PUMPAGE OF WATER IN LOUISIANA, 1965

Water Resources Pamphlet No. 20

Published by
DEPARTMENT OF CONSERVATION
LOUISIANA GEOLOGICAL SURVEY
and
LOUISIANA DEPARTMENT OF PUBLIC WORKS
Baton Rouge, La.

August 1966

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In cooperation with the
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INTRODUCTION

Water is our single most valuable natural resource. Its occurrence, availability, and use affects every citizen; and basic facts concerning water are vital for planning future development. With our rapidly increasing population and the attendant growth of agriculture and industry—the largest water users—water will undoubtedly assume an even greater role in the future. The growth and economic development of an area are governed largely by the availability and wise use of water resources.

The purpose of this report is to make available basic water-use data (table 1) that may be used with other water facts when planning the development of the water resources of the State. This report complements the 1960 pumpage report (Snider and Forbes, 1961). The data on which the totals are based were collected as part of statewide water-resources studies made by the U.S. Geological Survey in cooperation with the Louisiana Department of Public Works and the Louisiana Geological Survey, Department of Conservation. The writers wish to express their appreciation for the information and assistance received from the officials of public supplies, industries, State and Federal Agencies, and from county agents, farmers, and other individuals in the State.

The table is assembled by parish, source of water, and principal use. The location of the 64 parishes is shown on the map of Louisiana (fig. 1). Ground water refers to that water obtained from wells or, in rare cases, springs. Surface water is that obtained from streams, ponds, or lakes.

The principal uses are public supply, industrial, fuel-electric power, rural-domestic and livestock, and irrigation. (See table 1.) Non-withdrawal uses—navigation, recreation, waste disposal, and conservation of fish and wildlife—are not considered in this report.

The quantities of water (table 1) are average daily rates of withdrawal for the year, although the actual rate of withdrawal varies widely throughout the year for almost all uses. For example, public-supply use is generally greater than average during the summer and less in the winter; a sugar mill may use 6 mgd (million gallons per day) for 90 days but the average daily rate for a year would be only 1.5 mgd. The figures in the table are representative of 1965 water-use rates, with the exception of the rice irrigation value, which is for 1964.

No estimate is made of the amount of water actually consumed; however, most ground water is considered to be permanently removed from the aquifer. Some ground water, after use, is pumped into streams and is available for other use. Except for that used for irrigation, most of the surface water pumped is not consumed but is returned to streams.

Ground water that flows to waste, principally in Livingston, St. Tammany, Tangipahoa, and Washington Parishes, is not included in table 1. An estimated total of 40 mgd flows to waste from wells in these parishes.

PUBLIC-SUPPLY USE

The water supplies of villages, towns, and cities—whether municipally or privately owned—are in this category, as well as waterworks districts and numerous small supplies serving subdivisions and small groups of homes. The water use reported for public supplies includes all water pumped from wells or streams; thus, leakage in the system is included in the reported value.

Figure 1. Location of parishes.

Water in this category is primarily for home and domestic purposes, but an average of about 20 percent is for commerce and industry. Some water is also used for fire protection, street and fire hydrant flushing, and watering of lawns and gardens.

INDUSTRIAL USE

The water listed in this category is self-supplied only and does not include industrial water obtained from public supply. Water used at military establishments, schools, hospitals, and penal institutions, which have their own water systems, is included in the industrial category; however, this was included in public supply in the 1960 report. This change was made so that the pumpage values would be similar to those published by the U. S. Geological Survey in their report of national water use (MacKichan and Kammerer, 1961).

FUEL-ELECTRIC USE

Snider and Forbes (1961) included in the industrial category water used for the production of fuel-electric power. Because of the large quantities used for this purpose, water for fuel-electric power is shown separately in this report.

RURAL-DOMESTIC AND LIVESTOCK

Rural areas are those not served by public water-supply systems. The per capita use of water by the rural population in Louisiana is variable and ranges from less than 5 gpd (gallons per day) to more than 90 gpd. Estimates for rural-domestic use were made using per capita rates of 5 gpd for homes without running water, 50 gpd for homes with running water, 30 gpd for areas where the number of homes with and without running water could not be determined, and 90 gpd for the parishes in southwest Louisiana. Water requirements for livestock were determined on the basis of per capita requirements. No surface-water source is shown for rural-domestic use because cisterns that catch and store rainfall are generally used in the few areas where neither a public- nor ground-water supply is available.

IRRIGATION USE

Most of the water pumped for irrigating crops is for rice in southwestern Louisiana. Since publication of the 1960 report (Snider and Forbes, 1961), more data have become available, which indicate that the total quantity of surface water pumped in the State in 1960 was about 4,590 mgd instead of 4,386 mgd reported. Most of the difference (204 mgd) is water that is used primarily for rice irrigation in Acadia, Calcasieu, Jefferson Davis, and Vermilion Parishes in southwestern Louisiana.

