

ISWS/CIR-163/85

Circular 163

STATE OF ILLINOIS

DEPARTMENT OF ENERGY AND NATURAL RESOURCES



Water Withdrawals in Illinois, 1984

by James R. Kirk, Kenneth J. Hlinka, Robert T. Sasman, and Ellis W. Sanderson

Prepared by
ILLINOIS STATE WATER SURVEY
in cooperation with
U.S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
CHAMPAIGN 1985

Funds derived from University of Illinois administered grants and contracts were used to produce this report.

The views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily representing the official policies, either express or implied, of the U.S. Government. Research supported in part by the U.S. Geological Survey, Department of the Interior, under USGS Agreement No. 14-08-0001-A-0210.

*Printed by Authority of the State of Illinois
(8-85-800)*

CONTENTS

Abstract	1
Introduction.....	1
Previous studies.....	2
Present study.....	2
Acknowledgments.....	2
Water withdrawals.....	2
Terminology.....	2
Geographic areas.....	3
Public water supply use.....	3
Self-supplied industry water use.....	3
Thermoelectric power generation.....	5
Hydroelectric power generation.....	5
Manufacturing.....	5
Mineral extraction.....	5
Rural water use.....	7
Domestic.....	7
Livestock.....	7
Irrigation.....	7
Fish and wildlife management areas water use.....	7
Hydrologic basin surface water use.....	8
Major geohydrologic system water use.....	8
Summary of Illinois water use.....	9
References.....	11
Appendix A.....	12
Appendix B.....	14

Water Withdrawals in Illinois, 1984

James R. Kirk, Kenneth J. Hlinka, Robert T. Sasman, and Ellis W. Sanderson

ABSTRACT

This report, part of a cooperative program with the U. S. Geological Survey, summarizes the 1984 data collected for the Illinois Water Inventory Program. The water use data are presented for the following categories: Public Water Supply (1797.1 mgd), Self-Supplied Industry (34,622.9 mgd), Rural Water Use (380.7 mgd), and Fish and Wildlife Management Areas (31.0 mgd). The data are then further categorized by counties, districts, hydrologic units, major aquifer systems, and Standard Metropolitan Statistical Areas.

Illinois water withdrawals during 1984 were 36,831.7 mgd, of which ground water provided 1098.8 mgd and surface water sources supplied 35,732.8 mgd. The largest user of water in Illinois is electric power generation, 92.0 percent of the total withdrawals. Excluding electric power withdrawals, 1984 ground-water use was 1091.0 mgd, and surface water use was 1851.8 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 resources in the state. In addition, the state has abundant ground-water 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 ground-water resources in

the northeastern part of the state, where a major ground-water 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 patterns; 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 fourth summary of water withdrawals throughout Illinois; the other reports were Circulars 140, 152, and 161.^{1,2,3} It is part of a continuing water use inventory program that will not only show changes in quantities of water used, but will also 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. Appendix A lists these reports.

Present Study

This report presents information compiled from the Illinois Water Inventory Program. It summarizes water withdrawals by major use categories from ground-water and surface water sources in Illinois during 1984 and compares selected data from previous publications with the 1984 data.

Information on the quantity of water withdrawn for use in Illinois was obtained from many sources during the inventory. The data are presented for the following categories: Public Water Supply; Self-Supplied Industry—thermoelectric and hydroelectric power generation, manufacturing, and mineral extraction; Rural Use—domestic, livestock, and irrigation; and Fish and Wildlife Management areas. The data are then further categorized by counties, districts, hydrologic units, major aquifer systems, and Standard

Metropolitan Statistical Areas (SMSA). For the SMSA's, data are also reported by congressional township. Information concerning drainage district transfers and non-withdrawal uses such as navigation and water-based recreation was not collected.

Acknowledgments

This report was prepared under the general direction of Stanley A. Changnon, Jr., Chief of the Illinois State Water Survey; Larry G. Toler, Illinois District Chief of the U.S. Geological Survey; James P. Gibb, Head of the Ground Water Section, State Water Survey; and Tim Lazaro, Hydrologist, U.S. Geological Survey. Special thanks are given to Steve Wilson and Mark Hodson, students at the University of Illinois, and R. Scott Ludwigs of the Northern Regional Field Office, State Water Survey, who helped survey public water supplies and self-supplied industry.

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 the public and industrial water supply systems for reporting their annual pumpage in response to a mail questionnaire. Mrs. J. L. Ivens edited the report, 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 ground-water 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.

Illinois defines "public water supplies" as systems or wells that furnish water for drinking or general domestic use in incorporated municipalities, and unincorporated communities where 15 or more separate lots or properties, or 25 persons, are being served, or are intended to be served, at least 60 days per year. 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."

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.)

<i>Million gallons per day</i>	<i>Billion gallons per day</i>	<i>Thousand acre-feet per year</i>	<i>Thousand cubic feet per second</i>	<i>Thousand gallons per minute</i>	<i>Million cubic meters per day</i>
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	1.16	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 Climatological Divisions of the National Oceanic and Atmospheric Administration and the Crop Reporting Districts (figure 1) of the Illinois Cooperative Crop Reporting Service.⁴ These districts represent divisions with similar climate, soils, and types of farming.

"Major geohydrologic system" is used to identify four groups of ground-water sources. The first group includes all sand and gravel aquifers contained within the alluvial and glacial drift deposits that blanket nearly all of Illinois. The other three groups the — Mississippian-Pennsylvanian, Silurian-Devonian, and Cambrian-Ordovician — consist of sandstone and creviced limestone aquifers within the underlying bedrock. These aquifers have been grouped according to the geologic series in which they occur.

"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.⁵ 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 are integrated economic and social units with a large volume of daily travel and communication between the central city having a population of 50,000 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.⁶

Public Water Supply Use

The total water withdrawal in 1984 for public water supply systems was 1797.0 mgd (see table 9 in Appendix B), a 3.3 percent increase from 1982. Surface water furnished 1322.2 mgd while ground water supplied 474.8 mgd.

Public water supplies furnish 88.7 percent of the state's population (11.554 million) with potable water, about 10.251 million people.⁷ Surface water supplies about 6.122 million people, ground water supplies about 3.702 million people and combined source water supplies about .427 million people. This leaves about 1.303 million people, about 11.3 percent, to furnish their own supply of potable water.

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

Water use data were obtained for over 1900 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 980.5 mgd from Lake Michigan in 1984, a 3.2 percent increase from 1982. The largest area served by a public water system is the Rend Lake Conservancy 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 14.5 mgd from Rend Lake in 1984, a 9.0 percent increase from 1982.

Self-Supplied Industry Water Use

Nearly all the self-supplied industry in Illinois can be divided into our major classifications: thermoelectric power generation, hydroelectric power generation, manufacturing, and mineral extraction. The total self-supplied industrial water withdrawals were 34,622.9 mgd (see table 14) in 1984 (including the

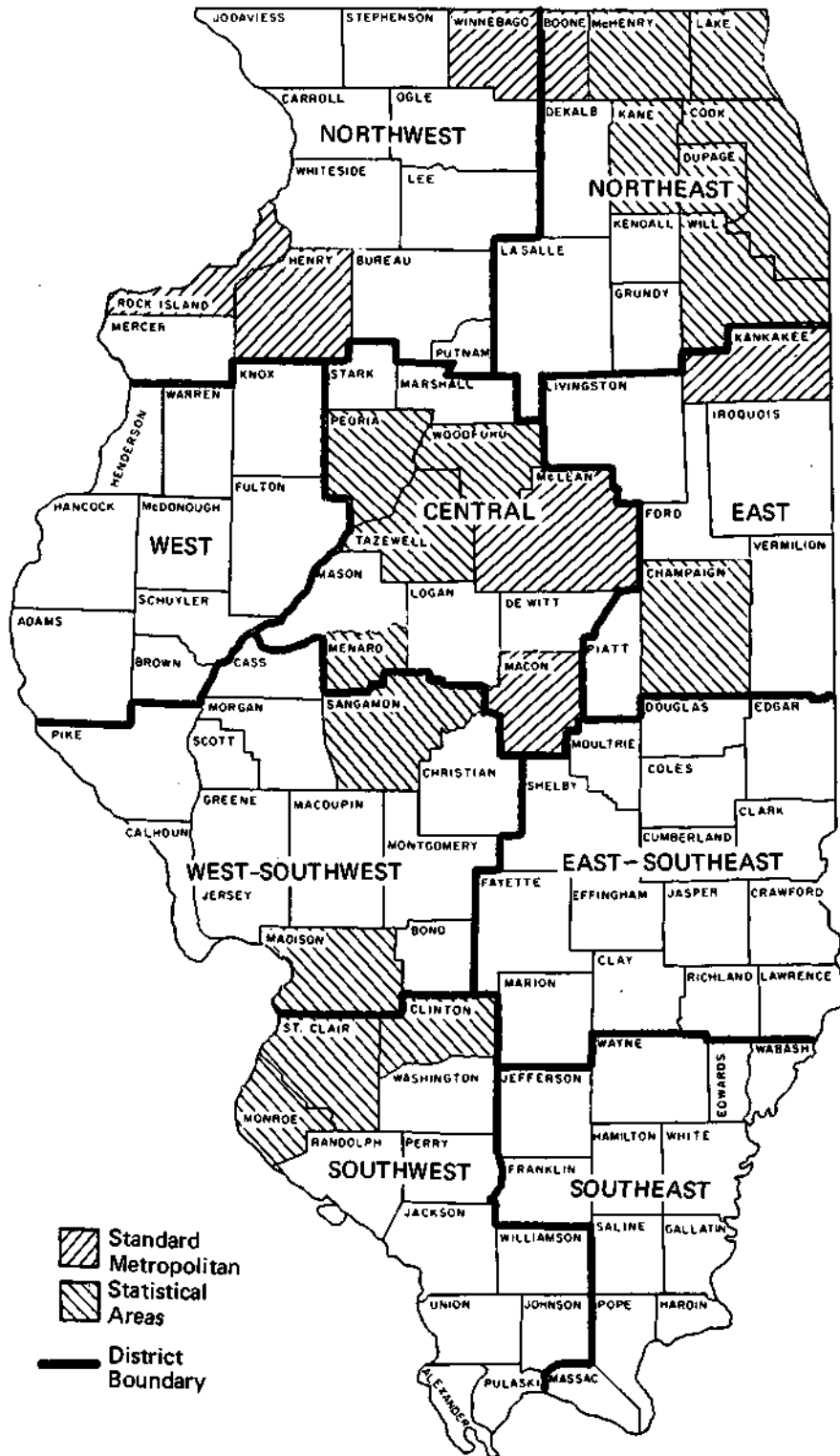


Figure 1. District and SMSA boundaries

21,494.9 mgd diverted through hydroelectric turbines). Surface water supplied 34,387.8 mgd; ground-water sources provided 235.1 mgd. Excluding water used for thermoelectric and hydroelectric generation, water used by self-supplied industry was 739.1 mgd (see table 13).

Over 600 self-supplied industries were identified in 1979 from a mail canvass of more than 4700 industries in the state. More than 900 self-supplied industries were canvassed for 1984 water withdrawals.

Follow-up was by a second mailing, and then by telephone. Those industrial withdrawals not accounted for either by questionnaire return or telephone contact (< 7 percent) were estimated using the latest data available.

The electric power generation industry is the largest user of water in the state, accounting for 92.0 percent of the total water use and 97.8 percent of the self-supplied industry water use. This industry withdraws about 33,888.8 million gallons of water a day (see table 10), but more than 99 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 was 12,394.0 mgd in 1984, shown in table 2. There are 33 thermoelectric (steam turbine) stations in the state; the majority of these stations are coal fired. Four stations have a total of eight nuclear reactors providing heat energy for the boilers. By 1987, five more nuclear reactors are scheduled to be producing electricity.

Table 2. Historic Water Use for Electric Power Generation

	<i>Thermoelectric (mgd)</i>	<i>Hydroelectric (mgd)</i>
1950-1951	5,927	20,694
1960	9,051.3	21,155
1964-1965	9,120.3	
1970	8,744.9	
1978	19,918.7	22,593.0
1980	14,060.6	25,570.1
1981	10,088	25,975
1982	8,552.7	21,894.4
1983	10,979.6	22,380.6
1984	12,394.0	21,494.9

Hydroelectric Power Generation

In 1984, 21,494.9 mgd of surface water was diverted through the six 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 80.4 percent of this water or about 40 percent of the

Mississippi River flow.

Table 3. Hydroelectric Plants in Illinois, 1984

<i>Plant name</i>	<i>Water source</i>	<i>Normal head (ft)</i>	<i>Installed capacity (kw)</i>	<i>Average flow through turbines (mgd)</i>
Lockport	Des Plaines River	38	19,900	1,792
Marseilles	Illinois River	15	2,024	173
Dayton	Fox River	32	3,680	631
Rockton	Rock River	11	1,100	735
Moline	Mississippi River	12	3,600	879*
Keokuk	Mississippi River	32	121,600	17,285*
Total Average Flow				21,495

*One-half flow credited to Illinois

Manufacturing

Self-supplied withdrawal by manufacturing during 1984 totaled 536.5 mgd. Surface water supplied 384.7 mgd while ground water supplied 151.8 mgd (see table 11). Manufacturing is defined as those industries listed under "Division D, Manufacturing" in the Standard Industrial Classification Manual-1972.⁸

The water withdrawal data of the 20 major manufacturing groups, according to the Standard Industrial Classification (SIC) system, were compiled and are presented in table 4. The range of water withdrawals was large, with the primary metals industries surpassing all others. Four self-supplied, major industries groups withdraw 79.5 percent of the total. They are the primary metals industries (253.5 mgd), chemical and allied industries (68.3 mgd), food and kindred products (56.4 mgd), and petroleum and coal products (48.5 mgd).

The three-digit SIC group number was used 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, 20 self-supplied specific groups were selected and are given in table 5. These 20 specific manufacturing groups account for about 90.2 percent of the self-supplied manufacturing withdrawal. Ground water makes up 21.1 percent of the withdrawal, 113.2 mgd, while surface water makes up the other 69.1 percent, 370.8 mgd.

Mineral Extraction

Water withdrawals by the mineral extraction industries during 1984 totaled 112.0 mgd. Surface water supplied 60.1 mgd while ground water supplied 51.9 mgd (see table 12). Oil field brine made up 38.1 mgd of this ground water.⁹ Much of this brine is injected into the oil-producing formations in water-

Table 4. Water Withdrawals by Self-Supplied Industry, Manufacturing, by Major SIC Group, 1984

Major SIC group	Manufacturing groups	Withdrawals (mgd)		Total
		Ground-water	Surface water	
20	Food and kindred products	32.8	23.6	56.4
21	Tabacco manufacturers	0	0	0
22	Textile and mill products	.8	0	.8
23	Apparel and fabric products	<.1	0	<.1
24	Lumber and wood products	.1	0	.1
25	Furniture and fixtures	.2	15.4	15.6
26	Paper and allied products	8.3	8.8	17.1
27	Printing, publishing, allied industries	.4	.9	1.3
28	Chemical and allied industries	33.4	34.9	68.3
29	Petroleum and coal products	21.7	26.8	48.5
30	Rubber and plastic products	8.6	0	8.6
31	Leather and leather products	0	0	0
32	Stone, clay, and glass	5.2	16.9	22.1
33	Primary metals industries	20.9	232.6	253.5
34	Fabricated metal products	3.4	7.0	10.4
35	Machinery (except electrical)	4.8	17.5	22.3
36	Electrical and electronics	3.5	.4	3.9
37	Transportation equipment	.2	0	.2
38	Instruments and related products	7.4	0	7.4
39	Misc. manufacturing industries	0	0	0
	Totals	151.7	384.7	536.4

Table 5. Water Withdrawals by Self-Supplied Industry, Manufacturing, by Specific SIC Group, 1984

Specific SIC group	Manufacturing groups	Withdrawals (mgd)		Total
		Ground-water	Surface water	
204	Grain mill products	7.1	20.1	27.2
207	Fats and oils	8.1	2.0	10.1
208	Beverages	9.0	1.4	10.4
251	Household furniture	0	15.4	15.4
262	Paper mills	.9	5.8	6.7
281	Industrial inorganic chemicals	12.1	13.1	25.2
283	Drugs	3.7	2.4	6.1
286	Industrial organic chemicals	3.4	7.3	10.7
287	Agricultural chemicals	4.2	11.0	15.2
289	Misc. chemical products	7.2	1.1	8.3
291	Petroleum refining	21.4	19.7	41.1
299	Misc. oil and coal products	.1	7.1	7.2
307	Plastic products	6.0	0	6.0
321	Flat glass	.4	12.4	12.8
331	Steel rolling and finishing	17.5	210.5	228.0
332	Iron and steel foundries	2.4	22.1	24.5
348	Ordnance and accessories, except vehicles and guided missiles	1.1	4.0	5.1
352	Farm and garden machinery	.2	10.5	10.7
353	Construction, mining, and materials handling machinery and equipment	1.4	4.8	6.2
386	Photographic equipment and supplies	7.0	0	7.0
	Totals	113.2	370.8	484.0

Figures may not add to totals because of independent rounding.

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

Table 6. Water Withdrawals by Major Mineral Extraction Industries, 1984

Mineral	Ground water (mgd)	Surface water (mgd)	Total (mgd)
Fluorspar	1.1	<.05	1.1
Quarrying	.1	1.5	1.6
Sand & Gravel	.7	15.4	16.1
Coal	2.4	34.4	36.8
Oil	43.8	1.7	45.5 *

*Including 38.1 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 (about 1.0 percent) when compared with the other withdrawal uses in Illinois, rural withdrawals have increased from an estimated 81 mgd in 1970¹⁰, 101 mgd in 1975¹¹, and 280.5 mgd in 1980² to an estimated 380.7 mgd during 1984 (see table 15). Most of this increase is due to the changes in agricultural irrigation.

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

Domestic

Rural domestic use for 1984 was estimated to be 122.2 mgd. The rural domestic use was computed by multiplying the population that is not served by public water supplies in each county by an estimated rural district per capita water use. This rural per capita water use was derived by averaging the per capita water use of all public water supply systems located outside SMSA's but which serve 800 or fewer persons and two or less commercial connections. The derived rural domestic per capita use ranged from

68.8 gallons per day (gpd) in the West District to 91.6 in the Northeast District (figure 2).

Livestock

Water withdrawals for livestock use in 1984 were estimated to be 58.5 mgd. The water use estimates for livestock are based on a fixed amount of water use per head for each type of animal. County livestock populations for 1984 were provided by the annual Illinois agricultural census.⁴ Daily consumption rates (table 7) provided the basis for these calculations.

Table 7. Livestock Water Requirements

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

From references 12, 13, and 14

Irrigation

Withdrawals for irrigation during 1984 were estimated to be 200.1 mgd on an annual basis. The increase from the estimated 96.8 mgd in 1980 reflect the changes in acres irrigated and rainfall. Most of this water is applied during the months of June, July, and August. The water use estimates for irrigation are based on the acreage listed in the 1982 Census of Agriculture.¹⁵ This was updated with the help of the U of I Cooperative Extension Service and the State Water Survey Northern Regional Office. Estimates of water withdrawals for irrigation were based on weekly regional rainfall deficits and the number of acres irrigated.

