrial	.00	.00	.00
Power generation	.00	.00	.00
Rural domestic	.22	.00	.22
Livestock	.00	.03	.03
Rice irrigation	4.79	1.32	6.11
General irrigation	1.71	.10	1.81
Aquaculture	.00	.00	.00
TOTALS	7.21	2.10	9.32

Standard Industrial Classification	GW	SW

Public Supplier	GW	SW
Lake Bruin Water Dist. 1		0.05
Lake Bruin Water System		.08
Newellton Water System		.31
St. Joseph Water System	0.25	
Ts. Water Distribution Assoc.		.21
Waterproof Water System	.25	



TERREBONNE

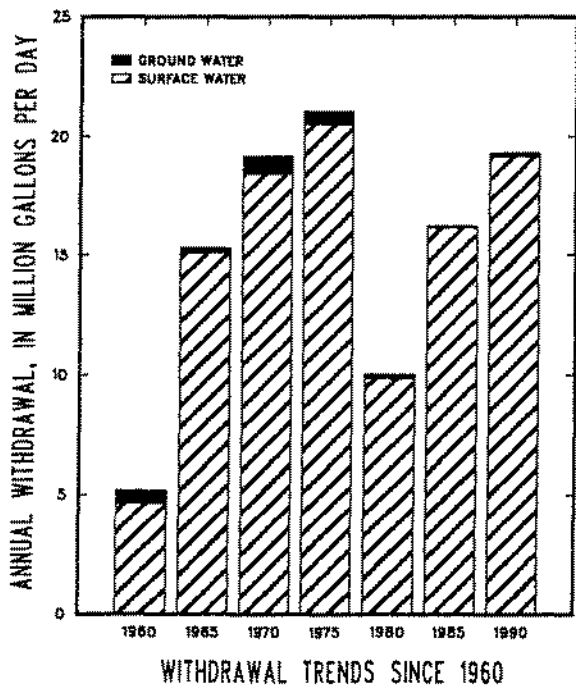
Population: 98,000
 Population served by public supply: 97,510
 Per capita withdrawals (gal/d): 196
 Acres irrigated: 0
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	0.00	7.33	7.33
Industrial	.02	.00	.03
Power generation	.00	.00	.00
Rural domestic	.04	.00	.04
Livestock	.00	.02	.02
Rice irrigation	.00	.00	.00
General irrigation	.00	.00	.00
Aquaculture	.07	11.79	11.86
TOTALS	.13	19.14	19.27

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
20 Food products		0.02

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Houma Water System		7.33



UNION

Population: 22,600
 Population served by public supply: 15,074
 Per capita withdrawals (gal/d): 134
 Acres irrigated: 0
 Hydroelectric power instream use (Mgal/d): 0.00



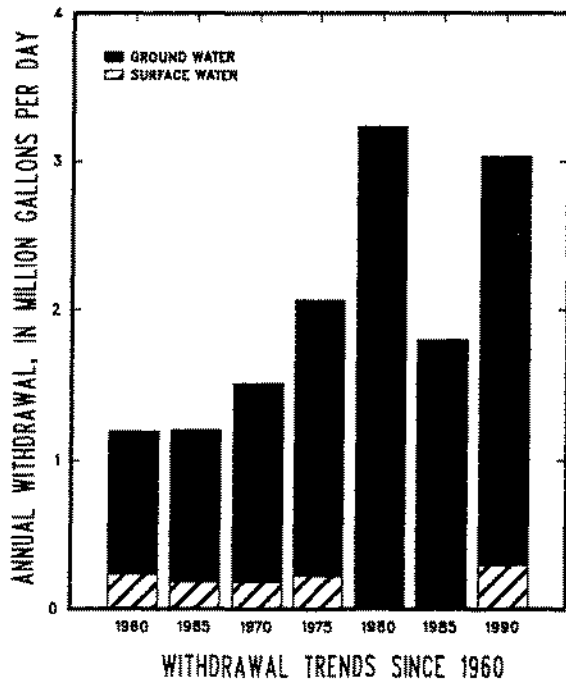
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	1.83	0.00	1.83
Industrial	.00	.00	.00
Power generation	.00	.00	.00
Rural domestic	.60	.00	.60
Livestock	.12	.29	.42
Rice irrigation	.00	.00	.00
General irrigation	.00	.00	.00
Aquaculture	.18	.00	.18
TOTALS	2.74	.29	3.03

Withdrawals by Major Industrial Groups (Mgal/d)

Standard Industrial Classification	GW	SW

Withdrawals by Major Public Suppliers (Mgal/d)

Public Supplier	GW	SW
Bernice Water System	0.25	
Corney Water System	.03	
D'Arbonne Water System	.21	
Downsville Water System	.03	
Farmerville Water System	.34	
Holmesville Water System	.13	
Linville-Haile Water System	.10	
Lilroe Water System	.04	
Marion Water System	.09	
Point-Wilhite Water System	.08	
Randolph Water System	.02	
Rocky Branch W.W. Dist.	.09	
Salem Water System	.03	
Sardis Water System	.05	
Tri-Water System	.10	
Union W.W. Dist. 1	.08	
W. Sterlington Water System	.06	
Wards Chapel Water System	.09	



VERMILION

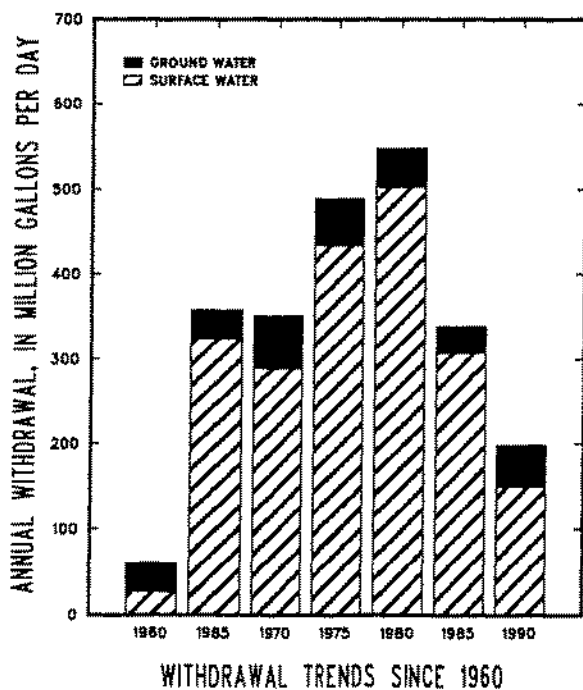
Population: 52,200
 Population served by public supply: 28,083
 Per capita withdrawals (gal/d): 3,794
 Acres irrigated: 82,906
 Hydroelectric power instream use (Mgal/d): 0.00



	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	3.83	0.00	3.83
Industrial	2.94	.05	2.99
Power generation	.00	.00	.00
Rural domestic	1.93	.00	1.93
Livestock	.06	.25	.32
Rice irrigation	26.01	94.91	120.92
General irrigation	.00	.00	.00
Aquaculture	13.57	54.52	68.09
TOTALS	48.35	149.73	198.08

Standard Industrial Classification	GW	SW
13 Oil and gas extraction	0.71	
20 Food products	.07	0.05
29 Petroleum refining	2.17	

Public Supplier	GW	SW
Abbeville Water System	2.10	
Delcambre Water System	.55	
Eralh Water System	.25	
Gueydan Water System	.17	
Kaplan Water System	.64	
Maurice Water System	.06	



VERNON

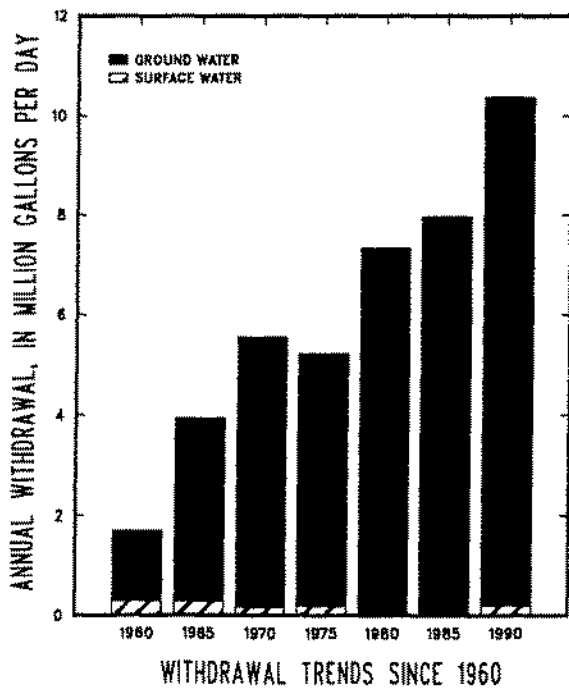
Population: 60,200
 Population served by public supply: 33,952
 Per capita withdrawals (gal/d): 172
 Acres irrigated: 0
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	8.05	0.00	8.05
Industrial	.00	.00	.00
Power generation	.00	.00	.00
Rural domestic	2.10	.00	2.10
Livestock	.02	.20	.23
Rice irrigation	.00	.00	.00
General irrigation	.00	.00	.00
Aquaculture	.01	.00	.01
TOTALS	10.17	.20	10.38

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Anacoco Water System	0.06	
Hornbeck Water System	.05	
Leesville Water System	1.77	
Pitkin Water System	.04	
Rosepine Water System	.15	
Simpson Water System	.03	
Ward 4 Water District	1.00	



WASHINGTON

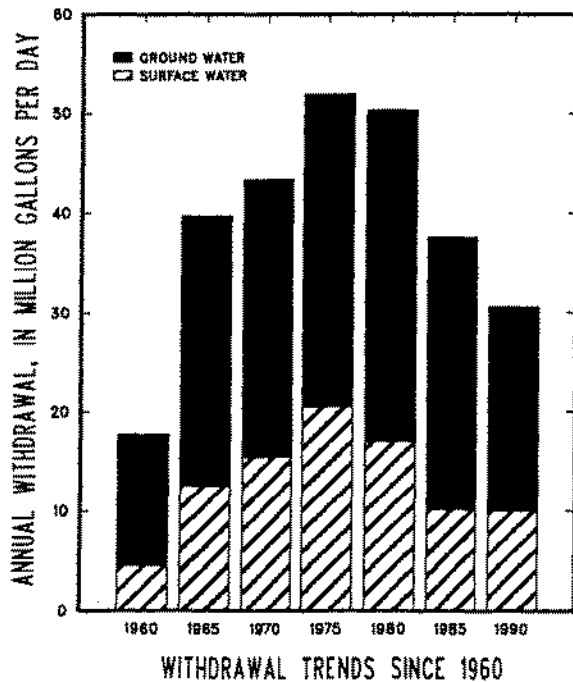
Population: 47,200
 Population served by public supply: 28,697
 Per capita withdrawals (gal/d): 647
 Acres irrigated: 0
 Hydroelectric power instream use (Mgal/d): 0.00



	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	4.91	0.00	4.91
Industrial	14.14	9.99	24.13
Power generation	.00	.00	.00
Rural domestic	1.48	.00	1.48
Livestock	.00	.03	.03
Rice irrigation	.00	.00	.00
General irrigation	.00	.00	.00
Aquaculture	.00	.00	.00
TOTALS	20.54	10.02	30.56

Standard Industrial Classification	GW	SW
20 Food products	0.40	
26 Paper products	13.75	9.99

Public Supplier	GW	SW
Angie Water System	0.04	
Bogalusa Water System	3.59	
Bogue Lusa W.W. Dist.	.29	
Franklinton Water System	.46	
Rural Franklinton Water Sys.	.19	
Varnado W.W. District	.35	



WEBSTER

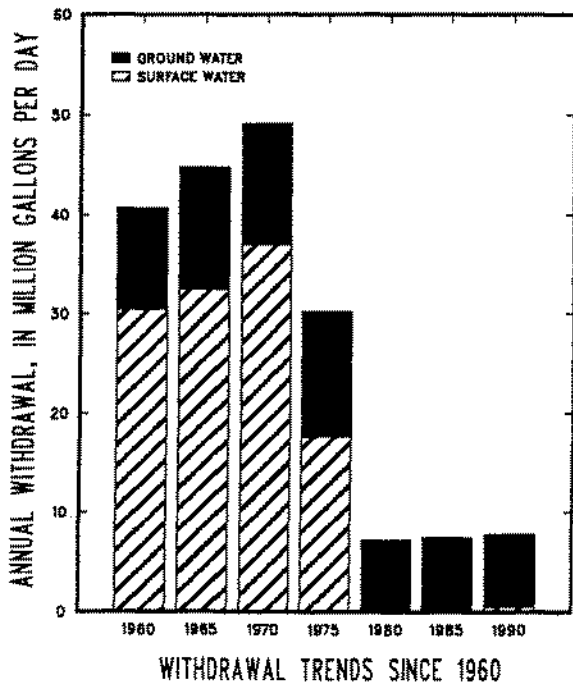
Population: 45,400
 Population served by public supply: 39,271
 Per capita withdrawals (gal/d): 170
 Acres irrigated: 0
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	5.50	0.00	5.50
Industrial	1.19	.47	1.66
Power generation	.00	.00	.00
Rural domestic	.49	.00	.49
Livestock	.00	.08	.08
Rice irrigation	.00	.00	.00
General irrigation	.00	.00	.00
Aquaculture	.02	.00	.02
TOTALS	7.21	.55	7.76

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
24 Lumber	0.11	
28 Chemicals	.01	0.47
29 Petroleum refining	.31	
34 Metal products	.75	

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Bistineou Water System	0.05	
Blocker W.W. Corp.	.08	
Central Water System	.04	
Collin Valley Water System	.06	
Cullen Water Corp.	.21	
Dixie Inn Water System	.03	
Dixie Overland Water Works	.08	
Dorcheat Acres Water System	.05	
Doyline Water System	.05	
Dubberly Water System	.07	
Germanatown Water System	.11	
Gilark Water System	.02	
Gilgal Water System	.04	
Heflin Water System	.04	
Jenkins Comm. Water System	.09	
Leton Water System	.06	
Mcintyre Water System	.03	
Midway Water Works	.03	
Minden Water System	2.83	
Palmello Beach Water System	.03	
Pleasant Valley Water System	.05	
Salt Works Water System	.04	
Sarepta Water System	.12	
Shongaloo Water System	.11	
Sibley Water System	.14	



