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Water Withdrawals in Illinois, 1980

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ABSTRACT

This report, part of a cooperative program with the U.S. Geological Survey, summarizes the results of the 1980 Illinois Water Inventory Program. The water use data are presented for the following categories: Public Water Supply (1778.5 mgd), Self-Supplied Industry (40,253.3 mgd), Rural Water Use (280.5 mgd), and Fish and Wildlife Management Areas (26.7 mgd). The data are then further categorized by county, districts, hydrologic units, major aquifer systems, and Standard Metropolitan Statistical Areas.

Illinois water withdrawals during 1980 were 42,339.0 mgd, of which groundwater provided 981.5 mgd and surface water sources supplied 41,357.5 mgd. The largest user of water in Illinois is electric power generation, 93.6 percent of the total withdrawals. Excluding electric power withdrawals, 1980 groundwater use was 973.1 mgd, and surface water use was 1735.2 mgd.

INTRODUCTION

Illinois has been considered a water excess state. The state, in a sense, is surrounded by fresh water with the Mississippi River on its western border, the Ohio and Wabash Rivers to the south and east, and Lake Michigan on the northeast. Within the interior the large tributaries to these major water systems are the Illinois, Kaskaskia, Rock, Sangamon, Big Muddy, Embarras, and Kankakee Rivers. They are the principal surface water sources in the state. In addition, the state is blessed with abundant groundwater resources, but these water resources are finite and are not distributed uniformly.

It is necessary to document current water uses to permit planning and proper management of Illinois' existing water resources. To this end, the Illinois State Water Survey, in cooperation with the U.S. Geological Survey, has expanded water use inventory activities to include all areas of the state and all water sources. This data collection system is intended to document the state's total water use; assist in coordinating the management, of groundwater resources in the northeastern part of the state, where a major groundwater resource system is currently being "mined" (withdrawn faster than recharged); expedite the exchange of water use information to the benefit of other state agencies; complement resource research and studies with the capability to rapidly aggregate various regional water use data; and facilitate planning the most effective use of Illinois water resources for the economic and social well-being of the people of Illinois and the rest of the nation.

This report is the second summary of water withdrawals throughout Illinois, the first was Circular 140. It is anticipated to be part of a continuous water use inventory program which not only will show changes in quantities of water used, but also will indicate trends in use and provide the basic data required for establishing water budgets, developing water use plans, and evaluating hydrologic unit and aquifer systems.

Previous Studies

Since the early 1940s, the Illinois State Water Survey has become increasingly involved in evaluating the use of the water resources of Illinois. Most of the previous reports on water use have emphasized the regions where water resources are extensively developed or have surveyed withdrawal by a major user category.

Northern Illinois

Nine reports on groundwater levels and pumpage in the Chicago region have been published by the State Water Survey. Cooperative Reports 1 and 2 and Circulars 79, 83, 85, 94, 113, and 125 summarized trends in water levels and pumpage from deep wells from 1864 through 1975.[0-9] Circular 149 includes a discussion on shallow aquifer pumpage and water level trends in the west suburban area of the Chicago region through 1979.[10] A tenth report, in preparation, will summarize trends in water levels and pumpage from deep wells through 1980.

In addition, Reports of Investigation 50 and 52 summarized trends in total groundwater pumpage in 17 counties of northern Illinois through 1962 and 1963 respectively.[11,12] Report of Investigation 73 discussed groundwater pumpage in 20 counties of northern Illinois during the period 1960-1970.[13]

Particular emphasis has been given to the Chicago region because of the continuing increase in pumpage and corresponding decline in water levels especially in deep wells in that area. Pumpage from deep wells in the Chicago region increased from 200,000 gallons per day (gpd) in 1864 to 177 million gallons per day (mgd) in 1980. As a result, water levels in deep wells tapping the Cambrian-Ordovician aquifer system in Chicago have declined more than 850 feet. Pumpage in the region has exceeded the sustained yield of the Cambrian-Ordovician aquifer every year since 1958 as groundwater users continue to mine water from this aquifer system. For the Chicago region, average annual water-level declines during 1975 through 1980 ranged from 1 foot in Kendall County to 14 feet in Lake County and averaged about 9 feet. This decline is significantly greater than the long-term average decline of 7.8 feet per year. Water levels in 10 deep wells in northern Illinois outside the Chicago region rose an average of 0.3 feet per year during the same period.

Peoria-Pekin Areas

Four reports on groundwater levels and pumpage in the Peoria-Pekin area have been published by the State Water Survey. These are Bulletins 33, 39, and 48 and Report of Investigation 61 which summarize trends in

water levels and pumpage from the sand and gravel aquifers along the Illinois River from 1890 through 1966.[14-17]

The State Water Survey's work in the Peoria-Pekin area followed a request by local officials in 1940 to investigate the groundwater resources of the region. It was estimated that prior to 1946, pumpage in three of the main well fields had approached or exceeded their practical sustained yield. A program of artificial groundwater recharge, in consultation with the State Water Survey, was started in 1951 using Illinois River water via infiltration pits.

East St. Louis Area

Six reports on groundwater levels and pumpage in the East St. Louis area have been published by the State Water Survey. These are Reports of Investigation 17, 44, and 51, and Circulars 95, 112, and 134 which show the trends in water levels and pumpage from the sand and gravel aquifers in the American Bottoms area from 1890 through 1977. ~ A seventh report, in preparation, will provide information on water levels and pumpage through 1980.

The groundwater resources of the East St. Louis area, one of the heavily populated and industrialized areas in the state, have been extensively developed. A period of intensive data collection was initiated in 1941, after alarming water-level recessions were observed by local industries.

Recent reports show that groundwater withdrawals have declined since the mid-1960s as industries have initiated conservation measures or have shifted to Mississippi River water. The region has a potential groundwater yield more than three times the present withdrawals.

Public, Industrial, and Other Water Uses

Four Bulletins were published on public water supplies in Illinois, Bulletins 5, 21, 40, and 60.[24-27] The first in 1908 summarized public water supplies; the latter three detail public groundwater supplies in Illinois at different times. Two papers[28,29] were presented and two reports, Reprint Series 4 and Circular 115,[30,31] were published on withdrawal of water by industry in Illinois. These summarized the industrial water use from 1950 through 1971. Three other types of water use were researched. Report of Investigation 11[32] reported irrigation water demand during 1950-1951, Report of Investigation 30[33] surveyed trends in domestic water use, and Reprint Series 32[34] studied the relation of domestic water use to several socio-economic variables. Reprint Series 153 described various techniques, pumpage volumes, benefits and problems related to industrial water recirculation in northeastern Illinois.[35]

Present Study

This report presents the results of the 1980 Illinois Water Inventory Program. It summarizes water withdrawals by major use categories from

groundwater and surface water sources in Illinois during 1980 and compares selected data from previous publications with the 1980 data.

Information on the quantity of water withdrawn for use in Illinois was obtained from many sources during the inventory. The data are presented by the following categories: Public Water Supply; Self-Supplied Industry—thermoelectric power generation, manufacturing, mineral extraction, and hydroelectric power generation; Rural Use—domestic, livestock, and irrigation; and Fish and Wildlife Management Areas. The water use data in this report are then further categorized by county, districts, hydrologic units, major aquifer systems, and Standard Metropolitan Statistical Areas. For the Northeast District, data are also reported by township and major aquifer system. Information concerning drainage district transfers and non-withdrawal uses such as navigation and water-based recreation was not collected.

Acknowledgments

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Acknowledgment is also made to the numerous individuals and organizations who have generously contributed information incorporated into this report. A special expression of gratitude is extended to the staff of public and industrial water supply systems for reporting their annual pumpage in response to a mail questionnaire. Representatives of the Illinois Environmental Protection Agency, Public Water Supply Division, provided public water system changes. Representatives of the Illinois Department of Conservation and U.S. Fish and Wildlife Service provided fish and wildlife management data, and the Illinois Bureau of the Budget provided population data and projections. Carroll Drablos and Dr. Marlow Thorne of the University of Illinois Agricultural Engineering Department provided updated results of their 1977 irrigation survey study. Marvin Clevenger supervised and verified data entry from industrial water use questionnaires; Mrs. J. L. Ivens edited the report; Mrs. Pamela S. Lovett typed the draft manuscripts and prepared the camera-ready copy; and John W. Brother, Jr., supervised preparation of the illustrations.

WATER WITHDRAWALS

Terminology

When the term "water use" appears in this report, withdrawal use (the amount of water withdrawn from its source) is implied. This is equivalent to "intake" or "water requirement" as used in industry and agriculture,

respectively. The principal requisite for withdrawal use is that water must be taken from a groundwater or surface water source and conveyed to the place of use. If the water is used more than once by recycling, it will do the work of a greater quantity of water; the amount of this greater quantity, which is commonly called the "gross water use," is not evaluated in this report. If, however, the water is returned to a stream, lake, aquifer, or other source and then withdrawn anew, the summation of successive withdrawals gives the "total or cumulative withdrawal" use.

In 1980, the Illinois "public water supplies" were defined as systems or wells that furnish water for drinking or general domestic use in incorporated municipalities, unincorporated communities where 10 or more separate lots or properties are being served or are intended to be served, and state owned properties and institutions. Public water supplies serve domestic, commercial, and industrial users.

If a public supply is either not available or not used, the water is "self-supplied." Individual families and small communities not served by a public water supply system are categorized as "rural" with regard to water use. Industries and commercial establishments using their own water source facilities are categorized as "self-supplied industry." The commercial establishments include businesses such as motels, lake access areas, camps, country clubs, etc., that have been identified to date as self-supplied.

Water used to generate hydroelectric power is also included as a withdrawal use in this report because of its diversion through power plants. The term "non-withdrawal uses" encompasses all uses taking place within the river channel itself. Non-withdrawal uses are not included in this report.

Water withdrawal data are reported as the average daily quantities, usually derived from the annual use. The use is expressed in million gallons per day. Common equivalents are given in table 1.

Table 1. Hydraulic Equivalents

(Equivalent values, to three significant figures, are on the same horizontal line)

Million gallons per day	Billion gallons per day	Thousand acre-feet per year	Thousand cubic feet per second	Thousand gallons per minute	Million cubic meters per day
1.0	0.001	1.12	0.00155	0.694	0.00379
1000	1.0	1120	1.55	694	3.79
0.893	0.000893	1.0	0.00138	0.620	0.00338
646	0.646	724	1.0	449.	2.45
1.44	0.00144	1.61	0.00223	1.0	0.00545
264	0.264	296	0.409	184	1.0

Geographic Areas

When the term "district" is used in this report, it is synonymous with the Climatological Divisions of the National Oceanic and Atmospheric Administration and the Crop Reporting Districts (figure 1) of the Illinois Cooperative Crop Reporting Service.[36] These districts represent divisions with similar climate, soils, and types of farming.

"Major aquifer systems" is used to identify groundwater sources and includes: sand and gravel, Mississippian-Pennsylvanian, Silurian-Devonian, and Cambrian-Ordovician.

"Hydrologic unit" in the text refers to one of the 12 Hydrologic Accounting Units of the U.S. Geological Survey's Hydrologic Unit Map of 1974 for Illinois.[37] This map, prepared by the USGS in cooperation with the U.S. Water Resources Council, delineates the boundaries of major U.S. river basins to help standardize the collection and dissemination of water data. A distinct eight digit code has been assigned to each river basin.

Standard Metropolitan Statistical Areas (SMSA) are integrated economic and social units with a large volume of daily travel and communication between the central city having 50,000 population or more and outlying parts of the area. Each area consists of one or more whole counties which, though primarily residential in character, contribute significantly to the labor force of the industrial counties and are socially and economically integrated with the central city (figure 1). These areas were defined by the Federal Committee on Standard Metropolitan Statistical Areas of the Office of Management and Budget for general purpose use throughout the Federal government in presenting economic and social data.[38]

Public Water Supply Use

The total water withdrawal in 1980 for public water supply systems was 1778.5 mgd (see table 9 in the appendix), a 0.6% increase from 1978. Surface water furnished 1299.9 mgd while groundwater supplied 478.6 mgd.

Public water supplies furnish 87.7% of the state's population (11,418,461) with potable water, about 10.014 million people.[38] Surface water supplies about 5.827 million people, while groundwater supplies about 4.187 million people. This leaves about 1.405 million people, about 12.3%, to furnish their own supply of potable water.

Public water supply withdrawals were computed from a mail canvass of all the public water supplies listed by the Illinois Environmental Protection Agency Public Water Supply Division. Those public water systems that did not respond to mail and telephone follow-up (7%) were estimated using the latest data available.

Water use data were obtained for over 1700 public water systems. The largest system, in terms of population served, is the Chicago Department of Water, serving more than 4.5 million people. The Chicago system pumped 997.0 mgd from Lake Michigan in 1980, a 0.7% decrease from 1978. The largest area served by a public water system is the Rend Lake Conservancy

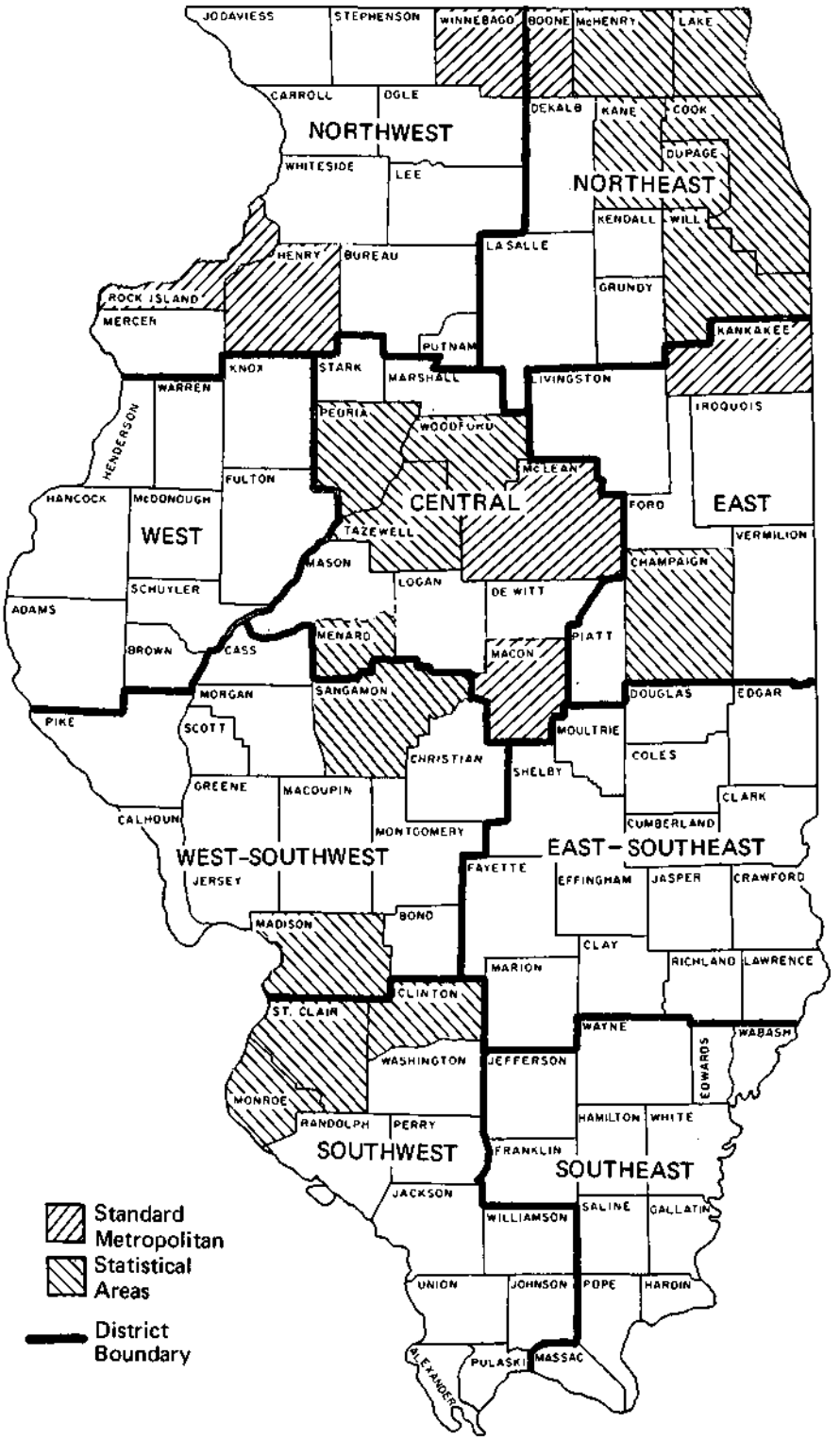


Figure 1. District and SMSA boundaries

District. Reaching into parts of nine counties - Franklin, Jackson, Jefferson, Hamilton, Marion, Perry, Saline, Washington, and Williamson - the Conservancy District serves an area of more than 1800 square miles and pumped 12.4 mgd from Rend Lake in 1980, a 1.6% increase from 1978.