There has been a substantial increase in the acreage of agricultural lands irrigated since 1950, from 9000 acres¹⁶ to an estimated 150,000 acres in 1980² and 208,000 acres in 1984. Total acreage (including golf courses, cemeteries, etc.) under irrigation was estimated to be 245,700 acres in 1984.

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 31.0 mgd in 1984. Most of the water was used to flood portions of water fowl areas during the fall migration. Surface water made up 22.8 mgd of the withdrawals, with ground water providing the other 8.2 mgd (see tables 17 and 18).

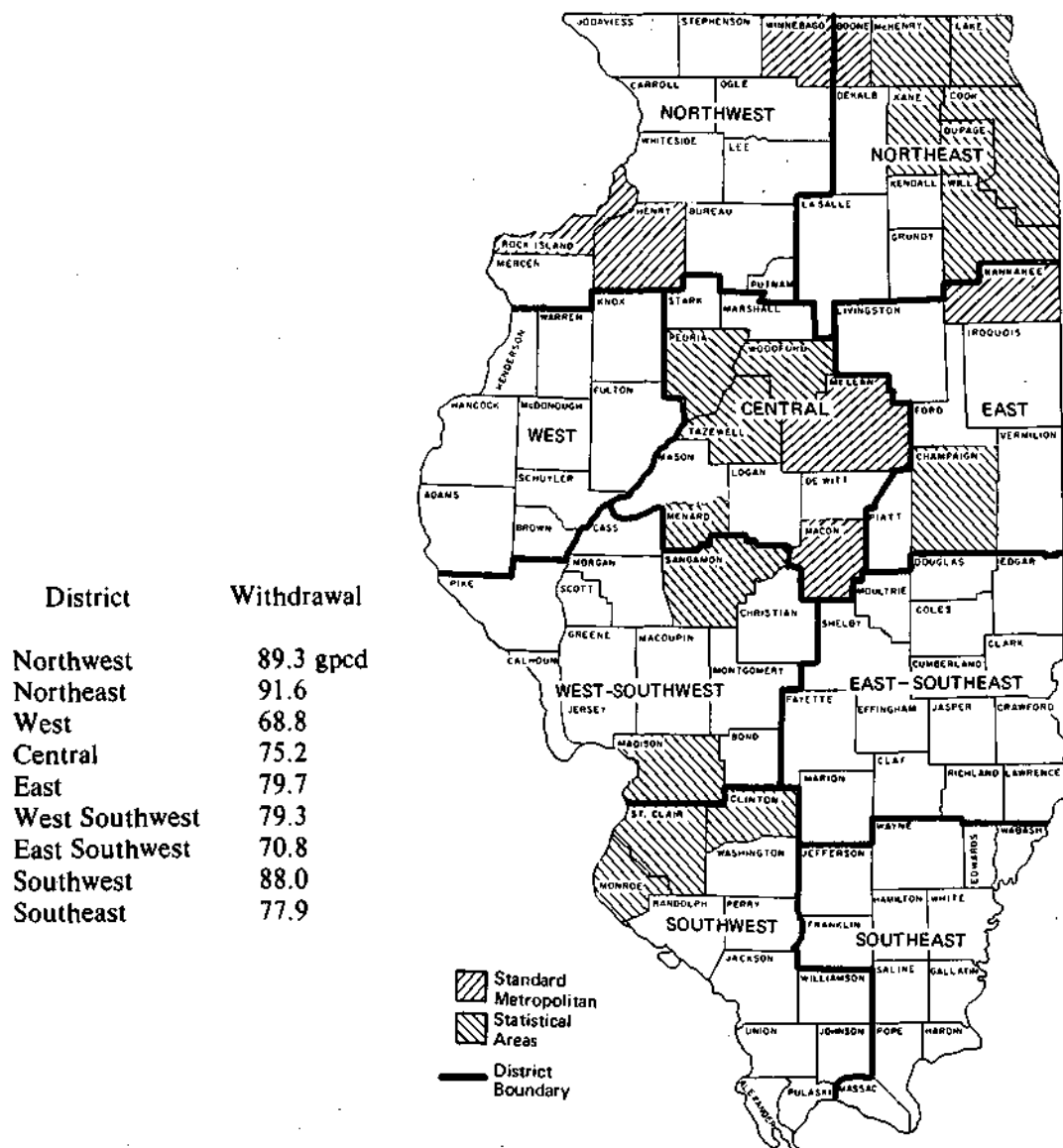


Figure 2. District rural domestic per capita water use, 1984

Hydrologic Basin Surface Water Use

For the purpose of providing 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.⁵ 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 0.0 mgd in the Mississippi River drainage above Lock and Dam 13 (Unit 070600) to 18,194.9 mgd in the Mississippi River drainage basin upstream from the mouth of the Des Moines River to Lock and Dam 13 (Unit 070801).

Major Geohydrologic System Water Use

Withdrawals from ground water during 1984 were estimated to be 1098.8 mgd. For this report, ground-water use except rural domestic and livestock has been broken down into four major geohydrologic systems. Withdrawals in 1984 from the systems were: Sand and Gravel, 475.2 mgd; Mississippian-Pennsylvanian, 43.7 mgd; Silurian-Devonian, 149.4 mgd; and Cambrian-Ordovician, 259.3 mgd (table 19). Major geohydrologic system data are also reported by township for counties within SMSA's (table 20).

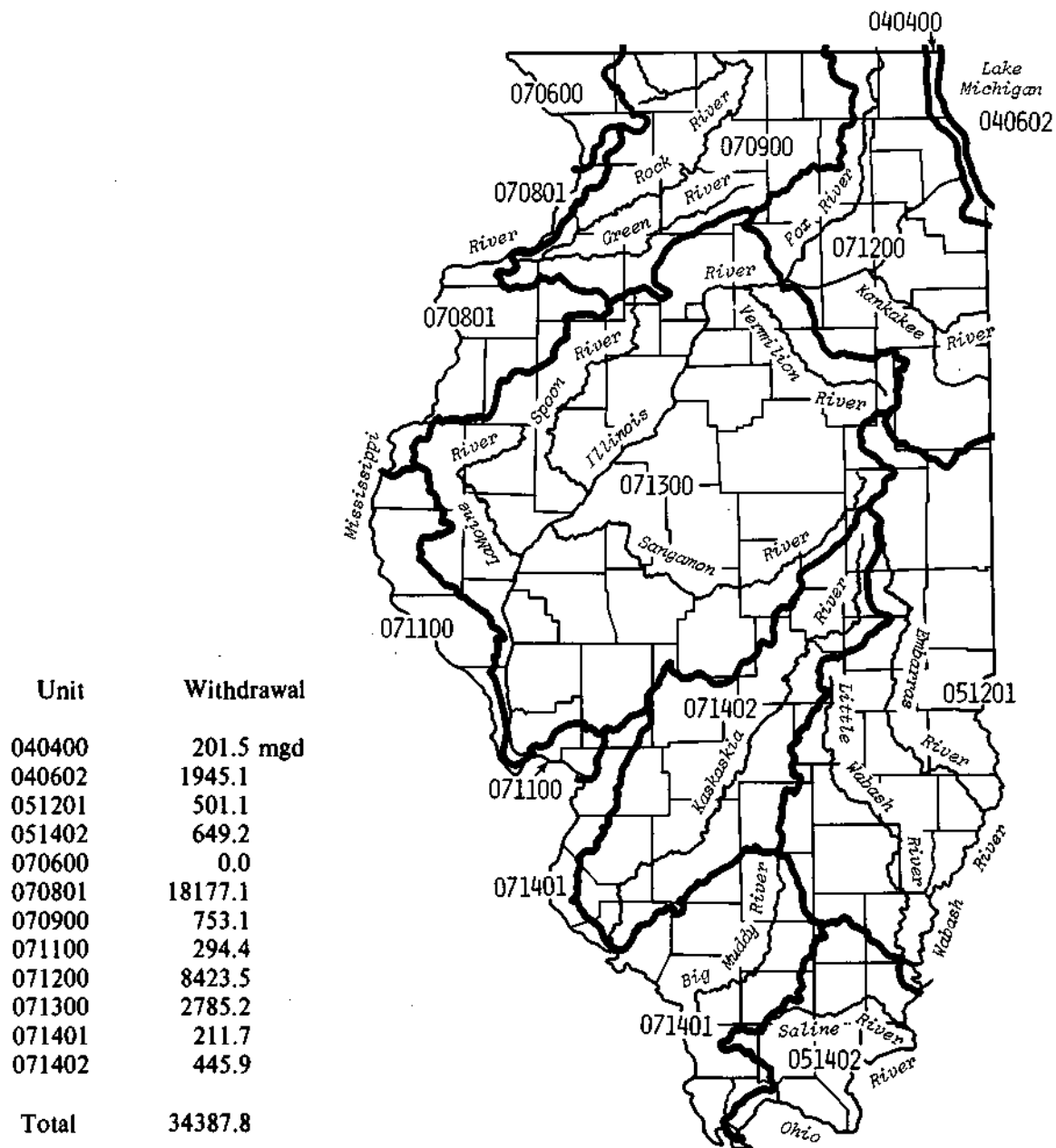


Figure 3. Surface water withdrawals by self-supplied industry by hydrologic units, 1984

SUMMARY OF ILLINOIS WATER USE

Total water withdrawals in Illinois during 1984 were 36,831.7 mgd (see table 16). Surface water accounted for 35,732.8 mgd and ground water supplied 1098.8 mgd (see tables 17 and 18). Excluding electric power withdrawals, 1984 ground-water use was 1091.0 mgd, and surface water use was 1851.8 mgd. The water withdrawals by each use category are given in table 8.

Standard Metropolitan Statistical Areas account for 11,658.7 mgd, 31.7 percent, of the total water use in the state. The SMSA's also have 9908.9 mgd, 28.6 percent, of the state's self-supplied industrial withdrawals (see table 21). Excluding the electric power industry withdrawals, SMSA's account for 2275.9 mgd, 77.2 percent, of the water use in the state (see table 22).

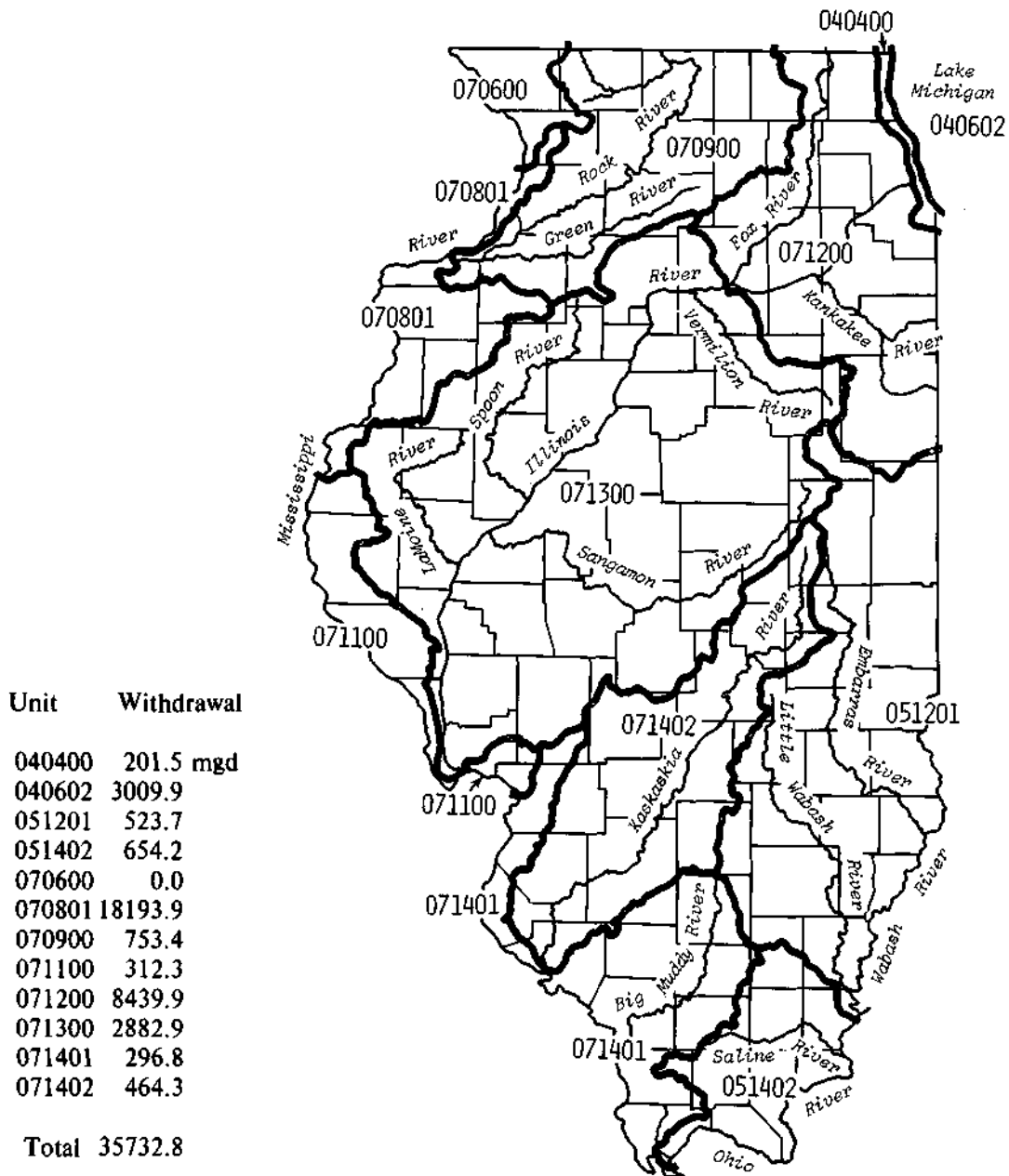


Figure 4. Surface water withdrawals by hydrologic units, 1984

Table 8. Summary of Total Water Withdrawals, 1984

Category	Ground water	Surface water	Total
Public Systems	474.8	1322.2	1797.1
Self-supplied Industry	235.1	34387.8	34622.9
Rural	380.7*	•	380.7
Fish and Wildlife	8.2	22.8	31.0
Total	1098.8	35732.8	36831.7

*See page 7

Figures may not add to totals because of independent rounding.

REFERENCES

- (1) Kirk, James R., Jacquelyn Jarboe, Ellis W. Sanderson, Robert T. Sasman, and Robert A. Sinclair. 1979. *Water withdrawals in Illinois, 1978*. Illinois State Water Survey Circular 140.
- (2) Kirk, James R., Jacquelyn Jarboe, Ellis W. Sanderson, Robert T. Sasman, and Carl Lonnquist. 1982. *Water withdrawals in Illinois, 1980*. Illinois State Water Survey Circular 152.
- (3) Kirk, James R., Ellis W. Sanderson, Robert T. Sasman. 1984. *Water withdrawals in Illinois, 1982*. Illinois State Water Survey Circular 161.
- (4) Illinois Cooperative Crop Reporting Service. *Illinois agricultural statistics annual summary, 1984*. Springfield, Illinois, Bulletin 84-1.
- (5) U.S. Geological Survey. 1975. *Hydrologic unit map-1974, state of Illinois*. Reston, Virginia.
- (6) U.S. Department of Commerce. 1982. *1980 census of population, part 1 Illinois*. Bureau of the Census (C3.224:980/15). Washington D.C.
- (7) Illinois Bureau of the Budget. 1984. *Illinois population trends from 1970-2025*.
- (8) Executive Office of the President, Office of Management and Budget. 1972., *Standard industrial classification manual 1972*. U.S. Government Printing Office.
- (9) Van Den Berg, J., and Jaclyn Rendall Elyn. 1985. *Petroleum industry in Illinois, 1983*. Illinois State Geological Survey, Urbana, Illinois Petroleum 126.
- (10) Murray, C. R., and C. B. Reeves. 1972. *Estimated use of water in the United States in 1970*. U.S. Geological Survey Circular 676.
- (11) Murray, C. R., and C. B. Reeves. 1977. *Estimated use of water in the United States in 1975*. U.S. Geological Survey Circular 765.
- (12) Water Systems Council. 1965. *Water systems and treatment handbook, 4th Edition*. Chicago, Illinois.
- (13) Midwest Plan Service. 1968. *Private water systems*. Iowa State University, Ames.
- (14) Ensminger, M. Eugene, and C. G. Olentine Jr. 1978. *Feeds and nutrition*. Clovis, California.
- (15) U.S. Department of Commerce. 1984. *1982 Census of agriculture*. Bureau of the Census AC82-A-13. Washington, D.C.
- (16) Roberts, W. J. 1951. *Irrigation in Illinois*. Illinois State Water Survey Report of Investigation 11.

APPENDIX A

- (1) Baker, W. H., Jr. 1972. *Groundwater levels and pumpage in the East St. Louis area, Illinois, 1967-1971*. Illinois State Water Survey Circular 112.
- (2) Bruin, Jack, and H. F. Smith. 1953. *Preliminary investigation of groundwater resources in the American Bottom in Madison and St. Clair Counties, Illinois*. Illinois State Water Survey Report of Investigation 17.
- (3) Dunn, D. F., and T. E. Larson. 1963. *Relationship of domestic water use to assessed valuation, with selected demographic and socio-economic variables*. Illinois State Water Survey Reprint 32.
- (4) Emmons, J. T. 1979. *Groundwater levels and pumpage in the East St. Louis area, Illinois, 1972-1977*. Illinois State Water Survey Circular 134.
- (5) Evans, R. L., and D. H. Schnepfer. 1966. *Industrial use of surface waters in Illinois. Proceedings of the 21st Industrial Waste Conference, May 3-5, 1966, Part I*. Purdue University, Engineering Extension Service No. 121.
- (6) Hanson, R., and H. E. Hudson, Jr. 1956. *Trends in residential water use*. Illinois State Water Survey Report of Investigation 30.
- (7) Hanson, Ross. 1950. *Public ground-water supplies in Illinois*. Illinois State Water Survey Bulletin 40.
- (8) Horberg, L., Max Suter, and T. E. Larson. 1950. *Groundwater in the Peoria region*. Illinois State Water Survey Bulletin 39.
- (9) Illinois State Water Survey. 1908. *Municipal water supplies of Illinois*. Illinois State Water Survey Bulletin 5.
- (10) Illinois State Water Survey. 1925. *Public ground-water supplies in Illinois*. Illinois State Water Survey Bulletin 21.
- (11) Illinois State Water Survey. 1949. *Water resources in Peoria-Pekin district*. Illinois State Water Survey Bulletin 33.
- (12) Marino, M. A., and R. J. Schicht. 1969. *Groundwater levels and pumpage in the Peoria-Pekin area, Illinois, 1890-1966*. Illinois State Water Survey Report of Investigation 61.
- (13) Reitz, G. E., Jr. 1968. *Groundwater levels and pumpage in the East St. Louis area, Illinois, 1962-1966*. Illinois State Water Survey Circular 95.
- (14) Roberts, W. J. 1952. *Industrial use of water in Illinois*. Paper given before the Illinois Section, American Water Works Association, May 28, 1952.
- (15) Roberts, W. J. 1960. *Industrial water use in Illinois*. Illinois State Water Survey Reprint 4.
- (16) Sasman, R. T. 1965. *Groundwater pumpage in northeastern Illinois through 1962*. Illinois State Water Survey Report of Investigation 50.
- (17) Sasman, R. T. 1970. *Industrial water recirculation in northeastern Illinois*. Illinois State Water Survey Reprint 153.
- (18) Sasman, R. T., C. K. McDonald, and W. R. Randall. 1967. *Water level decline and pumpage in deep wells in northeastern Illinois, 1962-1969*. Illinois State Water Survey Circular 94.
- (19) Sasman, R. T., C. R. Benson, G. L. Dzurisin, and N. E. Risk. 1973. *Water level decline and pumpage in deep wells in northern Illinois, 1966-1971*. Illinois State Water Survey Circular 113.
- (20) Sasman, R. T., C. R. Benson, G. L. Dzurisin, and N. E. Risk. 1974. *Groundwater pumpage in northern Illinois, 1960-1970*. Illinois State Water Survey Report of Investigation 73.
- (21) Sasman, R. T., C. R. Benson, J. S. Mende, N. F. Gangler, and V. M. Colvin. 1977. *Water level decline and pumpage in deep wells in the Chicago region, Illinois 1971-1975*. Illinois State Water Survey Circular 125.
- (22) Sasman, R. T., R. J. Schicht, J. P. Gibb, M. O'Hearn, C. R. Benson, and R. S. Ludwigs. 1981. *Verification of the potential yield and chemical quality of shallow dolomite aquifer in DuPage County, Illinois*. Illinois State Water Survey Circular 149.
- (23) Sasman, R. T., T. A. Prickett, and R. R. Russell. 1961. *Water level decline and pumpage during 1960 in deep wells in the Chicago region, Illinois*. Illinois State Water Survey Circular 83.
- (24) Sasman, R. T., W. H. Baker, Jr., and W. P. Patzer. 1962. *Water level decline and pumpage during 1961 in deep wells in the Chicago region, Illinois*. Illinois State Water Survey Circular 85.
- (25) Sasman, R. T., W. H. Baker, Jr. 1966. *Groundwater pumpage in northwestern Illinois through 1963*. Illinois State Water Survey Report of Investigation 52.