WEST BATON ROUGE

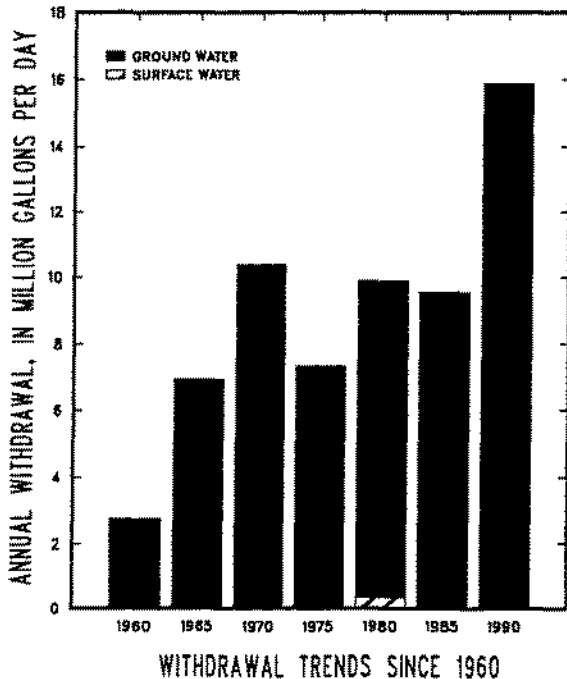
Population: 20,700
 Population served by public supply: 18,050
 Per capita withdrawals (gal/d): 766
 Acres irrigated: 0
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	5.40	0.00	5.40
Industrial	4.65	.00	4.65
Power generation	.00	.00	.00
Rural domestic	.21	.00	.21
Livestock	.01	.02	.03
Rice irrigation	.00	.00	.00
General irrigation	.00	.00	.00
Aquaculture	5.57	.00	5.57
TOTALS	15.84	.02	15.86

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
20 Food products	1.79	
28 Chemicals	2.38	
29 Petroleum refining	.14	

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Plaquemine Water System	1.66	
Port Allen Water System	.68	
W. Baton Rouge Gas and Water	1.38	
W. Baton Rouge Water Dist. 2	.75	
W. Baton Rouge Water Dist. 4	.51	
W. Baton Rouge W.W. Dist. 1	.26	
Westport Properties	.16	



WEST CARROLL

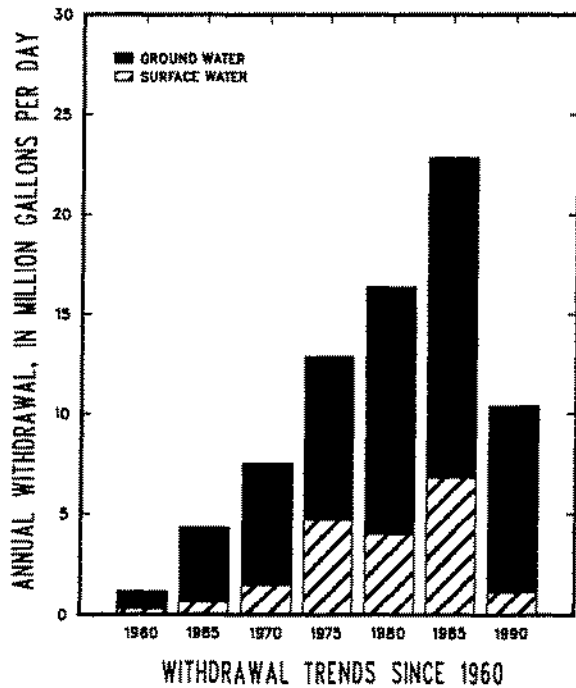
Population: 12,900
 Population served by public supply: 9,907
 Per capita withdrawals (gal/d): 803
 Acres irrigated: 16,644
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	1.37	0.00	1.37
Industrial	.01	.00	.01
Power generation	.00	.00	.00
Rural domestic	.24	.00	.24
Livestock	.00	.03	.03
Rice irrigation	2.22	.66	2.88
General irrigation	4.75	.42	5.17
Aquaculture	.67	.00	.67
TOTALS	9.25	1.12	10.37

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
20 Food products	0.01	

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Epps Water System	0.05	
Fiske Union Water System	.14	
Forest Water System	.12	
Goodwill Water System	.07	
Monticello Water System	.08	
NEW Carroll Water System	.37	
Oak Grove Water System	.35	
Pioneer-Darnell Water System	.19	



WEST FELICIANA

Population: 13,500
 Population served by public supply: 10,260
 Per capita withdrawals (gal/d): 3,879
 Acres irrigated: 0
 Hydroelectric power instream use (Mgal/d): 0.00



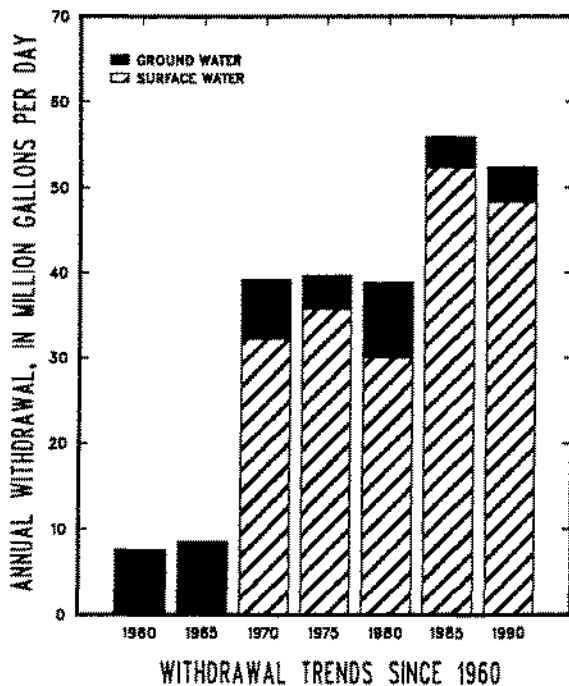
Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	1.92	0.00	1.92
Industrial	1.45	29.44	30.88
Power generation	.07	18.75	18.82
Rural domestic	.26	.00	.26
Livestock	.00	.12	.12
Rice irrigation	.00	.00	.00
General irrigation	.00	.00	.00
Aquaculture	.37	.00	.37
TOTALS	4.07	48.31	52.38

Withdrawals by Major Industrial Groups (Mgal/d)

Standard Industrial Classification	GW	SW
26 Paper products	1.45	29.44

Withdrawals by Major Public Suppliers (Mgal/d)

Public Supplier	GW	SW
St. Francisville Water Sys.	0.58	
W. Feliciana Water Dist. 13	.49	
W. Feliciana W.W. Dist. 2	.05	



WINN

Population: 16,900
 Population served by public supply: 11,627
 Per capita withdrawals (gal/d): 176
 Acres irrigated: 0
 Hydroelectric power instream use (Mgal/d): 0.00



Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	1.51	0.00	1.51
Industrial	1.01	.00	1.01
Power generation	.00	.00	.00
Rural domestic	.41	.00	.41
Livestock	.00	.05	.05
Rice irrigation	.00	.00	.00
General irrigation	.00	.00	.00
Aquaculture	.00	.00	.00
TOTALS	2.94	.05	2.98

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
24 Lumber	0.91	
28 Chemicals	.10	

Withdrawals by Major Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Atlanta Water System	0.05	
Calvin Water System	.03	
Dodson Water System	.05	
Hudson-Gaars Mill Water Sys.	.03	
Hwy. 84 West Water System	.06	
Joyce Water System	.02	
Red Hill Water Works	.05	
St. Maurice Water System	.03	
Tannehill Water System	.13	
W. Winn Water System	.07	
Winnfield Water System	.99	

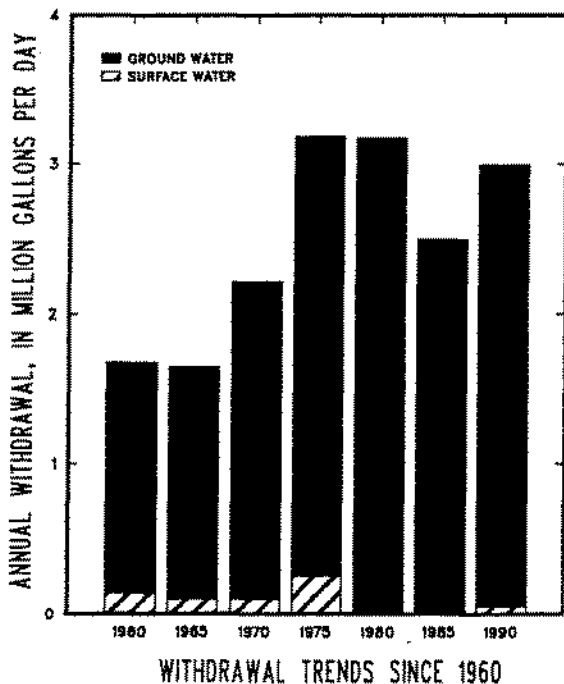


TABLE 3.--Water withdrawals in Louisiana by
[In million gallons per day; gw,

PARISH	PUBLIC SUPPLY		INDUSTRIAL		POWER GENERATION		RURAL		
	GW	SW	GW	SW	GW	SW	DOMESTIC		LIVESTOCK
							GW	GW	SW
ACADIA	4.40		1.71				1.53	0.05	0.05
ALLEN	2.74		.43				.37	.04	.06
ASCENSION	1.82	1.57	11.87	188.05			2.24	.05	.03
ASSUMPTION		2.63	5.91	4.62			.05		
AVOUELLES	3.22		.18				.36	.09	.09
BEAUREGARD	3.52		18.83	4.98			1.06	.15	.15
BIENVILLE	.97		12.24	.17			.54	.08	.05
BOSSIER	1.32	7.49	.44	.01			1.21	.12	.08
CADDO	.99	38.12	.04	.36		43.53	1.87	.14	.09
CALCASIEU	21.50	.10	67.65	191.83	7.91	10.71	2.66	.11	.16
CALDWELL	.71						.17		.07
CAMERON	2.14		.19	1.33			.35		.30
CATAHOULA	.92						.28		.08
CLAIBORNE	2.05		.33				.48	.09	.09
CONCORDIA	2.18	.92					.10	.03	
DE SOTO	1.22	1.11		9.23			.74		.45
E BATON ROUGE	54.80		63.45	21.53	5.77		.40	.24	.03
E CARROLL	1.27						.09		.01
E FELICIANA	1.91		.03				.45	.07	.20
EVANGELINE	3.66		1.95			104.32	.63	.09	.02
FRANKLIN	1.10		.20				1.03	.14	.01
GRANT	1.26	2.54	.08	1.87			.54	.02	.05
IBERIA	7.77		2.84	7.57			.94	.07	.01
IBERVILLE	3.68		20.81	518.39	1.31	525.74	.27	.06	.01
JACKSON	1.44		2.48				.24		.07
JEFFERSON		82.62	7.31	7.19	3.12	959.49	.04		.02
JEFF DAVIS	2.78		.81				.64		.01
LAFAYETTE	18.63		.34		1.35		3.14	.12	.01
LAFOURCHE		19.94	1.02	8.17			.03	.12	.03
LA SALLE	1.33		.02	.13			.19		.06
LINCOLN	6.08		1.25				.44	.01	.19
LIVINGSTON	5.26		.03				1.81		.01
HADISON	1.81						.11	.03	
MOREHOUSE	3.51		6.09	24.67			.43		.01
NATCHITOCHE	.83	4.70		8.56			.88	.08	.34
ORLEANS	.80	127.00	1.94		19.06	406.79	.17		
QUACHITA	7.19	10.40	10.48	30.46	.18	66.50	.68	.01	.09
PLAQUEMINES		5.74		105.41			.18		
POINTE COUPEE	2.12		2.38		1.55	233.27	.46	.16	.04
RAPIDES	33.09		.05	13.38	.12	307.19	1.10		.24
RED RIVER	.85						.35	.06	.09
RICHLAND	2.45		.01				.91	.15	.02
SABINE	.45	1.35	.26	.09		3.55	1.26	.35	.04
ST BERNARD		9.52	.05	252.22					
ST CHARLES		7.16	4.58	377.13		2,068.12	.02	.03	.03
ST HELENA	.45			5.08			.80		.02
ST JAMES		2.44	5.97	224.87			.03		
ST JOHN	2.34	2.46	6.77	91.00			.04		
ST LANDRY	9.20		1.63				1.12	.04	.21
ST MARTIN	3.91		1.81	.63			.93	.03	
ST MARY	.15	8.17	2.26	45.14		162.27	.16	.01	.01
ST TAMMANY	11.70		.07				5.09	.09	.06
TANGIPAHDA	8.69		.49				2.69	.53	.36
TENSAS	.50	.64					.22		.03
TERREBONNE		7.33	.02				.04		.02
UNION	1.83						.60	.12	.29
VERMILION	3.83		2.94	.05			1.93	.06	.25
VERNON	8.05						2.10	.02	.20
WASHINGTON	4.91		14.14	9.98			1.48		.03
WEBSTER	5.50		1.19	.47			.49		.08
W BATON ROUGE	5.40		4.85				.21	.01	.02
W CARROLL	1.37		.01				.24		.03
W FELICIANA	1.92		1.45	28.44	.07	18.75	.26		.12
WINN	1.51		1.01				.41		.05
SUBTOTALS	284.74	343.97	292.14	2,174.15	40.45	4,910.23	50.17	3.68	5.17
TOTALS	628.71		2,166.29		1,950.68		50.17	8.85	

parish, source, and principal use, 1990
ground water; sw, surface water]