Self-Supplied Industry Water Use

Nearly all the self-supplied industry in Illinois can be divided into four major classifications: thermoelectric power generation, hydroelectric power generation, manufacturing, and mineral extraction. The total self-supplied industrial water withdrawals were 40,253.3 mgd (see table 14) in 1980 (including the 25,570.1 mgd diverted through the hydroelectric turbines). Surface water supplied 40,035.7 mgd; groundwater sources provided 217.6 mgd. Excluding water used for thermoelectric and hydro-electric generation, water used by self-supplied industry was 622.6 mgd (see table 13).

More than 600 industries withdrawing water were initially identified from a 1979 mail canvass of more than 4700 industries in the state. These identified self-supplied industries were canvassed during early 1981 for their 1980 water withdrawals. Followup was by a second mailing, and then by telephone. Over 97 percent of these industries were accounted for by returned questionnaires, telephone contacts, or staff knowledge.

The electric power generation industry is the largest user of water in the state, accounting for 93.6 percent of the total water use and 98.5 percent of the self-supplied industry water use. This industry withdraws 39.6 billion gallons of water a day (see table 10), but more than 99.9 percent of this water is returned to its source with only an increase in temperature.

Thermoelectric Power Generation

The water withdrawn for steam electric power generation has increased from 8774.9 mgd in 1970 to 14,060.6 mgd in 1980, a 60.2 percent increase, as shown in table 2. Additional generating capacity is scheduled for completion by 1986, after which this withdrawal will increase an estimated 7600 mgd to about 21,700 mgd.

Table 2. Historic and Projected Water Use for Electric Power Generation

	Thermoelectric mgd	Hydroelectric mgd
1950-1951	5,927	20,694
1960	9,051.3	21,155
1964-1965	9,120.3	
1970	8,774.9	
1978	19,918.7	22,593.0
1980	14,060.6	25,570.1
1986 (projected)	21,700	

The state has 33 commercial thermoelectric (steam turbine) stations; the majority of these stations are coal fired. Three stations have a total of seven nuclear reactors providing heat energy for the boilers. By 1986, seven more nuclear reactors are scheduled to be producing electricity.

Hydroelectric Power Generation

In 1980, 25,570.1 mgd of surface water was diverted through the six remaining low head hydroelectric stations in Illinois including one-half of the hydroelectric diversion on the Mississippi River along the border with Iowa (table 3). The Keokuk station uses 81.2 percent of this water or about 40 percent of the Mississippi River flow.

Table 3. Hydroelectric Plants in Illinois, 1980

Plant	Water	Normal head (ft)	Installed capacity (kw)	Average flow through turbines (mgd)
Lockport	DesPlaines River	38	19,900	1,638
Marseilles	Illinois River	15	2,024	1,296
Dayton	Fox River	32	3,680	641
Rockton	Rock River	11	1,100	489
Moline	Mississippi River	12	3,600	748*
Keokuk	Mississippi River	32	121,600	20,757*
Total Average Flow				25,570

*One-half flow (other half credited to Iowa)

Manufacturing

Self-supplied withdrawal by manufacturing during 1980 totaled 465.4 mgd. Surface water supplied 332.2 mgd while groundwater supplied 133.2 mgd (see table 11). Manufacturing is defined as those industries listed under "Division D, Manufacturing," in the Standard Industrial Classification Manual-1972 (table 4).[39]

The water withdrawal data of the 20 major manufacturing groups, according to the Standard Industrial Classification (SIC) system, were examined and are presented in table 4. The range of water withdrawals was large with the primary metals industries surpassing all others. Three self-supplied, major industries groups withdraw about 65 percent of the total. They are the primary metals industries (155.4 mgd), chemical and allied products (82.9 mgd), and food and kindred products (63.3 mgd).

The three digit SIC system was used for grouping in examining the water withdrawal data for specific self-supplied manufacturers. On the basis of selecting only those specific groups which withdraw water at a rate of more than 5.0 mgd, 19 self-supplied specific groups were selected

Table 4. Water Withdrawals by Self-Supplied Industry, Manufacturing, by Major SIC Group, 1980

Major SIC group	*Manufacturing groups*	*Withdrawals (mgd) Ground-water*	*Surface water*	*Total*
20	Food and kindred products	29.0	34.3	63.3
21	Tobacco manufacturers	0	0	0
22	Textile and mill products	1.7	0	1.7
23	Apparel and fabric products	<.05	0	<.05
24	Lumber and wood products	.1	0	.1
25	Furniture and fixtures	.2	14.3	14.5
26	Paper and allied products	11.1	9.0	20.1
27	Printing, publishing, & allied industries	.3	1.7	2.0
28	Chemical and allied industries	32.7	50.2	82.9
29	Petroleum and coal products	10.7	30.7	41.4
30	Rubber and plastic products	8.5	0	8.5
31	Leather and leather products	0	0	0
32	Stone, clay, and glass	1.5	12.0	13.5
33	Primary metals industries	14.2	141.2	155.4
34	Fabricated metal products	7.1	8.0	15.1
35	Machinery (except electrical)	5.7	29.5	35.2
36	Electrical and electronics	3.2	1.4	4.6
37	Transportation equipment	.3	0	.3
38	Instruments and related products	6.8	0	6.8
39	Misc. manufacturing industries	0	0	0
	Totals	133.1	332.3	465.4

Table 5. Water Withdrawals by Self-Supplied Industry, Manufacturing, by Specific SIC Group, 1980

Specific SIC group		*Withdrawals (mgd) Ground-water*	*Surface water*	*Total*
204	Grain mill products	6.4	31.6	38.0
207	Fats and oils	7.7	0.3	8.0
208	Beverages	2.9	2.5	5.4
251	Household furniture	0	14.3	14.3
262	Paper mills	2.0	5.9	7.9
281	Industrial inorganic chemicals	11.7	9.8	21.5
283	Drugs	4.8	14.2	19.0
286	Industrial organic chemicals	3.4	7.0	10.4
287	Agricultural chemicals	3.6	17.7	21.3
289	Misc. chemical products	6.2	1.4	7.6
291	Petroleum refining	10.2	20.1	30.3
299	Misc. oil and coal products	0.2	10.5	10.7
307	Plastic products	6.6	0	6.6
321	Flat glass	0.4	8.0	8.4
331	Steel rolling and finishing	10.0	125.2	135.2
332	Iron and steel foundries	2.4	15.5	17.9
344	Fabricated structural metal products	0.1	6.6	6.7
352	Farm and garden machinery	0.4	22.7	23.1
353	Construction, mining, and materials handling machinery and equipment	2.0	5.4	7.4
386	Photographic equipment and supplies	6.6	0	6.6
	Totals	87.6	318.7	406.3

and are given in table 5. These 19 specific manufacturing groups account for about 92 percent of the total self-supplied manufacturing withdrawal. Groundwater makes up 21.6 percent of the withdrawal, 87.6 mgd, while surface water makes up the other 78.4 percent, 318.7 mgd.

Mineral Extraction

Water withdrawals by the mineral extraction industries during 1980 totaled 95.9 mgd. Surface water supplied 41.9 mgd while groundwater supplied 54.0 mgd (see table 12). Oil field brine made up 36.7 mgd of this groundwater.[40] Most of the brine was injected into the oil-producing formations in water-flooding operations. Most of the surface water is recirculated through its source many times, while being used in product preparation or washing. This practice leads to large cumulative withdrawals for the mineral extraction industries.

The major minerals industries in Illinois are fluorspar mining, quarrying, sand and gravel operations, coal mining, and oil production. Their rates of withdrawal are shown in table 6.

Table 6. Water Withdrawals by Major Mineral Extraction Industries, 1980

Mineral	Groundwater (mgd)	Surface Water (mgd)	Total (mgd)
Fluorspar	1.1	0.2	1.3
Quarrying	0.4	4.0	4.4
Sand & Gravel	0.7	10.9	11.6
Coal	1.4	22.2	23.6
Oil	50.4*	1.6	52.0

*Including 36.7 mgd brine

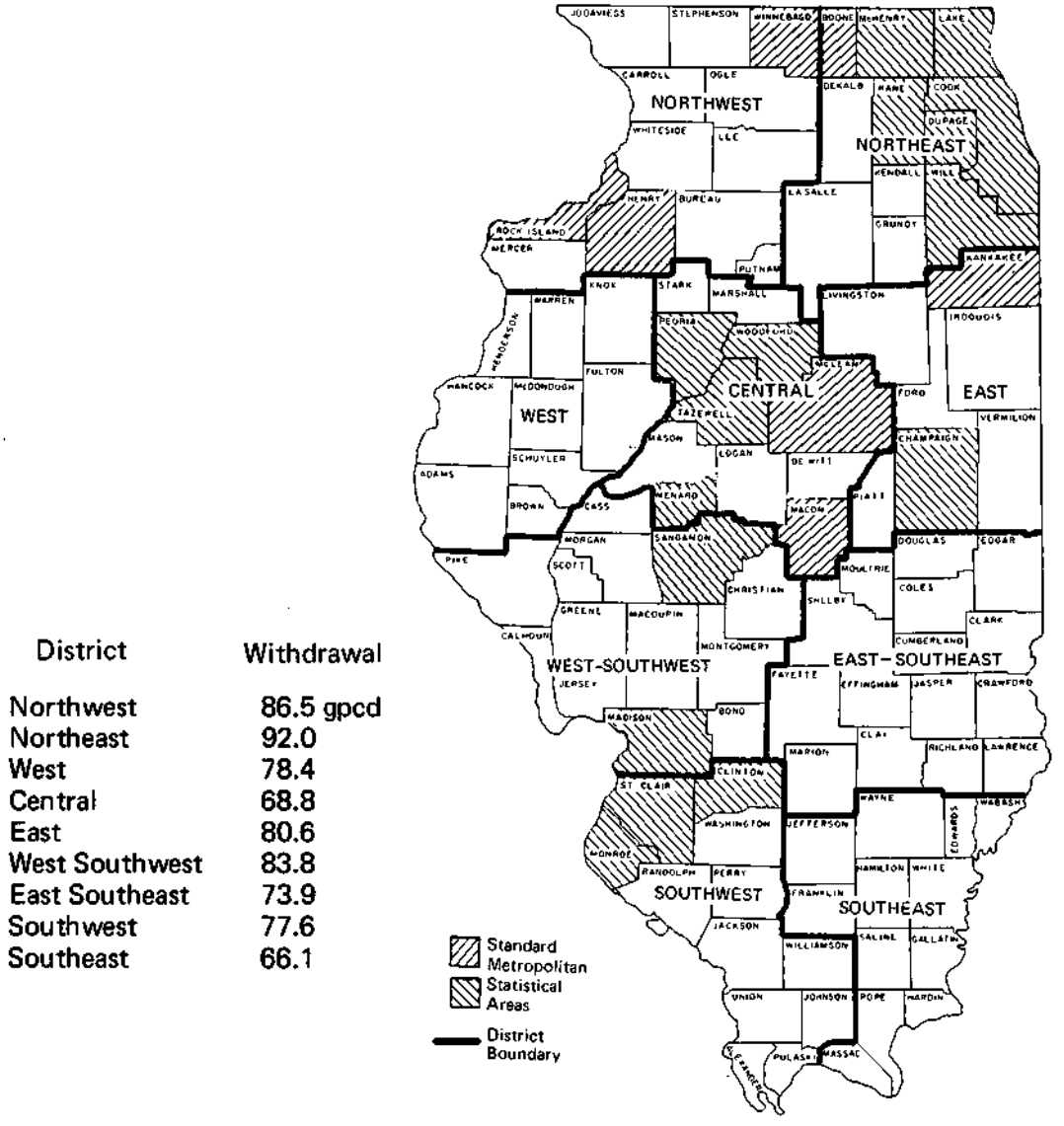
Rural Water Use

For the purpose of this report, rural water use (withdrawals) is divided into three classifications: domestic, livestock, and irrigation. While the amount of water withdrawn for rural uses is small (<0.07 percent) when compared with the other withdrawal uses in Illinois, rural withdrawals have increased from an estimated 81 mgd in 1970[41] and 101 mgd in 1975[42] to an estimated 280.5 mgd during 1980 (see table 15).

There has been no attempt during this study to break down the rural water use estimate into groundwater and surface water sources. Because of the relative magnitude of rural use compared with other withdrawal categories, and the knowledge that most of these withdrawals are from groundwater, rural water use is reported as groundwater withdrawals in table 17 and is not shown in table 18.

Domestic

Rural domestic use for 1980 was estimated to be 117.0 mgd. The rural domestic use was computed by multiplying the population in each county not served by a public water system by a district per capita water use. The district per capita water use was derived by averaging the per capita water use of all public water supply systems serving less than 800 persons and one or less commercial connections but located outside SMSA's. For 1980, the district rural domestic per capita use ranged from 66.1 gallons per day (gpd) in the Southeast District to 92.0 gpd in the Northeast District (figure 2).



District	Withdrawal
Northwest	86.5 gpcd
Northeast	92.0
West	78.4
Central	68.8
East	80.6
West Southwest	83.8
East Southeast	73.9
Southwest	77.6
Southeast	66.1

Figure 2. District rural domestic per capita water use, 1980

Livestock

Water withdrawals for livestock use in 1980 were estimated to be 66.7 mgd. The water use estimates for livestock are based on a fixed amount of water used per head, for each type of animal. County livestock populations were provided by the annual Illinois agricultural census.[36] Daily consumption rates (table 7) provided the basis for these calculations.

Table 7. Livestock Water Requirements

Livestock	Water use (gpd)
Milk cows	35
Horse, mule, cattle	12
Hog	4
Sheep	2
Chicken	0.06
Turkey	0.12

From references 43, 44, and 45

Irrigation

Withdrawals for irrigation during 1980 were estimated to be 96.8 mgd on an annual basis. Most of this water is applied during the months of June, July, and August. The water use estimates for irrigation are based upon a University of Illinois Agricultural Engineering 1977 survey of irrigation in Illinois.[46] This was updated with the help of the U of I Agricultural Engineering Department and the State Water Survey Northern Regional Office. Estimates of water withdrawals for irrigation were based upon county rainfall and the number of acres irrigated.

There has been a substantial increase in the acreage of agricultural lands irrigated since 1950, from 9000 acres to an estimated 150,000 acres in 1980. Total acreage (including golf courses, cemeteries, etc.) under irrigation was estimated to be 212,800 acres.