- (26) Sasman, R. T., C. R. Benson, R. S. Ludwigs, and Tamara L. Williams. 1982. *Water level trends, pumpage, and chemical quality in the Cambrian-Ordovician aquifer in Illinois, 1971-1980*. Illinois State Water Survey Circular 154.
- (27) Schicht, R. J. 1965. *Groundwater development in East St. Louis area, Illinois*. Illinois State Water Survey Report of Investigation 51.
- (28) Schicht, R. J., and E. G. Jones. 1962. *Groundwater levels and pumpage in East St. Louis area, Illinois, 1890-1961*. Illinois State Water Survey Report of Investigation 44.
- (29) Schnepfer, D. H., J. C. Neill, and R. L. Evans. 1973. *Withdrawal of water by industry in Illinois, 1970-1971*. Illinois State Water Survey Circular 115.
- (30) Suter, M., R. E. Bergstrom, H. F. Smith, G. H. Emrich, W. C. Walton, and T. E. Larson. 1959. *Preliminary report on groundwater resources of the Chicago region, Illinois*. Illinois State Water Survey and Geological Survey Cooperative Groundwater Report 1.
- (31) Suter, M., and R. H. Harmeson. 1960. *Artificial groundwater recharge at Peoria, Illinois*. Illinois State Water Survey Bulletin 48.
- (32) Walton, W. C, R. T. Sasman, and R. R. Russell. 1960. *Water level decline and pumpage during 1959 in deep wells in the Chicago region, Illinois*. Illinois State Water Survey Circular 79.
- (33) Woller, D. M. (and others). 1973 to date. *Public groundwater supplies in Illinois counties*. Separate county publications. Illinois State Water Survey Bulletin 60 (1-28).
- (34) Zeizel, A. J., W. C. Walton, R. T. Sasman, and T. A. Prickett. 1962. *Groundwater resources of DuPage County, Illinois*. Illinois State Water Survey and Geological Survey Cooperative Groundwater Report 2.

APPENDIX B

Table 9. Public Water Systems Withdrawals, 1984

<i>District County</i>	<i>Ground Water (mgd)</i>	<i>Surface water (mgd)</i>	<i>Total (mgd)</i>
Northwest			
006 Bureau	3.362	0	3.362
008 Carroll	1.477	0	1.477
037 Henry	3.808	0	3.808
043 Jo Daviess	1.743	0	1.743
052 Lee	4.404	0	4.404
066 Mercer	.904	0	.904
071 Ogle	5.153	0	5.153
078 Putnam	.392	0	.392
081 Rock Island	2.806	17.221	20.027
089 Stephenson	5.722	0	5.722
098 Whiteside	4.662	0	4.662
101 Winnebago	33.791	0	33.791
<i>District total</i>	<i>68.224</i>	<i>17.221</i>	<i>85.445</i>
Northeast			
004 Boone	3.785	0	3.785
016 Cook	84.570	1029.304	1113.874
019 DeKalb	7.230	0	7.230
022 DuPage	78.885	0	78.885
032 Grundy	2.247	0	2.247
045 Kane	27.891	5.438	33.329
047 Kendall	1.824	0	1.824
049 Lake	14.375	35.475	49.850
050 LaSalle	10.398	0	10.398
056 McHenry	11.751	0	11.751
099 Will	30.549	0	30.549
<i>District total</i>	<i>273.505</i>	<i>1070.217</i>	<i>1343.722</i>
West			
001 Adams	1.521	6.596	8.117
005 Brown	.062	0	.062
029 Fulton	1.017	1.437	2.454
034 Hancock	.185	.985	1.170
036 Henderson	6.955	0	6.955
048 Knox	1.322	0	1.322
055 McDonough	.827	2.517	3.343
085 Schuyler	.452	0	.452
094 Warren	2.623	0	2.623
<i>District total</i>	<i>14.965</i>	<i>11.535</i>	<i>26.500</i>
Central			
020 DeWitt	1.519	0	1.519
054 Logan	3.339	0	3.339
057 McLean	5.034	6.964	11.998
058 Macon	1.187	26.996	28.183
062 Marshall	1.268	0	1.268
063 Mason	1.044	0	1.044
065 Menard	.756	0	.756
072 Peoria	15.761	6.656	22.417
088 Stark	.434	0	.434
090 Tazewell	13.321	.526	13.847
102 Woodford	1.549	1.712	3.261
<i>District total</i>	<i>45.212</i>	<i>42.855</i>	<i>88.067</i>
East			
010 Champaign	19.584	0	19.584
027 Ford	1.496	0	1.496
038 Iroquois	2.215	0	2.215
046 Kankakee	1.996	10.380	12.375
053 Livingston	1.616	4.814	6.430
074 Piatt	2.155	0	2.155
092 Vermilion	1.362	8.502	9.864
<i>District total</i>	<i>30.422</i>	<i>23.695</i>	<i>54.118</i>

Table 9. (Concluded)

<i>District County</i>	<i>Ground Water (mgd)</i>	<i>Surface water (mgd)</i>	<i>Total (mgd)</i>
W. Southwest			
003 Bond	.061	.774	.835
007 Calhoun	.345	0	.345
009 Cass	1.455	.269	1.724
011 Christian	1.114	2.156	3.270
031 Greene	.390	.316	.706
042 Jersey	1.031	0	1.031
059 Macoupin	.017	3.733	3.751
060 Madison	11.685	46.799	58.484
068 Montgomery	.513	2.063	2.576
069 Morgan	.075	.340	.415
075 Pike	.755	.460	1.216
084 Sangamon	2.283	19.804	22.087
086 Scott	4.696	0	4.696
<i>District total</i>	<i>24.421</i>	<i>76.715</i>	<i>101.136</i>
E. Southeast			
012 Clark	1.238	0	1.238
013 Clay	0	.853	.853
015 Coles	.360	5.952	6.312
017 Crawford	2.377	0	2.377
018 Cumberland	.269	0	.269
021 Douglas	.993	0	.993
023 Edgar	.402	1.434	1.836
025 Effingham	.229	1.784	2.013
026 Fayette	.099	1.181	1.280
040 Jasper	.405	0	.405
051 Lawrence	1.208	0	1.208
061 Marion	.026	5.218	5.244
070 Moultrie	.941	0	.941
080 Richland	.103	1.299	1.402
087 Shelby	1.102	1.251	2.353
<i>District total</i>	<i>9.752</i>	<i>18.973</i>	<i>28.725</i>
Southwest			
002 Alexander	.360	1.252	1.611
014 Clinton	.226	1.235	1.460
039 Jackson	.103	8.662	8.764
044 Johnson	.025	.413	.438
067 Monroe	.104	.417	.521
073 Perry	.051	.597	.648
077 Putaski	.706	0	.706
079 Randolph	.843	3.086	3.929
082 St. Clair	.196	21.554	21.750
091 Union	1.304	.149	1.453
095 Washington	.108	.514	.622
100 Williamson	0	2.385	2.385
<i>District total</i>	<i>4.027</i>	<i>40.261</i>	<i>44.288</i>
Southeast			
024 Edwards	.025	.108	.133
028 Franklin	.010	14.859	14.869
030 Gallatin	.537	.041	.578
033 Hamilton	.003	0	.003
035 Hardin	.085	.176	.261
041 Jefferson	0	.405	.405
064 Massac	1.436	0	1.436
076 Pope	0	.061	.061
083 Saline	0	2.593	2.593
093 Wabash	.762	1.336	2.098
096 Wayne	.189	1.184	1.373
097 White	1.260	0	1.260
<i>District total</i>	<i>4.308</i>	<i>20.763</i>	<i>25.071</i>
State total	474.835	1322.236	1797.071

Figures may not add to totals because of independent rounding.

Table 10. Self Supplied Industry, Electrical Power
 Generation Water Withdrawals, Reported 1984
 (SIC 4911)

<i>District County</i>	<i>Ground Water (mgd)</i>	<i>Thermoelectric Surface water (mgd)</i>	<i>Hydroelectric Surface water (mgd)</i>	<i>Total (mgd)</i>
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	.433	10.411	0	10.844
078 Putnam	.101	175.444	0	175.545
081 Rock Island	.164	1.371	878.932	880.467
089 Stephenson	.001	0	0	.001
098 Whiteside	0	0	0	0
101 Winnebago	0	0	734.795	734.795
<i>District total</i>	<i>.699</i>	<i>187.226</i>	<i>1613.726</i>	<i>1801.651</i>
Northeast				
004 Boone	0	0	0	0
016 Cook	<.001	650.528	0	650.528
019 DeKalb	0	0	0	0
022 DuPage	.003	0	0	.003
032 Grundy	.978	1902.466	0	1903.443
045 Kane	0	0	0	0
047 Kendall	0	0	0	0
049 Lake	.001	1939.324	0	1939.325
050 LaSalle	.054	1405.479	804.547	2210.081
056 McHenry	0	0	0	0
099 Will	1.411	1739.703	1791.781	3532.895
<i>District total</i>	<i>2.448</i>	<i>7637.500</i>	<i>2596.328</i>	<i>10236.276</i>
West				
001 Adams	0	0	0	0
005 Brown	0	0	0	0
029 Fulton	0	258.630	0	258.630
034 Hancock	0	0	17284.822	17284.822
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
<i>District total</i>	<i>0</i>	<i>258.630</i>	<i>17284.822</i>	<i>17543.452</i>
Central				
020 DeWitt	0	31.995	0	31.995
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	.658	32.877	0	33.534
065 Menard	0	0	0	0
072 Peoria	0	311.000	0	311.000
088 Stark	1.419	0	0	0
090 Tazewell	1.419	698.506	0	699.924
102 Woodford	0	0	0	0
<i>District total</i>	<i>2.076</i>	<i>1074.377</i>	<i>0</i>	<i>1076.453</i>
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	2.000	0	2.000
<i>District total</i>	<i>0</i>	<i>2.000</i>	<i>0</i>	<i>2.000</i>

Table 10. (Concluded)

District County	Thermoelectric		Hydroelectric Surface water (mgd)	Total (mgd)
	Ground Water (mgd)	Surface water (mgd)		
W. Southwest				
003 Bond	0	0	0	0
007 Calhoun	0	0	0	0
009 Cass	0	0	0	0
011 Christian	0	684.665	0	684.665
031 Greene	0	0	0	0
042 Jersey	0	0	0	0
059 Macoupin	0	0	0	0
060 Madison	0	332.484	0	332.484
068 Montgomery	0	402.979	0	402.979
069 Morgan	.110	179.178	0	179.288
075 Pike	.030	20.964	0	20.994
084 Sangamon	0	300.208	0	300.208
086 Scott	0	0	0	0
<i>District total</i>	<i>.140</i>	<i>1920.477</i>	<i>0</i>	<i>1920.617</i>
E. Southeast				
012 Clark	0	0	0	0
013 Clay	0	0	0	0
015 Coles	0	0	0	0
017 Crawford	.756	102.602	0	103.358
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	390.664	0	390.664
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
<i>District total</i>	<i>.756</i>	<i>493.266</i>	<i>0</i>	<i>494.022</i>
Southwest				
002 Alexander	0	0	0	0
014 Clinton	0	.526	0	.526
039 Jackson	.060	141.921	0	141.980
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	30.220	0	30.220
082 St. Clair	0	0	0	0
091 Union	0	0	0	0
095 Washington	0	0	0	0
100 Williamson	0	94.996	0	94.996
<i>District total</i>	<i>.060</i>	<i>267.663</i>	<i>0</i>	<i>267.723</i>
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	1.640	545.000	0	546.640
076 Pope	0	0	0	0
083 Satine	0	0	0	0
093 Wabash	0	0	0	0
096 Wayne	0	0	0	0
097 White	0	0	0	0
<i>District total</i>	<i>1.640</i>	<i>545.000</i>	<i>0</i>	<i>546.640</i>
State total	7.819	12386.139	21494.876	33888.835

Figures may not add to totals because of independent rounding.

Table 11. Self Supplied Industry, Manufacturing
Water Withdrawals, Reported 1984
(SIC 2000 3999)

<i>District County</i>	<i>Ground Water (mgd)</i>	<i>Surface water (mgd)</i>	<i>Total (mgd)</i>
Northwest			
006 Bureau	.036	13.512	13.549
008 Carroll	1.480	0	1.480
037 Henry	.031	0	.031
043 Jo Daviess	1.758	0	1.758
052 Lee	.028	1.793	1.821
066 Mercer	0	0	0
071 Ogle	1.073	0	1.073
078 Putnam	.085	3.878	3.963
081 Rock Island	9.800	11.682	21.482
089 Stephenson	2.089	0	2.089
098 Whiteside	2.638	1.627	4.266
101 Winnebago	4.419	0	4.419
<i>District total</i>	<i>23.437</i>	<i>32.492</i>	<i>55.929</i>
Northeast			
004 Boone	1.367	0	1.367
016 Cook	10.614	235.687	246.301
019 DeKalb	.489	.294	.783
022 DuPage	.706	0	.706
032 Grundy	6.609	.064	6.673
045 Kane	1.911	.115	2.026
047 Kendall	.819	0	.819
049 Lake	1.753	5.780	7.533
050 LaSalle	6.222	23.984	30.206
056 McHenry	2.406	1.207	3.613
099 Will	5.608	13.059	18.667
<i>District total</i>	<i>38.503</i>	<i>280.192</i>	<i>318.695</i>
West			
001 Adams	9.662	0	9.662
005 Brown	0	0	0
029 Fulton	0	0	0
034 Hancock	<.001	0	<.001
036 Henderson	0	0	0
048 Knox	.001	0	.001
055 McDonough	.024	0	.024
085 Schuyler	0	0	0
094 Warren	0	0	0
<i>District total</i>	<i>9.687</i>	<i>0</i>	<i>9.687</i>
Central			
020 DeWitt	.004	0	.004
054 Logan	0	0	0
057 McLean	.896	0	.896
058 Macon	.012	6.384	6.395
062 Marshall	1.022	0	1.022
063 Mason	.001	0	.001
065 Menard	0	0	0
072 Peoria	14.377	22.518	36.895
088 Stark	0	0	0
090 Tazewell	4.456	17.380	21.836
102 Woodford	.003	0	.003
<i>District total</i>	<i>20.770</i>	<i>46.282</i>	<i>67.052</i>
East			
010 Champaign	3.268	0	3.268
027 Ford	0	0	0
038 Iroquois	.096	0	.096
046 Kankakee	.206	0	.206
053 Livingston	.055	0	.055
074 Piatt	.967	0	.967
092 Vermilion	3.312	0	3.312
<i>District total</i>	<i>7.904</i>	<i>0</i>	<i>7.904</i>

Table 11. (Concluded)

<i>District County</i>	<i>Ground Water (mgd)</i>	<i>Surface water (mgd)</i>	<i>Total (mgd)</i>
W. Southwest			
003 Bond	.003	0	.003
007 Calhoun	0	0	0
009 Cass	.830	0	.830
011 Christian	.041	0	.041
031 Greene	0	0	0
042 Jersey	0	0	0
059 Macoupin	0	0	0
060 Madison	36.842	13.883	50.725
068 Montgomery	0	.438	.438
069 Morgan	5.376	0	5.376
075 Pike	0	0	0
084 Sangamon	0	0	0
086 Scott	0	0	0
<i>District total</i>	<i>43.091</i>	<i>14.322</i>	<i>57.413</i>
E. Southeast			
012 Clark	0	0	0
013 Clay	0	0	0
015 Coles	.212	0	.212
017 Crawford	0	3.665	3.665
018 Cumberland	0	0	0
021 Douglas	.003	7.282	7.285
023 Edgar	0	0	0
025 Effingham	0	0	0
026 Fayette	0	0	0
040 Jasper	0	0	0
051 Lawrence	.003	0	.003
061 Marion	0	0	0
070 Moultrie	0	0	0
080 Richland	0	0	0
087 Shelby	.317	0	.317
<i>District total</i>	<i>.535</i>	<i>10.947</i>	<i>11.482</i>
Southwest			
002 Alexander	.013	0	.013
014 Clinton	0	0	0
039 Jackson	0	0	0
044 Johnson	0	0	0
067 Monroe	0	0	0
073 Perry	0	.455	.455
077 Pulaski	0	0	0
079 Randolph	0	0	0
082 St. Clair	3.080	0	3.080
091 Union	.014	0	.014
095 Washington	0	0	0
100 Williamson	0	0	0
<i>District total</i>	<i>3.107</i>	<i>.455</i>	<i>3.562</i>
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	4.732	0	4.732
076 Pope	0	0	0
083 Saline	0	0	0
093 Wabash	0	0	0
096 Wayne	0	0	0
097 White	0	0	0
<i>District total</i>	<i>4.732</i>	<i>0</i>	<i>4.732</i>
State total	151.765	384.690	536.455

Figures may not add to totals because of independent rounding.