IRRIGATION				AQUACULTURE		TOTAL USE			PARISH
RICE		GENERAL		GW	SW	GW	SW	TOTAL	
GW	SW	GW	SW						
81.37	19.42			36.05	8.92	125.10	28.38	153.50	ACADIA
27.09	2.22			2.05		32.73	2.29	35.02	ALLEN
				.12	2.29	15.80	183.94	198.83	ASCENSION
					4.91	5.95	12.16	18.11	ASSUMPTION
2.55	10.17	0.01		10.46	2.80	16.88	12.88	29.74	AVOUELLES
2.55	.45	.09	0.03			26.00	5.62	31.62	BEAUREGARD
						13.83	.22	14.05	BIENVILLE
.02				.16		3.26	7.57	10.83	BOSSIER
.08		.91	.04	.03		4.07	82.13	86.20	CADDO
11.58	14.62			5.72	6.62	117.12	224.04	341.16	CALCASIEU
1.27	1.27	.32	.05	.71	.03	3.19	1.42	4.61	CALDWELL
1.25	24.77			.90	5.12	4.83	31.51	36.35	CAMERON
3.03		1.60	.05	6.54	2.97	12.37	3.10	15.47	CATAHOULA
						2.94	.09	3.03	CLAIBORNE
9.64	1.52	1.20	.11	5.85	.03	18.99	2.58	21.57	CONCORDIA
				.02		1.98	10.79	12.76	DE SOTO
		.12		.95		125.73	21.56	147.29	E BATON ROUGE
11.06	.44	10.42	.99	.61		23.46	1.44	24.90	E CARROLL
		.23				2.68	.20	2.89	E FELICIANA
49.33	5.23	.02		16.73	1.86	72.43	111.43	183.84	EVANGELINE
.17	.75	11.58	.35	16.08		30.30	1.11	31.41	FRANKLIN
						1.91	4.46	6.37	GRANT
1.34	.07	.11		.86	15.89	13.93	23.64	37.56	IBERIA
				.06	11.15	26.20	1,053.28	1,079.46	IBERVILLE
		.07		.02		4.19	.07	4.26	JACKSON
94.25	40.43	8.83	2.06	7.80	5.20	10.54	1,049.32	1,059.86	JEFFERSON
7.85	1.38	.02		4.82		115.01	47.78	162.72	JEFF DAVIS
						36.36	1.39	37.75	LAFAYETTE
		.03	.03	.09	35.94	1.26	64.08	65.34	LAFOURCHE
				.01	.01	1.58	.23	1.80	LA SALLE
		.05		.10		7.77	.19	7.96	LINCOLN
						7.35	.01	7.36	LIVINGSTON
4.25	.55	3.14	.12	1.19		10.52	.68	11.20	MADISON
23.54	13.21	4.41	1.92			37.99	39.81	77.80	MOREHOUSE
.12	.28	.05	.35	1.89	2.42	3.86	16.64	20.51	NATCHITOCHE
		.02				21.89	533.79	555.79	ORLEANS
2.01	2.01	.81	.32	.09	.06	21.26	108.84	131.10	OUACHITA
						.18	113.60	113.77	PLAQUEMINES
1.40				5.69		13.78	333.31	247.09	POINTE COUPEE
.36	4.65			4.03	.19	38.75	325.65	364.40	RAPIDES
		.42	.20			1.38	.29	1.67	RED RIVER
14.47	1.78	1.57	.40	.47	.02	20.02	2.22	22.24	RICHLAND
						2.33	5.04	7.37	SABINE
						.05	261.74	261.79	ST BERNARD
					3.24	4.64	2,455.68	2,460.32	ST CHARLES
						1.05	5.10	6.15	ST HELENA
				49.08		6.00	276.37	282.37	ST JAMES
				.60		9.16	94.06	103.22	ST JOHN
13.82	3.01			31.37	6.91	57.18	10.13	67.31	ST LANDRY
.35	3.15			33.34	76.75	40.37	80.54	120.91	ST MARTIN
				2.97	11.89	5.55	227.48	233.03	ST MARY
		.75	.50	.05		17.75	.56	18.31	ST TAMMANY
		.45	.02	.32	.02	13.17	.39	13.55	TANGIPAHOA
4.79	1.32	1.71	.10			7.21	2.10	9.32	TENSAS
				.07	11.79	.13	19.14	19.27	TERREBONNE
				.18		2.74	.29	3.03	UNION
26.01	64.91			13.57	54.52	48.35	149.73	198.08	VERMILION
				.01		10.17	.20	10.38	VERNON
				.02		20.54	10.02	30.56	WASHINGTON
						7.21	.55	7.76	WEBSTER
				5.57		15.84	.02	15.86	W BATON ROUGE
2.22	.66	4.75	.42	.67		9.25	1.11	10.37	W CARROLL
				.37		4.07	48.31	52.38	W FELICIANA
						2.94	.05	2.99	WINN
397.79	248.30	53.47	8.07	218.83	323.42	1,341.26	8,013.31	9,354.56	SUBTOTALS
646.09		61.54		542.25		9,354.56			TOTALS

WATER USE BY AQUIFER

The water use by aquifer section lists information on ground-water withdrawals by aquifer or aquifer system. The one-page summary for each aquifer includes a table of withdrawals by category of use and a list of withdrawals by parish for the aquifer. A location map depicts the extent of freshwater in the aquifer within the State. Table 4 summarizes water withdrawals by parish and aquifer or aquifer system.

RED RIVER ALLUVIAL AQUIFER



Withdrawals by Parish

Parish	Mgal/d
Avoyelles	0.27
Bossier	.24
Caddo	.86
Grant	.02
Natchitoches	.42
Rapides	1.46
Red River	.37

Withdrawals, in million gallons per day (Mgal/d)	
Public supply	0.20
Industry	.00
Power generation	.00
Rural domestic	.54
Livestock	.25
Rice irrigation	.45
General irrigation	.74
Aquaculture	1.47
TOTAL	3.65

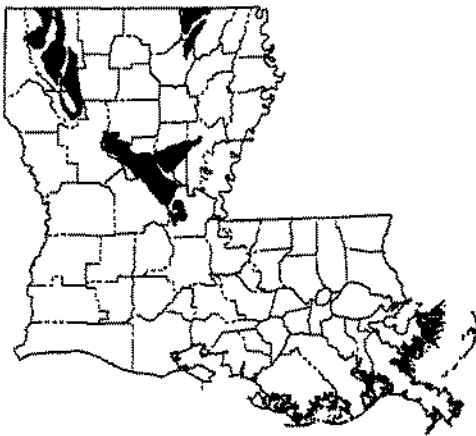
MISSISSIPPI RIVER ALLUVIAL AQUIFER



Withdrawals, in million gallons per day (Mgal/d)	
Public supply	8.30
Industry	38.68
Power generation	1.31
Rural domestic	5.02
Livestock	.75
Rice irrigation	81.73
General irrigation	40.73
Aquaculture	<u>107.04</u>
TOTAL	283.54

Withdrawals by Parish	
Parish	Mgal/d
Ascension	7.62
Assumption	5.44
Avoyelles	13.20
Caldwell	2.32
Catahoula	11.42
Concordia	16.84
East Baton Rouge	.62
East Carroll	22.02
Franklin	30.30
Iberia	.23
Iberville	23.38
Lafayette	.70
Lafourche	1.26
La Salle	.01
Madison	10.45
Morehouse	27.11
Ouachita	1.70
Pointe Coupee	7.16
Rapides	.01
Richland	19.37
St. James	.00
St. Landry	19.34
St. Martin	35.20
St. Mary	3.10
Tensas	7.21
Terrebonne	.02
Union	.02
West Baton Rouge	10.04
West Carroll	7.44

NORTHERN LOUISIANA TERRACE AQUIFER



Withdrawals by Parish

Parish	Mgal/d
Avoyelles	0.18
Bienville	.07
Bossier	.85
Caddo	.16
Catahoula	.01
De Soto	.09
Grant	.25
La Salle	.51
Madison	.07
Morehouse	5.26
Natchitoches	.08
Ouachita	.40
Rapides	12.05
Red River	.20
Sabine	.02
Union	.04
Vernon	1.09
Webster	.26
West Carroll	.33
Winn	.02

Withdrawals, in million gallons per day (Mgal/d)	
Public supply	12.30
Industry	3.43
Power generation	.00
Rural domestic	2.41
Livestock	.04
Rice irrigation	.65
General irrigation	.42
Aquaculture	2.71
TOTAL	21.97

CHICOT AQUIFER SYSTEM



Withdrawals by Parish

Parish	Mgal/d
Acadia	124.29
Allen	29.71
Beauregard	10.65
Calcasieu	115.99
Cameron	4.83
Evangeline	69.04
Iberia	13.70
Jefferson Davis	114.87
Lafayette	35.66
St. Landry	34.88
St. Martin	5.08
St. Mary	2.45
Vermilion	48.18

Withdrawals, in million gallons per day (Mgal/d)	
Public supply	76.04
Industry	86.87
Power generation	9.25
Rural domestic	11.42
Livestock	.71
Rice irrigation	312.29
General irrigation	9.06
Aquaculture	103.67
TOTAL	609.33

CHICOT EQUIVALENT/ SOUTHEAST LOUISIANA AQUIFER SYSTEM



Withdrawals by Parish

Parish	Mgal/d
Ascension	8.25
Assumption	.52
East Baton Rouge	12.99
East Feliciana	.34
Iberville	1.52
Jefferson	10.54
Livingston	1.26
Orleans	21.99
Pointe Coupee	.77
St. Bernard	.05
St. Charles	4.63
St. Helena	.55
St. James	5.99
St. John The Baptist	6.81
St. Tammany	3.56
Tangipahoa	3.36
Washington	5.23
West Baton Rouge	.06
West Feliciana	.05

Withdrawals, in million gallons per day (Mgal/d)	
Public supply	9.81
Industry	44.66
Power generation	22.20
Rural domestic	9.25
Livestock	.43
Rice irrigation	.00
General irrigation	1.12
Aquaculture	1.02
TOTAL	88.48

EVANGELINE AQUIFER



Withdrawals by Parish

Parish	Mgal/d
Acadia	0.11
Allen	2.96
Avoyelles	1.12
Beauregard	2.53
Calcasieu	.79
Evangeline	3.34
St. Landry	2.92

Withdrawals, in million gallons per day (Mgal/d)	
Public supply	8.48
Industry	3.34
Power generation	.00
Rural domestic	1.19
Livestock	.00
Rice irrigation	.77
General irrigation	.01
Aquaculture	.00
TOTAL	13.78

EVANGELINE EQUIVALENT/ SOUTHEAST LOUISIANA AQUIFER SYSTEM

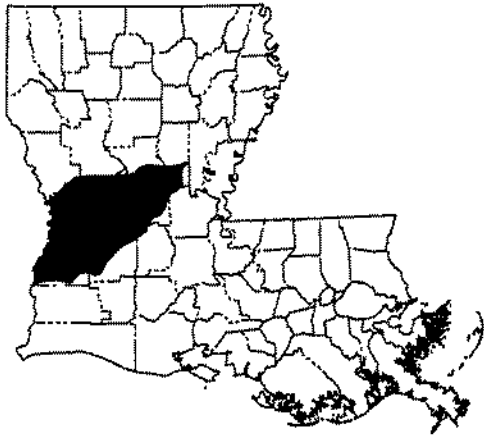


Withdrawals by Parish

Parish	Mgal/d
Ascension	0.03
East Baton Rouge	36.82
East Feliciana	1.11
Livingston	1.82
Pointe Coupee	2.28
St. John The Baptist	2.34
St. Landry	.03
St. Tammany	13.06
Tangipahoa	1.53
Washington	1.05
West Baton Rouge	5.55
West Feliciana	2.15

Withdrawals, in million gallons per day (Mgal/d)	
Public supply	47.14
Industry	12.67
Power generation	1.78
Rural domestic	4.75
Livestock	.51
Rice irrigation	.00
General irrigation	.25
Aquaculture	.67
TOTAL	67.78

JASPER AQUIFER SYSTEM

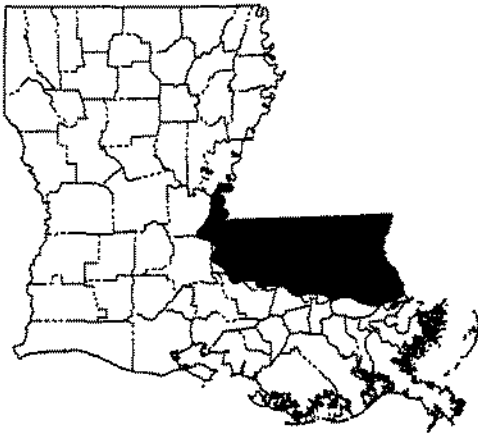


Withdrawals by Parish

Parish	Mgal/d
Avoyelles	0.40
Beauregard	12.69
Catahoula	.01
Concordia	1.73
Grant	.26
La Salle	.04
Rapides	22.09
Vernon	8.46

Withdrawals, in million gallons per day (Mgal/d)	
Public supply	31.32
Industry	12.69
Power generation	.15
Rural domestic	1.43
Livestock	.03
Rice irrigation	.05
General irrigation	.00
Aquaculture	.01
TOTAL	45.68

JASPER EQUIVALENT/ SOUTHEAST LOUISIANA AQUIFER SYSTEM

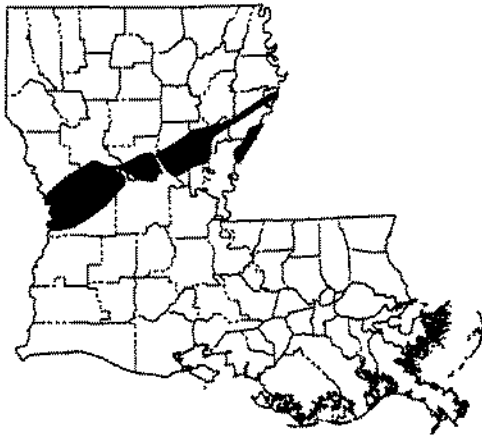


Withdrawals by Parish

Parish	Mgal/d
East Baton Rouge	75.30
East Feliciana	1.23
Iberville	1.31
Livingston	4.24
Pointe Coupee	3.58
St. Helena	.49
St. Tammany	1.09
Tangipahoa	8.27
Washington	14.20
West Baton Rouge	.19
West Feliciana	1.87

Withdrawals, in million gallons per day (Mgal/d)	
Public supply	47.50
Industry	57.05
Power generation	5.60
Rural domestic	1.50
Livestock	.06
Rice irrigation	.00
General irrigation	.03
Aquaculture	.03
TOTAL	111.77

CATAHOULA AQUIFER

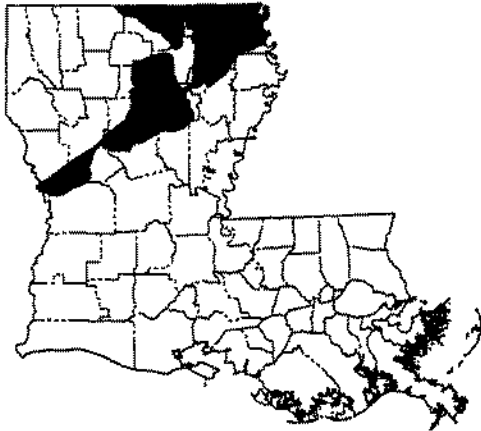


Withdrawals by Parish

Parish	Mgal/d
Catahoula	0.93
Concordia	.42
Grant	.54
La Salle	.11
Natchitoches	.14
Rapides	.29
Sabine	.05
Vernon	.12

Withdrawals, in million gallons per day (Mgal/d)	
Public supply	1.92
Industry	.03
Power generation	.00
Rural domestic	.63
Livestock	.00
Rice irrigation	.00
General irrigation	.00
Aquaculture	.01
TOTAL	2.60

COCKFIELD AQUIFER



Withdrawals by Parish

Parish	Mgal/d
Caldwell	0.81
East Carroll	1.44
Grant	.14
Jackson	.04
La Salle	.38
Lincoln	.00
Morehouse	.41
Natchitoches	.03
Ouachita	.04
Richland	.64
Sabine	.17
Union	.26
Vernon	.03
West Carroll	1.13
Winn	.26

Withdrawals, in million gallons per day (Mgal/d)	
Public supply	4.18
Industry	.00
Power generation	.00
Rural domestic	.99
Livestock	.00
Rice irrigation	.26
General irrigation	.13
Aquaculture	.21
TOTAL	5.77

SPARTA AQUIFER



Withdrawals by Parish

Parish	Mgal/d
Bienville	13.19
Bossier	.04
Caddo	.02
Caldwell	.05
Claiborne	2.81
Jackson	4.15
La Salle	.02
Lincoln	7.72
Morehouse	5.09
Natchitoches	.95
Ouachita	19.09
Richland	.02
Sabine	.49
Union	2.28
Webster	5.56
Winn	2.63