Fish and Wildlife Management Areas Water Use

The Illinois Department of Conservation, U.S. Fish and Wildlife Service, and the U.S. Forest Service reported water withdrawals within their management areas to be 26.7 mgd in 1980. Most of the water was used to flood portions of water fowl areas during the fall migration. Surface water made up 21.9 mgd of the withdrawals, with groundwater providing the other 4.8 mgd (see tables 17 and 18).

Major Geohydrologic System Water Use

Withdrawals from groundwater during 1980 were estimated to be 981.5 mgd. For this report, groundwater use except rural domestic and livestock has been broken down into 4 major geohydrologic systems. Withdrawals in 1980 from these systems were: Sand and Gravel, 371.5 mgd; Mississippian-Pennsylvanian, 45.3 mgd; Silurian-Devonian, 116.3 mgd; and Cambrian-Ordovician, 264.7 mgd (table 19). Rural, domestic, and livestock withdrawals estimated to total 183.7 mgd are not included because no reliable estimates of the groundwater system tapped by these supplies are currently available.

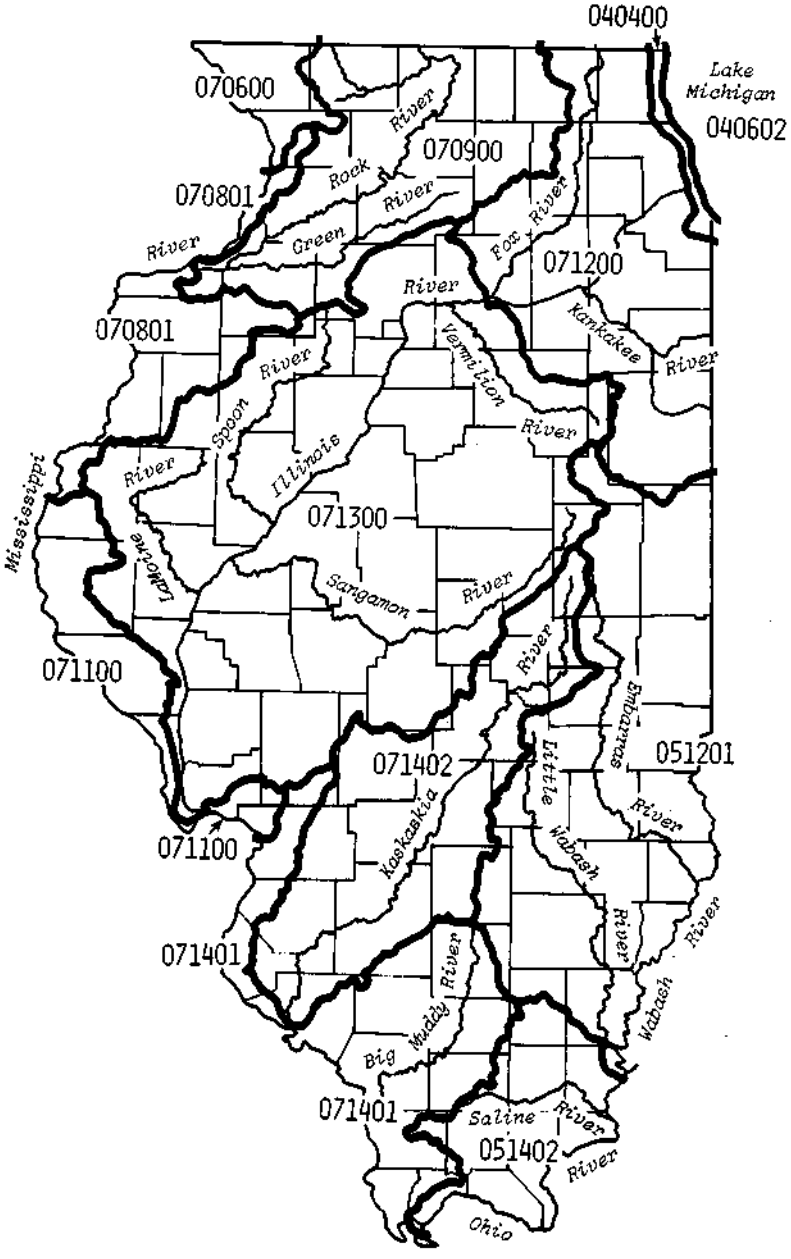
For the Northeast District which includes the Chicago Region, water withdrawal data are also reported by township and major water source (table 20). Maximum township withdrawals within these counties range from 1.3 mgd in Kendall County to 2262.7 mgd in Lake County. The locations of the greatest township withdrawals from the various sources are: from surface water, T46N, R12E of Lake County (2262.3 mgd); from the sand and gravel aquifers, T42N, R8E of Kane County (3.3 mgd); from the Silurian dolomite, T38N, R11E of DuPage County (9.7 mgd); from the Cambrian-Ordovician system (including Mt. Simon), T42N, R11E of Cook County (12.1 mgd).

Hydrologic Basin Surface Water Use

For the purpose of having a standard framework for detailed water and related land-resources planning, the state has been divided into 12 major hydrologic units by the U.S. Geological Survey.[37] Generally, these units are concomitant with the watershed boundaries for major river systems in Illinois (figures 3 and 4). Total surface water (including lakes and ponds) withdrawals within the units (figure 4) ranged from 2.1 mgd in the Mississippi River drainage above Lock and Dam 13 (Unit 070600) to 22,900.7 mgd in the Mississippi River drainage basin upstream from the mouth of the Des Moines River to Lock and Dam 13 (Unit 070801).

SUMMARY OF ILLINOIS WATER USE

Total accounted water withdrawals in Illinois during 1980 were 42,339.0 mgd (see table 16). The 1980 withdrawal was about 47.0 percent greater than the 1975 withdrawals estimated by the U.S. Geological Survey. Surface water accounted for 41,357.5 mgd and groundwater supplied 981.5 mgd (see tables 17 and 18). The water withdrawals by each category are given in table 8.



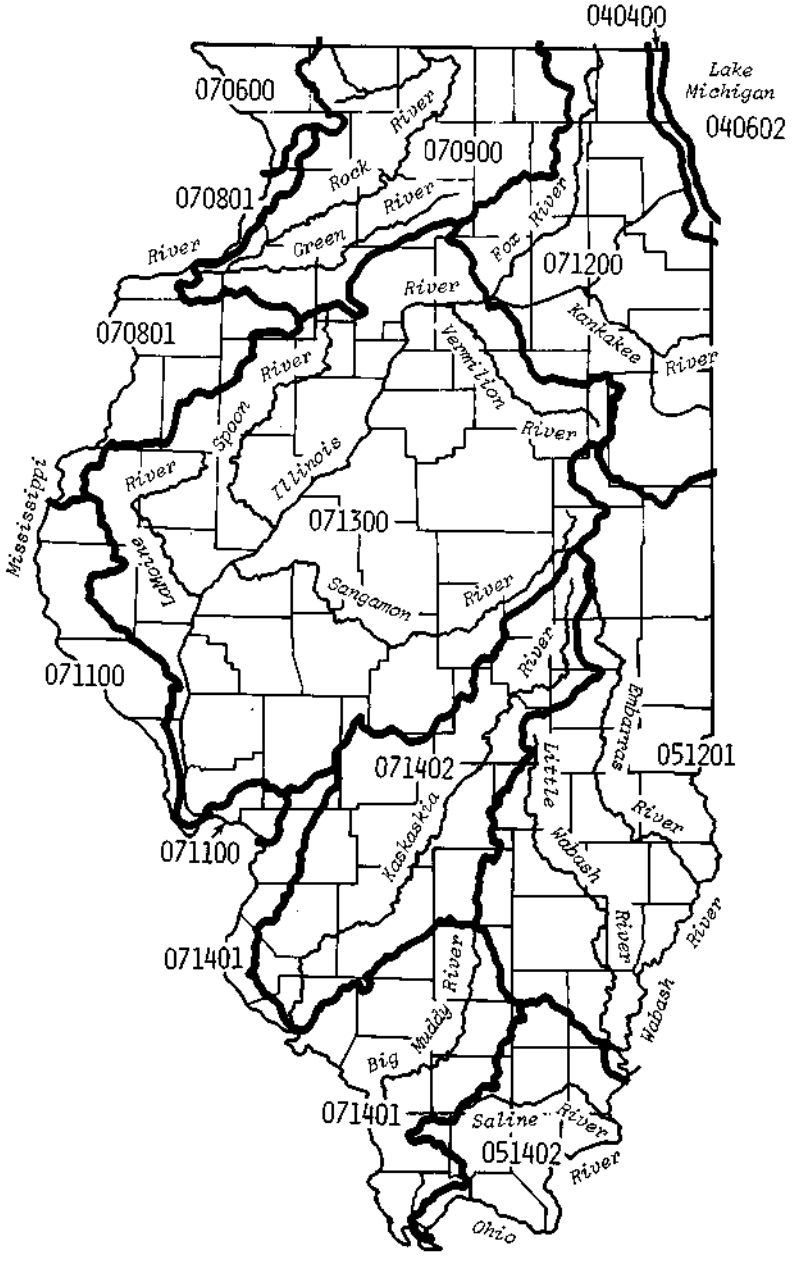
Unit	Withdrawal
040400	48.4 mgd
040602	2712.6
051201	417.8
051402	665.2
070600	0.0
070801	22881.6
070900	534.1
071100	393.0
071200	8569.0
071300	3169.9
071401	315.6
071402	328.4
Total	40035.6

Figure 3. Surface water withdrawals by self-supplied industry, by hydro-logic units, 1980

Table 8. Summary of Total Water Withdrawal, 1980

Category	Groundwater (mgd)	Surface water (mgd)	Total (mgd)
Public Systems	478.6	1,299.9	1,778.5
Self-supplied Industry	217.6	40,035.7	40,253.3
Rural	280.5*	*	280.5
Fish and Wildlife	4.8	21.9	26.7
Total	981.5	41,357.5	42,339.0

*see page 11



Unit	Withdrawal
040400	48.4 mgd
040602	3764.4
051201	437.6
051402	670.1
070600	2.1
070801	22900.7
070900	534.2
071100	412.4
071200	8579.8
071300	3257.6
071401	402.2
071402	347.9
Total	41357.4

Figure 4. Total surface water withdrawals by hydrologic units, 1980

Standard Metropolitan Statistical Areas account for about 35.6 percent, 15,091.2 mgd, of the total water use in the state. The SMSA's also have about 33.3 percent, 13,400.0 mgd, of the state's self-supplied industrial withdrawals (see table 21). Excluding the electric power industry withdrawals, SMSA's account for about 65.0 percent, 622.6 mgd, of the self-supplied industrial water use in the state (see table 22).

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APPENDIX

APPENDIX

Table 9. Public Water Systems Withdrawals, 1980

District *County*	*Groundwater (mgd)*	*Surface water (mgd)*	*Total (mgd)*
Northwest			
006 Bureau	3.841	0	3.841
008 Carroll	1.433	0	1.433
037 Henry	4.032	0	4.032
043 Jo Daviess	2.720	0	2.720
052 Lee	3.658	0	3.658
066 Mercer	1.004	0	1.004
071 Ogle	5.723	0	5.723
078 Putnam	.411	0	.411
081 Rock Island	2.152	18.577	20.729
089 Stephenson	6.231	0	6.231
098 Whiteside	5.188	0	5.188
101 Winnebago	38.126	0	38.126
District total	*74.520*	*18.577*	*93.097*
Northeast			
004 Boone	3.343	0	3.343
016 Cook	85.087	1018.978	1104.065
019 DeKalb	7.617	0	7.617
022 DuPage	68.174	0	68.174
032 Grundy	2.115	0	2.115
045 Kane	32.681	0	32.681
047 Kendall	1.950	0	1.950
049 Lake	15.795	32.791	48.586
050 LaSalle	11.039	0	11.039
056 McHenry	10.831	0	10.831
099 Will	30.815	0	30.815
District total	*269.447*	*1051.769*	*1321.216*
West			
001 Adams	.905	7.124	8.029
005 Brown	.062	.222	.284
029 Fulton	.943	1.623	2.566
034 Hancock	.195	1.025	1.220
036 Henderson	7.182	0	7.182
048 Knox	1.219	0	1.219
055 McDonough	.633	2.993	3.626
085 Schuyler	.471	0	.471
094 Warren	3.182	0	3.182
District total	*14.792*	*12.987*	*27.779*
Central			
020 DeWitt	1.844	0	1.844
054 Logan	4.351	0	4.351
057 McLean	4.616	6.831	11.447
058 Macon	1.144	24.001	25.145
062 Marshall	1.042	0	1.042
063 Mason	1.132	0	1.132
065 Menard	.761	0	.761
072 Peoria	18.218	9.518	27.736
088 Stark	.554	0	.554
090 Tazewell	13.995	.043	14.037
102 Woodford	1.509	1.268	2.776
District total	*49.165*	*41.660*	*90.825*
East			
010 Champaign	18.099	0	18.099
027 Ford	1.359	0	1.359
038 Iroquois	1.860	0	1.860
046 Kankakee	~~1.600~~ 1.530	10.454	~~12.055~~ 11,984
053 Livingston	1.634	4.872	6.506
074 Piatt	1.046	0	1.046
092 Vermilion	1.424	8.853	10.277
District total	*27.023*	*24.179*	*51.202*

Table 9. (Concluded)

District *County*	*Groundwater (mgd)*	*Surface water (mgd)*	*Total (mgd)*
W. Southwest			
003 Bond	.060	1.034	1.095
007 Calhoun	.364	0	.364
009 Cass	1.734	.138	1.871
011 Christian	1.728	.993	2.721
031 Greene	.344	.331	.675
042 Jersey	.883	0	.883
059 Macoupin	.013	3.402	3.415
060 Madison	10.411	45.518	55.929
068 Montgomery	.528	2.034	2.562
069 Morgan	.099	1.149	1.248
075 Pike	.821	.432	1.253
084 Sangamon	2.167	19.320	21.486
086 Scott	3.533	0	3.533
District total	*22.685*	*74.351*	*97.036*
E. Southeast			
012 Clark	1.400	0	1.400
013 Clay	0	.816	.816
015 Coles	.201	4.088	4.289
017 Crawford	2.016	0	2.016
018 Cumberland	.248	0	.248
021 Douglas	1.047	0	1.047
023 Edgar	.363	1.387	1.751
025 Effingham	.270	1.614	1.884
026 Fayette	.151	1.191	1.343
040 Jasper	.352	0	.352
051 Lawrence	1.081	0	1.081
061 Marion	.021	4.629	4.649
070 Moultrie	.883	0	.883
080 Richland	.119	.857	.976
087 Shelby	1.308	.871	2.179
District total	*9.459*	*15.454*	*24.912*
Southwest			
002 Alexander	.243	1.761	2.004
014 Clinton	.212	1.145	1.357
039 Jackson	.164	6.306	6.470
044 Johnson	.007	.407	.414
067 Monroe	.136	.383	.519
073 Perry	.035	.599	.635
077 Pulaski	.629	0	.629
079 Randolph	.800	2.498	3.298
082 St. Clair	.195	27.233	27.427
091 Union	1.265	.174	1.439
095 Washington	.098	.532	.630
100 Williamson	0	2.292	2.292
District total	*3.785*	*43.329*	*47.114*
Southeast			
024 Edwards	.021	.090	.111
028 Franklin	0	12.738	12.738
030 Gallatin	.643	.041	.684
033 Hamilton	.024	0	.024
035 Hardin	.150	.183	.332
041 Jefferson	0	.608	.608
064 Massac	4.845	0	4.845
076 Pope	0	.149	.149
083 Saline	.010	1.790	1.800
093 Wabash	.770	1.224	1.994
096 Wayne	.121	.822	.943
097 White	1.153	0	1.153
District total	*7.737*	*17.644*	*25.382*
State total	478.613	1299.949	1778.562

Figures may not add to totals because of independent rounding.