TABLE 1. PUMPAGE OF WATER (MILLION GALLONS PER DAY)

PARISH	PUBLIC SUPPLIES		INDUSTRIAL		FUEL ELECTRIC	
	Ground	Surface	Ground	Surface	Ground	Surface
Acadia	3.18	0	3.16	0	0	0
Allen	1.28	0	12.24	.09	0	0
Ascension	.47	.69	2.79	12.23	0	0
Assumption	0	.62	2.59	14.34	0	0
Avoyelles	1.55	0	.37	0	0	0
Beauregard	1.33	0	5.44	0	0	0
Bienville	.44	0	.83	.03	0	0
Bossier	.34	4.00	.42	.70	0	0
Caddo	1.52	22.10	.14	0	.03	388.02
Calcasieu	10.51	0	71.24	620.00	5.07	37.60
Caldwell	.27	0	.08	0	0	0
Cameron	.68	0	3.17	0	0	0
Catahoula	.30	0	.12	0	0	0
Claiborne	1.18	0	2.09	0	0	0
Concordia	1.18	0	.14	.36	0	0
De Soto	.80	.85	.20	0	0	0
East Baton Rouge	26.93	0	59.99	339.96	7.32	5.76
East Carroll	.33	0	.08	0	0	0
East Feliciana	.34	0	1.31	0	0	0
Evangeline	1.33	0	9.04	0	0	0
Franklin	.64	0	1.49	0	0	0
Grant	.25	.05	.15	0	0	0
Iberia	4.26	0	4.63	1.66	0	0
Iberville	1.64	0	7.59	278.42	.86	230.40
Jackson	1.09	0	13.03	0	0	0
Jefferson	0	28.20	13.62	50.16	2.59	288.00
Jefferson Davis	2.09	0	5.87	.73	0	0
Lafayette	6.28	0	2.13	0	0	0
Lafourche	0	4.83	.50	15.90	0	0
La Salle	.67	0	.41	0	0	0
Lincoln	2.28	0	2.32	0	0	0
Livingston	.89	0	.05	0	0	0
Madison	.59	0	1.25	0	0	0
Morehouse	1.64	0	17.62	26.50	0	0
Natchitoches	.06	1.60	.03	0	0	0
Orleans	.02	135.60	24.98	5.47	9.15	508.90
Ouachita	3.09	7.50	13.33	56.47	.14	272.00
Plaquemines	0	4.95	.05	10.79	2.16	26.40
Pointe Coupee	.50	0	2.01	0	0	0
Rapides	7.81	2.00	1.59	2.40	0	0
Red River	.18	0	.03	0	0	0
Richland	.73	.30	2.98	0	0	0
Sabine	.75	0	.31	0	0	0
St. Bernard	0	5.00	2.72	502.90	0	0
St. Charles	0	3.02	19.29	196.61	0	259.03
St. Helena	.08	0	0	0	0	0
St. James	0	2.36	7.83	8.08	0	0
St. John the Baptist	.05	1.77	3.83	32.60	0	0
St. Landry	4.71	0	1.42	0	.04	144.00
St. Martin	.88	0	2.15	.71	0	0
St. Mary	.08	5.14	3.25	4.33	.08	57.60
St. Tammany	4.00	0	1.71	0	0	0
Tangipahoa	5.61	0	1.09	0	0	0
Tensas	.55	0	.12	0	0	0
Terrebonne	0	6.00	.20	9.01	0	0
Union	.57	0	.04	0	0	0
Vermilion	2.50	0	7.75	1.36	0	0
Vernon	1.07	0	2.34	0	0	0
Washington	6.71	0	19.15	12.00	0	0
Webster	2.63	0	9.19	32.22	0	0
West Baton Rouge	.59	0	5.93	0	0	0
West Carroll	.18	0	.06	0	0	0
West Feliciana	.21	0	7.76	0	0	0
Winn	1.07	0	.23	0	0	0
Total by source	120.91	236.58	387.47	2236.03	27.44	2217.71
Total by category	357.49		2623.50		2245.15	

[a]Additional 0.7 mgd is cistern water.
[c]Additional 0.18 mgd is cistern water.