Table 12. Self Supplied Industry, Mineral Extraction
Water Withdrawals, Reported 1984
(SIC 1000 1499)

District County	Brine (mgd)	Ground Water Fresh (mgd)	Surface water (mgd)	Total (mgd)
Northwest				
006 Bureau	0	3.787	0	3.787
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	.128	0	.128
078 Putnam	0	0	0	0
081 Rock Island	0	.001	.336	.336
089 Stephenson	0	0	0	0
098 Whiteside	0	.002	0	.002
101 Winnebago	0	<.001	.365	.365
<i>District total</i>	<i>0</i>	<i>3.918</i>	<i>.701</i>	<i>4.619</i>
Northeast				
004 Boone	0	0	.137	.137
016 Cook	0	<.001	.507	.507
019 DeKalb	0	.001	2.460	2.461
022 DuPage	0	.008	.004	.011
032 Grundy	0	<.001	0	<.001
045 Kane	0	<.001	0	<.001
047 Kendall	0	<.001	0	<.001
049 Lake	0	.419	.225	.644
050 LaSalle	0	.079	12.507	12.586
056 McHenry	0	.164	.038	.203
099 Will	0	<.001	.168	.169
<i>District total</i>	<i>0</i>	<i>.672</i>	<i>16.046</i>	<i>16.718</i>
West				
001 Adams	0	0	0	0
005 Brown	0	0	0	0
029 Fulton	0	.137	1.392	1.530
034 Hancock	0	0	0	0
036 Henderson	0	0	0	0
048 Knox	0	<.001	0	<.001
055 McDonough	0	<.001	0	<.001
085 Schuyler	0	0	0	0
094 Warren	0	0	0	0
<i>District total</i>	<i>0</i>	<i>.138</i>	<i>1.392</i>	<i>1.530</i>
Central				
020 DeWitt	0	0	0	0
054 Logan	0	.060	.005	.065
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	.001	.438	.439
088 Stark	0	0	0	0
090 Tazewell	0	0	0	0
102 Woodford	0	0	0	0
<i>District total</i>	<i>0</i>	<i>.061</i>	<i>.443</i>	<i>.504</i>
East				
010 Champaign	0	0	4.505	4.505
027 Ford	0	0	.062	.062
038 Iroquois	0	0	0	0
046 Kankakee	0	<.001	0	<.001
053 Livingston	0	0	0	0
074 Piatt	0	0	.164	.164
092 Vermilion	0	0	0	0
<i>District total</i>	<i>0</i>	<i><.001</i>	<i>4.732</i>	<i>4.732</i>

Table 12. (Concluded)

District County	Ground Water		Surface water (mgd)	Total (mgd)
	Brine (mgd)	Fresh (mgd)		
W. Southwest				
003 Bond	.004	.035	.230	.269
007 Calhoun	0	0	0	0
009 Cass	0	0	0	0
011 Christian	.467	.053	.154	.673
031 Greene	0	.002	0	.002
042 Jersey	0	0	0	0
059 Macoupin	0	0	1.769	1.769
060 Madison	.097	.014	0	.111
068 Montgomery	0	.023	.143	.166
069 Morgan	0	0	0	0
075 Pike	0	0	0	0
084 Sangamon	0	<.001	1.579	1.579
086 Scott	0	0	0	0
<i>District total</i>	.567	.126	3.875	4.568
E. Southeast				
012 Clark	.062	.139	0	.200
013 Clay	.964	.184	0	1.148
015 Coles	.032	.009	.151	.192
017 Crawford	2.983	2.251	0	5.234
018 Cumberland	.147	.068	0	.215
021 Douglas	0	.027	1.692	1.719
023 Edgar	.051	0	0	.051
025 Effingham	.187	.057	0	.244
026 Fayette	6.516	.075	0	6.591
040 Jasper	.585	.020	0	.605
051 Lawrence	6.125	.257	.004	6.386
061 Marion	10.197	.615	1.322	12.134
070 Moultrie	0	0	0	0
080 Richland	.918	.029	0	.947
087 Shelby	.030	.003	0	.033
<i>District total</i>	28.796	3.735	3.168	35.699
Southwest				
002 Alexander	0	0	0	0
014 Clinton	.347	.184	1.190	1.721
039 Jackson	0	0	1.184	1.184
044 Johnson	0	0	.002	.002
067 Monroe	0	.001	0	.001
073 Perry	.012	.022	12.671	12.705
077 Pulaski	0	0	0	0
079 Randolph	0	<.001	.026	.027
082 St. Clair	0	0	1.873	1.873
091 Union	0	0	.003	.003
095 Washington	.356	.046	.013	.415
100 Williamson	.029	.007	6.092	6.127
<i>District total</i>	.743	.260	23.054	24.057
Southeast				
024 Edwards	.364	.390	0	.753
028 Franklin	.507	.024	.426	.957
030 Gallatin	.214	1.320	.636	2.169
033 Hamilton	.531	.024	.093	.647
035 Hardin	0	1.133	.013	1.146
041 Jefferson	.482	.005	1.535	2.022
064 Massac	0	0	0	0
076 Pope	0	0	0	0
083 Saline	.306	.035	3.694	4.034
093 Wabash	.582	.909	.021	1.512
096 Wayne	1.780	.363	.008	2.151
097 White	3.244	.719	.236	4.198
<i>District total</i>	8.008	4.921	6.661	19.590
State total	38.114	13.830	60.072	112.016

Figures may not add to totals because of independent rounding.

Table 13. Self Supplied Industry, Excluding Electrical Power Generation Water Withdrawals, Reported 1984

<i>District County</i>	<i>Ground Water* (mgd)</i>	<i>Surface water (mgd)</i>	<i>Total (mgd)</i>
Northwest			
006 Bureau	3.824	13.512	17.336
008 Carroll	1.601	0	1.601
037 Henry	.033	0	.033
043 Jo Daviess	1.816	0	1.816
052 Lee	.335	1.793	2.128
066 Mercer	0	0	0
071 Ogle	1.202	0	1.202
078 Putnam	.085	3.878	3.963
081 Rock Island	9.802	12.017	21.819
089 Stephenson	2.108	0	2.108
098 Whiteside	2.640	1.627	4.268
101 Winnebago	4.748	.365	5.113
<i>District total</i>	<i>28.194</i>	<i>33.193</i>	<i>61.386</i>
Northeast			
004 Boone	1.378	.137	1.515
016 Cook	16.096	294.151	310.247
019 DeKalb	.519	2.754	3.273
022 DuPage	1.931	2.890	4.821
032 Grundy	6.900	.071	6.970
045 Kane	1.998	1.300	3.298
047 Kendall	.821	0	.821
049 Lake	2.378	6.007	8.385
050 LaSalle	6.306	36.491	42.797
056 McHenry	2.798	1.246	4.043
099 Will	6.195	13.242	19.437
<i>District total</i>	<i>47.319</i>	<i>358.288</i>	<i>405.606</i>
West			
001 Adams	9.662	0	9.662
005 Brown	0	0	0
029 Fulton	.137	1.392	1.530
034 Hancock	<.001	0	<.001
036 Henderson	0	0	0
048 Knox	.002	0	.002
055 McDonough	.024	0	.024
085 Schuyler	0	0	0
094 Warren	0	0	0
<i>District total</i>	<i>9.825</i>	<i>1.392</i>	<i>11.217</i>
Central			
020 DeWitt	.004	0	.004
054 Logan	.060	.005	.065
057 McLean	.897	0	.897
058 Macon	.012	6.384	6.395
062 Marshall	1.022	0	1.022
063 Mason	5.699	0	5.699
065 Menard	0	0	0
072 Peoria	14.812	22.956	37.769
088 Stark	0	0	0
090 Tazewell	4.458	17.380	21.838
102 Woodford	.003	0	.003
<i>District total</i>	<i>26.967</i>	<i>46.725</i>	<i>73.692</i>
East			
010 Champaign	5.488	4.505	9.993
027 Ford	0	.062	.062
038 Iroquois	.096	0	.096
046 Kankakee	.207	0	.207
053 Livingston	.055	0	.055
074 Piatt	.967	.164	1.132
092 Vermilion	3.312	0	3.312
<i>District total</i>	<i>10.125</i>	<i>4.732</i>	<i>14.856</i>

Table 13.(Concluded)

<i>District County</i>	<i>Ground Water* (mgd)</i>	<i>Surface water (mgd)</i>	<i>Total (mgd)</i>
W. Southwest			
003 Bond	.042	.230	.272
007 Cathoun	0	0	0
009 Cass	.830	0	.830
011 Christian	.560	.154	.714
031 Greene	.002	0	.002
042 Jersey	0	0	0
059 Macoupin	0	1.769	1.769
060 Madison	36.953	13.883	50.836
068 Montgomery	.023	.582	.605
069 Morgan	5.376	0	5.376
075 Pike	<.001	0	<.001
084 Sangamon	<.001	1.579	1.579
086 Scott	0	0	0
<i>District total</i>	<i>43.785</i>	<i>18.196</i>	<i>61.981</i>
E. Southeast			
012 Clark	.200	0	.200
013 Clay	1.148	0	1.148
015 Coles	.254	.151	.404
017 Crawford	5.234	3.665	8.899
018 Cumberland	.215	0	.215
021 Douglas	.030	8.974	9.004
023 Edgar	.051	0	.051
025 Effingham	.244	0	.244
026 Fayette	6.591	0	6.591
040 Jasper	.605	0	.605
051 Lawrence	6.385	.004	6.389
061 Marion	10.813	1.322	12.134
070 Moultrie	0	0	0
080 Richland	.947	0	.947
087 Shelby	.350	0	.350
<i>District total</i>	<i>33.066</i>	<i>14.115</i>	<i>47.182</i>
Southwest			
002 Alexander	.013	0	.013
014 Clinton	.562	1.190	1.752
039 Jackson	0	1.184	1.184
044 Johnson	0	.002	.002
067 Monroe	.001	0	.001
073 Perry	.034	13.126	13.160
077 Pulaski	0	0	0
079 Randolph	<.001	.026	.027
082 St. Clair	14.307	1.873	16.180
091 Union	.014	.003	.017
095 Washington	.402	.013	.415
100 Williamson	.035	6.092	6.127
<i>District total</i>	<i>15.369</i>	<i>23.509</i>	<i>38.878</i>
Southeast			
024 Edwards	.753	0	.753
028 Franklin	.531	.426	.957
030 Gallatin	1.534	.636	2.169
033 Hamilton	.554	.093	.647
035 Hardin	1.133	.013	1.146
041 Jefferson	.487	1.535	2.022
064 Massac	4.732	0	4.732
076 Pope	0	0	0
083 Saline	.340	3.694	4.034
093 Wabash	1.491	.021	1.512
096 Wayne	2.143	.008	2.151
097 White	3.963	.236	4.198
<i>District total</i>	<i>17.660</i>	<i>6.661</i>	<i>24.321</i>
State total	232.309	506.812	739.121

*Includes 38.114 mgd brine.

Figures may not add to totals because of independent rounding.

Table 14. Self Supplied Industry, Total Water Withdrawal, Reported 1984

District County	Ground Water* (mgd)	Surface water (mgd)	Total (mgd)
Northwest			
006 Bureau	3.824	13.512	17.336
008 Carroll	1.601	0	1.601
037 Henry	.033	0	.033
043 Jo Daviess	1.816	0	1.816
052 Lee	.335	1.793	2.128
066 Mercer	0	0	0
071 Ogle	1.635	10.411	12.046
078 Putnam	.186	179.322	179.508
081 Rock Island	9.965	892.320	902.285
089 Stephenson	2.109	0	2.109
098 Whiteside	2.640	1.627	4.268
101 Winnebago	5.004	735.160	740.163
<i>District total</i>	<i>29.148</i>	<i>1834.145</i>	<i>1863.293</i>
Northeast			
004 Boone	1.378	.137	1.515
016 Cook	16.096	944.679	960.775
019 DeKalb	.535	2.754	3.289
022 DuPage	2.048	2.890	4.938
032 Grundy	7.877	1902.536	1910.413
045 Kane	1.998	1.300	3.298
047 Kendall	.821	0	.821
049 Lake	2.439	1945.361	1947.800
050 LaSalle	6.403	2246.475	2252.878
056 McHenry	2.945	1.246	4.191
099 Will	7.610	3544.726	3552.335
<i>District total</i>	<i>50.150</i>	<i>10592.103</i>	<i>10642.252</i>
West			
001 Adams	9.662	0	9.662
005 Brown	0	0	0
029 Fulton	.137	260.022	260.160
034 Hancock	<.001	17284.822	17284.822
036 Henderson	0	0	0
048 Knox	.002	0	.002
055 McDonough	.024	0	.024
085 Schuyler	0	0	0
094 Warren	0	0	0
<i>District total</i>	<i>9.825</i>	<i>17544.844</i>	<i>17554.669</i>
Central			
020 DeWitt	.004	31.995	31.999
054 Logan	.060	.005	.065
057 McLean	.897	0	.897
058 Macon	.012	6.384	6.395
062 Marshall	1.022	0	1.022
063 Mason	.658	32.877	33.535
065 Menard	0	0	0
072 Peoria	14.812	333.956	348.769
088 Stark	0	0	0
090 Tazewell	5.877	715.886	721.763
102 Woodford	.003	0	.003
<i>District total</i>	<i>23.345</i>	<i>1121.102</i>	<i>1144.447</i>
East			
010 Champaign	5.488	4.505	9.993
027 Ford	0	.062	.062
038 Iroquois	.096	0	.096
046 Kankakee	.207	0	.207
053 Livingston	.055	0	.055
074 Piatt	.967	.164	1.132
092 Vermilion	3.312	2.000	5.312
<i>District total</i>	<i>10.125</i>	<i>6.732</i>	<i>16.856</i>

Table 14. (Concluded)

<i>District County</i>	<i>Ground Water* (mgd)</i>	<i>Surface water (mgd)</i>	<i>Total (mgd)</i>
W. Southwest			
003 Bond	.042	.230	.272
007 Calhoun	0	0	0
009 Cass	.830	0	.830
011 Christian	.560	684.819	685.379
031 Greene	.002	0	.002
042 Jersey	0	0	0
059 Macoupin	0	1.769	1.769
060 Madison	36.953	346.368	383.321
068 Montgomery	.023	403.561	403.584
069 Morgan	5.485	179.178	184.663
075 Pike	.030	20.964	20.994
084 Sangamon	<.001	301.786	301.786
086 Scott	0	0	0
<i>District total</i>	<i>43.924</i>	<i>1938.674</i>	<i>1982.598</i>
E. Southeast			
012 Clark	.200	0	.200
013 Clay	1.148	0	1.148
015 Coles	.254	.151	.404
017 Crawford	5.990	106.267	112.257
018 Cumberland	.215	0	.215
021 Douglas	.030	8.974	9.004
023 Edgar	.051	0	.051
025 Effingham	.244	0	.244
026 Fayette	6.591	0	6.591
040 Jasper	.605	390.664	391.269
051 Lawrence	6.385	.004	6.389
061 Marion	10.813	1.322	12.134
070 Moultrie	0	0	0
080 Richland	.947	0	.947
087 Shelby	.350	0	.350
<i>District total</i>	<i>33.822</i>	<i>507.382</i>	<i>541.204</i>
Southwest			
002 Alexander	.013	0	.013
014 Clinton	.562	1.716	2.278
039 Jackson	.060	143.104	143.164
044 Johnson	0	.002	.002
067 Monroe	.001	0	.001
073 Perry	.034	13.126	13.160
077 Pulaski	0	0	0
079 Randolph	<.001	30.246	30.247
082 St. Clair	14.307	1.873	16.180
091 Union	.014	.003	.017
095 Washington	.402	.013	.415
100 Williamson	.035	101.088	101.124
<i>District total</i>	<i>15.429</i>	<i>291.172</i>	<i>306.601</i>
Southeast			
024 Edwards	.753	0	.753
028 Franklin	.531	.426	.957
030 Gallatin	1.534	.636	2.169
033 Hamilton	.554	.093	.647
035 Hardin	1.133	.013	1.146
041 Jefferson	.487	1.535	2.022
064 Massac	6.372	545.000	551.372
076 Pope	0	0	0
083 Saline	.340	3.694	4.034
093 Wabash	1.491	.021	1.512
096 Wayne	2.143	.008	2.151
097 White	3.964	.236	4.199
<i>District total</i>	<i>19.301</i>	<i>551.661</i>	<i>570.963</i>
State total	235.069	34387.814	34622.883

*Includes 38.114 mgd brine.
Figures may not add to totals because of independent rounding.

Table 15. Estimated Rural Water Withdrawals, 1984

<i>District County</i>	<i>Domestic (mgd)</i>	<i>Livestock (mgd)</i>	<i>Irrigation (mgd)</i>	<i>Total (mgd)</i>
Northwest				
006 Bureau	.809	1.016	.901	2.726
008 Carroll	.642	1.388	3.742	5.772
037 Henry	1.445	2.106	2.803	6.354
043 Jo Daviess	.858	2.003	.225	3.086
052 Lee	.656	.756	8.820	10.233
066 Mercer	.811	1.054	.752	2.617
071 Ogle	1.782	1.586	1.469	4.837
078 Putnam	.070	.170	.616	.856
081 Rock Island	.945	.603	1.522	3.069
089 Stephenson	1.217	2.463	.681	4.360
098 Whiteside	2.092	1.407	11.226	14.725
101 Winnebago	4.590	.852	2.389	7.831
<i>District total</i>	<i>15.917</i>	<i>15.405</i>	<i>35.145</i>	<i>66.466</i>
Northeast				
004 Boone	.933	.497	.288	1.719
016 Cook	5.236	.035	13.785	19.056
019 DeKalb	.714	1.139	.478	2.331
022 DuPage	10.840	.023	8.317	19.180
032 Grundy	.520	.162	.154	.836
045 Kane	1.160	.716	1.911	3.787
047 Kendall	2.556	.358	.100	3.013
049 Lake	7.654	.121	4.671	12.446
050 LaSalle	.282	.770	.290	1.342
056 McHenry	6.743	1.032	3.440	11.215
099 Will	8.713	.384	3.076	12.173
<i>District total</i>	<i>45.352</i>	<i>5.237</i>	<i>36.510</i>	<i>87.098</i>
West				
001 Adams	.764	1.371	.126	2.260
005 Brown	.085	.320	0	.406
029 Fulton	.883	.865	.638	2.385
034 Hancock	.662	1.102	.202	1.966
036 Henderson	.449	.552	3.893	4.895
048 Knox	.702	1.246	0	1.949
055 McDonough	.570	.750	0	1.319
085 Schuyler	.230	.427	.047	.705
094 Warren	1.314	.984	0	2.297
<i>District total</i>	<i>5.660</i>	<i>7.617</i>	<i>4.906</i>	<i>18.183</i>
Central				
020 DeWitt	.461	.178	0	.639
054 Logan	.588	.471	0	1.059
057 McLean	4.746	.749	.481	5.976
058 Macon	1.249	.177	0	1.426
062 Marshall	.449	.363	1.540	2.352
063 Mason	.712	.256	74.693	75.661
065 Menard	.275	.354	0	.630
072 Peoria	.924	.466	3.474	4.864
088 Stark	.266	.288	0	.554
090 Tazewell	1.087	.612	12.226	13.925
102 Woodford	.993	.599	.660	2.252
<i>District total</i>	<i>11.751</i>	<i>4.514</i>	<i>93.074</i>	<i>109.339</i>
East				
010 Champaign	2.604	.290	.328	3.222
027 Ford	.274	.243	.124	.641
038 Iroquois	.878	.927	1.269	3.074
046 Kankakee	1.643	.277	5.077	6.996
053 Livingston	1.165	.751	0	1.916
074 Piatt	.425	.205	.024	.654
092 Vermilion	.555	.435	.007	.998
<i>District total</i>	<i>7.544</i>	<i>3.128</i>	<i>6.829</i>	<i>17.501</i>