Table 10. Self-Supplied Electrical Power Generation
Water Withdrawals, Reported 1980
(SIC 4911)

District / *County*	*Thermoelectric* *Groundwater (mgd)*	*Thermoelectric* *Surface water (mgd)*	*Hydroelectric* *Surface water (mgd)*	*Total (mgd)*
Northwest				
006 Bureau	0	0	0	0
008 Carroll	0	0	0	0
037 Henry	0	0	0	0
043 Jo Daviess	0	0	0	0
052 Lee	0	0	0	0
066 Mercer	0	0	0	0
071 Ogle	.010	0	0	.010
078 Putnam	.098	170.287	0	170.385
081 Rock Island	.039	1359.892	747.643	2107.574
089 Stephenson	.005	0	0	.005
098 Whiteside	.005	0	0	.005
101 Winnebago	0	0	489.071	489.071
District total	*.157*	*1530.179*	*1236.714*	*2767.051*
Northeast				
004 Boone	0	0	0	0
016 Cook	0	1855.683	0	1855.683
019 DeKalb	0	0	0	0
022 DuPage	.005	0	0	.005
032 Grundy	1.051	1065.082	0	1066.133
045 Kane	0	0	0	0
047 Kendall	0	0	0	0
049 Lake	.005	2692.087	0	2692.092
050 LaSalle	1.831	1.967	1937.642	1941.441
056 McHenry	0	0	0	0
099 Will	1.615	1936.861	1638.554	3577.029
District total	*4.507*	*7551.680*	*3576.196*	*11132.383*
West				
001 Adams	0	0	0	0
005 Brown	0	0	0	0
029 Fulton	0	226.800	0	226.800
034 Hancock	0	0	20757.164	20757.164
036 Henderson	0	0	0	0
048 Knox	0	0	0	0
055 McDonough	0	0	0	0
085 Schuyler	0	0	0	0
094 Warren	0	0	0	0
District total	*0*	*226.800*	*20757.164*	*20983.964*
Central				
020 DeWitt	0	.066	0	.066
054 Logan	0	0	0	0
057 McLean	0	0	0	0
058 Macon	0	0	0	0
062 Marshall	0	0	0	0
063 Mason	.113	96.399	0	96.512
065 Menard	0	0	0	0
072 Peoria	0	300.464	0	300.464
088 Stark	0	0	0	0
090 Tazewell	1.302	1056.729	0	1058.030
102 Woodford	0	0	0	0
District total	*1.414*	*1453.658*	*0*	*1455.072*
East				
010 Champaign	0	0	0	0
027 Ford	0	0	0	0
038 Iroquois	0	0	0	0
046 Kankakee	0	0	0	0
053 Livingston	0	0	0	0
074 Piatt	0	0	0	0
092 Vermilion	0	1.802	0	1.802
District total	*0*	*1.802*	*0*	*1.802*

Table 10. (Concluded)

District / County	Thermoelectric Groundwater (mgd)	Thermoelectric Surface water (mgd)	Hydroelectric Surface water (mgd)	Total (mgd)
W. Southwest				
003 Bond	0	0	0	0
007 Calhoun	0	0	0	0
009 Cass	0	0	0	0
011 Christian	0	705.836	0	705.836
031 Greene	0	0	0	0
042 Jersey	0	0	0	0
059 Macoupin	0	0	0	0
060 Madison	.005	609.993	0	609.998
068 Montgomery	0	287.213	0	287.213
069 Morgan	.143	196.721	0	196.864
075 Pike	.042	21.504	0	21.547
084 Sangamon	0	296.893	0	296.893
086 Scott	0	0	0	0
District total	*.190*	*2118.161*	*0*	*2118.351*
E. Southeast				
012 Clark	0	0	0	0
013 Clay	0	0	0	0
015 Coles	0	0	0	0
017 Crawford	.750	92.168	0	92.917
018 Cumberland	0	0	0	0
021 Douglas	0	0	0	0
023 Edgar	0	0	0	0
025 Effingham	0	0	0	0
026 Fayette	0	0	0	0
040 Jasper	0	301.175	0	301.175
051 Lawrence	0	0	0	0
061 Marion	0	0	0	0
070 Moultrie	0	0	0	0
080 Richland	0	0	0	0
087 Shelby	0	0	0	0
District total	*.750*	*393.343*	*0*	*394.092*
Southwest				
002 Alexander	0	0	0	0
014 Clinton	0	.559	0	.559
039 Jackson	.059	66.809	0	66.868
044 Johnson	0	0	0	0
067 Monroe	0	0	0	0
073 Perry	0	0	0	0
077 Pulaski	0	0	0	0
079 Randolph	0	31.294	0	31.294
082 St. Clair	0	0	0	0
091 Union	0	0	0	0
095 Washington	0	0	0	0
100 Williamson	0	137.440	0	137.440
District total	*.059*	*236.102*	*0*	*236.161*
Southeast				
024 Edwards	0	0	0	0
028 Franklin	0	0	0	0
030 Gallatin	0	0	0	0
033 Hamilton	0	0	0	0
035 Hardin	0	0	0	0
041 Jefferson	0	0	0	0
064 Massac	1.328	523.250	0	524.578
076 Pope	0	0	0	0
083 Saline	0	0	0	0
093 Wabash	0	17.233	0	17.233
096 Wayne	0	0	0	0
097 White	0	0	0	0
District total	*1.328*	*540.483*	*0*	*541.811*
State total	8.405	14052.208	25570.074	39630.688

Figures may not add to totals because of independent rounding.

Table 11. Self-Supplied Manufacturing Water Withdrawals. Reported 1980
(SIC 2006-3999)

District / *County*	*Groundwater (mgd)*	*Surface water (mgd)*	*Total (mgd)*
Northwest			
006 Bureau	.200	11.612	11.812
008 Carroll	.060	0	.060
037 Henry	.032	0	.032
043 Jo Daviess	1.720	0	1.720
052 Lee	.079	2.153	2.232
066 Mercer	0	0	0
071 Ogle	1.248	0	1.248
078 Putnam	.066	3.493	3.558
081 Rock Island	10.254	15.337	25.591
089 Stephenson	2.190	0	2.190
098 Whiteside	1.441	40.798	42.239
101 Winnebago	4.590	0	4.590
District total	*21.881*	*73.393*	*95.273*
Northeast			
004 Boone	.596	0	.596
016 Cook	8.681	101.686	110.367
019 DeKalb	.423	.431	.853
022 DuPage	.962	.002	.964
032 Grundy	8.268	.239	8.507
045 Kane	2.682	.492	3.174
047 Kendall	.702	0	.702
049 Lake	2.511	16.717	19.228
050 LaSalle	4.492	26.192	30.685
056 McHenry	2.176	0	2.176
099 Will	6.921	16.680	23.601
District total	*38.413*	*162.439*	*200.851*
West			
001 Adams	10.533	0	10.533
005 Brown	0	0	0
029 Fulton	0	0	0
034 Hancock	<.001	0	<.001
036 Henderson	0	0	0
048 Knox	.002	0	.002
055 McDonough	.013	0	.013
085 Schuyler	0	0	0
094 Warren	0	0	0
District total	*10.548*	*0*	*10.548*
Central			
020 DeWitt	0	.492	.492
054 Logan	0	0	0
057 McLean	.537	0	.537
058 Macon	0	7.468	7.468
062 Marshall	1.107	0	1.107
063 Mason	.010	0	.010
065 Menard	0	0	0
072 Peoria	8.893	26.463	35.356
088 Stark	0	0	0
090 Tazewell	6.425	29.133	35.558
102 Woodford	.005	0	.005
District total	*16.977*	*63.555*	*80.532*
East			
010 Champaign	4.894	0	4.894
027 Ford	.044	0	.044
038 Iroquois	.124	0	.124
046 Kankakee	.535	0	.535
053 Livingston	.085	0	.085
074 Piatt	2.129	0	2.129
092 Vermilion	2.879	0	2.879
District total	*10.692*	*0*	*10.692*

Table 11. (Concluded)

District / *County*	*Groundwater (mgd)*	*Surface water (mgd)*	*Total (mgd)*
W. Southwest			
003 Bond	.027	0	.027
007 Calhoun	0	0	0
009 Cass	1.157	0	1.157
011 Christian	.760	0	.760
031 Greene	0	0	0
042 Jersey	0	0	0
059 Macoupin	0	0	0
060 Madison	21.739	19.560	41.299
068 Montgomery	0	.418	.418
069 Morgan	4.417	0	4.417
075 Pike	0	0	0
084 Sangamon	0	0	0
086 Scott	0	0	0
District total	*28.100*	*19.978*	*48.077*
E. Southeast			
012 Clark	0	0	0
013 Clay	0	0	0
015 Coles	.167	0	.167
017 Crawford	0	4.377	4.377
018 Cumberland	0	0	0
021 Douglas	.003	7.024	7.027
023 Edgar	0	0	0
025 Effingham	0	0	0
026 Fayette	0	0	0
040 Jasper	0	0	0
051 Lawrence	.053	0	.053
061 Marion	0	0	0
070 Moultrie	0	0	0
080 Richland	0	0	0
087 Shelby	0	0	0
District total	*.223*	*11.401*	*11.624*
Southwest			
002 Alexander	.014	0	.014
014 Clinton	0	0	0
039 Jackson	0	0	0
044 Johnson	0	0	0
067 Monroe	0	0	0
073 Perry	0	1.413	1.413
077 Pulaski	0	0	0
079 Randolph	0	0	0
082 St. Clair	2.097	0	2.097
091 Union	0	.057	.057
095 Washington	0	0	0
100 Williamson	0	0	0
District total	*2.110*	*1.470*	*3.580*
Southeast			
024 Edwards	0	0	0
028 Franklin	0	0	0
030 Gallatin	0	0	0
033 Hamilton	0	0	0
035 Hardin	0	0	0
041 Jefferson	0	0	0
064 Massac	4.211	0	4.211
076 Pope	0	0	0
083 Saline	0	0	0
093 Wabash	0	.005	.005
096 Wayne	0	0	0
097 White	0	0	0
District total	*4.211*	*.005*	*4.216*
State total	133.155	332.240	465.394

Figures may not add to totals because of independent rounding.

Table 12. Self-Supplied Mineral Extraction
Water Withdrawals, Reported 1980
(SIC 1000-1499)

District / County	Groundwater		Surface water	Total
	Brine (mgd)	Fresh (mgd)	(mgd)	(mgd)
Northwest				
006 Bureau	0	0	0	0
008 Carroll	0	0	0	0
037 Henry	0	0	0	0
043 Jo Daviess	0	0	0	0
052 Lee	0	0	0	0
066 Mercer	0	0	0	0
071 Ogle	0	.288	.031	.319
078 Putnam	0	0	0	0
081 Rock Island	0	.001	1.545	1.546
089 Stephenson	0	0	0	0
098 Whiteside	0	.002	0	.002
101 Winnebago	0	<.001	.005	.005
District total	*0*	*.290*	*1.582*	*1.872*
Northeast				
004 Boone	0	0	.268	.268
016 Cook	0	.080	.960	1.040
019 DeKalb	0	.001	1.391	1.392
022 DuPage	0	.020	3.552	3.572
032 Grundy	0	.005	0	.005
045 Kane	0	0	.533	.533
047 Kendall	0	<.001	0	<.001
049 Lake	0	.572	.015	.587
050 LaSalle	0	.006	3.115	3.121
056 McHenry	0	.162	.333	.495
099 Will	0	0	.475	.475
District total	*0*	*.846*	*10.643*	*11.489*
West				
001 Adams	0	0	0	0
005 Brown	0	0	0	0
029 Fulton	0	.443	3.452	3.895
034 Hancock	0	0	0	0
036 Henderson	0	0	0	0
048 Knox	0	.005	.172	.178
055 McDonough	0	<.001	0	<.001
085 Schuyler	0	0	0	0
094 Warren	0	<.001	.035	.035
District total	*0*	*.448*	*3.659*	*4.108*
Central				
020 DeWitt	0	0	0	0
054 Logan	0	0	0	0
057 McLean	0	0	0	0
058 Macon	0	0	0	0
062 Marshall	0	0	0	0
063 Mason	0	0	0	0
065 Menard	0	0	0	0
072 Peoria	0	.005	.574	.579
088 Stark	0	0	0	0
090 Tazewell	0	0	.986	.986
102 Woodford	0	0	0	0
District total	*0*	*.005*	*1.560*	*1.565*
East				
010 Champaign	0	0	3.156	3.156
027 Ford	0	0	.079	.079
038 Iroquois	0	0	0	0
046 Kankakee	0	<.001	0	<.001
053 Livingston	0	0	0	0
074 Piatt	0	0	.590	.590
092 Vermilion	0	<.001	0	<.001
District total	*0*	*<.001*	*3.825*	*3.825*

Table 12. (Concluded)

District / County	Groundwater: Brine (mgd)	Groundwater: Fresh (mgd)	Surface water (mgd)	Total (mgd)
W. Southwest				
003 Bond	.005	<.001	0	.005
007 Calhoun	0	0	0	0
009 Cass	0	0	0	0
011 Christian	.521	0	.108	.629
031 Greene	0	.001	0	.001
042 Jersey	0	0	0	0
059 Macoupin	0	0	1.903	1.903
060 Madison	.120	11.515	0	11.634
068 Montgomery	0	.032	.277	.309
069 Morgan	0	0	0	0
075 Pike	0	0	0	0
084 Sangamon	0	0	.270	.270
086 Scott	0	0	0	0
District total	*.646*	*11.548*	*2.557*	*14.750*
E. Southeast				
012 Clark	.055	.022	0	.078
013 Clay	1.014	.049	0	1.063
015 Coles	.032	.014	.014	.059
017 Crawford	2.033	.090	0	2.123
018 Cumberland	.299	0	0	.299
021 Douglas	0	.109	.704	.813
023 Edgar	.056	0	0	.056
025 Effingham	.356	.007	0	.363
026 Fayette	5.214	0	0	5.214
040 Jasper	.553	0	0	.553
051 Lawrence	4.217	.519	.003	4.739
061 Marion	10.542	.171	1.332	12.045
070 Moultrie	0	0	0	0
080 Richland	1.014	.006	0	1.020
087 Shelby	.026	0	0	.026
District total	*25.410*	*.988*	*2.052*	*28.450*
Southwest				
002 Alexander	0	0	0	0
014 Clinton	.329	.128	.168	.626
039 Jackson	0	0	2.621	2.621
044 Johnson	0	0	.004	.004
067 Monroe	0	.001	.001	.001
073 Perry	.013	0	3.822	3.835
077 Pulaski	0	0	0	0
079 Randolph	0	.016	1.040	1.056
082 St. Clair	0	0	.298	.298
091 Union	0	0	.002	.002
095 Washington	.402	.009	0	.411
100 Williamson	.061	0	1.358	1.419
District total	*.806*	*.154*	*9.314*	*10.273*
Southeast				
024 Edwards	.269	.089	0	.358
028 Franklin	.358	.029	2.291	2.678
030 Gallatin	.328	.118	.103	.549
033 Hamilton	.684	.012	0	.696
035 Hardin	0	1.062	.197	1.259
041 Jefferson	.557	0	.120	.676
064 Massac	0	0	0	0
076 Pope	0	0	0	0
083 Saline	.354	0	3.772	4.126
093 Wabash	.698	.916	.022	1.636
096 Wayne	3.224	.048	.006	3.278
097 White	3.356	.782	.195	4.333
District total	*9.830*	*3.055*	*6.704*	*19.589*
State total	36.691	17.335	41.896	95.923

Figures may not add to totals because of independent rounding.