Withdrawals, in million gallons per day (Mgal/d)	
Public supply	27.22
Industry	31.51
Power generation	.19
Rural domestic	3.08
Livestock	.32
Rice irrigation	1.05
General irrigation	.27
Aquaculture	.47
TOTAL	64.11

CARRIZO-WILCOX AQUIFER



Withdrawals by Parish

Parish	Mgal/d
Bienville	0.54
Bossier	2.07
Caddo	2.99
Claiborne	.01
De Soto	1.79
Natchitoches	2.20
Red River	.76
Sabine	1.57
Webster	1.38

Withdrawals, in million gallons per day (Mgal/d)	
Public supply	4.86
Industry	1.11
Power generation	.00
Rural domestic	4.92
Livestock	.41
Rice irrigation	.10
General irrigation	.43
Aquaculture	1.49
TOTAL	13.32

TABLE 4.--Ground-water withdrawals in
[In million

PARISH	RED RIVER ALLUVIAL AQUIFER	MISSISSIPPI RIVER ALLUVIAL AQUIFER	NORTHERN LOUISIANA TERRACE AQUIFER	CHICOT AQUIFER SYSTEM	SOUTHEAST LOUISIANA CHICOT EQUIVALENT AQUIFER SYSTEM	EVANGELINE AQUIFER	SOUTHEAST LOUISIANA EVANGELINE EQUIVALENT AQUIFER SYSTEM
ACADIA				124.29		0.11	
ALLEN				29.71		2.98	
ASCENSION		7.62			8.25		0.03
ASSUMPTION		5.44			.52		
AVOUELLES	0.27	13.20	0.18			1.12	
BEAUREGARD				10.65		2.53	
BIENVILLE			.07				
BOSSIER	.24		.85				
CADDO	.86		.16				
CALCASIEU				115.99		.79	
CALDWELL		2.32					
CAMERON				4.83			
CATAHOULA		11.42	.01				
CLAIBORNE							
CONCORDIA		16.84					
DE SOTO			.09				
E BATON ROUGE		.62			12.99		36.82
E CARROLL		22.02					
E FELICIANA					.34		1.11
EVANGELINE				68.04		3.34	
FRANKLIN		30.30					
GRANT	.02		.25				
IBERIA		.23		13.70			
IBERVILLE		23.38			1.52		
JACKSON					10.54		
JEFFERSON							
JEFF DAVIS				114.87			
LAFAYETTE		.70		35.86			
LAFOURCHE		1.26					
LA SALLE		.01	.51				
LINCOLN							
LIVINGSTON					1.26		1.82
HADISON		10.45	.07				
MOREHOUSE		27.11	5.26				
MATCHITOCHES	.42		.08				
ORLEANS					21.99		
OUACHITA		1.70	.40				
PLAQUEMINES							
POINTE COUPEE		7.16			.77		2.28
RAPIDES	1.46	.01	12.05				
RED RIVER	.37		.20				
RICHLAND		19.37					
SABINE			.02				
ST BERNARD					.05		
ST CHARLES					4.63		
ST HELENA					.55		
ST JAMES					5.99		
ST JOHN					6.81		2.34
ST LANDRY		19.34		34.88		2.92	.03
ST MARTIN		35.20		5.06			
ST MARY		3.10		2.45			
ST TAMMANY					3.36		13.06
TANGIPAHOA					3.36		1.53
TENSAS		7.21					
TERREBONNE		.82					
UNION		.82	.04				
VERMILION				48.18			
VERNON			1.09				
WASHINGTON					5.23		1.05
WEBSTER			.26				
W BATON ROUGE		10.04			.06		5.55
W CARROLL		7.44	.33				
W FELICIANA					.05		2.15
WINN			.02				
TOTAL	3.65	283.54	21.97	809.33	88.48	13.79	67.78

Louisiana by parish and aquifer, 1990
gallons per day]

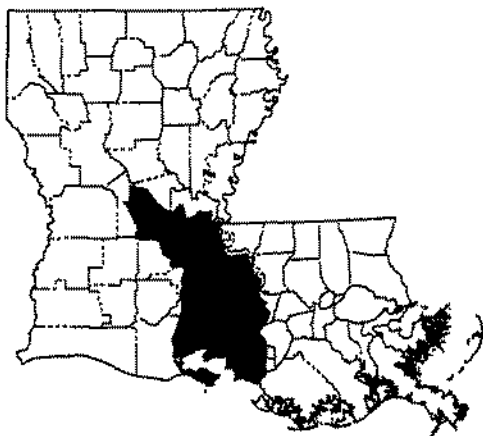
JASPER AQUIFER SYSTEM	SOUTHEAST LOUISIANA JASPER EQUIVALENT AQUIFER SYSTEM	CATAHOULA AQUIFER	COCKFIELD AQUIFER	SPARTA AQUIFER	CARRIZO- WILCOX AQUIFER	OTHER	PARISH
						0.70	ACADIA
						.05	ALLEN
							ASCENSION
							ASSUMPTION
0.40						1.71	AVOUELLES
12.69				13.19	0.54	.12	BEAUREGARD
				.04	2.07	.03	BIENVILLE
						.05	BOSSIER
				.02	2.99	.04	CAODO
			0.81	.05		.34	CALCASIEU
							CALDWELL
							CAHERON
.01		0.93					CATAHOULA
1.73		.42		2.81	.01	.12	CLAIBORNE
					1.79	.09	CONCORDIA
							DE SOTO
	75.30						E BATON ROUGE
	1.23		1.44				E CARROLL
						.02	E FELICIANA
							EVANGELINE
.26		.54	.14			.70	FRANKLIN
	1.31						GRANT
							IBERIA
			.04	4.15			IBERVILLE
						.14	JACKSON
							JEFFERSON
							JEFF DAVIS
							LAFAYETTE
.04		.11	.38	.02		.50	LAFOURCHE
	4.24			7.72		.05	LA SALLE
						.02	LINCOLN
			.41	5.09		.11	LIVINGSTON
		.14	.03	.95	2.20	.04	MADISON
							MOREHOUSE
			.04	19.09			NATCHITOCHE
	3.58					.03	ORLEANS
22.09		.29				.18	QUACHITA
							PLAQUEMINES
						2.86	POINTE COUPEE
							RAPIDES
			.64	.02	.76	.05	RED RIVER
		.05	.17	.49	1.57	.03	RICHLAND
							SABINE
							ST BERNARD
	.49						ST CHARLES
							ST HELENA
							ST JAMES
							ST JOHN
						.09	ST LANDRY
							ST MARTIN
	1.09						ST MARY
	8.27					.04	ST TAMMANY
							TANGIPAHOA
			.26	2.28		.11	TENSAS
						.15	TERREBONNE
							UNION
8.46		.12	.03			.17	VERMILION
	14.20					.48	VERNON
						.05	WASHINGTON
				5.56	1.38		WEBSTER
	.19						V BATON ROUGE
	1.87		1.13			.35	W CARROLL
				2.83			W FELICIANA
			.28			.03	WINN
45.68	111.77	2.86	5.77	64.11	13.32	9.47	TOTAL

WATER USE BY SURFACE-WATER BASIN

Water use by surface-water basin lists information on surface-water withdrawals for 10 major drainage basins in Louisiana (K.J. Covay, U.S. Geological Survey, written commun., 1990). Each one-page summary for a surface-water basin includes withdrawals by category of use, by parish, and withdrawals from major water bodies in the basin.

Below the name of the basin is a location map showing the areal extent of the basin within Louisiana. The three tables list withdrawals by category of use and the total withdrawal from surface sources within the basin, withdrawals by parish for the basin, and withdrawals by major water body within the basin. The withdrawals in this last table are from larger water bodies only and may be incomplete because withdrawals made for irrigation and agriculture were estimated from limited data. A large part of surface-water withdrawals for irrigation and agriculture was input into the data base as miscellaneous streams due to the nature of the information available for these categories. Therefore, some water bodies that may have had significant withdrawals may not have been included in this table. Also, the total withdrawals in this table may be less than the total withdrawals in the basin as indicated in the table of withdrawals by category.

ATCHAFALAYA/TECHE/ VERMILION RIVER SURFACE-WATER BASIN



Withdrawals by Parish

Parish	Mgal/d
Avoyelles	12.77
Evangeline	105.39
Iberia	23.64
Iberville	22.16
Lafayette	.93
Pointe Coupee	.04
Rapides	12.14
St. Landry	6.76
St. Martin	80.54
St. Mary	226.24
Vermilion	49.36
West Baton Rouge	.02

Withdrawals, in million gallons per day (Mgal/d)

Public supply	7.53
Industry	70.96
Power generation	266.60
Rural domestic	.00
Livestock	.54
Rice irrigation	53.34
General irrigation	.00
Aquaculture	141.03
TOTAL	540.00

Withdrawals by Major Water Body

Water Body	Mgal/d
Atchafalaya River	3.37
Bayou Blue	1.08
Bayou Boeuf	8.11
Bayou Cocodrie	105.39
Bayou Du Lac	3.07
Bayou Petite Anse	2.23
Bayou Portage	19.98
Bayou Teche	26.69
Big Wax Bayou	42.51
Cavern Lake	11.01
Charenton Canal	162.27
Chatin Lake Canal	1.50
Intracoastal Waterway	5.76
Six Mile Lake	1.00
Vermilion River	49.82

CALCASIEU/MERMENTAU RIVER SURFACE-WATER BASIN



Withdrawals by Parish

Parish	Mgal/d
Acadia	28.39
Allen	2.29
Beauregard	.63
Calcasieu	224.04
Cameron	31.51
Evangeline	6.04
Jefferson Davis	47.70
Lafayette	.46
St. Landry	3.37
Vermilion	100.37

Withdrawals, in million gallons per day (Mgal/d)	
Public supply	0.00
Industry	193.27
Power generation	10.71
Rural domestic	.00
Livestock	1.00
Rice irrigation	171.15
General irrigation	2.09
Aquaculture	66.60
TOTAL	444.82

Withdrawals by Major Water Body

Water Body	Mgal/d
Bayou Chene	13.08
Bayou Lacassine	12.40
Bayou Nezpique	1.56
Bayou Plaquemine	6.29
Bayou Queue de Tortue	57.54
Calcasieu River	171.38
English Bayou	1.63
Farmers Canal	1.74
Intracoastal Waterway	3.41
Lyons Point Gully	3.60
Mermentau River	23.31
Sabine River Diversion Canal	39.51

LAKE PONTCHARTRAIN/ LAKE MAUREPAS SURFACE-WATER BASIN



Withdrawals by Parish

Parish	Mgal/d
Ascension	2.32
East Baton Rouge	.03
East Feliciana	.20
Livingston	.01
St. Helena	5.10
St. Tammany	.56
Tangipahoa	.39
West Feliciana	.12

Withdrawals, in million gallons per day (Mgal/d)

Public supply	0.00
Industry	5.08
Power generation	.00
Rural domestic	.00
Livestock	.83
Rice irrigation	.00
General irrigation	.52
Aquaculture	2.31
TOTAL	8.74

Withdrawals by Major Water Body

Water Body	Mgal/d
------------	--------

MISSISSIPPI RIVER SURFACE-WATER BASIN



Withdrawals by Parish

Parish	Mgal/d
Ascension	180.05
East Baton Rouge	21.53
Iberville	1,031.12
Jefferson	1,049.26
Orleans	127.00
Plaquemines	111.18
Pointe Coupee	233.27
St. Bernard	261.66
St. Charles	2,452.41
St. James	227.31
St. John The Baptist	93.46
West Baton Rouge	.00
West Feliciana	48.19

Withdrawals, in million gallons per day (Mgal/d)

Public supply	236.95
Industry	1,794.12
Power generation	3,805.37
Rural domestic	.00
Livestock	.00
Rice irrigation	.00
General irrigation	.00
Aquaculture	.00
TOTAL	5,836.43

Withdrawals by Major Water Body

Water Body	Mgal/d
Mississippi River	5,770.96
Tante Phine Pass	65.47

MISSISSIPPI RIVER DELTA SURFACE-WATER BASIN



Withdrawals by Parish

Parish	Mgal/d
Ascension	1.57
Assumption	12.16
Jefferson	.06
Lafourche	64.08
Orleans	406.79
Plaquemines	2.42
St. Bernard	.08
St. Charles	3.27
St. James	49.06
St. John The Baptist	.60
St. Mary	1.24
Terrebonne	19.15

Withdrawals, in million gallons per day (Mgal/d)

Public supply	32.11
Industry	13.51
Power generation	406.79
Rural domestic	.00
Livestock	.10
Rice irrigation	.00
General irrigation	.00
Aquaculture	107.96
TOTAL	560.48

Withdrawals by Major Water Body

Water Body	Mgal/d
Bayou Boeuf	1.24
Bayou Lafourche	49.89
Intracoastal Waterway	18.55
Lake Verret	2.13
Mississippi River Gulf Outlet	406.87

OUACHITA RIVER SURFACE-WATER BASIN



Withdrawals by Parish

Parish	Mgal/d
Avoyelles	0.09
Caldwell	.07
Catahoula	3.10
Claiborne	.09
Concordia	2.58
Grant	4.46
Jackson	.07
La Salle	.23
Lincoln	.19
Morehouse	31.58
Ouachita	91.11
Rapides	6.32
Union	.29
Winn	.05

Withdrawals, in million gallons per day (Mgal/d)	
Public supply	0.92
Industry	59.31
Power generation	66.50
Rural domestic	.00
Livestock	1.13
Rice irrigation	8.97
General irrigation	.39
Aquaculture	3.01
TOTAL	140.23

Withdrawals by Major Water Body

Water Body	Mgal/d
Bayou Bartholomew	24.67
Bayou Cocodrie	1.11
Big Creek	2.53
Little River	1.87
Ouachita River	97.81

PEARL RIVER SURFACE-WATER BASIN



Withdrawals by Parish

Parish	Mgal/d
Washington	10.02

Withdrawals, in million gallons per day (Mgal/d)	
Public supply	0.00
Industry	.00
Power generation	.00
Rural domestic	.00
Livestock	10.02
Rice irrigation	.00
General irrigation	.00
Aquaculture	.00
TOTAL	10.02

Withdrawals by Major Water Body

Water Body	Mgal/d
Bogue Lusa Creek	9.99

RED RIVER SURFACE-WATER BASIN



Withdrawals by Parish

Parish	Mgal/d
Bienville	0.22
Bossier	7.57
Caddo	82.13
Natchitoches	16.64
Rapides	307.19
Red River	.29
Webster	.55

Withdrawals, in million gallons per day (Mgal/d)	
Public supply	50.31
Industry	9.57
Power generation	350.71
Rural domestic	.00
Livestock	.73
Rice irrigation	.28
General irrigation	.58
Aquaculture	2.42
TOTAL	414.60

Withdrawals by Major Water Body

Water Body	Mgal/d
Black Lake	1.01
Caddo Lake	45.24
Cross Lake	36.75
Lake Rodemacher	307.19
Red River	15.03
Sibley Lake	4.70

SABINE RIVER SURFACE-WATER BASIN



Withdrawals by Parish

Parish	Mgal/d
Beauregard	4.99
De Soto	10.79
Sabine	5.04
Vernon	.20

Withdrawals, in million gallons per day (Mgal/d)	
Public supply	2.46
Industry	14.22
Power generation	3.65
Rural domestic	.00
Livestock	.69
Rice irrigation	.00
General irrigation	.00
Aquaculture	.00
TOTAL	21.02

Withdrawals by Major Water Body

Water Body	Mgal/d
Toledo Bend Reservoir	15.34

TENSAS RIVER SURFACE-WATER BASIN



Withdrawals by Parish

Parish	Mgal/d
Caldwell	1.35
East Carroll	1.44
Franklin	1.11
Madison	.68
Morehouse	8.23
Ouachita	18.73
Richland	2.22
Tensas	2.10
West Carroll	1.12

Withdrawals, in million gallons per day (Mgal/d)

Public supply	11.11
Industry	6.68
Power generation	.00
Rural domestic	.00
Livestock	.11
Rice irrigation	14.56
General irrigation	4.48
Aquaculture	.05
TOTAL	36.99

Withdrawals by Major Water Body

Water Body	Mgal/d
Bayou de Siard	10.34
Bayou Macon	2.23
Big Cypress Creek	5.45
Boeuf River	3.34
Tensas River	1.36

TOTAL WATER USE

Total withdrawals in 1990 were approximately 9,400 Mgal/d. Of this total, 1,300 Mgal/d were from ground water and 8,000 Mgal/d were from surface water (table 3). Withdrawals for power generation accounted for 53 percent of the total, industry about 26 percent, irrigation about 7.6 percent, public supply about 6.7 percent, aquaculture about 5.8 percent, and rural domestic and livestock accounted for the other 0.63 percent (figs. 11-14).