Table 15. (Concluded)

<i>District County</i>	<i>Domestic (mgd)</i>	<i>Livestock (mgd)</i>	<i>Irrigation (mgd)</i>	<i>Total (mgd)</i>
W. Southwest				
003 Bond	.528	.482	.049	1.059
007 Calhoun	.326	.267	.022	.615
009 Cass	.354	.410	1.316	2.079
011 Christian	.629	.274	.022	.924
031 Greene	.380	.805	1.028	2.212
042 Jersey	.260	.474	.471	1.205
059 Macoupin	1.025	1.061	.284	2.370
060 Madison	4.604	.680	1.361	6.646
068 Montgomery	.614	.709	.015	1.337
069 Morgan	.497	.677	.859	2.033
075 Pike	.553	1.499	.962	3.013
084 Sangamon	.758	.614	.173	1.545
086 Scott	.230	.276	1.130	1.635
<i>District total</i>	<i>10.756</i>	<i>8.228</i>	<i>7.691</i>	<i>26.676</i>
E. Southeast				
012 Clark	.451	.455	2.930	3.836
013 Clay	.561	.277	.089	.927
015 Coles	.207	.274	.010	.491
017 Crawford	.416	.348	.327	1.091
018 Cumberland	.468	.371	.039	.879
021 Douglas	.450	.257	0	.707
023 Edgar	.576	.534	.030	1.140
025 Effingham	.863	.762	.098	1.724
026 Fayette	.861	.479	.060	1.401
040 Jasper	.494	.514	0	1.008
051 Lawrence	.476	.154	3.437	4.067
061 Marion	.697	.408	.080	1.185
070 Moultrie	.500	.247	0	.747
080 Richland	.291	.293	0	.583
087 Shelby	.746	.568	.295	1.609
<i>District total</i>	<i>8.057</i>	<i>5.941</i>	<i>7.396</i>	<i>21.394</i>
Southwest				
002 Alexander	.022	.064	.623	.709
014 Clinton	1.309	1.208	.123	2.640
039 Jackson	.714	.385	.147	1.246
044 Johnson	.721	.381	0	1.102
067 Monroe	1.161	.330	.475	1.966
073 Perry	1.431	.385	.265	2.082
077 Pulaski	.309	.147	.053	.510
079 Randolph	.890	.662	.370	1.921
082 St. Clair	3.037	.522	.820	4.379
091 Union	.642	.317	.164	1.122
095 Washington	.778	.816	.587	2.180
100 Williamson	.216	.203	.021	.440
<i>District total</i>	<i>11.229</i>	<i>5.419</i>	<i>3.649</i>	<i>20.297</i>
Southeast				
024 Edwards	.265	.350	0	.615
028 Franklin	1.544	.185	0	1.729
030 Gallatin	.051	.150	2.307	2.507
033 Hamilton	.444	.252	0	.695
035 Hardin	.158	.124	0	.282
041 Jefferson	.962	.400	.059	1.421
064 Massac	.230	.285	1.047	1.562
076 Pope	.094	.166	0	.260
083 Saline	.362	.172	0	.534
093 Wabush	.992	.153	.141	1.286
096 Wayne	.405	.551	0	.956
097 White	.373	.266	1.298	1.937
<i>District total</i>	<i>5.880</i>	<i>3.053</i>	<i>4.852</i>	<i>13.785</i>
State total	122.147	58.541	200.052	380.740

Figures may not add to totals because of independent rounding.

Table 16. Total Water Withdrawals, Estimated and Reported 1984

<i>District County</i>	<i>Public systems (mgd)</i>	<i>Self-supplied industry (mgd)</i>	<i>Rural (mgd)</i>	<i>Fish and wildlife (mgd)</i>	<i>Total (mgd)</i>
Northwest					
006 Bureau	3.362	17.336	2.726	<.001	23.425
008 Carroll	1.477	1.601	5.772	.003	8.853
037 Henry	3.808	.033	6.354	.011	10.206
043 Jo Daviess	1.743	1.816	3.086	.004	6.648
052 Lee	4.404	2.128	10.233	.002	16.767
066 Mercer	.904	0	2.617	0	3.521
071 Ogle	5.153	12.046	4.837	.007	22.043
078 Putnam	.392	179.508	.856	0	180.756
081 Rock Island	20.027	902.285	3.069	0	925.382
089 Stephenson	5.722	2.109	4.360	.005	12.196
098 Whiteside	4.662	4.268	14.725	.001	23.656
101 Winnebago	33.791	740.163	7.831	.006	781.792
<i>District total</i>	<i>85.445</i>	<i>1863.293</i>	<i>66.466</i>	<i>.039</i>	<i>2015.243</i>
Northeast					
004 Boone	3.785	1.515	1.719	0	7.018
016 Cook	1113.874	960.775	19.056	0	2093.704
019 DeKalb	7.230	3.289	2.331	0	12.850
022 DuPage	78.885	4.938	19.180	0	103.003
032 Grundy	2.247	1910.413	.836	.001	1913.498
045 Kane	33.329	3.298	3.787	0	40.414
047 Kendall	1.824	.821	3.013	.003	5.661
049 Lake	49.850	1947.800	12.446	.007	2010.103
050 LaSalle	10.398	2252.878	1.342	.031	2264.648
056 McHenry	11.751	4.191	11.215	.052	27.210
099 Will	30.549	3552.335	12.173	.003	3595.061
<i>District total</i>	<i>1343.722</i>	<i>10642.252</i>	<i>87.098</i>	<i>.097</i>	<i>12073.170</i>
West					
001 Adams	8.117	9.662	2.260	.001	20.041
005 Brown	.062	0	.406	0	.468
029 Fulton	2.454	260.160	2.385	15.925	280.925
034 Hancock	1.170	17284.822	1.966	0	17287.959
036 Henderson	6.955	0	4.895	0	11.849
048 Knox	1.322	.002	1.949	0	3.272
055 McDonough	3.343	.024	1.319	<.001	4.687
085 Schuyler	.452	0	.705	<.001	1.157
094 Warren	2.623	0	2.297	0	4.921
<i>District total</i>	<i>26.500</i>	<i>17554.669</i>	<i>18.183</i>	<i>15.926</i>	<i>17615.278</i>
Central					
020 DeWitt	1.519	31.999	.639	.047	34.203
054 Logan	3.339	.065	1.059	0	4.463
057 McLean	11.998	.897	5.976	.007	18.878
058 Macon	28.183	6.395	1.426	<.001	36.005
062 Marshall	1.268	1.022	2.352	<.001	4.642
063 Mason	1.044	33.535	75.663	7.664	117.904
065 Menard	.756	0	.630	<.001	1.386
072 Peoria	22.417	348.769	4.864	.001	376.052
088 Stark	.434	0	.554	0	.988
090 Tazewell	13.847	721.763	13.925	<.001	749.535
102 Woodford	3.261	.003	2.252	.001	5.517
<i>District total</i>	<i>88.067</i>	<i>1144.447</i>	<i>109.319</i>	<i>7.721</i>	<i>1349.573</i>
East					
010 Champaign	19.584	9.993	3.222	.001	32.799
027 Ford	1.496	.062	.641	0	2.200
038 Iroquois	2.215	.096	3.074	<.001	5.385
046 Kankakee	12.375	.207	6.996	.002	19.580
053 Livingston	6.430	.055	1.916	0	8.400
074 Piatt	2.155	1.132	.654	.012	3.953
092 Vermilion	9.864	5.312	.998	.017	16.191
<i>District total</i>	<i>54.118</i>	<i>16.856</i>	<i>17.501</i>	<i>.032</i>	<i>88.507</i>

Table 16. (Concluded)

<i>District County</i>	<i>Public systems (mgd)</i>	<i>Self-supplied industry (mgd)</i>	<i>Rural (mgd)</i>	<i>Fish and wildlife (mgd)</i>	<i>Total (mgd)</i>
W. Southwest					
003 Bond	.835	.272	1.059	0	2.166
007 Calhoun	.345	0	.615	.403	1.364
009 Cass	1.724	.830	2.079	.213	4.846
011 Christian	3.270	685.379	.924	.009	689.581
031 Greene	.706	.002	2.212	0	2.920
042 Jersey	1.031	0	1.205	1.048	3.283
059 Macoupin	3.751	1.769	2.370	.001	7.891
060 Madison	58.484	383.321	6.646	<.001	448.450
068 Montgomery	2.576	403.584	1.337	0	407.497
069 Morgan	.415	184.663	2.033	0	187.112
075 Pike	1.216	20.994	3.013	0	25.223
084 Sangamon	22.087	301.786	1.545	0	325.418
086 Scott	4.696	0	1.635	0	6.332
<i>District total</i>	<i>101.136</i>	<i>1982.598</i>	<i>26.676</i>	<i>1.674</i>	<i>2112.084</i>
E. Southeast					
012 Clark	1.238	.200	3.836	<.001	5.275
013 Clay	.853	1.148	.927	0	2.927
015 Coles	6.312	.404	.491	.001	7.208
017 Crawford	2.377	112.257	1.091	0	115.725
018 Cumberland	.269	.215	.879	0	1.362
021 Douglas	.993	9.004	.707	.009	10.712
023 Edgar	1.836	.051	1.140	0	3.028
025 Effingham	2.013	.244	1.724	0	3.981
026 Fayette	1.280	6.591	1.401	.029	9.301
040 Jasper	.405	391.269	1.008	<.001	392.682
051 Lawrence	1.208	6.389	4.067	<.001	11.664
061 Marion	5.244	12.134	1.185	.002	18.565
070 Moultrie	.941	0	.747	3.276	4.964
080 Richland	1.402	.947	.583	0	2.932
087 Shelby	2.353	.350	1.609	<.001	4.313
<i>District total</i>	<i>28.725</i>	<i>541.304</i>	<i>21.394</i>	<i>3.317</i>	<i>594.641</i>
Southwest					
002 Alexander	1.611	.013	.709	.240	2.573
014 Clinton	1.460	2.278	2.640	0	6.379
039 Jackson	8.764	143.164	1.246	.897	154.071
044 Johnson	.438	.002	1.102	0	1.542
067 Monroe	.521	.001	1.966	0	2.488
073 Perry	.648	13.160	2.082	<.001	15.891
077 Pulaski	.706	0	.510	0	1.216
079 Randolph	3.929	30.247	1.921	<.001	36.097
082 St. Clair	21.750	16.180	4.379	<.001	42.309
091 Union	1.453	.017	1.122	.651	3.242
095 Washington	.622	.415	2.180	<.001	3.218
100 Williamson	2.385	101.124	.440	0	103.949
<i>District total</i>	<i>44.288</i>	<i>306.601</i>	<i>20.297</i>	<i>1.790</i>	<i>372.975</i>
Southeast					
024 Edwards	.133	.753	.615	0	1.502
028 Franklin	14.869	.957	1.729	<.001	17.555
030 Gallatin	.578	2.169	2.507	0	5.254
033 Hamilton	.003	.647	.695	<.001	1.346
035 Hardin	.261	1.146	.282	0	1.690
041 Jefferson	.405	2.022	1.421	0	3.848
064 Massac	1.436	551.372	1.562	.384	554.754
076 Pope	.061	0	.260	0	.321
083 Saline	2.593	4.034	.534	.001	7.163
093 Wabash	2.098	1.512	1.286	.002	4.897
096 Wayne	1.373	2.151	.956	.001	4.481
097 White	1.260	4.199	1.937	0	7.396
<i>District total</i>	<i>25.071</i>	<i>570.963</i>	<i>13.785</i>	<i>.388</i>	<i>610.206</i>
State total	1797.071	34622.883	380.740	30.984	36831.679

Figures may not add to totals because of independent rounding.

Table 17. Total Ground Water Withdrawals, Estimated and Reported 1984

<i>District County</i>	<i>Public systems (mgd)</i>	<i>Self-supplied industry (mgd)</i>	<i>Rural* (mgd)</i>	<i>Fish and wildlife (mgd)</i>	<i>Total (mgd)</i>
Northwest					
006 Bureau	3.362	3.824	2.726	<.001	9.912
008 Carroll	1.477	1.601	5.772	.003	8.853
037 Henry	3.808	.033	6.354	.011	10.206
043 Jo Daviess	1.743	1.816	3.086	.004	6.648
052 Lee	4.404	.335	10.233	.002	14.974
066 Mercer	.904	0	2.617	0	3.521
071 Ogle	5.153	1.635	4.837	.007	11.633
078 Putnam	.392	.186	.856	0	1.434
081 Rock Island	2.806	9.965	3.069	0	15.840
089 Stephenson	5.722	2.109	4.360	.005	12.196
098 Whiteside	4.662	2.640	14.725	.001	22.028
101 Winnebago	33.791	5.004	7.831	.006	46.633
<i>District total</i>	<i>68.224</i>	<i>29.148</i>	<i>66.466</i>	<i>.039</i>	<i>163.877</i>
Northeast					
004 Boone	3.785	1.378	1.719	0	6.881
016 Cook	84.570	16.096	19.056	0	119.722
019 DeKalb	7.230	.535	2.331	0	10.095
022 DuPage	78.885	2.048	19.180	0	100.113
032 Grundy	2.247	7.877	.836	.001	10.961
045 Kane	27.891	1.998	3.787	0	33.676
047 Kendall	1.824	.821	3.013	.003	5.661
049 Lake	14.375	2.439	12.446	.007	29.267
050 LaSalle	10.398	6.403	1.342	.031	18.173
056 McHenry	11.751	2.945	11.215	.052	25.964
099 Will	30.549	7.610	12.173	.002	50.335
<i>District total</i>	<i>273.505</i>	<i>50.150</i>	<i>87.098</i>	<i>.096</i>	<i>410.849</i>
West					
001 Adams	1.521	9.662	2.260	.001	13.445
005 Brown	.062	0	.406	0	.468
029 Fulton	1.017	.137	2.385	<.001	3.540
034 Hancock	.185	<.001	1.966	0	2.151
036 Henderson	6.955	0	4.895	0	11.849
048 Knox	1.322	.002	1.949	0	3.272
055 McDonough	.827	.024	1.319	<.001	2.170
085 Schuyler	.452	0	.705	<.001	1.157
094 Warren	2.623	0	2.297	0	4.921
<i>District total</i>	<i>14.965</i>	<i>9.825</i>	<i>18.183</i>	<i>.001</i>	<i>42.974</i>
Central					
020 DeWitt	1.519	.004	.639	.047	2.209
054 Logan	3.339	.060	1.059	0	4.458
057 McLean	5.034	.897	5.976	.007	11.914
058 Macon	1.187	.012	1.426	<.001	2.625
062 Marshall	1.268	1.022	2.352	<.001	4.642
063 Mason	1.044	.658	75.661	5.875	83.239
065 Menard	.756	0	.630	<.001	1.386
072 Peoria	15.761	14.812	4.864	.001	35.439
088 Stark	.434	0	.554	0	.988
090 Tazewell	13.321	5.877	13.925	<.001	33.123
102 Woodford	1.549	.003	2.252	.001	3.805
<i>District total</i>	<i>45.212</i>	<i>23.345</i>	<i>109.339</i>	<i>5.932</i>	<i>183.828</i>
East					
010 Champaign	19.584	5.488	3.222	.001	28.294
027 Ford	1.496	0	.641	0	2.137
038 Iroquois	2.215	.096	3.074	<.001	5.385
046 Kankakee	1.996	.207	6.996	.002	9.200
053 Livingston	1.616	.055	1.916	0	3.586
074 Piatt	2.155	.967	.654	.012	3.789
092 Vermilion	1.362	3.312	.998	.017	5.689
<i>District total</i>	<i>30.422</i>	<i>10.125</i>	<i>17.501</i>	<i>.032</i>	<i>58.080</i>

Table 17. (Concluded)

<i>District County</i>	<i>Public systems (mgd)</i>	<i>Self-supplied industry (mgd)</i>	<i>Rural* (mgd)</i>	<i>Fish and wildlife (mgd)</i>	<i>Total (mgd)</i>
W. Southwest					
003 Bond	.061	.042	1.059	0	1.162
007 Calhoun	.345	0	.615	0	.960
009 Cass	1.455	.830	2.079	0	4.363
011 Christian	1.114	.560	.924	.009	2.607
031 Greene	.390	.002	2.212	0	2.604
042 Jersey	1.031	0	1.205	.031	2.267
059 Macoupin	.017	0	2.370	.001	2.389
060 Madison	11.685	36.953	6.646	<.001	55.284
068 Montgomery	.513	.023	1.337	0	1.874
069 Morgan	.075	5.485	2.033	0	7.594
075 Pike	.755	.030	3.013	0	3.799
084 Sangamon	2.283	<.001	1.545	0	3.828
086 Scott	4.696	0	1.635	0	6.332
<i>District total</i>	<i>24.421</i>	<i>43.924</i>	<i>26.676</i>	<i>.041</i>	<i>95.063</i>
E. Southeast					
012 Clark	1.238	.200	3.836	0	5.275
013 Clay	0	1.148	.927	0	2.074
015 Coles	.360	.254	.491	.001	1.105
017 Crawford	2.377	5.990	1.091	0	9.458
018 Cumberland	.269	.215	.879	0	1.362
021 Douglas	.993	.030	.707	.009	1.738
023 Edgar	.402	.051	1.140	0	1.594
025 Effingham	.229	.244	1.724	0	2.197
026 Fayette	.099	6.591	1.401	<.001	8.091
040 Jasper	.405	.605	1.008	<.001	2.018
051 Lawrence	1.208	6.385	4.067	<.001	11.660
061 Marion	.026	10.813	1.185	0	12.024
070 Moultrie	.941	0	.747	<.001	1.688
080 Richland	.103	.947	.583	0	1.633
087 Shelby	1.102	.350	1.609	<.001	3.062
<i>District total</i>	<i>9.752</i>	<i>33.822</i>	<i>21.394</i>	<i>.011</i>	<i>64.980</i>
Southwest					
002 Alexander	.360	.013	.709	.107	1.188
014 Clinton	.226	.562	2.640	0	3.428
039 Jackson	.103	.060	1.246	.897	2.306
044 Johnson	.025	0	1.102	0	1.127
067 Monroe	.104	.001	1.966	0	2.071
073 Perry	.051	.034	2.082	<.001	2.168
077 Pulaski	.706	0	.510	0	1.216
079 Randolph	.843	<.001	1.921	<.001	2.765
082 St. Clair	.196	14.307	4.379	<.001	18.883
091 Union	1.304	.014	1.122	.651	3.091
095 Washington	.108	.402	2.180	<.001	2.691
100 Williamson	0	.035	.440	0	.476
<i>District total</i>	<i>4.027</i>	<i>15.429</i>	<i>20.297</i>	<i>1.656</i>	<i>41.409</i>
Southeast					
024 Edwards	.025	.753	.615	0	1.394
028 Franklin	.010	.531	1.729	0	2.269
030 Gallatin	.537	1.534	2.507	0	4.578
033 Hamilton	.003	.554	.695	<.001	1.253
035 Hardin	.085	1.133	.282	0	1.500
041 Jefferson	0	.487	1.421	0	1.907
064 Massac	1.436	6.372	1.562	.384	9.754
076 Pope	0	0	.260	0	.260
083 Saline	0	.340	.534	0	.875
093 Wabash	.762	1.491	1.286	.002	3.541
096 Wayne	.189	2.143	.956	.001	3.289
097 White	1.260	3.964	1.937	0	7.161
<i>District total</i>	<i>4.308</i>	<i>19.301</i>	<i>13.785</i>	<i>.387</i>	<i>37.781</i>
State total	474.835	235.069	380.740	8.196	1098.840