Table 13. Self-Supplied Industry, Excluding Electrical Power Generation Water Withdrawals, Reported 1980

District *County*	*Groundwater** *(mgd)*	*Surface water* *(mgd)*	*Total* *(mgd)*
Northwest			
006 Bureau	.200	11.612	11.812
008 Carroll	.202	0	.202
037 Henry	.032	0	.032
043 Jo Daviess	1.769	0	1.769
052 Lee	.440	2.153	2.593
066 Mercer	0	0	0
071 Ogle	1.554	.031	1.586
078 Putnam	.066	3.493	3.558
081 Rock Island	10.255	16.882	27.137
089 Stephenson	2.309	0	2.309
098 Whiteside	1.458	40.798	42.255
101 Winnebago	6.352	.005	6.358
District total	*24.637*	*74.975*	*99.612*
Northeast			
004 Boone	.616	.268	.883
016 Cook	13.742	140.553	154.295
019 DeKalb	.838	1.822	2.660
022 DuPage	2.469	4.717	7.186
032 Grundy	8.864	.239	9.103
045 Kane	2.786	1.193	3.979
047 Kendall	.755	0	.755
049 Lake	3.318	16.733	20.050
050 LaSalle	4.498	29.307	33.805
056 McHenry	2.441	.333	2.775
099 Will	8.103	17.156	25.259
District total	*48.430*	*212.320*	*260.750*
West			
001 Adams	10.533	0	10.533
005 Brown	0	0	0
029 Fulton	.443	3.452	3.895
034 Hancock	<.001	0	<.001
036 Henderson	0	0	0
048 Knox	.007	.172	.179
055 McDonough	.014	0	.014
085 Schuyler	0	0	0
094 Warren	<.001	.035	.035
District total	*10.996*	*3.659*	*14.656*
Central			
020 DeWitt	0	.492	.492
054 Logan	0	0	0
057 McLean	.537	0	.537
058 Macon	0	7.468	7.468
062 Marshall	1.107	0	1.107
063 Mason	.010	0	.010
065 Menard	0	0	0
072 Peoria	8.918	27.037	35.955
088 Stark	0	0	0
090 Tazewell	6.427	30.119	36.546
102 Woodford	.005	0	.005
District total	*17.004*	*65.115*	*82.119*
East			
010 Champaign	7.151	3.156	10.307
027 Ford	.044	.079	.123
038 Iroquois	.124	0	.124
046 Kankakee	.536	0	.536
053 Livingston	.085	0	.085
074 Piatt	2.129	.590	2.720
092 Vermilion	2.879	0	2.879
District total	*12.949*	*3.825*	*16.774*

Table 13. (Concluded)

District *County*	*Groundwater* (mgd)*	*Surface water (mgd)*	*Total (mgd)*
W. Southwest			
003 Bond	.032	0	.032
007 Calhoun	0	0	0
009 Cass	1.157	0	1.157
011 Christian	1.281	.108	1.389
031 Greene	.001	0	.001
042 Jersey	0	0	0
059 Macoupin	0	1.903	1.903
060 Madison	33.373	19.560	52.933
068 Montgomery	.032	.695	.727
069 Morgan	4.417	0	4.417
075 Pike	.002	0	.002
084 Sangamon	0	.270	.270
086 Scott	0	0	0
District total	*40.295*	*22.535*	*62.829*
E. Southeast			
012 Clark	.078	0	.078
013 Clay	1.063	0	1.063
015 Coles	.213	.014	.226
017 Crawford	2.123	4.377	6.500
018 Cumberland	.299	0	.299
021 Douglas	.112	7.728	7.839
023 Edgar	.056	0	.056
025 Effingham	.363	0	.363
026 Fayette	5.214	0	5.214
040 Jasper	.553	0	.553
051 Lawrence	4.790	.003	4.793
061 Marion	10.713	1.332	12.045
070 Moultrie	0	0	0
080 Richland	1.020	0	1.020
087 Shelby	.026	0	.026
District total	*26.621*	*13.453*	*40.074*
Southwest			
002 Alexander	.014	0	.014
014 Clinton	.458	.168	.626
039 Jackson	0	2.621	2.621
044 Johnson	0	.004	.004
067 Monroe	.001	.001	.001
073 Perry	.013	5.235	5.248
077 Pulaski	0	0	0
079 Randolph	.016	1.040	1.056
082 St. Clair	10.210	.298	10.507
091 Union	0	.059	.059
095 Washington	.411	0	.411
100 Williamson	.061	1.358	1.419
District total	*11.183*	*10.784*	*21.967*
Southeast			
024 Edwards	.358	0	.358
028 Franklin	.387	2.291	2.678
030 Gallatin	.446	.103	.549
033 Hamilton	.696	0	.696
035 Hardin	1.062	.197	1.259
041 Jefferson	.557	.120	.676
064 Massac	4.211	0	4.211
076 Pope	0	0	0
083 Saline	.354	3.772	4.126
093 Wabash	1.614	.027	1.641
096 Wayne	3.272	.006	3.278
097 White	4.138	.195	4.333
District total	*17.096*	*6.710*	*23.805*
State total	209.212	413.374	622.586

**Includes 36.691 mgd brine*

Figures may not add to totals because of independent rounding.

Table 14. Total Self-Supplied Industry Water Withdrawals, Reported 1980

District / *County*	*Groundwater* (mgd)*	*Surface water (mgd)*	*Total (mgd)*
Northwest			
006 Bureau	.200	11.612	11.812
008 Carroll	.202	0	.202
037 Henry	.032	0	.032
043 Jo Daviess	1.769	0	1.769
052 Lee	.440	2.153	2.593
066 Mercer	0	0	0
071 Ogle	1.564	.031	1.596
078 Putnam	.164	173.780	173.944
081 Rock Island	10.294	2124.418	2134.711
089 Stephenson	2.314	0	2.314
098 Whiteside	1.463	40.798	42.260
101 Winnebago	6.352	489.077	495.429
District total	*24.795*	*2841.868*	*2866.663*
Northeast			
004 Boone	.616	.268	.883
016 Cook	13.742	1996.236	2009.978
019 DeKalb	.838	1.822	2.660
022 DuPage	2.474	4.717	7.191
032 Grundy	9.915	1065.321	1075.235
045 Kane	2.786	1.193	3.979
047 Kendall	.755	0	.755
049 Lake	3.323	2708.820	2712.143
050 LaSalle	6.338	1968.908	1975.246
056 McHenry	2.441	.333	2.775
099 Will	9.718	3592.570	3602.288
District total	*52.946*	*11340.188*	*11393.133*
West			
001 Adams	10.533	0	10.533
005 Brown	0	0	0
029 Fulton	.443	230.252	230.695
034 Hancock	<.001	20757.164	20757.164
036 Henderson	0	0	0
048 Knox	.007	.172	.179
055 McDonough	.014	0	.014
085 Schuyler	0	0	0
094 Warren	<.001	.035	.035
District total	*10.996*	*20987.623*	*20998.620*
Central			
020 DeWitt	0	.557	.557
054 Logan	0	0	0
057 McLean	.537	0	.537
058 Macon	0	7.468	7.468
062 Marshall	1.107	0	1.107
063 Mason	.123	96.399	96.522
065 Menard	0	0	0
072 Peoria	8.918	327.501	336.419
088 Stark	0	0	0
090 Tazewell	7.729	1086.847	1094.576
102 Woodford	.005	0	.005
District total	*18.419*	*1518.773*	*1537.191*
East			
010 Champaign	7.151	3.156	10.307
027 Ford	.044	.079	.123
038 Iroquois	.124	0	.124
046 Kankakee	.536	0	.536
053 Livingston	.085	0	.085
074 Piatt	2.129	.590	2.720
092 Vermilion	2.879	1.802	4.682
District total	*12.949*	*5.627*	*18.576*

Table 14. (Concluded)

District *County*	*Groundwater* (mgd)*	*Surface water (mgd)*	*Total (mgd)*
W. Southwest			
003 Bond	.032	0	.032
007 Calhoun	0	0	0
009 Cass	1.157	0	1.157
011 Christian	1.281	705.944	707.225
031 Greene	.001	0	.001
042 Jersey	0	0	0
059 Macoupin	0	1.903	1.903
060 Madison	33.378	629.553	662.931
068 Montgomery	.032	287.908	287.940
069 Morgan	4.560	196.721	201.281
075 Pike	.044	21.504	21.548
084 Sangamon	0	297.163	297.163
086 Scott	0	0	0
District total	*40.484*	*2140.696*	*2181.180*
E. Southeast			
012 Clark	.078	0	.078
013 Clay	1.063	0	1.063
015 Coles	.213	.014	.226
017 Crawford	2.873	96.544	99.417
018 Cumberland	.299	0	.299
021 Douglas	.112	7.728	7.839
023 Edgar	.056	0	.056
025 Effingham	.363	0	.363
026 Fayette	5.214	0	5.214
040 Jasper	.553	301.175	301.728
051 Lawrence	4.790	.003	4.793
061 Marion	10.713	1.332	12.045
070 Moultrie	0	0	0
080 Richland	1.020	0	1.020
087 Shelby	.026	0	.026
District total	*27.371*	*406.795*	*434.166*
Southwest			
002 Alexander	.014	0	.014
014 Clinton	.458	.727	1.185
039 Jackson	.059	69.430	69.489
044 Johnson	0	.004	.004
067 Monroe	.001	.001	.001
073 Perry	.013	5.235	5.248
077 Pulaski	0	0	0
079 Randolph	.016	32.334	32.351
082 St. Clair	10.210	.298	10.507
091 Union	0	.059	.059
095 Washington	.411	0	.411
100 Williamson	.061	138.798	138.859
District total	*11.242*	*246.886*	*258.128*
Southeast			
024 Edwards	.358	0	.358
028 Franklin	.387	2.291	2.678
030 Gallatin	.446	.103	.549
033 Hamilton	.696	0	.696
035 Hardin	1.062	.197	1.259
041 Jefferson	.557	.120	.676
064 Massac	5.539	523.250	528.789
076 Pope	0	0	0
083 Saline	.354	3.772	4.126
093 Wabash	1.614	17.260	18.874
096 Wayne	3.272	.006	3.278
097 White	4.138	.195	4.333
District total	*18.424*	*547.192*	*565.616*
State total	217.625	40035.649	40253.274

**Includes 36.691 mgd brine*
Figures may not add to totals because of independent rounding.

Table 15. Estimated Rural Water Withdrawals, 1980

District *County*	*Domestic* *(mgd)*	*Livestock* *(mgd)*	*Irrigation* *(mgd)*	*Total* *(mgd)*
Northwest				
006 Bureau	1.001	1.124	.400	2.525
008 Carroll	.613	1.624	.861	3.099
037 Henry	1.378	2.607	.805	4.790
043 Jo Daviess	.749	2.145	.084	2.978
052 Lee	1.046	.796	2.550	4.393
066 Mercer	.701	1.443	.208	2.352
071 Ogle	1.779	1.879	.570	4.228
078 Putnam	.167	.170	.331	.668
081 Rock Island	1.532	.692	.485	2.709
089 Stephenson	1.097	2.551	.155	3.803
098 Whiteside	1.994	1.576	3.100	6.669
101 Winnebago	5.245	.960	.715	6.920
District total	*17.305*	*17.566*	*10.264*	*45.135*
Northeast				
004 Boone	.999	.505	.097	1.601
016 Cook	4.811	.053	2.961	7.825
019 DeKalb	1.576	1.326	.110	3.013
022 DuPage	7.855	.025	1.290	9.170
032 Grundy	.951	.179	.025	1.155
045 Kane	3.111	.823	.317	4.251
047 Kendall	2.050	.474	.020	2.544
049 Lake	6.544	.152	.770	7.465
050 LaSalle	1.610	.825	.030	2.465
056 McHenry	4.810	1.068	.725	6.603
099 Will	7.774	.412	.715	8.901
District total	*42.090*	*5.844*	*7.060*	*54.993*
West				
001 Adams	.901	1.897	1.959	4.757
005 Brown	.172	.467	0	.638
029 Fulton	1.033	1.071	.059	2.163
034 Hancock	.733	1.298	.544	2.575
036 Henderson	.466	.774	4.607	5.847
048 Knox	.544	1.623	0	2.167
055 McDonough	.725	.890	0	1.615
085 Schuyler	.310	.641	.064	1.016
094 Warren	.571	1.278	0	1.849
District total	*5.455*	*9.940*	*7.231*	*22.626*
Central				
020 DeWitt	.380	.162	0	.543
054 Logan	.402	.471	0	.873
057 McLean	1.344	.693	.055	2.092
058 Macon	1.183	.229	0	1.412
062 Marshall	.299	.362	.177	.839
063 Mason	.758	.293	40.805	41.856
065 Menard	.282	.338	0	.620
072 Peoria	3.152	.447	0	3.599
088 Stark	.215	.285	0	.500
090 Tazewell	.648	.630	6.888	8.165
102 Woodford	.887	.695	.058	1.640
District total	*9.552*	*4.605*	*47.983*	*62.139*
East				
010 Champaign	2.876	.300	.257	3.434
027 Ford	.322	.263	0	.585
038 Iroquois	.977	.820	1.389	3.186
046 Kankakee	2.073	.263	7.900	10.235
053 Livingston	.933	.709	0	1.642
074 Piatt	.433	.201	.028	.662
092 Vermilion	2.153	.450	.075	2.679
District total	*9.768*	*3.006*	*9.649*	*22.423*

Table 15. (Concluded)

District *County*	*Domestic (mgd)*	*Livestock (mgd)*	*Irrigation (mgd)*	*Total (mgd)*
W. Southwest				
003 Bond	.623	.625	.113	1.361
007 Calhoun	.323	.371	0	.694
009 Cass	.328	.444	.901	1.673
011 Christian	.728	.319	0	1.047
031 Greene	.475	1.075	1.056	2.606
042 Jersey	.539	.620	.457	1.615
059 Macoupin	.896	1.236	0	2.132
060 Madison	2.850	.853	1.393	5.097
068 Montgomery	.769	.891	.265	1.926
069 Morgan	.509	.816	0	1.325
075 Pike	.438	2.057	.796	3.291
084 Sangamon	3.438	.833	.082	4.352
086 Scott	.219	.332	.370	.921
District total	*12.135*	*10.473*	*5.433*	*28.041*
E. Southeast				
012 Clark	.487	.565	.728	1.780
013 Clay	.441	.281	0	.721
015 Coles	.558	.276	0	.834
017 Crawford	.323	.304	.152	.779
018 Cumberland	.445	.457	.024	.926
021 Douglas	.525	.277	0	.801
023 Edgar	.565	.601	.029	1.195
025 Effingham	.764	.888	.037	1.689
026 Fayette	.817	.996	.111	1.924
040 Jasper	.498	.470	0	.968
051 Lawrence	.431	.165	2.169	2.765
061 Marion	.174	.437	0	.611
070 Moultrie	.240	.211	0	.451
080 Richland	.457	.333	0	.790
087 Shelby	.738	.606	.206	1.550
District total	*7.463*	*6.866*	*3.456*	*17.785*
Southwest				
002 Alexander	.101	.085	.161	.347
014 Clinton	.909	1.133	.085	2.127
039 Jackson	.265	.457	.070	.791
044 Johnson	.331	.415	0	.747
067 Monroe	.739	.317	.445	1.501
073 Perry	.556	.398	.336	1.290
077 Pulaski	.301	.131	0	.433
079 Randolph	.486	.654	.334	1.474
082 St. Clair	3.893	.551	1.348	5.791
091 Union	.356	.340	.088	.784
095 Washington	.521	.689	.442	1.652
100 Williamson	.776	.179	0	.955
District total	*9.234*	*5.350*	*3.308*	*17.892*
Southeast				
024 Edwards	.205	.333	0	.538
028 Franklin	.691	.197	0	.887
030 Gallatin	.082	.153	1.109	1.343
033 Hamilton	.325	.225	0	.550
035 Hardin	.074	.127	0	.201
041 Jefferson	.882	.403	.036	1.320
064 Massac	.373	.272	.250	.896
076 Pope	.087	.168	.001	.256
083 Saline	.248	.193	0	.441
093 Wabash	.238	.130	.095	.463
096 Wayne	.538	.584	0	1.122
097 White	.254	.267	.906	1.427
District total	*3.998*	*3.050*	*2.397*	*9.445*
State total	116.999	66.699	96.781	280.479

Figures may not add to totals because of independent rounding.