Forty-five percent (610 Mgal/d) of all ground water withdrawn was withdrawn from the Chicot aquifer system, and another 21 percent (280 Mgal/d) was withdrawn from the Mississippi River alluvial aquifer (table 4). Seventy-two percent (5,800 Mgal/d) of all surface water withdrawn was from the Mississippi River.

St. Charles Parish had the highest surface-water withdrawals and the highest total withdrawals in the State at almost 2,500 Mgal/d. Acadia and East Baton Rouge Parishes each had ground-water withdrawals of 130 Mgal/d, the highest in the State.

Total ground- and surface-water withdrawals decreased by 10 percent. Total ground-water withdrawals decreased by 6.8 percent from 1985 to 1990. Total surface-water withdrawals decreased by 10 percent.

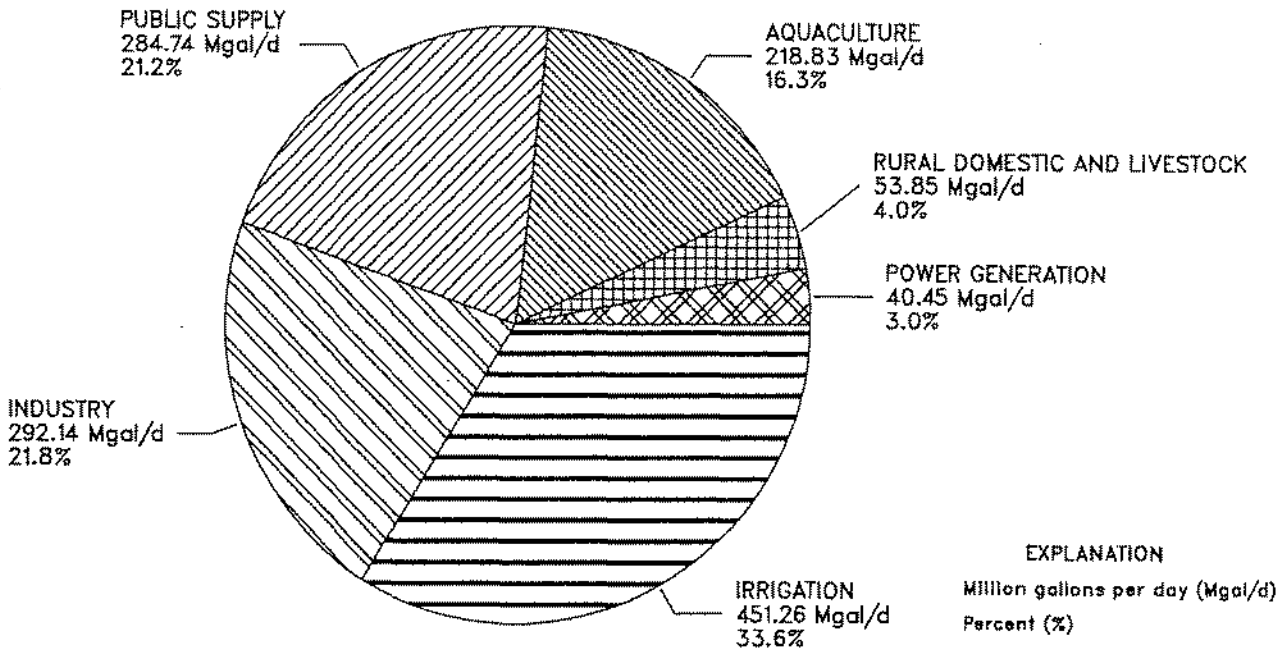


Figure 11.--Ground-water withdrawals in Louisiana, 1990.

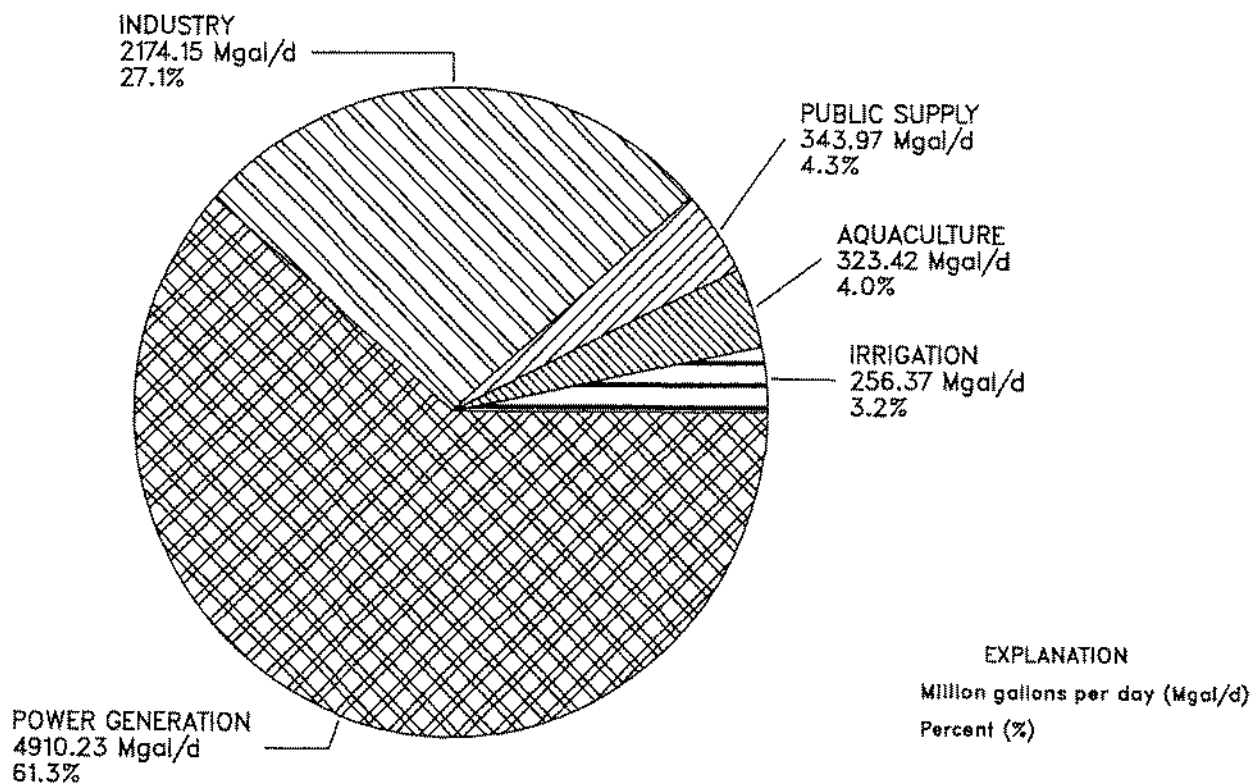


Figure 12.--Surface-water withdrawals in Louisiana, 1990.

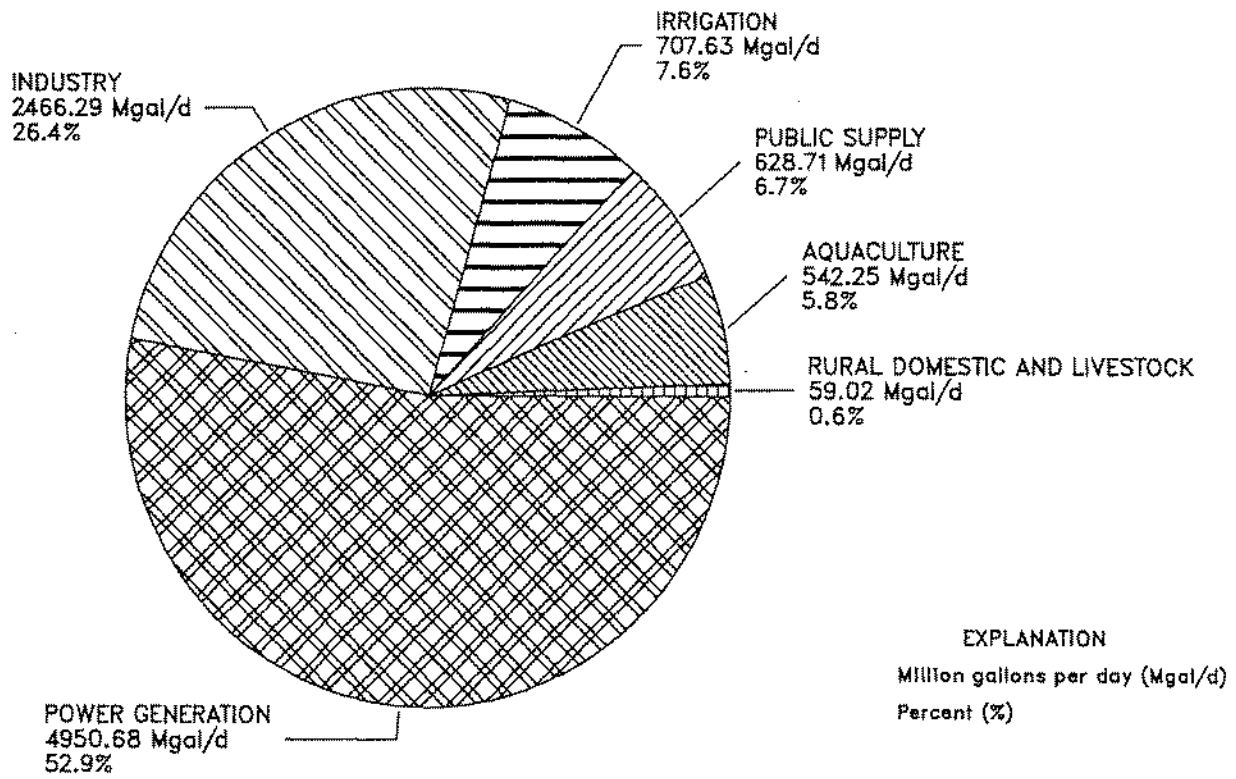


Figure 13.--Total water withdrawals in Louisiana, 1990.

LOUISIANA

Population: 4,408,000
 Population served by public supply: 3,780,277
 Per capita withdrawals (gal/d): 2,122
 Acres irrigated: 688,018
 Hydroelectric power instream use (Mgal/d): 21,667.28

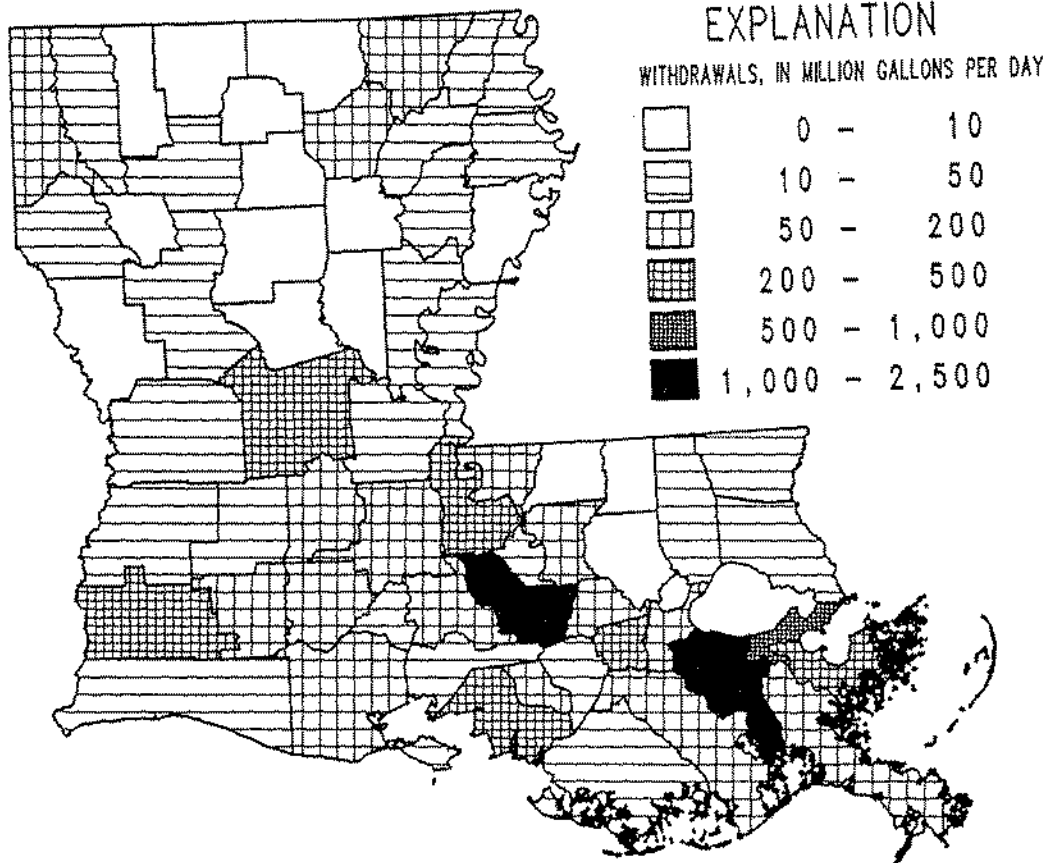
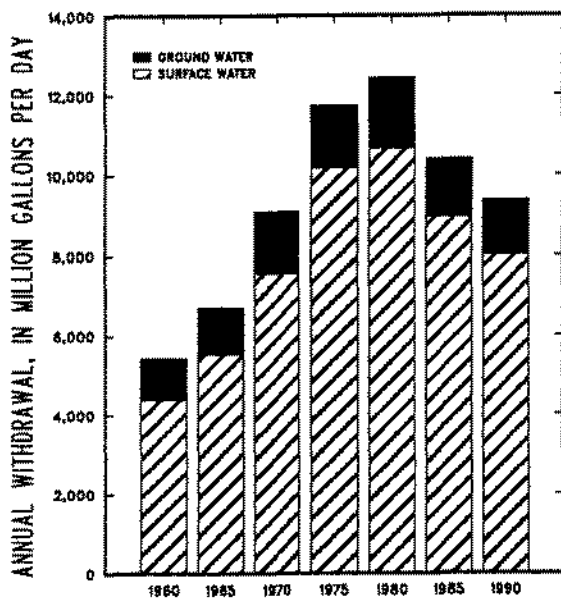