*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 1984

<i>District County</i>	<i>Public systems (mgd)</i>	<i>Self supplied industry (mgd)</i>	<i>Fish and wildlife (mgd)</i>	<i>Total* (mgd)</i>
Northwest				
006 Bureau	0	13.512	0	13.512
008 Carroll	0	0	0	0
037 Henry	0	0	0	0
043 Jo Daviess	0	0	0	0
052 Lee	0	1.793	0	1.793
066 Mercer	0	0	0	0
071 Ogle	0	10.411	0	10.411
078 Putnam	0	179.322	0	179.322
081 Rock Island	17.221	892.320	0	909.541
089 Stephenson	0	0	0	0
098 Whiteside	0	1.627	0	1.627
101 Winnebago	0	735.160	0	735.160
<i>District total</i>	<i>17.221</i>	<i>1834.145</i>	<i>0</i>	<i>1851.366</i>
Northeast				
004 Boone	0	.137	0	.137
016 Cook	1029.304	944.679	0	1973.982
019 DeKalb	0	2.754	0	2.754
022 DuPage	0	2.890	0	2.890
032 Grundy	0	1902.536	0	1902.536
045 Kane	5.438	1.300	0	6.738
047 Kendall	0	0	0	0
049 Lake	35.475	1945.361	0	1980.836
050 LaSalle	0	2246.475	0	2246.475
056 McHenry	0	1.246	0	1.246
099 Will	0	3544.726	<.001	3544.726
<i>District total</i>	<i>1070.217</i>	<i>10592.103</i>	<i><.001</i>	<i>11662.320</i>
West				
001 Adams	6.596	0	0	6.596
005 Brown	0	0	0	0
029 Fulton	1.437	260.022	15.925	277.384
034 Hancock	.985	17284.822	0	17285.807
036 Henderson	0	0	0	0
048 Knox	0	0	0	0
055 McDonough	2.517	0	0	2.517
085 Schuyler	0	0	0	0
094 Warren	0	0	0	0
<i>District total</i>	<i>11.535</i>	<i>17544.844</i>	<i>15.925</i>	<i>17572.304</i>
Central				
020 DeWitt	0	31.995	0	31.995
054 Logan	0	.005	0	.005
057 McLean	6.964	0	0	6.964
058 Macon	26.996	6.384	0	33.379
062 Marshall	0	0	0	0
063 Mason	0	32.877	1.788	34.665
065 Menard	0	0	0	0
072 Peoria	6.656	333.956	0	340.613
088 Stark	0	0	0	0
090 Tazewell	.526	715.886	0	716.412
102 Woodford	1.712	0	0	1.712
<i>District total</i>	<i>42.855</i>	<i>1121.102</i>	<i>1.788</i>	<i>1165.745</i>
East				
010 Champaign	0	4.505	0	4.505
027 Ford	0	.062	0	.062
038 Iroquois	0	0	0	0
046 Kankakee	10.380	0	0	10.380
053 Livingston	4.814	0	0	4.814
074 Piatt	0	.164	0	.164
092 Vermilion	8.502	2.000	0	10.502
<i>District total</i>	<i>23.695</i>	<i>6.732</i>	<i>0</i>	<i>30.427</i>

Table 18. (Concluded)

<i>District County</i>	<i>Public systems (mgd)</i>	<i>Self supplied industry (mgd)</i>	<i>Fish and wildlife (mgd)</i>	<i>Total* (mgd)</i>
W. Southwest				
003 Bond	.774	.230	0	1.004
007 Calhoun	0	0	.403	.403
009 Cass	.269	0	.213	.483
011 Christian	2.156	684.819	0	686.975
031 Greene	.316	0	0	.316
042 Jersey	0	0	1.017	1.017
059 Macoupin	3.733	1.769	0	5.502
060 Madison	46.799	346.368	0	393.166
068 Montgomery	2.063	403.561	0	405.623
069 Morgan	.340	179.178	0	179.518
075 Pike	.460	20.964	0	21.424
084 Sangamon	19.804	301.786	0	321.590
086 Scott	0	0	0	0
<i>District total</i>	<i>76.715</i>	<i>1938.674</i>	<i>1.633</i>	<i>2017.022</i>
E. Southeast				
012 Clark	0	0	<.001	<.001
013 Clay	.853	0	0	.853
015 Coles	5.952	.151	0	6.103
017 Crawford	0	106.267	0	106.267
018 Cumberland	0	0	0	0
021 Douglas	0	8.974	0	8.974
023 Edgar	1.434	0	0	1.434
025 Effingham	1.784	0	0	1.784
026 Fayette	1.181	0	.029	1.210
040 Jasper	0	390.664	0	390.664
051 Lawrence	0	.004	0	.004
061 Marion	5.218	1.322	.002	6.542
070 Moultrie	0	0	3.276	3.276
080 Richland	1.299	0	0	1.299
087 Shelby	1.251	0	0	1.251
<i>District total</i>	<i>18.973</i>	<i>507.382</i>	<i>3.307</i>	<i>529.661</i>
Southwest				
002 Alexander	1.252	0	.133	1.385
014 Clinton	1.235	1.716	0	2.950
039 Jackson	8.662	143.104	0	151.766
044 Johnson	.413	.002	0	.415
067 Monroe	.417	0	0	.417
073 Perry	.597	13.126	0	13.723
077 Pulaski	0	0	0	0
079 Randolph	3.086	30.246	0	33.333
082 St. Clair	21.554	1.873	0	23.427
091 Union	.149	.003	0	.152
095 Washington	.514	.013	0	.527
100 Williamson	2.385	101.088	0	103.473
<i>District total</i>	<i>40.261</i>	<i>291.172</i>	<i>.133</i>	<i>331.566</i>
Southeast				
024 Edwards	.108	0	0	.108
028 Franklin	14.859	.426	<.001	15.285
030 Gallatin	.041	.636	0	.676
033 Hamilton	0	.093	0	.093
035 Hardin	.176	.013	0	.189
041 Jefferson	.405	1.535	0	1.941
064 Massac	0	545.000	0	545.000
076 Pope	.061	0	0	.061
083 Saline	2.593	3.694	.001	6.288
093 Wabash	1.336	.021	0	1.357
096 Wayne	1.184	.008	0	1.192
097 White	0	.236	0	.236
<i>District total</i>	<i>20.763</i>	<i>551.661</i>	<i>.001</i>	<i>572.426</i>
State total	1322.236	34387.814	22.788	35732.838

**Rural water withdrawals not included, see table 17 and page 7.
Figures may not add to totals because of independent rounding.*

Table 19. Estimated Ground Water Withdrawals from Major Geohydrologic Systems, Excluding Rural Domestic and Livestock, 1984

District County	Sand and gravel (mgd)	Mississippian Pennsylvanian (mgd)	Aquifer system		Total (mgd)
			Silurian- Devonian (mgd)	Cambrian- Ordovician (mgd)	
Northwest					
006 Bureau	6.607	0	.112	1.365	8.084
008 Carroll	4.820	0	.253	1.752	6.826
037 Henry	3.532	.003	1.177	1.951	6.663
043 Jo Daviess	2.213	0	0	1.577	3.790
052 Lee	8.679	0	.504	4.568	13.751
066 Mercer	.917	0	.383	.352	1.653
071 Ogle	.008	0	.398	7.900	8.305
078 Putnam	.979	.041	0	.175	1.194
081 Rock Island	7.934	0	3.405	2.981	14.319
089 Stephenson	2.541	0	.142	5.843	8.525
098 Whiteside	13.514	0	.453	4.602	18.569
101 Winnebago	16.331	0	1.310	23.788	41.428
<i>District total</i>	<i>68.075</i>	<i>.044</i>	<i>8.137</i>	<i>56.853</i>	<i>133.109</i>
Northeast					
004 Boone	.884	0	.050	4.517	5.451
016 Cook	7.416	0	39.980	67.272	114.669
019 DeKalb	.113	0	.350	7.843	8.306
022 DuPage	3.416	0	54.566	31.681	89.663
032 Grundy	.731	.077	0	9.490	10.298
045 Kane	6.960	0	2.732	22.123	31.815
047 Kendall	.898	0	.118	1.735	2.751
049 Lake	5.894	0	6.326	9.469	21.690
050 LaSalle	2.305	0	.136	14.711	17.152
056 McHenry	9.413	0	4.062	4.797	18.272
099 Will	2.544	.005	17.286	21.626	41.461
<i>District total</i>	<i>40.575</i>	<i>.082</i>	<i>125.605</i>	<i>195.265</i>	<i>361.528</i>
West					
001 Adams	10.902	.375	0	0	11.278
005 Brown	.050	.012	0	0	.062
029 Fulton	1.138	.100	0	.555	1.793
034 Hancock	.367	.021	<.001	0	.388
036 Henderson	10.722	.081	0	.045	10.848
048 Knox	0	.087	.279	.961	1.327
055 McDonough	.047	.103	.094	.607	.851
085 Schuyler	.488	.012	0	0	.499
094 Warren	.121	.020	.053	2.429	2.623
<i>District total</i>	<i>23.835</i>	<i>.812</i>	<i>.426</i>	<i>4.597</i>	<i>29.669</i>
Central					
020 DeWitt	1.610	0	0	0	1.610
054 Logan	3.399	0	0	0	3.399
057 McLean	6.274	0	0	.187	6.461
058 Macon	1.199	0	0	0	1.199
062 Marshall	3.588	0	0	.242	3.830
063 Mason	88.178	0	0	0	88.178
065 Menard	.756	0	0	0	.756
072 Peoria	32.664	.034	.024	1.329	34.051
088 Stark	0	0	.082	.352	.434
090 Tazewell	31.424	0	0	0	31.424
102 Woodford	2.059	<.001	0	.162	2.221
<i>District total</i>	<i>171.151</i>	<i>.034</i>	<i>.106</i>	<i>2.271</i>	<i>173.562</i>
East					
010 Champaign	25.401	0	0	0	25.401
027 Ford	1.589	0	.031	0	1.620
038 Iroquois	2.708	0	.873	0	3.581
046 Kankakee	.099	0	7.155	.031	7.286
053 Livingston	1.463	0	.007	.201	1.671
074 Piatt	3.171	0	0	0	3.171
092 Vermillion	4.635	.019	.061	0	4.716
<i>District total</i>	<i>39.067</i>	<i>.019</i>	<i>8.128</i>	<i>.232</i>	<i>47.445</i>

Table 19. (Concluded)

<i>District County</i>	<i>Sand and gravel (mgd)</i>	<i>Mississippian Pennsylvanian (mgd)</i>	<i>Aquifer system Silurian- Devonian (mgd)</i>	<i>Cambrian- Ordovician (mgd)</i>	<i>Total (mgd)</i>
W. Southwest					
003 Bond	.148	.004	0	0	.152
007 Calhoun	.367	0	0	0	.367
009 Cass	3.601	0	0	0	3.601
011 Christian	1.238	.139	.336	0	1.713
031 Greene	1.108	.002	.309	0	1.419
042 Jersey	1.564	.044	0	0	1.608
059 Macoupin	.304	0	0	0	.304
060 Madison	49.870	.053	.076	0	50.000
068 Montgomery	.529	.023	0	0	.552
069 Morgan	6.419	0	0	0	6.419
075 Pike	1.693	.054	0	0	1.747
084 Sangamon	2.472	0	0	0	2.472
086 Scott	5.699	.127	0	0	5.826
<i>District total</i>	<i>75.013</i>	<i>.447</i>	<i>.721</i>	<i>0</i>	<i>76.181</i>
E. Southeast					
012 Clark	3.964	.382	0	.023	4.369
013 Clay	.208	1.028	0	0	1.237
015 Coles	.591	.035	0	0	.626
017 Crawford	5.792	2.903	0	0	8.694
018 Cumberland	.376	.147	0	0	.522
021 Douglas	.504	.028	.508	0	1.041
023 Edgar	.433	.051	0	0	.484
025 Effingham	.354	.218	.002	0	.575
026 Fayette	.234	6.516	0	0	6.750
040 Jasper	.394	.617	0	0	1.010
051 Lawrence	4.902	6.128	0	0	11.030
061 Marion	.695	5.296	4.927	0	10.918
070 Moultrie	.941	<.001	0	0	.941
080 Richland	.029	1.021	0	0	1.050
087 Shelby	1.718	.030	0	0	1.748
<i>District total</i>	<i>21.135</i>	<i>24.399</i>	<i>5.437</i>	<i>.023</i>	<i>50.995</i>
Southwest					
002 Alexander	1.163	.046	0	0	1.209
014 Clinton	.527	.115	.268	.002	.912
039 Jackson	2.104	0	0	0	2.104
044 Johnson	0	.025	0	0	.025
067 Monroe	.569	.001	.010	0	.580
073 Perry	.266	.086	0	0	.352
077 Pulaski	.200	0	.560	0	.759
079 Randolph	.491	.723	0	0	1.214
082 St. Clair	15.321	.004	0	0	15.325
091 Union	2.228	.561	0	0	2.789
095 Washington	.154	.323	.011	.023	.511
100 Williamson	.028	.029	0	0	.057
<i>District total</i>	<i>23.051</i>	<i>1.912</i>	<i>.848</i>	<i>.025</i>	<i>25.837</i>
Southeast					
024 Edwards	.415	.364	0	0	.778
028 Franklin	.026	.515	0	0	.541
030 Gallatin	4.164	.214	0	0	4.378
033 Hamilton	.027	.531	0	0	.558
035 Hardin	.006	1.211	0	0	1.218
041 Jefferson	.064	.482	0	0	.546
064 Massac	3.343	6.281	0	0	9.623
076 Pope	0	0	0	0	0
083 Saline	.035	.306	0	0	.340
093 Wabash	1.702	.696	0	0	2.398
096 Wayne	.360	1.973	0	0	2.333
097 White	3.145	3.377	0	0	6.522
<i>District total</i>	<i>13.286</i>	<i>15.949</i>	<i>0</i>	<i>0</i>	<i>29.235</i>
State total	475.187	43.698	149.408	259.267	927.560

Figures may not add to totals because of independent rounding.

Table 20. Township Water Withdrawals,
SMSA's 1984
(mgd)

SMSA County Township and range	Public						Self-supplied Industry					Total	
	Surface water	Sand and gravel	Major geohydrologic system			Total ground water	Surface water	Sand and gravel	Major geohydrologic system			Total ground water	Total
			Mississippian- Pennsylvanian	Silurian- Devonian	Cambrian- Ordovician				Mississippian- Pennsylvanian	Silurian- Devonian	Cambrian- Ordovician		
Bloomington-Normal													
Mc Lean County													
05721N02E	0	.087	0	0	0	.087	0	0	0	0	0	0	.087
05722N01W	0	.104	0	0	0	.104	0	0	0	0	0	0	.104
05722N02E	0	.082	0	0	0	.082	0	0	0	0	0	0	.082
05722N03E	0	.052	0	0	0	.052	0	0	0	0	0	0	.052
05722N04E	0	.211	0	0	0	.211	0	0	0	0	0	0	.211
05722N06E	0	.046	0	0	0	.046	0	0	0	0	0	0	.046
05723N01E	0	.913	0	0	0	.913	0	0	0	0	0	0	.913
05723N01W	0	.080	0	0	0	.080	0	0	0	0	0	0	.080
05723N02E	0	.770	0	0	0	.770	0	.897	0	0	0	.897	1.667
05723N03E	0	.006	0	0	0	.006	0	0	0	0	0	0	.006
05723N04E	0	.018	0	0	0	.018	0	0	0	0	0	0	.018
05723N05E	0	.027	0	0	0	.027	0	0	0	0	0	0	.027
05723N06E	0	.058	0	0	0	.058	0	0	0	0	0	0	.058
05724N01W	0	.965	0	0	0	.965	0	0	0	0	0	0	.965
05724N02E	0	1.008	0	0	0	1.008	0	0	0	0	0	0	1.008
05724N04E	0	.015	0	0	0	.015	0	0	0	0	0	0	.015
05724N05E	0	.054	0	0	0	.054	0	0	0	0	0	0	.054
05724N06E	0	.013	0	0	0	.013	0	0	0	0	0	0	.013
05725N01E	0	.029	0	0	0	.029	0	0	0	0	0	0	.029
05725N02E	6.964	<.001	0	0	0	<.001	0	0	0	0	0	0	6.965
05725N03E	0	.002	0	0	0	.002	0	0	0	0	0	0	.002
05725N04E	0	.158	0	0	0	.158	0	0	0	0	0	0	.158
05725N06E	0	.004	0	0	0	.004	0	0	0	0	0	0	.004
05726N03E	0	.117	0	0	0	.117	0	0	0	0	0	0	.117
05726N04E	0	.025	0	0	.187	.212	0	0	0	0	0	0	.212
Total	6.964	4.847	0	0	.187	5.034	0	.897	0	0	0	.897	12.895
Champaign-Urbana-Rantoul													
Champaign County													
01017N07E	0	.028	0	0	0	.028	0	0	0	0	0	0	.028
01017N08E	0	.086	0	0	0	.086	0	0	0	0	0	0	.086
01017N11E	0	.024	0	0	0	.024	0	0	0	0	0	0	.024
01018N08E	0	.240	0	0	0	.240	0	0	0	0	0	0	.240
01018N10E	0	.063	0	0	0	.063	0	.001	0	0	0	.001	.064
01018N14W	0	.100	0	0	0	.100	0	0	0	0	0	0	.100
01019N07E	0	.007	0	0	0	.007	0	0	0	0	0	0	.007
01019N08E	0	10.769	0	0	0	10.769	0	3.266	0	0	0	3.266	14.034
01019N09E	0	.619	0	0	0	.619	0	0	0	0	0	0	.619
01019N10E	0	.177	0	0	0	.177	0	0	0	0	0	0	.177
01019N10W	0	0	0	0	0	0	0	<.001	0	0	0	<.001	<.001
01019N14W	0	.061	0	0	0	.061	0	0	0	0	0	0	.061
01020N07E	0	.454	0	0	0	.454	4.068	0	0	0	0	0	4.522
01020N08E	0	5.006	0	0	0	5.006	0	0	0	0	0	0	5.006
01020N09E	0	.023	0	0	0	.023	0	0	0	0	0	0	.023
01020N14W	0	.023	0	0	0	.023	0	0	0	0	0	0	.023
01021N09E	0	.735	0	0	0	.735	.437	2.221	0	0	0	2.221	3.393
01021N10E	0	.075	0	0	0	.075	0	0	0	0	0	0	.075
01021N14W	0	.023	0	0	0	.023	0	0	0	0	0	0	.023
01022N07E	0	.164	0	0	0	.164	0	0	0	0	0	0	.164
01022N08E	0	.017	0	0	0	.017	0	0	0	0	0	0	.017
01022N09E	0	.882	0	0	0	.882	0	0	0	0	0	0	.882
01022N10E	0	.005	0	0	0	.005	0	<.001	0	0	0	<.001	.005
01022N14W	0	.003	0	0	0	.003	0	0	0	0	0	0	.003
Total	0	19.584	0	0	0	19.584	4.505	5.488	0	0	0	5.488	29.577
Chicago													
Cook County													
01635N13E	0	0	0	6.085	.528	6.612	0	0	0	.874	0	.874	7.487
01635N14E	0	0	0	6.042	3.962	10.004	0	0	0	.504	.374	.878	10.882
01635N15E	0	0	0	.159	0	.159	0	0	0	0	0	0	.159
01636N12E	0	0	0	2.143	1.044	3.186	0	0	0	.273	0	.273	3.460