Table 16. Total Water Withdrawals, Estimated and Reported 1980

District *County*	*Public systems (mgd)*	*Self-supplied industry (mgd)*	*Rural (mgd)*	*Fish and wildlife (mgd)*	*Total (mgd)*
Northwest					
006 Bureau	3.841	11.812	2.525	0	18.178
008 Carroll	1.433	.202	3.099	2.067	6.801
037 Henry	4.032	.032	4.790	0	8.854
043 Jo Daviess	2.720	1.769	2.978	0	7.468
052 Lee	3.658	2.593	4.393	0	10.644
066 Mercer	1.004	0	2.352	0	3.356
071 Ogle	5.723	1.596	4.228	0	11.547
078 Putnam	.411	173.944	.668	0	175.023
081 Rock Island	20.729	2134.711	2.709	0	2158.150
089 Stephenson	6.231	2.314	3.803	0	12.348
098 Whiteside	5.188	42.260	6.669	0	54.118
101 Winnebago	38.126	495.429	6.920	0	540.475
District total	*93.097*	*2866.663*	*45.135*	*2.067*	*3006.962*
Northeast					
004 Boone	3.343	.883	1.601	0	5.827
016 Cook	1104.065	2009.978	7.825	0	3121.867
019 DeKalb	7.617	2.660	3.013	0	13.290
022 DuPage	68.174	7.191	9.170	0	84.535
032 Grundy	2.115	1075.235	1.155	0	1078.506
045 Kane	32.681	3.979	4.251	0	40.910
047 Kendall	1.950	.755	2.544	0	5.249
049 Lake	48.586	2712.143	7.465	.071	2768.266
050 LaSalle	11.039	1975.246	2.465	0	1988.750
056 McHenry	10.831	2.775	6.603	.287	20.497
099 Will	30.815	3602.288	8.901	.342	3642.345
District total	*1321.216*	*11393.133*	*54.993*	*.700*	*12770.042*
West					
001 Adams	8.029	10.533	4.757	0	23.319
005 Brown	.284	0	.638	0	.923
029 Fulton	2.566	230.695	2.163	.810	236.234
034 Hancock	1.220	20757.164	2.575	0	20760.959
036 Henderson	7.182	0	5.847	0	13.029
048 Knox	1.219	.179	2.167	0	3.565
055 McDonough	3.626	.014	1.615	0	5.254
085 Schuyler	.471	0	1.016	0	1.486
094 Warren	3.182	.035	1.849	0	5.065
District total	*27.779*	*20998.620*	*22.626*	*.810*	*21049.835*
Central					
020 DeWitt	1.844	.557	.543	0	2.944
054 Logan	4.351	0	.873	0	5.223
057 McLean	11.447	.537	2.092	0	14.076
058 Macon	25.145	7.468	1.412	0	34.025
062 Marshall	1.042	1.107	.839	0	2.988
063 Mason	1.132	96.522	41.856	.596	140.106
065 Menard	.761	0	.620	0	1.381
072 Peoria	27.736	336.419	3.599	0	367.754
088 Stark	.554	0	.500	0	1.054
090 Tazewell	14.037	1094.576	8.165	0	1116.779
102 Woodford	2.776	.005	1.640	0	4.422
District total	*90.825*	*1537.191*	*62.139*	*.596*	*1690.751*
East					
010 Champaign	18.099	10.307	3.434	0	31.840
027 Ford	1.359	.123	.585	0	2.067
038 Iroquois	1.860	.124	3.186	0	5.170
046 Kankakee	12.055	.536	10.235	0	22.826
053 Livingston	6.506	.085	1.642	0	8.233
074 Piatt	1.046	2.720	.662	0	4.428
092 Vermilion	10.277	4.682	2.679	0	17.637
District total	*51.202*	*18.576*	*22.423*	*0*	*92.201*

Table 16. (Concluded)

District *County*	*Public systems (mgd)*	*Self-supplied industry (mgd)*	*Rural (mgd)*	*Fish and wildlife (mgd)*	*Total (mgd)*
W. Southwest					
003 Bond	1.095	.032	1.361	0	2.488
007 Calhoun	.364	0	.694	6.058	7.116
009 Cass	1.871	1.157	1.673	0	4.701
011 Christian	2.721	707.225	1.047	0	710.993
031 Greene	.675	.001	2.606	0	3.282
042 Jersey	.883	0	1.615	4.394	6.892
059 Macoupin	3.415	1.903	2.132	0	7.450
060 Madison	55.929	662.931	5.097	0	723.958
068 Montgomery	2.562	287.940	1.926	0	292.428
069 Morgan	1.248	201.281	1.325	0	203.854
075 Pike	1.253	21.548	3.291	0	26.093
084 Sangamon	21.486	297.163	4.352	0	323.002
086 Scott	3.533	0	.921	0	4.454
District total	*97.036*	*2181.180*	*28.041*	*10.452*	*2316.709*
E. Southeast					
012 Clark	1.400	.078	1.780	0	3.257
013 Clay	.816	1.063	.721	0	2.601
015 Coles	4.289	.226	.834	0	5.349
017 Crawford	2.016	99.417	.779	0	102.213
018 Cumberland	.248	.299	.926	0	1.473
021 Douglas	1.047	7.839	.801	0	9.687
023 Edgar	1.751	.056	1.195	0	3.001
025 Effingham	1.884	.363	1.689	0	3.936
026 Fayette	1.343	5.214	1.924	1.639	10.120
040 Jasper	.352	301.728	.968	0	303.048
051 Lawrence	1.081	4.793	2.765	0	8.638
061 Marion	4.649	12.045	.611	0	17.306
070 Moultrie	.883	0	.451	.748	2.082
080 Richland	.976	1.020	.790	0	2.786
087 Shelby	2.179	.026	1.550	0	3.754
District total	*24.912*	*434.166*	*17.785*	*2.387*	*479.251*
Southwest					
002 Alexander	2.004	.014	.347	<.001	2.365
014 Clinton	1.357	1.185	2.127	0	4.670
039 Jackson	6.470	69.489	.791	2.735	79.485
044 Johnson	.414	.004	.747	0	1.165
067 Monroe	.519	.001	1.501	0	2.022
073 Perry	.635	5.248	1.290	0	7.172
077 Pulaski	.629	0	.433	0	1.062
079 Randolph	3.298	32.351	1.474	3.049	40.172
082 St. Clair	27.427	10.507	5.791	0	43.726
091 Union	1.439	.059	.784	.957	3.238
095 Washington	.630	.411	1.652	0	2.693
100 Williamson	2.292	138.859	.955	.027	142.132
District total	*47.114*	*258.128*	*17.892*	*6.767*	*329.902*
Southeast					
024 Edwards	.111	.358	.538	0	1.007
028 Franklin	12.738	2.678	.887	.157	16.461
030 Gallatin	.684	.549	1.343	0	2.577
033 Hamilton	.024	.696	.550	0	1.271
035 Hardin	.332	1.259	.201	0	1.792
041 Jefferson	.608	.676	1.320	2.361	4.965
064 Massac	4.845	528.789	.896	.382	534.913
076 Pope	.149	0	.256	0	.405
083 Saline	1.800	4.126	.441	0	6.367
093 Wabash	1.994	18.874	.463	0	21.331
096 Wayne	.943	3.278	1.122	0	5.343
097 White	1.153	4.333	1.427	0	6.913
District total	*25.382*	*565.616*	*9.445*	*2.900*	*603.343*
State total	1778.562	40253.274	280.479	26.680	42338.996

Figures may not add to totals because of independent rounding.

Table 17. Total Groundwater Withdrawals, Estimated and Reported 1980

District *County*	*Public systems (mgd)*	*Self-supplied industry (mgd)*	*Rural* (mgd)*	*Fish and wildlife (mgd)*	*Total (mgd)*
Northwest					
006 Bureau	3.841	.200	2.525	0	6.566
008 Carroll	1.433	.202	3.099	0	4.734
037 Henry	4.032	.032	4.790	0	8.854
043 Jo Daviess	2.720	1.769	2.978	0	7.468
052 Lee	3.658	.440	4.393	0	8.491
066 Mercer	1.004	0	2.352	0	3.356
071 Ogle	5.723	1.564	4.228	0	11.515
078 Putnam	.411	.164	.668	0	1.243
081 Rock Island	2.152	10.294	2.709	0	15.155
089 Stephenson	6.231	2.314	3.803	0	12.348
098 Whiteside	5.188	1.463	6.669	0	13.320
101 Winnebago	38.126	6.352	6.920	0	51.399
District total	*74.520*	*24.795*	*45.135*	*0*	*144.450*
Northeast					
004 Boone	3.343	.616	1.601	0	5.559
016 Cook	85.087	13.742	7.825	0	106.654
019 DeKalb	7.617	.838	3.013	0	11.468
022 DuPage	68.174	2.474	9.170	0	79.818
032 Grundy	2.115	9.915	1.155	0	13.185
045 Kane	32.681	2.786	4.251	0	39.718
047 Kendall	1.950	.755	2.544	0	5.249
049 Lake	15.795	3.323	7.465	.071	26.655
050 LaSalle	11.039	6.338	2.465	0	19.842
056 McHenry	10.831	2.441	6.603	.287	20.163
099 Will	30.815	9.718	8.901	0	49.434
District total	*269.447*	*52.946*	*54.993*	*.359*	*377.744*
West					
001 Adams	.905	10.533	4.757	0	16.195
005 Brown	.062	0	.638	0	.701
029 Fulton	.943	.443	2.163	0	3.549
034 Hancock	.195	<.001	2.575	0	2.770
036 Henderson	7.182	0	5.847	0	13.029
048 Knox	1.219	.007	2.167	0	3.393
055 McDonough	.633	.014	1.615	0	2.262
085 Schuyler	.471	0	1.016	0	1.486
094 Warren	3.182	<.001	1.849	0	5.030
District total	*14.792*	*10.996*	*22.626*	*0*	*48.414*
Central					
020 DeWitt	1.844	0	.543	0	2.387
054 Logan	4.351	0	.873	0	5.223
057 McLean	4.616	.537	2.092	0	7.246
058 Macon	1.144	0	1.412	0	2.556
062 Marshall	1.042	1.107	.839	0	2.988
063 Mason	1.132	.123	41.856	.071	43.182
065 Menard	.761	0	.620	0	1.381
072 Peoria	18.218	8.918	3.599	0	30.734
088 Stark	.554	0	.500	0	1.054
090 Tazewell	13.995	7.729	8.165	0	29.889
102 Woodford	1.509	.005	1.640	0	3.154
District total	*49.165*	*18.419*	*62.139*	*.071*	*129.794*
East					
010 Champaign	18.099	7.151	3.434	0	28.684
027 Ford	1.359	.044	.585	0	1.988
038 Iroquois	1.860	.124	3.186	0	5.170
046 Kankakee	1530 ~~1.600~~	.536	10.235	0	~~12.371~~ 12,301
053 Livingston	1.634	.085	1.642	0	3.361
074 Piatt	1.046	2.129	.662	0	3.838
092 Vermilion	1.424	2.879	2.679	0	6.982
District total	*27.023*	*12.949*	*22.423*	*0*	*62.395*

Table 17. (Concluded)

District County	Public systems (mgd)	Self-supplied industry (mgd)	Rural* (mgd)	Fish and wildlife (mgd)	Total (mgd)
W. Southwest					
003 Bond	.060	.032	1.361	0	1.453
007 Calhoun	.364	0	.694	.206	1.264
009 Cass	1.734	1.157	1.673	0	4.563
011 Christian	1.728	1.281	1.047	0	4.056
031 Greene	.344	.001	2.606	0	2.951
042 Jersey	.883	0	1.615	.114	2.612
059 Macoupin	.013	0	2.132	0	2.145
060 Madison	10.411	33.378	5.097	0	48.887
068 Montgomery	.528	.032	1.926	0	2.486
069 Morgan	.099	4.560	1.325	0	5.984
075 Pike	.821	.044	3.291	0	4.157
084 Sangamon	2.167	0	4.352	0	6.519
086 Scott	3.533	0	.921	0	4.454
District total	*22.685*	*40.484*	*28.041*	*.320*	*91.531*
E. Southeast					
012 Clark	1.400	.078	1.780	0	3.257
013 Clay	0	1.063	.721	0	1.784
015 Coles	.201	.213	.834	0	1.248
017 Crawford	2.016	2.873	.779	0	5.668
018 Cumberland	.248	.299	.926	0	1.473
021 Douglas	1.047	.112	.801	0	1.960
023 Edgar	.363	.056	1.195	0	1.614
025 Effingham	.270	.363	1.689	0	2.322
026 Fayette	.151	5.214	1.924	0	7.290
040 Jasper	.352	.553	.968	0	1.873
051 Lawrence	1.081	4.790	2.765	0	8.635
061 Marion	.021	10.713	.611	0	11.345
070 Moultrie	.883	0	.451	0	1.334
080 Richland	.119	1.020	.790	0	1.928
087 Shelby	1.308	.026	1.550	0	2.883
District total	*9.459*	*27.371*	*17.785*	*0*	*54.615*
Southwest					
002 Alexander	.243	.014	.347	<.001	.604
014 Clinton	.212	.458	2.127	0	2.797
039 Jackson	.164	.059	.791	2.735	3.749
044 Johnson	.007	0	.747	0	.754
067 Monroe	.136	.001	1.501	0	1.638
073 Perry	.035	.013	1.290	0	1.338
077 Pulaski	.629	0	.433	0	1.062
079 Randolph	.800	.016	1.474	0	2.291
082 St. Clair	.195	10.210	5.791	0	16.196
091 Union	1.265	0	.784	.957	3.006
095 Washington	.098	.411	1.652	0	2.162
100 Williamson	0	.061	.955	0	1.015
District total	*3.785*	*11.242*	*17.892*	*3.692*	*36.612*
Southeast					
024 Edwards	.021	.358	.538	0	.917
028 Franklin	0	.387	.887	0	1.274
030 Gallatin	.643	.446	1.343	0	2.432
033 Hamilton	.024	.696	.550	0	1.271
035 Hardin	.150	1.062	.201	0	1.413
041 Jefferson	0	.557	1.320	0	1.877
064 Massac	4.845	5.539	.896	.382	11.663
076 Pope	0	0	.256	0	.256
083 Saline	.010	.354	.441	0	.805
093 Wabash	.770	1.614	.463	0	2.847
096 Wayne	.121	3.272	1.122	0	4.515
097 White	1.153	4.138	1.427	0	6.718
District total	*7.737*	*18.424*	*9.445*	*.382*	*35.988*
State total	478.613	217.625	280.479	4.824	981.542

"Includes estimated rural water withdrawals regardless of source.
Figures may not add to totals because of independent rounding.