Figure 14.--Summary of total

Withdrawals, in million gallons per day (Mgal/d)			
	GROUND WATER (GW)	SURFACE WATER (SW)	TOTALS
Public supply	284.74	343.97	628.71
Industry	292.14	2,174.15	2,466.29
Power generation	40.45	4,910.23	4,950.68
Rural domestic	50.17	.00	50.17
Livestock	3.68	5.17	8.85
Rice irrigation	397.79	248.30	646.09
General irrigation	53.47	8.07	61.54
Aquaculture	218.83	323.42	542.25
TOTALS	1,341.26	8,013.32	9,354.57

Withdrawals by Major Industrial Groups (Mgal/d)		
Standard Industrial Classification	GW	SW
13 Oil and gas extraction	1.73	3.86
14 Non-fuels/non-metals mining	.23	32.36
20 Food products	22.93	35.15
23 Apparel	1.37	.00
24 Lumber	1.78	.40
26 Paper products	98.52	103.18
28 Chemicals	123.90	1,490.10
29 Petroleum refining	30.93	481.04
30 Rubber and plastics	1.23	.00
32 Glass, clay, and concrete	1.64	.60
33 Primary metals	.16	26.48
34 Metal products	.76	.04
37 Transportation equipment	5.15	.01



WITHDRAWAL TRENDS SINCE 1960

Withdrawals by Top 25 Public Suppliers (Mgal/d)		
Public Supplier	GW	SW
Alexandria Water System	22.55	
Baton Rouge Water Works	43.38	
Bossier City Water System		7.49
E. Jefferson W.W. Dist. 1		51.88
Hammond Water System	4.19	
Houma Water System		7.33
Lafayette Water System	16.09	
Lafourche W.W. Dist. 1		7.94
Lake Charles Water Co.	11.39	
Monroe Water System		10.40
Natchitoches Water System		4.70
New Iberia Water System	5.73	
New Orleans Sewage & Water		127.00
Opelousas Water System	4.05	
Parish Water Co.	7.13	
Pineville Water System	5.50	
Plaquemines Parish W.W.		5.74
Shreveport Water System		36.75
Slidell Water System	4.45	
St. Bernard Water & Sewage		9.52
St. John W.W. Dist. 3	2.34	2.46
Suiphr Water System	4.20	
Terrebonne W.W. Dist. 1		9.17
W. Jefferson W.W. Dist. 2		24.92

water withdrawals, 1990.

WATER USE TRENDS BY CATEGORY

Public-supply withdrawals decreased by approximately 1.0 percent from 1985 to 1990, which reflect the State's population decrease of 1.6 percent from 1985 to 1988 (figs. 15 and 16). The use of ground water increased by 1.0 percent and the use of surface water decreased by about 2.1 percent from 1985 to 1990. Since 1960, public-supply withdrawals have increased by 140 percent and the State population has increased by 38 percent (U.S. Department of Commerce, 1961; 1966; 1971; 1976; 1983; 1987; 1988).

Industrial ground-water use increased by 3.4 percent and surface-water use increased by 23 percent for an overall increase of 20 percent in withdrawals by industry since 1985 (fig. 17). Total industrial withdrawals have decreased by 40 percent since 1960.

Ground-water withdrawals for power generation increased by 13 percent from 1985 to 1990. However, surface-water withdrawals decreased by 17 percent causing an overall decrease of 17 percent for power-generation withdrawals from 1985 to 1990 (fig. 18). Since 1965, withdrawals for power generation have increased by 120 percent.

Although rural-domestic withdrawals seemingly increased by 9.3 percent from 1985 to 1990 (fig. 19), this increase could be the result of different calculation methods and does not necessarily reflect a significant change in rural-domestic withdrawals. The fact that withdrawal estimations for rural-domestic withdrawals have fluctuated since 1960 may be more indicative of differences in estimation methods used by previous authors rather than of significant changes in water-use practices by the rural population of Louisiana.

Ground water used for livestock decreased by 52 percent and surface water used for this purpose increased by 44 percent from 1985 to 1990. Withdrawals for livestock have decreased by 66 percent since 1960 (fig. 20).

Ground-water withdrawal for rice irrigation decreased by 42 percent and surface-water withdrawal for rice irrigation decreased by 67 percent from 1985 to 1990 (fig. 21). Total withdrawal for rice irrigation decreased by 55 percent though the rice harvest increased by 9 percent (Louisiana Cooperative Extension Service, 1990). Much of the decrease may be attributed to the unusually wet growing season in 1989, the year for which the data was collected. The amount of precipitation during the growing season, from February to August, directly influences the amount of irrigation water applied to the fields (Zack, 1971). Another reason for the decrease may be due in part to the differences in the methods of data collection used in 1985 and 1990.

Ground-water withdrawals for general irrigation increased by 54 percent and surface-water withdrawals for this purpose decreased by 7.7 percent from 1985 to 1990. Total withdrawals for general irrigation increased by 42 percent from 1985 to 1990. General irrigation withdrawals have increased by 120 percent since 1960 (fig. 22).

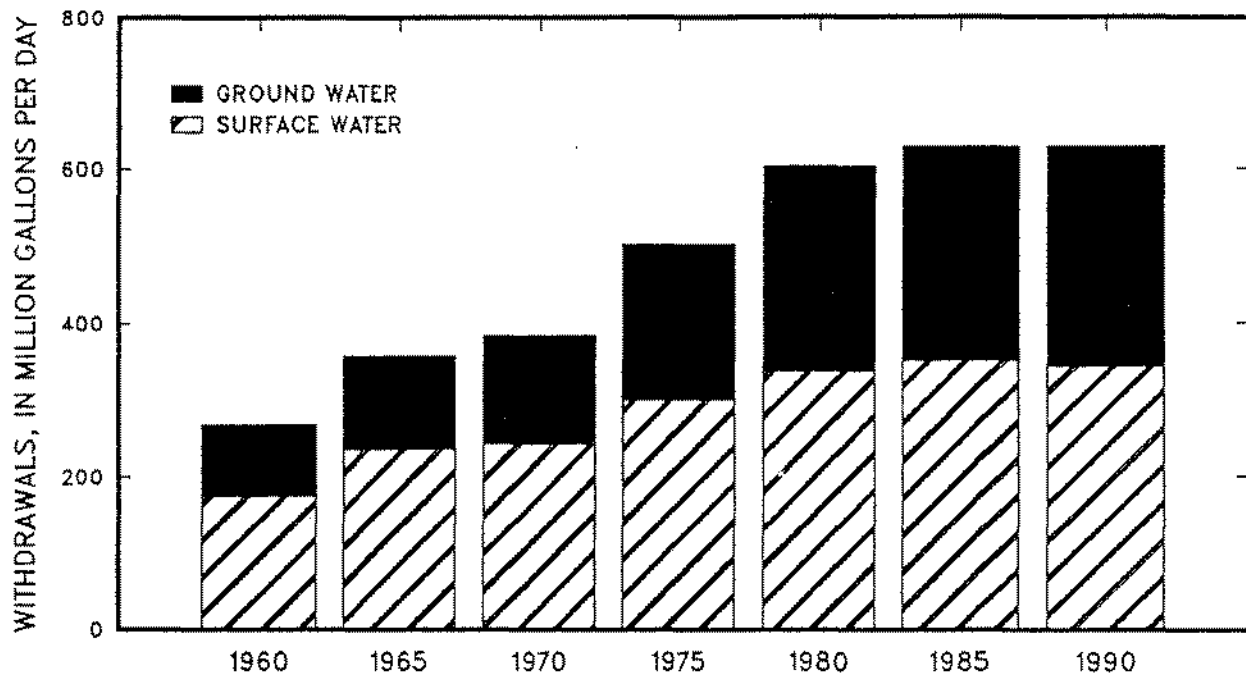


Figure 15.--Public-supply water withdrawals in Louisiana, 1960-90.

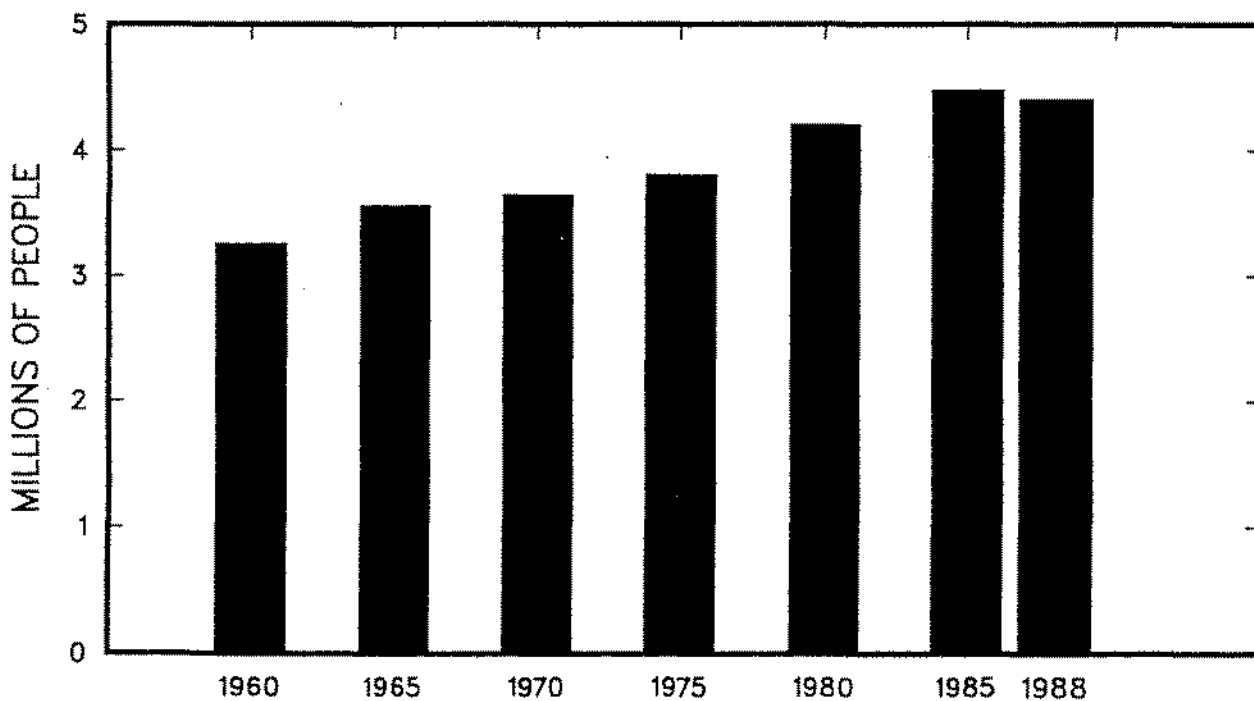


Figure 16.--Total population in Louisiana, 1960-88.

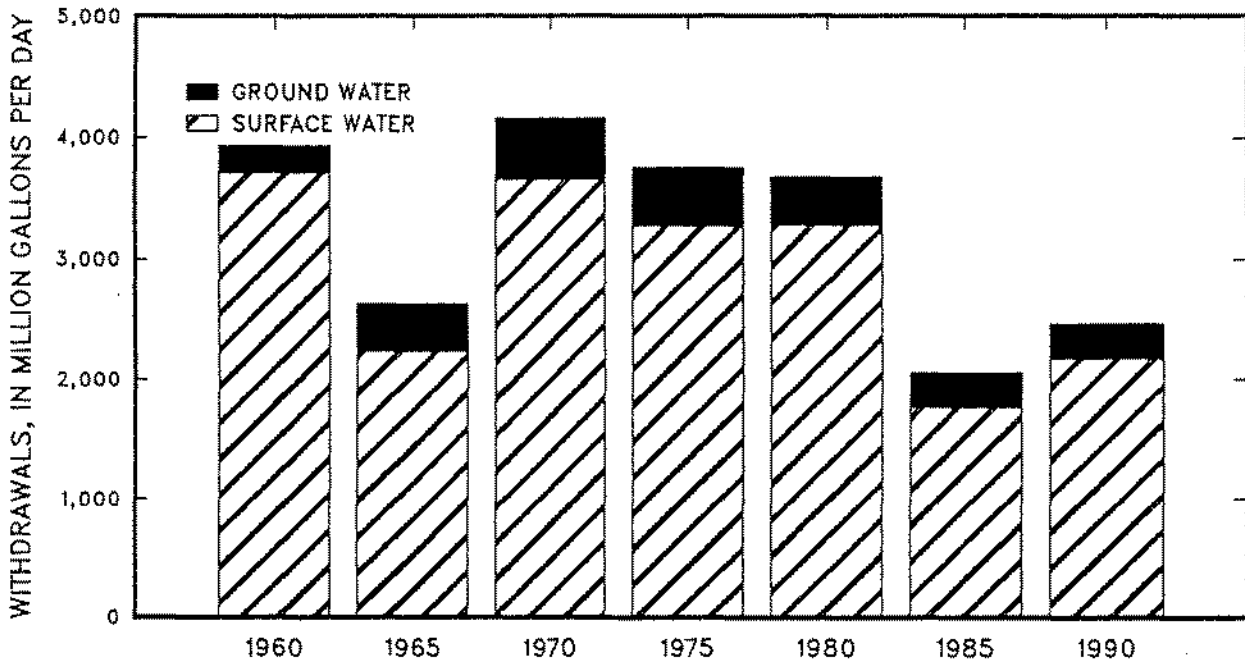


Figure 17.--Industrial water withdrawals in Louisiana, 1960-90.