Table 20. (Continued)

SMSA County Township and range	Public						Self-supplied Industry						Total
	Major geohydrologic system						Major geohydrologic system						
	Surface water	Sand and gravel	Mississippian- Pennsylvanian	Silurian- Devonian	Cambrian- Ordovician	Total ground water	Surface water	Sand and gravel	Mississippian- Pennsylvanian	Silurian- Devonian	Cambrian- Ordovician	Total ground water	
Cook County Cont.													
01636N13E	0	0	0	.906	0	.906	0	0	0	.260	.010	.269	1.175
01636N14E	0	0	0	0	0	0	.534	0	0	.004	0	.004	.538
01637N11E	0	0	0	.028	.562	.590	0	0	<.001	.238	0	.239	.828
01637N12E	0	0	0	.180	.416	.596	0	0	.061	0	0	.061	.656
01637N13E	0	0	0	0	0	0	5.792	0	0	.013	0	.013	5.805
01637N14E	0	0	0	0	0	0	17.251	0	0	.002	.053	.054	17.305
01637N15E	0	0	0	0	0	0	189.938	0	0	0	0	0	189.938
01638N12E	0	0	0	1.316	2.480	3.796	0	0	4.107	3.346	0	7.453	11.249
01638N13E	0	0	0	0	0	0	17.425	0	0	.002	2.154	2.156	19.581
01638N14E	.003	0	0	0	0	0	303.213	0	0	0	.189	.189	303.405
01638N15E	414.945	0	0	0	0	0	0	0	0	0	0	0	414.945
01639N12E	0	0	0	0	4.151	4.151	.655	0	0	.188	.209	.396	5.202
01639N13E	0	0	0	0	0	0	0	0	0	.175	.175	.175	.175
01639N14E	565.597	0	0	0	0	0	394.176	0	0	0	.003	.003	959.776
01640N12E	0	0	0	0	0	0	0	0	0	.009	.732	.741	.741
01640N13E	0	0	0	0	0	0	0	0	0	0	.417	.417	.417
01641N09E	0	1.803	0	.560	1.706	4.068	.507	0	<.001	0	<.001	<.001	4.575
01641N10E	0	1.925	0	3.355	7.300	12.580	0	.003	0	.040	0	.042	12.622
01641N11E	0	0	0	.447	9.980	10.427	0	0	0	.021	.013	.034	10.461
01641N12E	0	0	0	0	3.465	3.465	0	0	0	0	0	0	3.465
01641N13E	0	0	0	0	0	0	4.032	0	0	0	.289	.289	4.321
01641N14E	26.058	0	0	0	0	0	11.093	0	0	0	0	0	37.152
01642N09E	0	.016	0	.813	0	.829	0	.018	0	.247	.023	.288	1.117
01642N10E	0	2.411	0	.062	5.707	8.181	0	0	0	.033	.488	.521	8.702
01642N11E	0	0	0	.894	13.737	14.631	0	0	0	.004	.016	.020	14.652
01642N12E	5.693	0	0	.122	.267	.389	.062	0	0	.001	.705	.706	6.849
01642N13E	17.007	0	0	0	0	0	0	0	0	0	0	0	17.007
Total	1029.304	6.155	0	23.112	55.303	84.570	944.678	.021	0	6.642	9.433	16.096	2074.648
DuPage County													
02237N11E	0	0	0	.219	.335	.554	.277	0	0	.929	0	.929	1.760
02238N09E	0	0	0	3.520	2.220	5.740	0	0	.148	<.001	.148	.148	5.889
02238N10E	0	0	0	8.159	2.272	10.431	0	0	.105	.036	.141	.141	10.572
02238N11E	0	0	0	9.599	3.552	13.151	0	0	.219	0	.219	.219	13.370
02239N09E	0	0	0	1.177	1.722	2.899	2.592	0	.140	<.001	.141	.141	5.632
02239N10E	0	0	0	9.561	0	9.561	0	0	.020	.003	.023	.023	9.584
02239N11E	0	0	0	3.350	11.313	14.663	0	0	.003	.252	.255	.255	14.932
02240N09E	0	0	0	1.003	1.049	2.052	.004	0	.126	<.001	.127	.127	2.182
02240N10E	0	1.557	0	5.039	2.385	8.982	.004	0	.004	0	.004	.004	8.989
02240N11E	0	1.526	0	2.952	6.373	10.851	0	0	.036	0	.036	.036	10.887
02241N09E	0	0	0	0	0	0	0	<.001	0	0	0	<.001	<.001
Total	0	3.084	0	44.579	31.222	78.885	2.876	0	1.730	.293	2.023	83.784	
Kane County													
04538N07E	0	.186	0	0	1.828	2.014	0	0	0	0	0	0	2.014
04538N08E	0	.004	0	.179	9.696	9.880	0	0	1.351	.136	1.487	1.487	11.367
04539N07E	0	0	0	0	.038	.038	0	0	0	.225	.225	.225	.263
04539N08E	0	0	0	0	2.006	2.006	1.185	0	.087	.028	.116	.116	3.306
04540N06E	0	.040	0	0	0	.040	0	0	0	<.001	<.001	.040	.040
04540N07E	0	.056	0	0	.086	.142	0	0	0	0	0	0	.142
04540N08E	0	1.738	0	.005	2.117	3.861	0	0	0	.002	.002	.002	3.862
04541N06E	0	0	0	0	.043	.043	0	0	0	0	0	0	.043
04541N08E	0	.726	0	.017	5.384	6.126	.115	.013	.123	.004	.140	.140	11.819
04542N06E	0	0	0	0	.163	.163	0	0	0	.027	.027	.027	.191
04542N07E	0	.005	0	0	0	.005	0	0	0	0	0	0	.005
04542N08E	0	3.521	0	.029	.023	3.574	0	.001	0	0	0	.001	3.575
Total	0	6.277	0	.230	21.383	27.891	1.300	.013	0	1.561	.423	1.998	36.627
Lake County													
04943N09E	0	1.195	0	.035	.001	1.231	0	.118	0	.037	0	.154	1.385
04943N10E	0	0	0	.140	1.128	1.268	0	.007	0	0	.060	.067	1.352
04943N11E	0	.024	0	.416	1.495	1.934	.036	0	0	.024	.023	.047	2.017
04943N12E	9.508	0	0	0	0	0	0	0	0	0	.557	.557	10.066
04944N09E	0	.237	0	.503	.805	.744	0	0	0	0	0	0	.744
04944N10E	0	.556	0	.152	.747	1.455	0	0	0	.006	0	.006	1.461

Table 20. (Continued)

SMSA County Township and range	Public						Self-supplied Industry					Total	
	Surface water	Sand and gravel	Major geohydrologic system			Total ground water	Surface water	Sand and gravel	Major geohydrologic system			Total ground water	Total
			Mississippian- Pennsylvanian	Silurian- Devonian	Cambrian- Ordovician				Mississippian- Pennsylvanian	Silurian- Devonian	Cambrian- Ordovician		
Lake County Cont.													
04944N11E	0	0	0	.549	2.074	2.623	0	.243	0	.315	0.034	.591	3.214
04944N12E	13.670	.010	0	.005	0	.015	2.409	0	0	<.001	.009	.009	16.103
04945N09E	0	.613	0	0	0	.613	0	.038	0	.007	.359	.405	1.018
04945N10E	0	.300	0	.974	.484	1.759	0	0	0	.001	0	.001	1.763
04945N11E	0	.224	0	.010	.959	1.193	0	0	0	0	.145	.145	1.338
04945N12E	10.194	0	0	.036	0	.036	502.696	0	0	0	0	0	512.926
04946N09E	0	.083	0	0	0	.083	.219	0	0	.419	0	.419	.721
04946N10E	0	1.077	0	0	0	1.077	0	0	0	0	0	0	1.077
04946N11E	0	0	0	<.001	.010	.010	0	0	0	0	0	0	.010
04946N12E	0	.102	0	.064	.169	.334	1440.000	<.001	0	0	0	<.001	1440.335
04946N13E	2.103	0	0	0	0	0	0	0	0	0	0	0	2.103
<i>Total</i>	<i>35.475</i>	<i>4.421</i>	<i>0</i>	<i>2.883</i>	<i>7.071</i>	<i>14.375</i>	<i>1945.359</i>	<i>.406</i>	<i>0</i>	<i>.809</i>	<i>1.187</i>	<i>2.402</i>	<i>1997.612</i>
Mc Henry County													
05643N05E	0	0	0	0	0	0	0	0	0	.001	0	.001	.001
05643N06E	0	.001	0	.056	0	.057	0	.113	0	.004	0	.117	.174
05643N07E	0	.339	0	.034	0	.373	0	.013	0	0	0	.013	.385
05643N08E	0	.614	0	.859	2.358	3.831	.003	.003	0	.010	.017	.031	3.864
05643N09E	0	0	0	.289	0	.289	0	0	0	0	0	0	.289
05644N05E	0	.420	0	0	0	.420	0	0	0	0	.142	.142	.562
05644N06E	0	0	0	0	0	0	0	<.001	0	0	0	<.001	<.001
05644N07E	0	.953	0	0	0	.953	1.207	.051	0	.045	0	.095	2.255
05644N08E	0	.049	0	.147	.817	1.013	0	.151	0	.122	0	.273	1.286
05644N09E	0	.055	0	.025	0	.080	0	0	0	0	0	0	.080
05645N05E	0	0	0	0	0	0	0	0	0	.025	0	.025	.025
05645N06E	0	.005	0	.002	0	.007	0	.003	0	0	.001	.005	.084
05645N07E	0	1.707	0	0	0	1.707	0	0	0	0	0	0	1.707
05645N08E	0	.659	0	.912	0	1.571	0	.008	0	.559	.937	1.504	3.074
05645N09E	0	.037	0	.320	0	.357	.036	0	0	<.001	.002	.002	.395
05646N05E	0	.678	0	0	0	.678	0	0	0	0	.153	.153	.832
05646N07E	0	.136	0	0	0	.136	0	.001	0	0	0	.001	.137
05646N08E	0	.069	0	.152	.059	.281	0	.465	0	0	0	.465	.746
05646N09E	0	0	0	0	0	0	0	.005	0	0	0	.005	.005
<i>Total</i>	<i>0</i>	<i>5.721</i>	<i>0</i>	<i>2.796</i>	<i>3.234</i>	<i>11.751</i>	<i>1.246</i>	<i>.813</i>	<i>0</i>	<i>.767</i>	<i>1.253</i>	<i>2.833</i>	<i>15.830</i>
Will County													
09932N09E	0	0	0	.013	.442	.455	122.658	0	.005	0	.005	.010	123.123
09932N10E	0	0	0	0	.007	.007	0	0	0	0	.002	.002	.009
09933N09E	0	0	0	.001	.556	.557	0	0	0	0	0	0	.557
09933N10E	0	0	0	0	0	0	0	0	0	0	.256	.256	.256
09933N12E	0	0	0	.434	0	.434	0	0	0	.001	0	.001	.435
09933N14E	0	0	0	.242	0	.242	0	0	0	.001	0	.001	.243
09934N09E	0	0	0	.023	.010	.033	7.090	0	0	.016	3.029	3.044	10.175
09934N10E	0	0	0	.099	0	.099	0	0	0	0	.250	.250	.348
09934N11E	0	0	0	.160	0	.160	0	<.001	0	0	0	<.001	.160
09934N13E	0	0	0	1.398	0	1.398	0	0	0	.039	0	.039	1.437
09934N14E	0	0	0	1.107	0	1.107	0	0	0	.100	0	.100	1.207
09934N15E	0	0	0	.138	0	.138	0	0	0	0	0	0	.138
09935N09E	0	0	0	.262	2.373	2.634	0	.003	0	.110	0	.114	3.123
09935N10E	0	0	0	.434	4.015	4.449	1085.760	0	0	.227	2.401	2.628	1092.836
09935N11E	0	1.039	0	.690	2.563	4.292	0	0	0	.035	0	.035	4.327
09935N12E	0	.178	0	1.522	0	1.700	0	0	0	.017	0	.017	1.717
09936N09E	0	0	0	.314	1.366	1.680	.168	.001	0	.002	0	.002	1.851
09936N10E	0	0	0	1.027	2.018	3.044	531.608	0	0	.064	.801	.865	535.518
09936N11E	0	1.323	0	.999	.530	2.851	1791.781	0	0	0	0	0	1794.632
09937N09E	0	0	0	.004	0	.004	0	0	0	0	.001	.001	.005
09937N10E	0	0	0	4.482	.783	5.265	5.270	0	0	0	.216	.216	10.751
<i>Total</i>	<i>0</i>	<i>2.540</i>	<i>0</i>	<i>13.346</i>	<i>14.663</i>	<i>30.549</i>	<i>3544.336</i>	<i>.004</i>	<i>.005</i>	<i>.611</i>	<i>6.961</i>	<i>7.582</i>	<i>3582.842</i>
Davenport-Rock Island-Moline(IL)													
Henry County													
03714N01E	0	0	0	0	.081	.081	0	0	0	0	0	0	.081
03714N02E	0	0	0	0	.084	.084	0	0	0	0	0	0	.084
03714N03E	0	0	0	.019	0	.019	0	0	0	0	0	0	.019
03714N04E	0	0	0	0	.061	.061	0	0	0	0	0	0	.061

Table 20. (Continued)

SMSA County Township and range	Public						Self-Supplied Industry						Total Total
	Major geohydrologic system						Major geohydrologic system						
	Surface water	Sand and gravel	Mississippian- Pennsylvanian	Silurian- Devonian	Cambrian- Ordovician	Total ground water	Surface water	Sand and gravel	Mississippian- Pennsylvanian	Silurian- Devonian	Cambrian- Ordovician	Total ground water	
Henry County Cont.													
03714N05E	0	0	0	.007	.727	.734	0	0	0	0	0	0	.734
03715N01E	0	0	0	.033	0	.033	0	0	.001	0	0	.001	.034
03715N02E	0	0	0	.055	0	.055	0	0	0	0	0	0	.055
03715N03E	0	0	0	0	.250	.250	0	0	.003	0	0	.003	.253
03715N05E	0	0	0	0	.739	.739	0	0	0	.028	0	.028	.767
03716N01E	0	0	0	.182	0	.182	0	0	0	0	0	0	.182
03716N02E	0	0	0	.015	0	.015	0	0	0	0	0	0	.015
03716N03E	0	0	0	.017	0	.017	0	0	0	0	0	0	.017
03716N05E	0	0	0	.069	0	.069	0	0	0	0	0	0	.069
03717N01E	0	.002	0	.468	0	.470	0	0	0	0	0	0	.470
03717N03E	0	.633	0	.004	.009	.646	0	0	0	.001	0	.001	.647
03717N04E	0	.073	0	.135	0	.208	0	0	0	<.001	0	<.001	.209
03718N02E	0	0	0	.063	0	.063	0	0	0	0	0	0	.063
03718N03E	0	0	0	.077	0	.077	0	0	0	0	0	0	.077
Total	0	.709	0	1.144	1.951	3.804	0	0	.003	.030	0	.033	3.836
Rock Island County													
08116N01W	0	0	0	.048	0	.048	0	0	0	0	0	0	.048
08116N02W	0	0	0	.104	0	.104	0	0	0	0	0	0	.104
08116N03E	0	0	0	.004	0	.004	0	0	0	0	0	0	.004
08116N03W	0	0	0	.092	0	.092	0	0	0	0	0	0	.092
08116N04W	0	0	0	.005	0	.005	0	0	0	0	0	0	.005
08117N01E	0	0	0	.109	0	.109	0	0	0	0	<.001	<.001	.109
08117N01W	0	0	0	.372	0	.372	0	0	0	<.001	.004	.004	.377
08117N02W	0	0	0	.251	.580	.831	.007	0	0	.045	0	.045	.883
08117N03W	0	0	0	.109	0	.109	0	0	0	.001	0	.001	.109
08117N04W	0	0	0	.003	0	.003	0	0	0	0	0	0	.003
08118N01E	0	.003	0	.566	.357	.926	9.957	0	0	.005	2.028	2.032	12.915
08118N01W	9.923	0	0	0	0	0	880.593	.007	0	<.001	.012	.019	890.535
08118N02E	0	0	0	0	0	0	0	0	.694	0	0	.694	.694
08118N02W	7.299	0	0	0	0	0	1.138	0	0	0	0	0	8.437
08119N01E	0	0	0	.120	0	.120	0	0	0	0	0	0	.120
08119N02E	0	0	0	.012	0	.012	0	0	0	0	0	0	.012
08119N03E	0	0	0	.019	0	.019	0	0	0	0	0	0	.019
08120N02E	0	0	0	.052	0	.052	.625	7.011	0	.159	0	7.170	7.847
Total	17.221	.003	0	1.866	.937	2.806	892.320	7.018	0	.904	2.044	9.965	922.312
Decatur													
Macon County													
05814N01E	0	.085	0	0	0	.085	0	0	0	0	0	0	.085
05814N02E	0	.137	0	0	0	.137	0	0	0	0	0	0	.137
05815N01E	0	.068	0	0	0	.068	0	0	0	0	0	0	.068
05815N02E	0	.068	0	0	0	.068	0	0	0	0	0	0	.068
05816N01E	0	.086	0	0	0	.086	0	0	0	0	0	0	.086
05816N01W	0	.068	0	0	0	.068	0	0	0	0	0	0	.068
05816N02E	8.100	.035	0	0	0	.035	0	0	0	0	0	0	8.134
05816N03E	18.896	0	0	0	0	0	6.384	.012	0	0	0	.012	25.291
05817N01E	0	.116	0	0	0	.116	0	0	0	0	0	0	.116
05817N02E	0	.121	0	0	0	.121	0	0	0	0	0	0	.121
05817N03E	0	.179	0	0	0	.179	0	0	0	0	0	0	.179
05818N02E	0	.164	0	0	0	.164	0	0	0	0	0	0	.164
05818N03E	0	.060	0	0	0	.060	0	0	0	0	0	0	.060
Total	26.996	1.187	0	0	0	1.187	6.384	.012	0	0	0	.012	34.578
Kankakee													
Kankakee County													
04629N12W	0	0	0	.140	0	.140	0	0	0	0	0	0	.140
04629N13W	0	0	0	.005	0	.005	0	0	0	0	0	0	.005
04629N14W	0	.077	0	0	0	.077	0	0	0	0	0	0	.077
04630N09E	0	0	0	.036	.031	.067	0	0	0	0	0	0	.067
04630N10E	0	0	0	.110	<.001	.111	0	0	0	0	0	0	.111
04630N12W	0	0	0	.008	0	.008	0	0	0	0	0	0	.008
04630N13W	10.380	.023	0	.111	0	.134	0	0	0	0	0	0	10.513
04630N14E	0	0	0	.044	0	.044	0	0	0	0	0	0	.044
04631N11E	0	0	0	.063	0	.063	0	0	0	.054	0	.054	.116