Table 18. Total Surface Water Withdrawals, Reported 1980

District *County*	*Public systems (mgd)*	*Self-supplied industry (mgd)*	*Fish and wildlife (mgd)*	*Total* (mgd)*
Northwest				
006 Bureau	0	11.612	0	11.612
008 Carroll	0	0	2.067	2.067
037 Henry	0	0	0	0
043 Jo Daviess	0	0	0	0
052 Lee	0	2.153	0	2.153
066 Mercer	0	0	0	0
071 Ogle	0	.031	0	.031
078 Putnam	0	173.780	0	173.780
081 Rock Island	18.577	2124.418	0	2142.995
089 Stephenson	0	0	0	0
098 Whiteside	0	40.798	0	40.798
101 Winnebago	0	489.077	0	489.077
District total	*18.577*	*2841.868*	*2.067*	*2862.512*
Northeast				
004 Boone	0	.268	0	.268
016 Cook	1018.978	1996.236	0	3015.213
019 DeKalb	0	1.822	0	1.822
022 DuPage	0	4.717	0	4.717
032 Grundy	0	1065.321	0	1065.321
045 Kane	0	1.193	0	1.193
047 Kendall	0	0	0	0
049 Lake	32.791	2708.820	0	2741.611
050 LaSalle	0	1968.908	0	1968.908
056 McHenry	0	.333	0	.333
099 Will	0	3592.570	.342	3592.912
District total	*1051.769*	*11340.188*	*.342*	*12392.298*
West				
001 Adams	7.124	0	0	7.124
005 Brown	.222	0	0	.222
029 Fulton	1.623	230.252	.810	232.685
034 Hancock	1.025	20757.164	0	20758.189
036 Henderson	0	0	0	0
048 Knox	0	.172	0	.172
055 McDonough	2.993	0	0	2.993
085 Schuyler	0	0	0	0
094 Warren	0	.035	0	.035
District total	*12.987*	*20987.623*	*.810*	*21001.421*
Central				
020 DeWitt	0	.557	0	.557
054 Logan	0	0	0	0
057 McLean	6.831	0	0	6.831
058 Macon	24.001	7.468	0	31.468
062 Marshall	0	0	0	0
063 Mason	0	96.399	.525	96.924
065 Menard	0	0	0	0
072 Peoria	9.518	327.501	0	337.019
088 Stark	0	0	0	0
090 Tazewell	.043	1086.847	0	1086.890
102 Woodford	1.268	0	0	1.268
District total	*41.660*	*1518.773*	*.525*	*1560.957*
East				
010 Champaign	0	3.156	0	3.156
027 Ford	0	.079	0	.079
038 Iroquois	0	0	0	0
046 Kankakee	10.454	0	0	10.454
053 Livingston	4.872	0	0	4.872
074 Piatt	0	.590	0	.590
092 Vermilion	8.853	1.802	0	10.655
District total	*24.179*	*5.627*	*0*	*29.806*

Table 18. (Concluded)

District *County*	*Public systems (mgd)*	*Self-supplied industry (mgd)*	*Fish and wildlife (mgd)*	*Total* (mgd)*
W. Southwest				
003 Bond	1.034	0	0	1.034
007 Calhoun	0	0	5.852	5.852
009 Cass	.138	0	0	.138
011 Christian	.993	705.944	0	706.937
031 Greene	.331	0	0	.331
042 Jersey	0	0	4.280	4.280
059 Macoupin	3.402	1.903	0	5.305
060 Madison	45.518	629.553	0	675.071
068 Montgomery	2.034	287.908	0	289.942
069 Morgan	1.149	196.721	0	197.870
075 Pike	.432	21.504	0	21.936
084 Sangamon	19.320	297.163	0	316.483
086 Scott	0	0	0	0
District total	*74.351*	*2140.696*	*10.132*	*2225.179*
E. Southeast				
012 Clark	0	0	0	0
013 Clay	.816	0	0	.816
015 Coles	4.088	.014	0	4.101
017 Crawford	0	96.544	0	96.544
018 Cumberland	0	0	0	0
021 Douglas	0	7.728	0	7.728
023 Edgar	1.387	0	0	1.387
025 Effingham	1.614	0	0	1.614
026 Fayette	1.191	0	1.639	2.831
040 Jasper	0	301.175	0	301.175
051 Lawrence	0	.003	0	.003
061 Marion	4.629	1.332	0	5.960
070 Moultrie	0	0	.748	.748
080 Richland	.857	0	0	.857
087 Shelby	.871	0	0	.871
District total	*15.454*	*406.795*	*2.387*	*424.636*
Southwest				
002 Alexander	1.761	0	0	1.761
014 Clinton	1.145	.727	0	1.873
039 Jackson	6.306	69.430	0	75.736
044 Johnson	.407	.004	0	.411
067 Monroe	.383	.001	0	.383
073 Perry	.599	5.235	0	5.834
077 Pulaski	0	0	0	0
079 Randolph	2.498	32.334	3.049	37.882
082 St. Clair	27.233	.298	0	27.530
091 Union	.174	.059	0	.233
095 Washington	.532	0	0	.532
100 Williamson	2.292	138.798	.027	141.116
District total	*43.329*	*246.886*	*3.076*	*293.291*
Southeast				
024 Edwards	.090	0	0	.090
028 Franklin	12.738	2.291	.157	15.186
030 Gallatin	.041	.103	0	.144
033 Hamilton	0	0	0	0
035 Hardin	.183	.197	0	.380
041 Jefferson	.608	.120	2.361	3.088
064 Massac	0	523.250	0	523.250
076 Pope	.149	0	0	.149
083 Saline	1.790	3.772	0	5.562
093 Wabash	1.224	17.260	0	18.484
096 Wayne	.822	.006	0	.827
097 White	0	.195	0	.195
District total	*17.644*	*547.192*	*2.518*	*567.355*
State total	1299.949	40035.649	21.856	41357.454

**Rural water withdrawals not included, see table 17 and page 11.*
Figures may not add to totals because of independent rounding.

Table 19. Estimated Groundwater Withdrawals from Major Geohydrologic Systems, Excluding Rural Domestic and Livestock, 1980

District County	Sand and gravel (mgd)	Aquifer systems Mississippian-Pennsylvanian (mgd)	Silurian-Devonian (mgd)	Cambrian-Ordovician (mgd)	Total (mgd)
Northwest					
006 Bureau	2.728	0	0.131	1.582	4.441
008 Carroll	0.815	0	0.098	1.583	2.496
037 Henry	1.424	.006	1.007	2.433	4.870
043 Jo Daviess	2.083	0	0	2.490	4.573
052 Lee	2.457	0	.429	3.763	6.648
066 Mercer	.364	0	.466	.383	1.212
071 Ogle	.004	0	.010	7.842	7.857
078 Putnam	.684	.041	0	.181	.906
081 Rock Island	6.848	0	3.171	2.911	12.931
089 Stephenson	2.539	0	.026	6.136	8.700
098 Whiteside	5.498	0	.534	3.719	9.751
101 Winnebago	23.007	0	.074	22.113	45.193
District total	*48.451*	*.047*	*5.944*	*55.136*	*109.578*
Northeast					
004 Boone	.755	0	.005	3.295	4.055
016 Cook	5.033	0	28.852	67.905	101.790
019 DeKalb	.168	0	.101	8.297	8.565
022 DuPage	2.671	0	40.708	28.560	71.938
032 Grundy	.987	.039	.033	10.996	12.055
045 Kane	5.886	0	2.014	27.884	35.784
047 Kendall	.911	0	.140	1.674	2.725
049 Lake	4.825	0	3.728	11.406	19.959
050 LaSalle	3.106	.010	.069	14.221	17.407
056 McHenry	7.572	0	2.508	4.205	14.285
099 Will	3.593	0	13.525	24.130	41.248
District total	*35.507*	*.049*	*91.683*	*202.573*	*329.811*
West					
001 Adams	13.153	.244	0	0	13.397
005 Brown	.044	.018	0	0	.062
029 Fulton	.472	.447	0	.526	1.445
034 Hancock	.711	.029	0	0	.739
036 Henderson	11.633	.096	0	.060	11.789
048 Knox	.027	.150	.243	.805	1.226
055 McDonough	.125	.055	.044	.423	.647
085 Schuyler	.512	.023	0	0	.535
094 Warren	.127	.015	.036	3.003	3.182
District total	*26.803*	*1.078*	*.323*	*4.817*	*33.022*
Central					
020 DeWitt	1.844	0	0	0	1.844
054 Logan	4.351	0	0	0	4.351
057 McLean	5.068	0	0	.141	5.208
058 Macon	1.144	0	0	0	1.144
062 Marshall	2.076	0	0	.249	2.326
063 Mason	42.131	0	0	0	42.131
065 Menard	.761	0	0	0	.761
072 Peoria	26.207	.043	.017	.869	27.136
088 Stark	0	0	.081	.473	.554
090 Tazewell	28.612	0	0	0	28.612
102 Woodford	1.376	.001	0	.195	1.572
District total	*113.570*	*.044*	*.098*	*1.926*	*115.638*
East					
010 Champaign	25.507	0	0	0	25.507
027 Ford	1.354	0	.050	0	1.404
038 Iroquois	2.535	.005	.834	0	3.374
046 Kankakee	5.071	0	9.951	.014	10.036
053 Livingston	1.529	.039	.007	.143	1.719
074 Piatt	3.203	0	0	0	3.203
092 Vermilion	4.255	.044	.079	0	4.378
District total	*38.454*	*.088*	*10.921*	*.157*	*49.621*

Table 19. (Concluded)

District County	Sand and gravel (mgd)	Aquifer systems Mississippian-Pennsylvanian (mgd)	Silurian-Devonian (mgd)	Cambrian-Ordovician (mgd)	Total (mgd)
W. Southwest					
003 Bond	.201	.005	0	0	.206
007 Calhoun	.321	0	.250	0	.571
009 Cass	3.792	0	0	0	3.792
011 Christian	2.426	.102	.482	0	3.009
031 Greene	1.140	<.001	.260	0	1.400
042 Jersey	.783	.671	0	0	1.454
059 Macoupin	.013	0	0	0	.013
060 Madison	45.037	.039	.034	.073	45.182
068 Montgomery	.793	.032	0	0	.825
069 Morgan	4.659	0	0	0	4.659
075 Pike	1.591	.070	0	0	1.661
084 Sangamon	2.249	0	0	0	2.249
086 Scott	3.731	.173	0	0	3.903
District total	*66.734*	*1.092*	*1.025*	*.073*	*68.924*
E. Southeast					
012 Clark	1.749	.420	0	.036	2.205
013 Clay	0	1.063	0	0	1.063
015 Coles	.369	.045	0	0	.414
017 Crawford	2.965	2.076	0	0	5.041
018 Cumberland	.272	.299	0	0	.570
021 Douglas	.559	.327	.272	0	1.158
023 Edgar	.392	.056	0	0	.448
025 Effingham	.314	.356	0	0	.670
026 Fayette	.207	5.269	0	0	5.476
040 Jasper	.328	.577	0	0	.905
051 Lawrence	3.822	4.217	0	0	8.039
061 Marion	0	5.452	5.261	.021	10.734
070 Moultrie	.883	0	0	0	0.883
080 Richland	0	1.139	0	0	1.139
087 Shelby	1.514	.026	0	0	1.540
District total	*13.374*	*21.322*	*5.533*	*.056*	*40.285*
Southwest					
002 Alexander	.382	.036	0	0	.418
014 Clinton	.388	.123	.241	.002	.755
039 Jackson	2.995	.033	0	0	3.028
044 Johnson	0	.007	0	0	.007
067 Monroe	.576	.001	.006	0	.582
073 Perry	.336	.049	0	0	.385
077 Pulaski	.119	0	.510	0	.629
079 Randolph	.479	.672	0	0	1.150
082 St. Clair	11.748	.004	0	0	11.752
091 Union	2.155	.155	0	0	2.310
095 Washington	.540	.409	.002	0	.951
100 Williamson	0	.061	0	0	.061
District total	*19.718*	*1.550*	*.759*	*.002*	*22.028*
Southeast					
024 Edwards	.110	.269	0	0	.379
028 Franklin	0	.387	0	0	.387
030 Gallatin	1.870	.328	0	0	2.198
033 Hamilton	.020	.700	0	0	.720
035 Hardin	.048	1.164	0	0	1.212
041 Jefferson	.042	.551	0	0	.593
064 Massac	2.528	8.488	0	0	11.016
076 Pope	.001	0	0	0	.001
083 Saline	0	.364	0	0	.364
093 Wabash	1.680	.798	0	0	2.478
096 Wayne	.046	3.347	0	0	3.393
097 White	2.572	3.625	0	0	6.197
District total	*8.917*	*20.021*	*0*	*0*	*28.938*
State total	371.528	45.291	116.286	264.738	797.844

Figures may not add to totals because of independent rounding.

Table 20. Township Water Withdrawals,
Northeast District, 1980
(mgd)