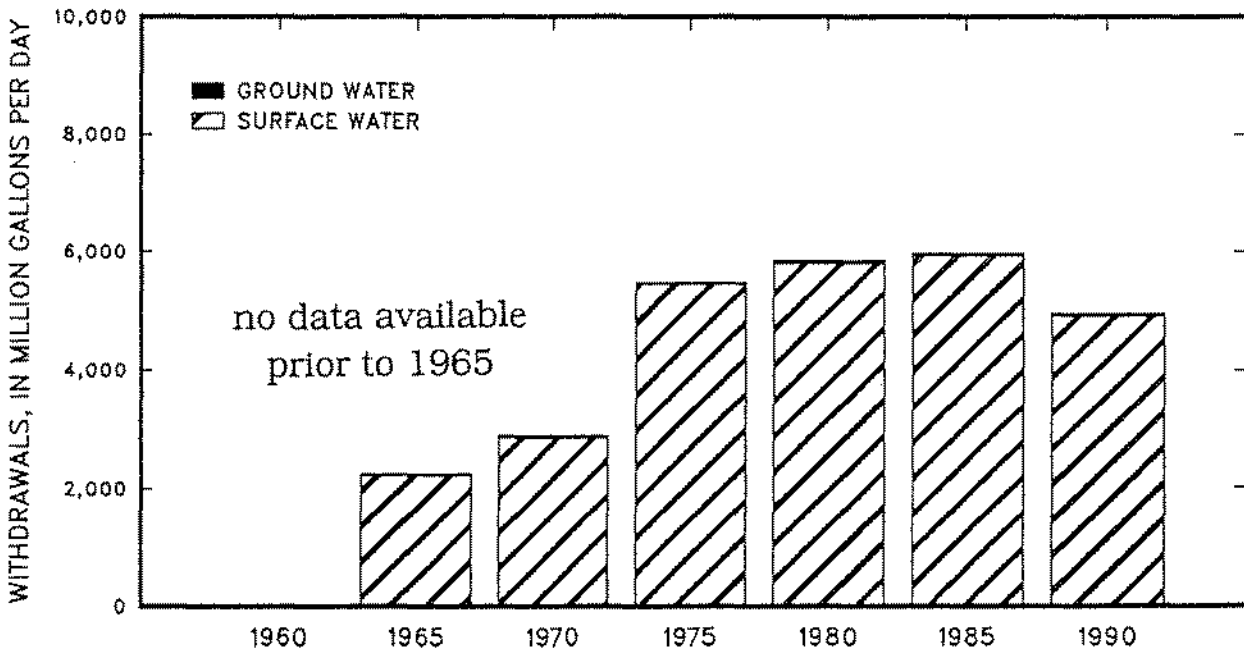


Figure 18.--Power-generation water withdrawals in Louisiana, 1965-90.

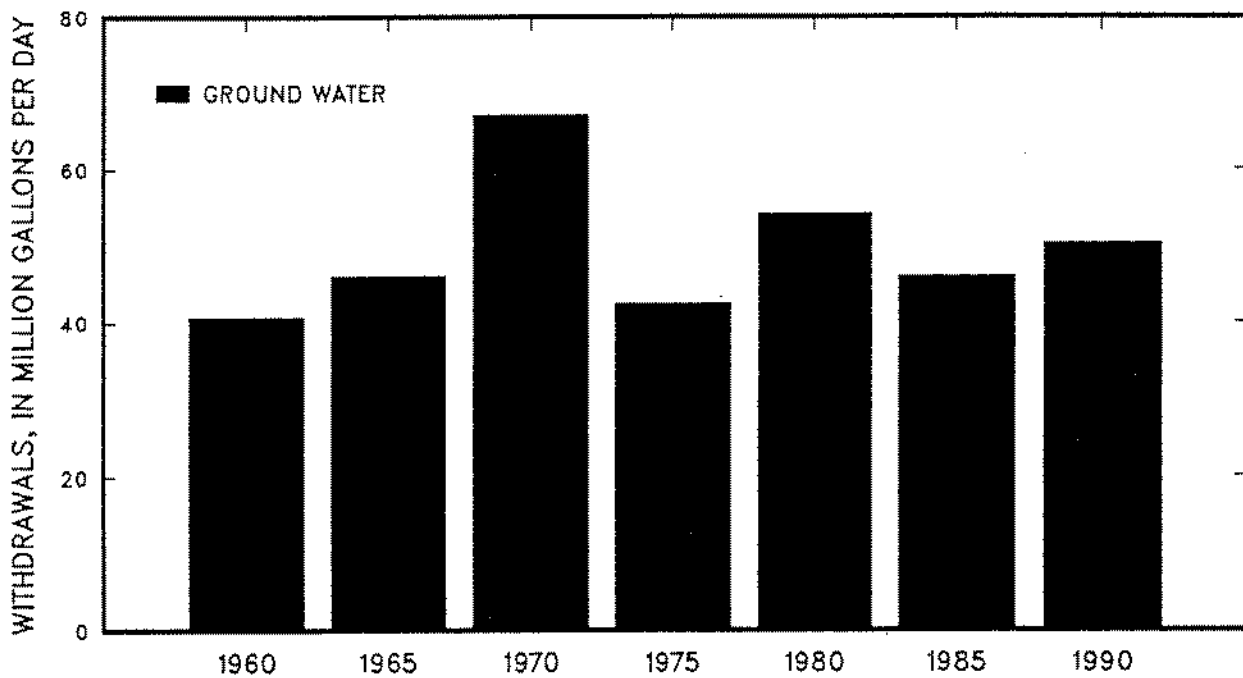


Figure 19.--Rural-domestic water withdrawals in Louisiana, 1960-90.

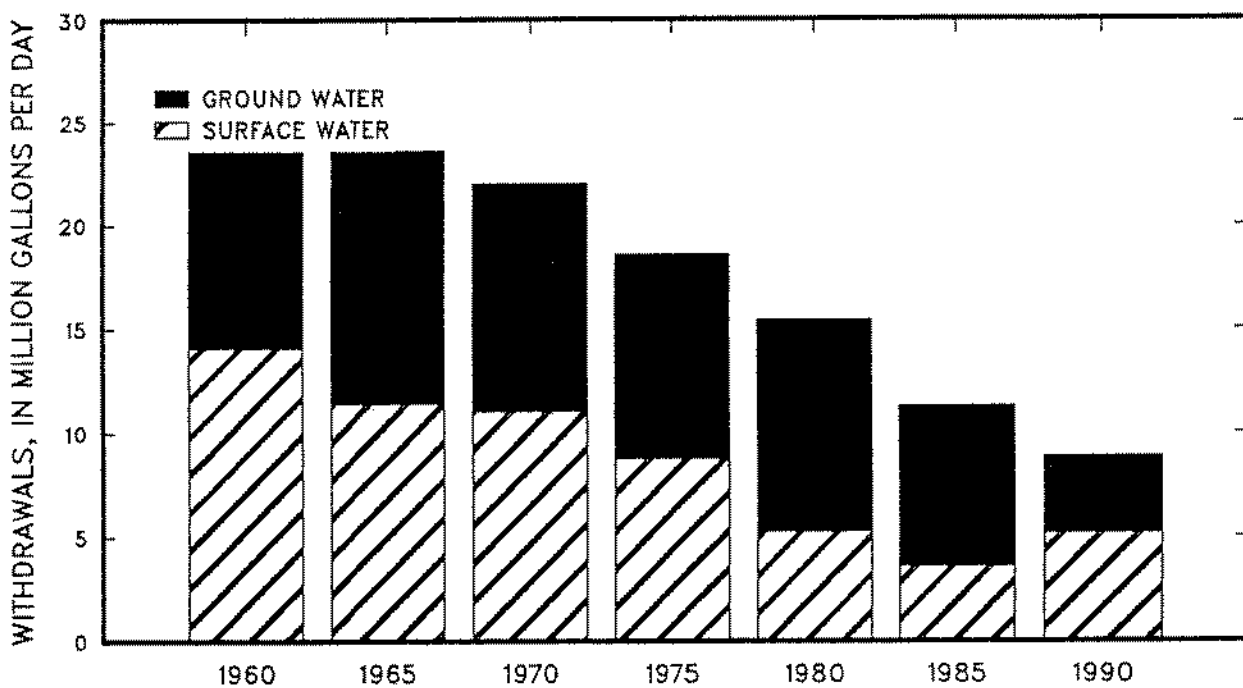


Figure 20.--Livestock water withdrawals in Louisiana, 1960-90.

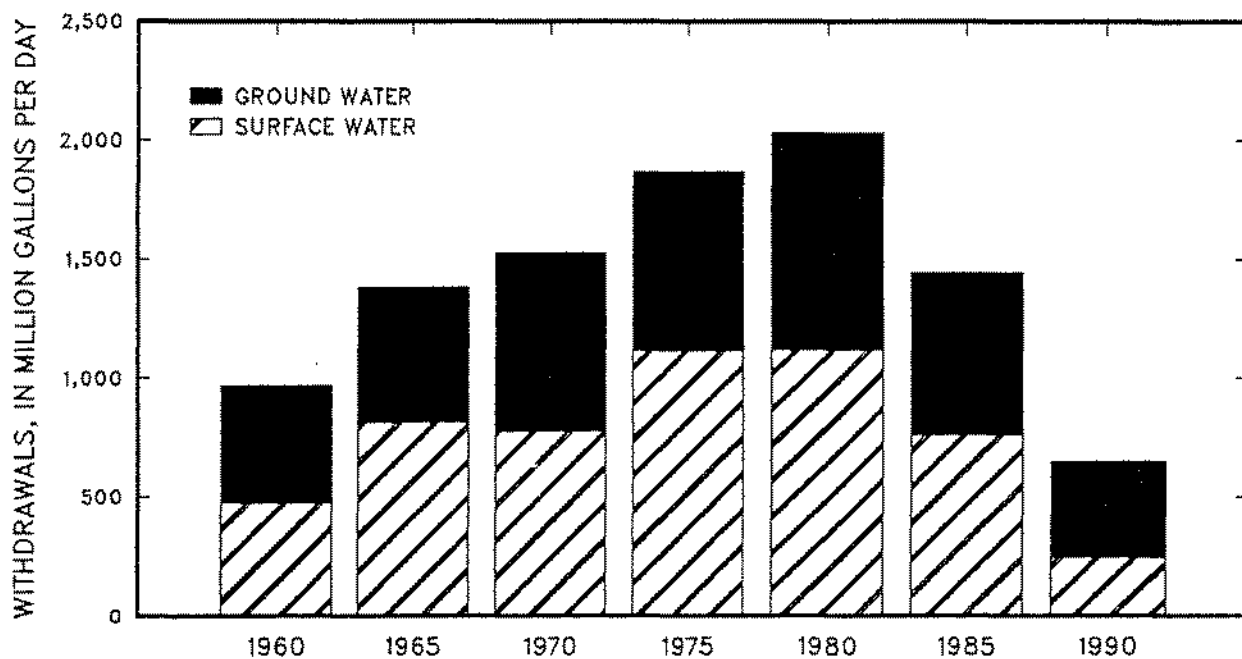


Figure 21.--Rice-irrigation water withdrawals in Louisiana, 1960-90.

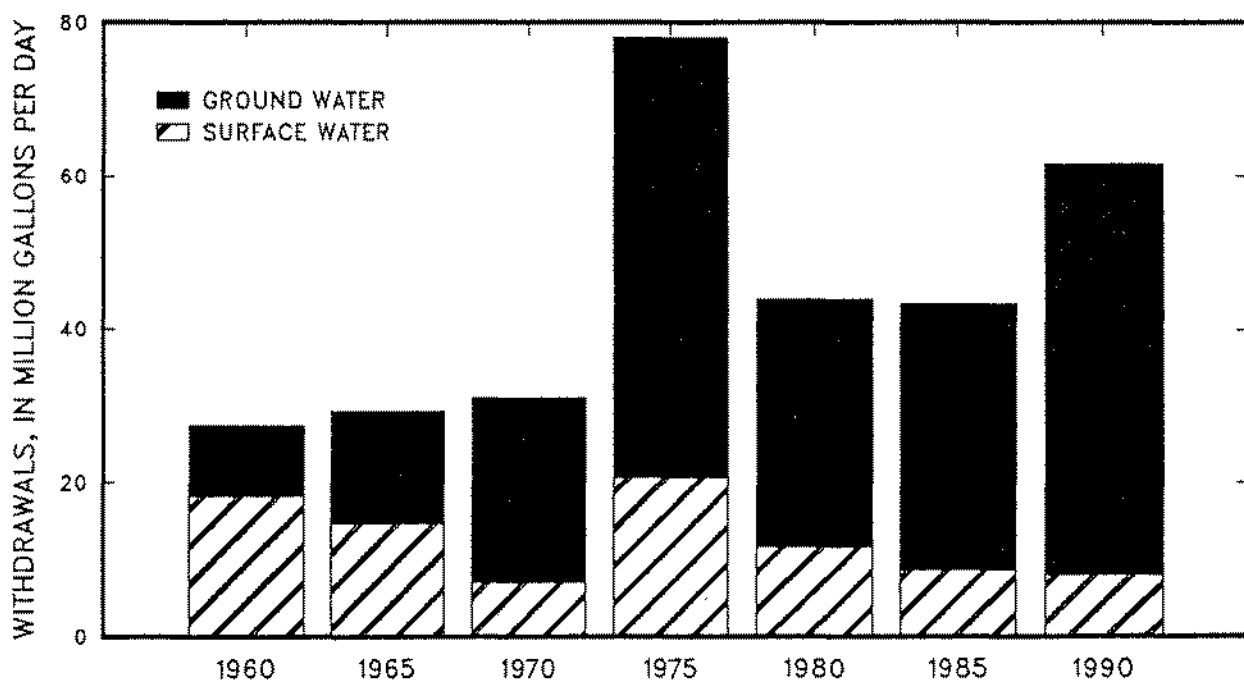


Figure 22.--General irrigation water withdrawals in Louisiana, 1960-90.

Ground-water withdrawals for aquaculture increased by 220 percent, and surface-water withdrawals for aquaculture increased by 160 percent from 1985 to 1990. Total withdrawals for aquaculture increased by 180 percent. Aquaculture withdrawals were first reported in the 1980 water-use report and since then total withdrawals for aquaculture use have increased by 260 percent (fig. 23). However, most of the increase can be attributed to refinements in data-collection techniques used for aquaculture, rather than a change in farming practices or a dramatic increase in pond acreage.

Total ground-water withdrawals for all water-use categories decreased by 6.8 percent from 1985 to 1990. Total surface-water withdrawals decreased by 10 percent. Total withdrawals decreased by 10 percent. From 1960 to 1980, total water withdrawals in Louisiana increased 129 percent, from 5,400 Mgal/d to 12,000 Mgal/d. But, from 1980 to 1990, total withdrawals decreased by 25 percent to 9,400 Mgal/d. Overall, since 1960, ground-water withdrawals have increased by 30 percent, surface-water withdrawals have increased by 83 percent, and total withdrawals have increased by 73 percent (figs. 24-26).