Table 20. (Continued)

SMSA County Township and range	Public						Self-supplied Industry						Total
	Surface water	Major geohydrologic system				Total ground water	Surface water	Sand and gravel	Major geohydrologic system			Total ground water	
		Sand and gravel	Mississippian- Pennsylvanian	Silurian- Devonian	Cambrian- Ordovician				Mississippian- Pennsylvanian	Silurian- Devonian	Cambrian- Ordovician		
Kankakee County Cont.													
04631N12E	0	0	0	.195	0	.195	0	0	0	.105	0	.105	.0
04631N13E	0	0	0	.718	0	.718	0	0	0	.048	0	.048	.0
04631N14E	0	0	0	.014	0	.014	0	0	0	0	0	0	.0
04632N12E	0	0	0	.350	0	.350	0	0	0	<.001	0	<.001	.0
04632N13E	0	0	0	.031	0	.031	0	0	0	0	0	0	.0
04632N14E	0	0	0	.041	0	.041	0	0	0	0	0	0	.0
<i>Total</i>	<i>10.380</i>	<i>.099</i>	<i>0</i>	<i>1.869</i>	<i>.031</i>	<i>1.999</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>.207</i>	<i>0</i>	<i>.207</i>	<i>12.5</i>
Peoria													
Peoria County													
07207N06E	0	0	0	0	.141	.141	0	0	0	0	0	0	.1
07207N07E	0	0	.013	0	0	.013	327.744	1.354	0	0	0	1.354	329.1
07208N05E	0	0	0	.023	0	.023	0	<.001	0	0	0	<.001	.0
07208N06E	0	0	0	0	.110	.110	0	0	0	0	0	0	.1
07208N07E	.068	.350	0	0	0	.350	0	0	0	0	0	0	.41
07208N08E	0	6.499	0	0	0	6.499	3.909	11.040	0	0	.361	11.401	21.80
07209N05E	0	0	0	0	.218	.218	.438	<.001	0	<.001	0	<.001	.65
07209N08E	6.588	6.828	0	0	0	6.828	1.865	.672	0	0	0	.672	15.95
07210N05E	0	.008	0	0	.071	.078	0	0	0	0	0	0	.07
07210N06E	0	0	.021	0	0	.021	0	0	0	0	0	0	.02
07210N07E	0	.007	0	0	0	.007	0	0	0	0	0	0	.00
07210N08E	0	.090	0	0	0	.090	0	1.385	0	0	0	1.385	1.47
07210N09E	0	.023	0	0	0	.023	0	<.001	0	0	0	<.001	.02
07211N06E	0	0	0	0	.415	.415	0	0	0	0	0	0	.41
07211N07E	0	0	0	0	0	0	0	<.001	0	0	0	<.001	<.00
07211N08E	0	.041	0	0	.014	.055	0	0	0	0	0	0	.05
07211N09E	0	.890	0	0	0	.890	0	0	0	0	0	0	.89
<i>Total</i>	<i>6.656</i>	<i>14.736</i>	<i>.034</i>	<i>.023</i>	<i>.968</i>	<i>15.761</i>	<i>333.956</i>	<i>14.451</i>	<i>0</i>	<i><.001</i>	<i>.361</i>	<i>14.812</i>	<i>371.18</i>
Tazewell County													
09022N02W	0	.027	0	0	0	.027	0	0	0	0	0	0	.027
09022N04W	0	.189	0	0	0	.189	0	0	0	0	0	0	.189
09023N02W	0	.141	0	0	0	.141	0	0	0	0	0	0	.141
09023N03W	0	.044	0	0	0	.044	0	0	0	0	0	0	.044
09023N04W	0	.018	0	0	0	.018	0	0	0	0	0	0	.018
09023N05W	0	.051	0	0	0	.051	0	0	0	0	0	0	.051
09024N02W	0	.175	0	0	0	.175	0	0	0	0	0	0	.175
09024N03W	0	.239	0	0	0	.239	0	0	0	0	0	0	.239
09024N05W	0	3.454	0	0	0	3.454	668.081	5.434	0	0	0	5.434	676.969
09025N02W	0	.078	0	0	0	.078	0	0	0	0	0	0	.078
09025N03W	0	2.523	0	0	0	2.523	0	.027	0	0	0	.027	2.550
09025N04W	0	.015	0	0	0	.015	0	0	0	0	0	0	.015
09025N05W	0	2.006	0	0	0	2.006	0	.002	0	0	0	.002	2.008
09026N02W	.526	.103	0	0	0	.103	0	0	0	0	0	0	.629
09026N03W	0	.901	0	0	0	.901	0	.093	0	0	0	.093	.993
09026N04W	0	3.357	0	0	0	3.357	47.805	.321	0	0	0	.321	51.483
<i>Total</i>	<i>.526</i>	<i>13.321</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>13.321</i>	<i>715.886</i>	<i>5.877</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>5.877</i>	<i>735.610</i>
Woodford County													
10225N01E	1.712	0	0	0	0	0	0	0	0	0	0	0	1.712
10225N01W	0	.034	0	0	0	.034	0	.003	<.001	0	0	.003	.037
10225N02W	0	.051	0	0	0	.051	0	0	0	0	0	0	.051
10226N01E	0	.052	0	0	0	.052	0	0	0	0	0	0	.052
10226N02E	0	.305	0	0	0	.305	0	0	0	0	0	0	.305
10226N02W	0	.005	0	0	0	.005	0	0	0	0	0	0	.005
10227N01W	0	.248	0	0	0	.248	0	0	0	0	0	0	.248
10227N02W	0	.085	0	0	0	.085	0	<.001	0	0	0	<.001	.085
10227N03W	0	.444	0	0	0	.444	0	0	0	0	0	0	.444
10227N04W	0	.009	0	0	0	.009	0	0	0	0	0	0	.009
10228N01E	0	.028	0	0	0	.028	0	0	0	0	0	0	.028
10228N02E	0	0	0	0	.162	.162	0	0	0	0	0	0	.162
10228N02W	0	.127	0	0	0	.127	0	0	0	0	0	0	.127
<i>Total</i>	<i>1.712</i>	<i>1.387</i>	<i>0</i>	<i>0</i>	<i>.162</i>	<i>1.549</i>	<i>0</i>	<i>.003</i>	<i><.001</i>	<i>0</i>	<i>0</i>	<i>.003</i>	<i>3.265</i>

Table 20. (Continued)

SMSA County Township and range	Public						Self-supplied Industry					Total	
	Surface water	Major geohydrologic system				Total ground water	Surface water	Major geohydrologic system			Total ground water		
		Sand and gravel	Mississippian- Pennsylvanian	Silurian- Devonian	Cambrian- Ordovician			Sand and gravel	Mississippian- Pennsylvanian	Silurian- Devonian			Cambrian- Ordovician
Rockford													
Boone County													
00443N03E	0	0	0	0	.032	.032	0	.011	0	0	0	.011	.043
00443N04E	0	0	0	0	<.001	<.001	0	0	0	0	.005	.005	.006
00444N03E	0	.445	0	.010	3.113	3.567	.137	0	0	0	.703	.703	4.407
00444N04E	0	0	0	0	0	0	0	0	0	0	.616	.616	.616
00445N03E	0	.028	0	.040	0	.068	0	0	0	0	0	0	.068
00445N04E	0	.069	0	0	.048	.117	0	.043	0	0	0	.043	.160
Total	0	.543	0	.050	3.192	3.785	.137	.054	0	0	1.324	1.378	5.299
Winnebago County													
10126N10E	0	0	0	.015	0	.015	0	0	0	0	0	0	.015
10126N11E	0	0	0	0	.181	.181	0	<.001	0	0	.001	.001	.182
10127N10E	0	0	0	0	.474	.474	0	0	0	0	0	0	.474
10127N11E	0	0	0	0	0	0	0	<.001	0	0	0	<.001	<.001
10128N10E	0	0	0	0	.162	.162	0	0	0	0	0	0	.162
10143N01E	0	3.030	0	0	.097	3.127	0	.112	0	.015	0	.127	3.254
10143N02E	0	0	0	.066	1.034	1.100	0	.001	0	.001	0	.004	1.105
10144N01E	0	3.846	0	.002	6.397	10.246	0	0	0	1.022	1.438	2.460	12.707
10144N02E	0	3.762	0	0	9.889	13.651	0	1.233	0	0	.482	1.716	15.367
10145N01E	0	1.296	0	0	.004	1.300	0	0	0	0	.001	.001	1.301
10145N02E	0	1.711	0	0	.589	2.300	0	.001	0	0	.031	.032	2.332
10146N01E	0	.376	0	0	.182	.558	734.795	.123	0	0	.025	.148	735.501
10146N02E	0	.012	0	0	.647	.659	.365	.251	0	.009	.001	.261	1.285
Total	0	14.032	0	.084	19.659	33.775	735.159	1.722	0	1.047	2.232	5.001	773.935
St. Louis													
Clinton County													
01401N01W	0	0	0	0	0	0	.009	.004	.039	.207	0	.250	.259
01401N03W	0	.027	0	0	0	.027	0	0	.009	0	0	.009	.036
01401N04W	0	.050	.021	0	0	.071	0	.114	0	0	0	.114	.185
01401N05W	0	.065	0	0	0	.065	1.181	.049	.017	.052	0	.118	1.363
01401S05W	0	0	0	0	0	0	0	.032	0	0	0	.032	.032
01402N01W	0	0	0	0	0	0	0	0	.009	0	.002	.011	.011
01402N02W	.669	0	0	0	0	0	0	0	0	0	0	0	.669
01402N03W	.526	0	0	0	0	0	0	0	0	0	0	0	.526
01402N04W	0	.062	0	0	0	.062	.526	0	0	.009	0	.009	.597
01403N02W	.040	0	0	0	0	0	0	0	0	0	0	0	.040
01403N03W	0	0	0	0	0	0	0	0	.020	0	0	.020	.020
Total	1.235	.204	.021	0	0	.226	1.716	.199	.093	.268	.002	.562	3.738
Madison County													
06003N06W	0	.002	.030	0	0	.031	0	.013	0	.041	0	.054	.085
06003N08W	0	4.392	0	0	0	4.392	0	0	0	0	0	0	4.392
06003N09W	0	.044	0	0	0	.044	0	5.834	0	0	0	5.834	5.878
06003N10W	0	0	0	0	0	0	51.965	6.289	0	0	0	6.289	58.254
06004N05W	.906	0	0	0	0	0	0	0	0	0	0	0	.906
06004N06W	0	.064	0	0	0	.064	0	0	0	.035	0	.035	.098
06004N09W	0	3.013	0	0	0	3.013	0	.313	0	0	0	.313	3.326
06004N10W	34.640	0	0	0	0	0	0	0	0	0	0	0	34.640
06005N06W	0	.103	.003	0	0	.106	0	0	0	0	0	0	.106
06005N09W	0	3.906	0	0	0	3.906	294.403	24.406	0	0	0	24.406	322.715
06005N10W	11.138	0	0	0	0	0	0	0	0	0	0	0	11.138
06006N06W	0	.071	0	0	0	.071	0	.001	.021	0	0	.022	.093
06006N07W	0	.058	0	0	0	.058	0	0	0	0	0	0	.058
06006N08W	.115	0	0	0	0	0	0	0	0	0	0	0	.115
06006N10W	0	0	0	0	0	0	0	<.001	0	0	0	<.001	<.001
Total	46.799	11.653	.032	0	0	11.685	346.368	36.856	.021	.076	0	36.953	441.804
Monroe County													
06702S10W	.417	0	0	0	0	0	0	0	0	0	0	0	.417
06703S09W	0	0	0	.010	0	.010	0	0	.001	0	0	.001	.011
06703S11W	0	.084	0	0	0	.084	0	0	0	0	0	0	.084
06704S11W	0	.010	0	0	0	.010	0	0	0	0	0	0	.010
Total	.417	.094	0	.010	0	.104	0	0	.001	0	0	.001	.522

Table 20. (Continued)

SMSA County Township and range	Public						Self-supplied Industry						Total
	Surface water	Sand and gravel	Major geohydrologic system			Total ground water	Surface water	Sand and gravel	Major geohydrologic system			Total ground water	
			Mississippian- Pennsylvanian	Silurian- Devonian	Cambrian- Ordovician				Mississippian- Pennsylvanian	Silurian- Devonian	Cambrian- Ordovician		
St. Clair County													
08201N07W	0	.016	0	0	0	.016	0	0	0	0	0	0	.016
08201N10W	0	0	0	0	0	0	.215	0	0	0	0	0	.215
08201S06W	1.582	0	0	0	0	0	0	0	0	0	0	0	1.582
08201S07W	0	0	0	0	0	0	1.647	0	0	0	0	0	1.647
08201S08W	0	0	.001	0	0	.001	0	0	0	0	0	0	.001
08202N07W	0	.004	0	0	0	.004	0	0	0	0	0	0	.004
08202N09W	0	.102	0	0	0	.102	0	8.518	0	0	0	8.518	8.620
08202N10W	19.342	0	0	0	0	0	0	2.909	0	0	0	2.909	22.252
08202S06W	0	.070	0	0	0	.070	0	.001	0	0	0	.001	.071
08202S07W	.629	0	0	0	0	0	0	0	0	0	0	0	.629
08202S08W	0	0	.003	0	0	.003	0	0	0	0	0	0	.003
08203N10W	0	0	0	0	0	0	0	2.879	0	0	0	2.879	2.879
08204S05W	0	0	0	0	0	0	.004	0	0	0	0	0	.004
08204S06W	0	0	0	0	0	0	.008	0	0	0	0	0	.008
<i>Total</i>	<i>21.554</i>	<i>.192</i>	<i>.004</i>	<i>0</i>	<i>0</i>	<i>.196</i>	<i>1.873</i>	<i>14.307</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>14.307</i>	<i>17.930</i>
Springfield													
Menard County													
06517N06W	0	.156	0	0	0	.156	0	0	0	0	0	0	.156
06518N06W	0	.047	0	0	0	.047	0	0	0	0	0	0	.047
06518N07W	0	.112	0	0	0	.112	0	0	0	0	0	0	.112
06519N05W	0	.046	0	0	0	.046	0	0	0	0	0	0	.046
06519N06W	0	.093	0	0	0	.093	0	0	0	0	0	0	.093
06519N07W	0	.281	0	0	0	.281	0	0	0	0	0	0	.281
06519N08W	0	.021	0	0	0	.021	0	0	0	0	0	0	.021
<i>Total</i>	<i>0</i>	<i>.756</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>.756</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>.756</i>
Sangamon County													
08414N07W	.051	0	0	0	0	0	0	0	0	0	0	0	.051
08415N03W	0	.044	0	0	0	.044	.894	<.001	0	0	0	<.001	.938
08415N05W	0	0	0	0	0	0	300.208	0	0	0	0	0	300.208
08415N07W	.068	0	0	0	0	0	0	0	0	0	0	0	.068
08416N02W	0	1.334	0	0	0	1.334	0	0	0	0	0	0	1.334
08416N03W	0	.044	0	0	0	.044	0	0	0	0	0	0	.044
08416N04W	0	.446	0	0	0	.446	.685	0	0	0	0	0	1.131
08416N05W	19.685	.004	0	0	0	.004	0	0	0	0	0	0	19.689
08416N06W	0	.315	0	0	0	.315	0	0	0	0	0	0	.315
08417N06W	0	.097	0	0	0	.097	0	0	0	0	0	0	.097
<i>Total</i>	<i>19.804</i>	<i>2.283</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>2.283</i>	<i>301.786</i>	<i><.001</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i><.001</i>	<i>323.873</i>

Table 21. Water Withdrawals within SMSA's,
Estimated and Reported 1984

<i>SMSA's*</i>	<i>Public supply (mgd)</i>	<i>Self-supplied industry (mgd)</i>	<i>Rural (mgd)</i>	<i>Fish and wildlife (mgd)</i>	<i>Total</i>
Bloomington-Normal	11.998	.897	5.976	.007	18.878
Champaign-Urbana-Rantoul	19.584	9.993	3.222	.001	32.799
Chicago	1318.239	6473.336	77.857	.062	7869.494
Davenport-Rock Island-Moline(IL)	23.835	902.318	9.423	.011	935.587
Decatur	28.183	6.395	1.426	<.001	36.005
Kankakee	12.375	.207	6.996	.002	19.580
Peoria	39.526	1070.535	21.041	.002	1131.104
Rockford	37.576	741.678	9.550	.006	788.810
St. Louis(IL)	82.215	401.779	15.631	.001	499.626
Springfield	22.843	301.786	2.175	<.001	326.304
<i>SMSA areas</i>	<i>1596.374</i>	<i>9908.924</i>	<i>153.298</i>	<i>.092</i>	<i>11658.689</i>
<i>non-SMSA areas</i>	<i>200.697</i>	<i>24713.959</i>	<i>227.442</i>	<i>30.892</i>	<i>25172.990</i>
State total	1797.071	34622.883	380.740	30.984	36831.679

Table 22. Water Withdrawals within SMSA's, Excluding
Electrical Power Generation, Reported 1984

<i>SMSA's*</i>	<i>Public supply (mgd)</i>	<i>Self-supplied industry (mgd)</i>	<i>Rural (mgd)</i>	<i>Fish and wildlife (mgd)</i>	<i>Total</i>
Bloomington-Normal	11.998	.897	5.976	.007	18.878
Champaign-Urbana-Rantoul	19.584	9.993	3.222	.001	32.799
Chicago	1318.239	350.230	77.857	.062	1746.389
Davenport-Rock Island-Moline(IL)	23.835	21.852	9.423	.011	55.121
Decatur	28.183	6.395	1.426	<.001	36.005
Kankakee	12.375	.207	6.996	.002	19.580
Peoria	39.526	59.610	21.041	.002	120.180
Rockford	37.576	6.628	9.550	.006	53.760
St. Louis(IL)	82.215	68.769	15.631	.001	166.616
Springfield	22.843	1.579	2.175	<.001	26.597
<i>SMSA areas</i>	<i>1596.374</i>	<i>526.160</i>	<i>153.298</i>	<i>.092</i>	<i>2275.923</i>
<i>non-SMSA areas</i>	<i>200.697</i>	<i>212.961</i>	<i>227.442</i>	<i>30.892</i>	<i>671.993</i>
State total	1797.071	739.121	380.740	30.984	2947.916

* 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.