County Township and range	Public					Self-supplied Industry					Total
	Surface water	Sand and gravel	Silurian	Cambrian-Ordovician	Total	Surface water	Sand and gravel	Silurian	Cambrian-Ordovician	Total	
Boone County											
00443N03E	0	0	0	.010	.010	0	.009	0	0	.009	.019
00443N04E	0	0	0	0	0	0	0	0	.010	.010	.010
00444N03E	0	.515	0	2.635	3.150	.268	0	.005	.400	.673	3.823
00444N04E	0	0	0	0	0	0	0	0	.166	.166	.166
00445N03E	0	.088	0	0	.088	0	0	0	0	0	.088
00445N04E	0	.021	0	.073	.095	0	.025	0	0	.025	.120
Cook County											
01635N13E	0	0	6.104	.890	6.994	0	0	.038	0	.038	7.033
01635N14E	0	0	6.915	2.990	9.904	0	0	.609	.331	.939	10.844
01635N15E	0	0	0	.263	.263	0	0	.020	0	.020	.283
01636N12E	0	0	2.411	.761	3.172	0	0	.281	0	.281	3.454
01636N13E	0	0	.857	.940	1.797	0	0	.394	.014	.408	2.204
01636N14E	0	0	.553	1.282	1.835	.011	0	.079	0	.090	1.925
01637N11E	0	0	0	.712	.712	4.117	0	0	.386	4.504	5.215
01637N12E	0	0	.054	.440	.493	0	0	.130	.010	.140	.633
01637N13E	0	0	0	0	0	5.938	0	.070	0	6.008	6.008
01637N14E	0	0	0	0	0	25.840	0	.025	0	25.865	25.865
01637N15E	0	0	0	0	0	41.061	0	0	0	41.061	41.061
01638N12E	0	0	2.843	2.098	4.942	.960	0	.327	3.344	4.631	9.573
01638N13E	0	0	0	0	0	1079.436	0	.010	1.971	1081.417	1081.417
01638N14E	0	0	0	0	0	300.546	0	0	1.781	302.327	302.327
01638N15E	390.807	0	0	0	390.807	3.839	0	0	0	3.839	394.646
01639N14E	586.210	0	0	0	586.210	0	0	0	0	0	586.210
01639N12E	0	0	0	4.108	4.108	.651	0	.061	.232	.944	5.052
01639N13E	0	0	0	0	0	0	0	0	.114	.114	.114
01639N14E	0	0	0	0	0	522.730	0	0	.113	522.842	522.842
01640N12E	0	0	0	0	0	0	0	.033	.768	.801	.801
01640N13E	0	0	0	0	0	0	0	0	.846	.846	.846
01641N09E	0	2.519	.311	1.647	4.478	0	0	.010	0	.010	4.488
01641N10E	0	.764	2.258	8.831	11.853	0	.012	.061	0	.073	11.926
01641N11E	0	0	.016	8.988	9.003	0	0	.093	.009	.103	9.106
01641N12E	0	0	0	2.978	2.978	0	0	0	0	0	2.978
01641N13E	8.535	0	0	0	8.535	4.021	0	.015	.460	4.496	13.031
01641N14E	23.651	0	0	0	23.651	7.082	0	0	0	7.082	30.733
01642N09E	0	.012	.561	0	.573	0	.025	.231	<.001	.256	.829
01642N10E	0	1.434	.827	5.912	8.174	0	0	.025	.050	.075	8.249
01642N11E	0	0	.126	12.046	12.171	0	0	.020	.022	.042	12.213
01642N12E	0	0	.301	1.336	1.637	.002	0	.020	.704	.726	2.363
01642N13E	9.775	0	0	0	9.775	0	0	0	0	0	9.775
DeKalb County											
01937N05E	0	0	0	.897	.897	0	<.001	0	0	<.001	.897
01938N03E	0	.143	0	0	.143	0	0	0	0	0	.143
01938N04E	0	0	0	.172	.172	0	.025	0	0	.025	.197
01938N05E	0	0	0	.125	.125	0	0	0	0	0	.125
01939N04E	0	0	0	0	0	0	0	.005	.010	.015	.015
01940N03E	0	0	0	.050	.050	0	0	.005	.010	.015	.065
01940N04E	0	0	0	4.530	4.530	.431	0	0	.758	1.188	5.718
01940N05E	0	0	.010	.026	.036	1.391	0	0	0	1.391	1.428
01941N04E	0	0	0	0	0	0	0	0	.001	.001	.001
01941N05E	0	0	0	.999	.999	0	0	0	0	0	.999
01942N03E	0	0	0	.103	.103	0	0	0	.025	.025	.128
01942N04E	0	0	.006	.052	.058	0	0	0	0	0	.058
01942N05E	0	0	0	.504	.504	0	0	0	0	0	.504
DuPage County											
02237N11E	0	0	.003	.444	.447	0	0	.839	0	.839	1.286
02238N09E	0	0	3.329	2.378	5.707	0	0	.146	.122	.268	5.975
02238N10E	0	0	5.350	1.441	6.791	0	0	.134	.036	.170	6.961
02238N11E	0	0	9.300	2.671	11.971	0	0	.385	0	.385	12.355
02239N09E	0	0	.765	1.767	2.532	1.149	0	.053	<.001	1.202	3.734
02239N10E	0	0	8.138	0	8.138	.002	0	.092	0	.094	8.232
02239N11E	0	0	2.317	10.996	13.313	.015	.015	.070	.172	.272	13.585
02240N09E	0	.179	0	1.248	1.426	3.552	0	.110	.205	3.866	5.293
02240N10E	0	1.129	4.894	1.166	7.188	0	0	.050	0	.050	7.238
02240N11E	0	1.296	3.474	5.889	10.660	0	0	.047	0	.047	10.707
		2.604	37.578	28.000			.015	1.186	.536		70.651

Table 20. (Continued)

County Township and range	Public					Self-supplied Industry					Total
	Surface water	Sand and gravel	Silurian	Cambrian-Ordovician	Total	Surface water	Sand and gravel	Silurian	Cambrian-Ordovician	Total	
Grundy County											
03231N06E	0	0	0	.030	.030	0	0	0	0	0	.030
03231N08E	0	.020	0	.192	.226	0	0	.005	0	.005	.231
03232N06E	0	0	0	0	0	0	0	0	.005	.005	.005
03232N07E	0	.081	0	0	.081	0	0	0	.005	.005	.086
03232N08E	0	.014	0	.212	.226	0	0	0	0	0	.226
03233N06E	0	0	0	0	0	0	.866	0	1.034	1.899	1.899
03233N07E	0	0	0	.873	.873	0	.005	0	.020	.025	.898
03233N08E	0	.001	0	.426	.452	51.421	0	0	.907	52.327	52.779
03234N06E	0	0	0	0	0	0	0	0	.005	.005	.005
03234N07E	0	0	.015	.032	.047	0	0	.005	.007	.012	.059
03234N08E	0	0	.003	.177	.180	1013.900	<.001	.005	7.047	1020.952	1021.132
Kane County											
04502N08E	0	0	0	0	0	0	.075	0	0	.075	.075
04538N07E	0	.092	0	2.524	2.615	0	0	0	0	0	2.615
04538N08E	0	0	.164	8.819	8.983	0	0	1.377	.125	1.502	10.485
04539N07E	0	0	0	.001	.001	0	0	0	.284	.284	.285
04539N08E	0	0	0	3.271	3.271	.168	0	.118	.036	.322	3.592
04540N06E	0	.041	0	0	.041	0	0	0	<.001	<.001	.041
04540N07E	0	.054	0	.103	.157	0	0	0	0	0	.157
04540N08E	0	1.203	0	2.356	3.559	0	0	<.001	.144	.144	3.703
04541N06E	0	0	0	.044	.044	0	0	0	0	0	.044
04541N08E	0	.600	0	9.431	10.031	1.025	.423	.164	.005	1.616	11.647
04542N06E	0	0	0	.253	.253	0	0	0	.034	.034	.288
04542N07E	0	.005	0	0	.005	0	0	0	0	0	.005
04542N08E	0	3.284	.036	.401	3.721	0	0	0	0	0	3.721
Kendall County											
04735N06E	0	0	0	.067	.067	0	0	0	0	0	.067
04735N07E	0	0	0	0	0	0	0	0	<.001	<.001	<.001
04736N07E	0	0	0	.016	.016	0	0	0	0	0	.016
04737N06E	0	.911	0	.011	.922	0	0	0	0	0	.922
04737N07E	0	0	.007	.403	.410	0	0	0	.011	.011	.421
04737N08E	0	0	.113	.422	.536	0	0	0	.744	.744	1.279
Lake County											
04943N09E	0	1.016	.021	0	1.037	0	.244	.034	0	.278	1.315
04943N10E	0	0	.153	.981	1.134	0	.006	.005	.025	.036	1.171
04943N11E	0	.024	.376	2.013	2.413	.007	.100	.005	.033	.146	2.559
04943N12E	8.495	0	0	0	8.495	0	0	0	.667	.667	9.162
04944N09E	0	.240	.495	0	.735	0	0	0	0	0	.735
04944N10E	0	.593	.169	.949	1.711	0	0	.027	0	.027	1.738
04944N11E	0	0	.472	2.653	3.124	.008	.269	.168	0	.445	3.569
04944N12E	8.186	0	.006	0	8.192	14.208	0	.025	.580	14.813	23.005
04945N09E	0	.563	0	<.001	.563	0	.055	0	.401	.456	1.019
04945N10E	0	.306	.924	1.412	2.641	0	0	.003	.056	.058	2.700
04945N11E	0	.163	.017	.942	1.122	0	0	0	.111	.111	1.233
04945N12E	14.190	0	0	0	14.190	434.231	.010	0	0	434.241	448.431
04946N09E	0	.094	0	0	.094	0	0	.330	.142	.472	.566
04946N10E	0	.882	0	0	.882	0	.025	0	0	.025	.907
04946N12E	1.920	.064	.021	.249	2.254	2260.366	.002	0	0	2260.368	2262.693
LaSalle County											
05029N02E	0	.030	0	0	.030	0	0	0	0	0	.030
05031N01E	0	0	0	.043	.043	0	0	0	0	0	.043
05031N02E	0	.012	0	0	.012	0	0	0	0	0	.012
05031N03E	0	0	0	.012	.012	0	0	0	0	0	.012
05031N05E	0	0	0	.028	.038	0	0	0	0	0	.038
05032N01E	0	.093	0	.041	.134	0	0	0	0	0	.134
05032N03E	0	.117	0	0	.117	0	0	0	0	0	.117
05032N05E	0	0	0	0	0	1.967	0	0	1.831	3.798	3.798
05033N01E	0	2.793	0	2.938	5.731	0	0	0	.077	.077	5.808
05033N02E	0	0	0	.362	.362	0	0	0	0	0	.362
05033N03E	0	0	0	2.193	2.193	8.067	0	0	1.457	9.524	11.717
05033N04E	0	0	0	.222	.222	1296.956	0	0	1.982	1298.938	1299.159
05033N05E	0	0	0	.578	.578	17.718	0	0	.329	18.047	18.624
05034N03E	0	0	0	.019	.019	0	0	0	0	0	.019
05034N04E	0	0	0	.001	.001	644.201	.001	0	.012	644.214	644.215
05034N05E	0	0	0	0	0	0	0	0	.173	.173	.173
05035N01E	0	0	0	0	0	0	.001	0	0	.001	.001
05035N05E	0	0	0	.082	.082	0	0	0	0	0	.082
05036N01E	0	0	0	1.143	1.143	0	.058	0	.333	.391	1.534
05036N03E	0	0	0	.147	.147	0	0	0	.083	.083	.230
05036N04E	0	0	.069	0	.069	0	0	0	0	0	.069
05036N05E	0	0	0	.106	.106	0	0	0	0	0	.106

Table 20. (Concluded)

County Township and range	Public					Self-supplied Industry					Total
	Surface water	Sand and gravel	Silurian	Cambrian-Ordovician	Total	Surface water	Sand and gravel	Silurian	Cambrian-Ordovician	Total	
McHenry County											
05643N05E	0	0	0	0	0	0	0	.005	0	.005	.005
05643N06E	0	.120	<.001	0	.121	0	0	0	0	0	.121
05643N07E	0	.325	.026	0	.351	0	.016	0	0	.016	.367
05643N08E	0	.372	.667	2.067	3.105	.333	.001	.010	.060	.405	3.510
05643N09E	0	0	.294	0	.294	0	0	0	0	0	.294
05644N05E	0	.465	0	0	.465	0	.005	0	.108	.113	.578
05644N06E	0	0	0	0	0	0	<.001	0	0	<.001	<.001
05644N07E	0	.513	0	0	.513	0	.035	.015	0	.050	.563
05644N08E	0	.071	.101	.806	.978	0	.282	.113	0	.395	1.373
05644N09E	0	.047	.016	0	.063	0	0	0	0	0	.063
05645N06E	0	0	0	0	0	0	.010	0	0	.010	.010
05645N07E	0	2.101	0	0	2.101	0	0	0	0	0	2.101
05645N08E	0	.701	.728	0	1.429	0	.001	.164	.778	.943	2.371
05645N09E	0	.143	.201	0	.344	0	.062	0	.010	.072	.416
05646N05E	0	.634	0	0	.634	0	0	.027	.137	.164	.798
05646N07E	0	.151	0	0	.151	0	<.001	0	0	<.001	.151
05646N08E	0	.071	.037	.175	.284	0	.585	.016	0	.601	.885
05646N09E	0	0	0	0	0	0	<.001	0	0	<.001	.288
Will County											
09932N09E	0	0	.011	.349	.360	5.571	0	0	.052	5.623	5.983
09932N10E	0	0	.001	.001	.002	0	0	0	.005	.005	.007
09933N09E	0	0	.005	.535	.540	0	0	0	0	0	.881
09933N10E	0	0	0	0	0	0	0	0	.178	.178	.178
09933N12E	0	0	.232	0	.232	0	0	.006	0	.006	.238
09933N14E	0	0	.249	0	.249	0	0	.001	0	.001	.250
09934N09E	0	0	0	.008	.008	10.533	0	.033	3.352	13.918	13.925
09934N10E	0	0	.089	0	.089	0	0	0	.336	.336	.425
09934N11E	0	0	.154	0	.154	0	.010	0	0	.010	.164
09934N13E	0	0	1.093	0	1.093	0	0	.108	0	.108	1.202
09934N14E	0	0	1.128	0	1.128	0	0	.072	.005	.077	1.205
09934N15E	0	0	.122	0	.122	0	0	0	0	0	.122
09935N09E	0	0	.220	1.509	1.728	0	0	.143	.237	.380	2.109
09935N10E	0	0	.445	6.102	6.548	1302.113	0	.070	3.625	1305.808	1312.355
09935N11E	0	1.746	.568	3.185	5.500	0	0	.208	0	.208	5.707
09935N12E	0	.228	1.415	0	1.643	0	0	.041	0	.041	1.684
09935N13E	0	0	0	0	0	0	0	.005	0	.005	.005
09936N09E	0	0	.376	.611	.987	.468	0	.005	0	.474	1.461
09936N10E	0	0	.965	2.638	3.604	629.183	0	.201	.738	630.122	633.726
09936N11E	0	1.609	1.030	0	2.639	1638.554	0	.050	0	1638.604	1641.243
09937N09E	0	0	0	0	0	0	0	0	.005	.005	.005
09937N10E	0	0	3.731	.458	4.190	6.148	0	.030	.202	6.380	10.569

Table 21. Water Withdrawals within SMSA's, Estimated and Reported 1980

*SMSA's**	*Public supply (mgd)*	*Self-supplied industry (mgd)*	*Rural (mgd)*	*Fish and wildlife (mgd)*	*Total*
Bloomington-Normal	11.447	.537	2.092	0	14.076
Champaign-Urbana-Rantoul	18.099	10.307	3.434	0	31.840
Chicago	1295.144	8338.354	44.215	.700	9678.413
Davenport-Rock Island-Moline(IL)	24.761	2143.743	7.499	0	2176.003
Decatur	25.145	7.468	1.412	0	34.025
Kankakee	12.055	.536	10.235	0	22.826
Peoria	44.549	1431.000	13.404	0	1488.953
Rockford	41.469	496.312	8.521	0	546.302
St. Louis(IL)	85.232	672.624	14.516	0	772.372
Springfield	22.247	297.163	4.972	0	324.382
SMSA areas	*1580.148*	*13400.044*	*110.300*	*.700*	*15091.192*
non-SMSA areas	*198.414*	*26853.230*	*170.179*	*25.980*	*27247.804*
State total	1778.562	40253.274	280.479	26.680	42338.996

Table 22. Water Withdrawals within SMSA's, Excluding Electrical Power Generation, Reported 1980

*SMSA's**	*Public supply (mgd)*	*Self-supplied industry (mgd)*	*Rural (mgd)*	*Fish and wildlife (mgd)*	*Total*
Bloomington-Normal	11.447	.537	2.092	0	14.076
Champaign-Urbana-Rantoul	18.099	10.307	3.434	0	31.840
Chicago	1295.152	213.545	44.215	.700	1553.612
Davenport-Rock Island-Moline(IL)	24.761	27.169	7.499	0	59.429
Decatur	25.145	7.468	1.412	0	34.025
Kankakee	12.055	.536	10.235	0	22.826
Peoria	44.549	73.807	13.404	0	131.760
Rockford	41.469	7.241	8.521	0	57.231
St. Louis(IL)	85.232	64.067	14.516	0	163.814
Springfield	22.247	.270	4.972	0	27.490
SMSA areas	*1580.156*	*404.947*	*110.300*	*.700*	*2096.113*
non-SMSA areas	*198.406*	*217.639*	*170.179*	*25.980*	*612.205*
State total	1778.562	622.586	280.479	26.680	2708.308

** Bloomington-Normal = McLean Co.*
Champaign-Urbana-Rantoul = Champaign Co.
Chicago = Cook, DuPage, Kane, Lake, McHenry, & Will Co.
Davenport-Rock Island-Moline(IL) = Rock Island & Henry Co.
Decatur = Macon Co.
Kankakee = Kankakee Co.
Peoria = Peoria, Tazewell, & Woodford Co.
Rockford = Boone & Winnebago Co.
St.Louis(IL) = Clinton, Madison, Monroe, & St. Clair Co.
Springfield = Menard & Sangamon Co.

Figures may not add to totals because of independent rounding.