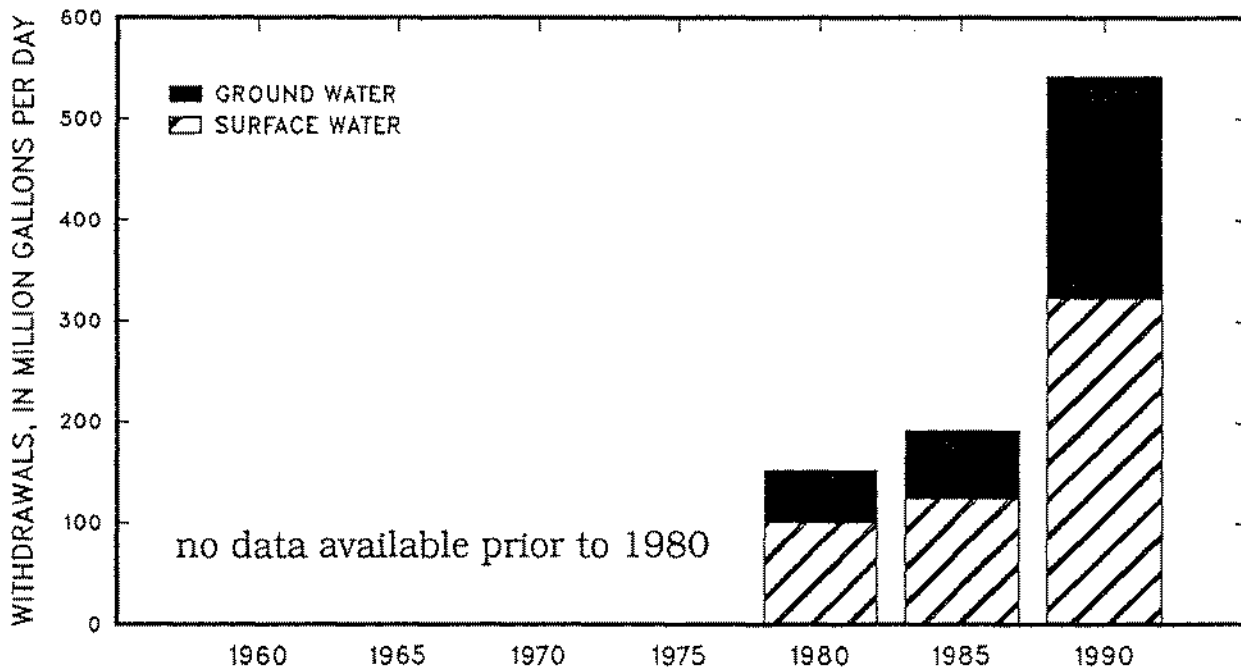


Figure 23.--Aquaculture water withdrawals in Louisiana, 1980-90.

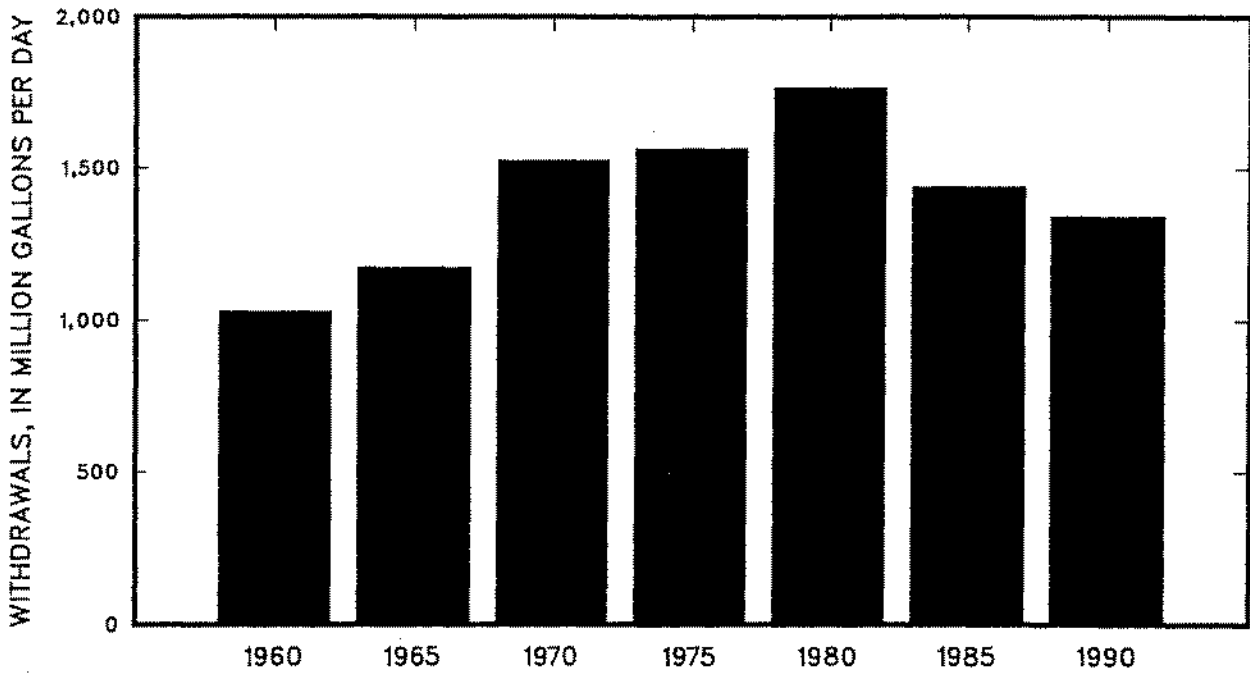


Figure 24.--Ground-water withdrawals in Louisiana 1960-90.

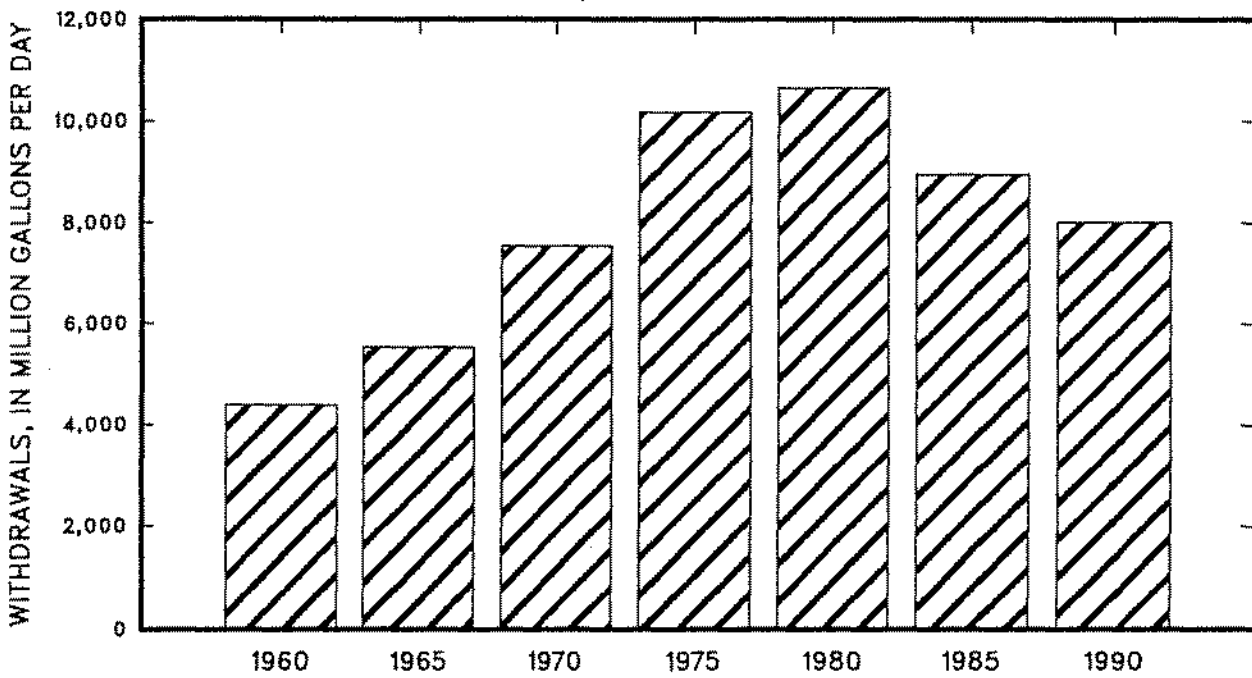


Figure 25.--Surface-water withdrawals in Louisiana, 1960-90.

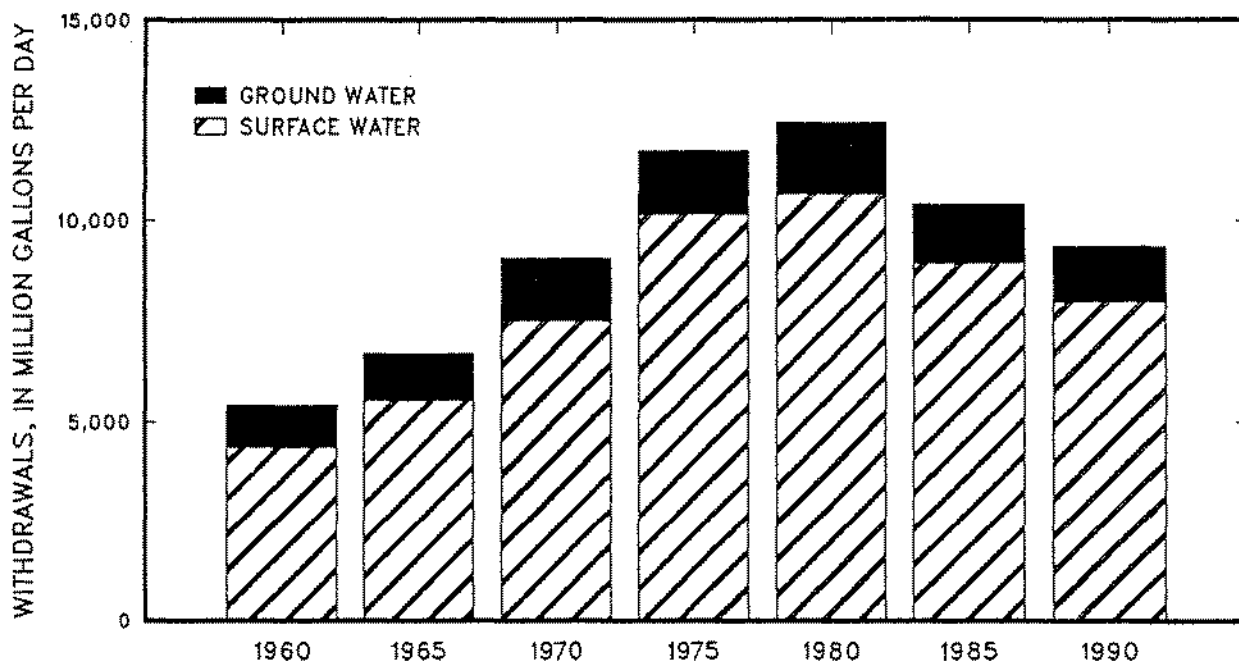


Figure 26.--Total water withdrawals in Louisiana, 1960-90.

SUMMARY

In 1990, public suppliers in Louisiana withdrew 630 Mgal/d of water, 280 Mgal/d from ground-water sources and 340 Mgal/d from surface-water sources, to supply approximately 3.8 million Louisiana residents. Public supply withdrawals decreased by approximately 1.0 percent from 1985 to 1990.

Industry in Louisiana withdrew 2,500 Mgal/d of water, 290 Mgal/d from ground-water sources and 2,200 Mgal/d from surface-water sources. Industrial withdrawals in 1990 accounted for almost 26 percent of all withdrawals. Industrial ground-water use increased by 3.4 percent and surface-water use increased by 23 percent for an overall increase of 20 percent in withdrawals since 1985.

Power-generation facilities withdrew approximately 5,000 Mgal/d, which accounted for more than 53 percent of all water withdrawn in 1990. Of this amount, only 40 Mgal/d came from ground-water sources. Seventy-eight percent (3,800 Mgal/d) of the surface water withdrawn for power-generation purposes was provided by the Mississippi River in southeastern Louisiana. Ground-water withdrawals for power generation increased by 13 percent from 1985 to 1990. However, surface-water withdrawals decreased by 17 percent causing an overall decrease of 17 percent for power-generation withdrawals from 1985 to 1990.

In 1990, an average of 19,500 Mgal/d of Mississippi River water passed through the turbines of the hydroelectric power plant at the Old River Control Structure near Tarbert Landing, Mississippi. For the hydroelectric power plant at the Toledo Bend Reservoir near Burkeville, Texas, an average of 4,300 Mgal/d of water passed through its turbines, 2,200 Mgal/d of which was counted as power-generation instream use for Louisiana in 1990. Hydroelectric power-generation instream use was not included in surface-water withdrawals in this report because the water was not withdrawn.

Approximately 628,000 people in Louisiana, using privately owned domestic wells, withdrew an estimated 50 Mgal/d of ground water for home use in 1990. Fluctuations in rural-domestic withdrawal estimates since 1960 may be more indicative of changes in estimation methods used by previous authors rather than of significant changes in rural water-use practices in Louisiana.

Livestock consumed approximately 8.9 Mgal/d of water. Of this total, 3.7 Mgal/d was ground water and 5.2 Mgal/d was surface water. Ground water used for livestock decreased by 52 percent and surface water used for this purpose increased by 44 percent from 1985 to 1990.

Based on 1989 data, rice farmers withdrew approximately 650 Mgal/d of water to irrigate their fields in 1990. Of this total, 400 Mgal/d was ground water and 250 Mgal/d was surface water. The Chicot aquifer system in southwestern Louisiana supplied 79 percent of the ground water used for rice irrigation. Ground-water withdrawal for rice irrigation decreased by 42 percent and surface-water withdrawal decreased by 67 percent from 1985 to 1990. Total withdrawal for rice irrigation decreased by 55 percent though the rice harvest increased by 9 percent.

Farmers also withdrew approximately 53 Mgal/d of ground water and 8.1 Mgal/d of surface water for crops other than rice in 1990 (based on 1989 data). Ground-water withdrawals for these crops increased by 54 percent and surface-water withdrawals decreased by 7.7 percent from 1985 to 1990. Total withdrawals for general irrigation increased by 42 percent from 1985 to 1990 and have increased by 120 percent since 1960.

Water withdrawn for aquaculture in Louisiana was approximately 540 Mgal/d in 1990. Of the total, 220 Mgal/d was ground water and 320 Mgal/d was surface water. Since 1985, ground-water withdrawals increased by 220 percent and surface-water withdrawals increased by 160 percent. Total withdrawals for aquaculture increased by 180 percent.

Total withdrawals in 1990 were approximately 9,400 Mgal/d. Total ground-water withdrawals were 1,300 Mgal/d, and total surface-water withdrawals were 8,000 Mgal/d. Forty-five percent of all ground water withdrawn was from the Chicot aquifer system, and 21 percent was withdrawn from the Mississippi River alluvial aquifer. Seventy-two percent of all surface water withdrawn was from the Mississippi River.

Total ground- and surface-water withdrawals decreased by 10 percent. Total ground-water withdrawals in Louisiana decreased by 6.8 percent from 1985 to 1990, and total surface-water withdrawals decreased by 10 percent.

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