BY PARISH, PRINCIPAL USE, AND SOURCE, LOUISIANA, 1965

RURAL			IRRIGATION				TOTAL		
Domestic	Livestock		Rice		Other				
Ground	Ground	Surface	Ground	Surface	Ground	Surface	Ground	Surface	Total
1.94	0.55	0.23	129.97	106.77	0.04	0	138.84	107.00	245.84
.71	.14	.14	49.36	6.74	0	0	63.73	6.97	70.70
.66	.16	.01	0	2.48	.64	.33	4.72	15.74	20.46
a .07	0	.02	0	0	0	.43	2.66	15.41	18.07
.62	.42	.28	4.93	0	0	.04	7.89	.32	8.21
.78	.16	.16	10.35	.31	0	0	18.06	.47	18.53
.34	.08	.19	0	0	0	0	1.69	.22	1.91
.70	.15	.35	0	0	.20	1.80	1.81	6.85	8.66
1.40	.19	.45	0	0	1.67	3.74	4.95	414.31	419.26
4.02	.53	.22	60.39	117.78	0	0	151.76	775.60	927.36
.16	.05	.11	0	0	0	.22	.56	.33	.89
.52	.28	.03	10.43	26.71	0	0	15.08	26.74	41.82
.26	.09	.22	0	0	0	0	.77	.22	.99
.28	.10	.24	0	0	0	0	3.65	.24	3.89
.26	.08	.26	0	.30	0	0	1.66	.92	2.58
.49	.22	.51	0	0	0	0	1.71	1.36	3.07
.94	.13	.29	0	0	0	0	95.31	346.01	441.32
.29	.29	.03	6.70	3.12	1.00	0	8.69	3.15	11.84
.32	.02	.35	0	0	0	0	1.99	.35	2.34
1.65	.28	.28	94.50	4.68	.10	0	106.90	4.96	111.84
.63	.17	.52	.55	0	2.03	.45	5.51	.97	6.48
.27	.05	.20	0	.27	0	0	.72	.52	1.24
1.42	.21	.05	2.25	16.07	0	0	12.77	17.78	30.55
.49	.22	.05	0	2.43	0	0	10.80	511.30	522.10
.22	.01	.08	0	0	0	0	14.35	.08	14.43
b .10	.02	.02	0	0	.70	0	17.03	366.38	383.41
.93	.43	.18	94.36	171.13	.80	0	104.48	172.04	276.52
2.42	.42	.14	19.11	2.96	0	0	30.36	3.10	33.46
c .06	.07	.28	0	0	0	0	.63	21.01	21.64
.10	.02	.14	0	0	0	0	1.20	.14	1.34
.30	.04	.31	0	0	0	0	4.94	.31	5.25
1.54	.30	.06	0	0	.63	.22	3.41	.28	3.69
.20	.28	.05	.30	.20	0	.08	2.62	.33	2.95
.49	.09	.26	21.43	0	1.79	1.79	43.06	28.55	71.61
.52	.40	.26	0	0	0	.13	1.01	1.99	3.00
.10	.01	.01	0	0	0	0	34.26	649.98	684.24
.96	.18	.12	0	0	0	1.83	17.70	337.92	355.62
d 0	0	0	0	0	0	0	2.21	42.14	44.35
1.50	.35	.25	.84	0	0	0	5.20	.25	5.45
.72	.48	.31	0	1.07	.06	.18	10.66	5.96	16.62
.25	.22	.10	0	0	.04	0	.72	.10	.82
.44	.25	.16	0	0	.72	1.78	5.12	2.24	7.36
.35	.13	.29	0	0	0	0	1.54	.29	1.83
0	0	0	0	0	0	0	2.72	507.90	510.62
.08	.03	.03	0	0	0	0	19.40	458.69	478.09
.27	.03	.50	0	0	0	.03	.38	.53	.91
.17	.07	0	0	2.14	.27	.18	8.34	12.76	21.10
.13	.02	0	0	1.08	0	0	4.03	35.45	39.48
.19	.75	.19	34.40	4.87	0	0	45.51	149.06	194.57
1.97	.21	.05	1.13	10.76	0	0	6.34	11.52	17.86
.96	.02	.02	0	8.89	0	0	4.39	75.98	80.37
1.15	.06	.24	0	0	.47	0	7.39	.24	7.63
1.95	.99	.17	0	0	2.50	.84	12.14	1.01	13.15
.24	.28	.07	0	.22	.18	.59	1.37	.88	2.25
0	.02	.07	0	0	0	0	.22	15.08	15.30
.35	.06	.18	0	0	0	0	1.02	.18	1.20
1.40	.83	.09	21.68	322.48	.20	0	34.36	323.93	358.29
.15	.10	.28	0	0	0	0	3.66	.28	3.94
1.11	.13	.50	0	0	.07	0	27.17	12.50	39.67
.41	.03	.27	0	0	0	0	12.26	32.49	44.75
.19	.03	.10	0	0	.11	0	6.85	.10	6.95
.38	.23	.06	2.52	.52	.34	.05	3.71	.63	4.34
.24	.03	.26	0	0	0	0	8.24	.26	8.50
.22	.03	.10	0	0	0	0	1.55	.10	1.65
45.98	12.22	11.39	565.20	813.98	14.56	14.71	1173.78	5530.40	6704.18
23.61			e 1379.18		e 29.27		6704.18		

[b] Additional 0.10 mgd is cistern water.
[d] Additional 0.01 mgd is cistern water.
[e] To convert million gallons per day to acre-feet per year multiply by a factor of 1,120.

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