Estimated Water Withdrawals and Use in Illinois, 1990

By Charles Avery

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CONVERSION FACTORS

Multiply	By	To obtain
foot (ft)	0. 3048	meter
inch (in.)	25.4	millimeter
million gallons per day (Mgal/d)	3,785	cubic meter per day
gallon per day (gal/d)	0.003785	cubic meter per day
gigawatt-hour (GWh)	$3{,}413 \times 10^9$	British thermal unit

Estimated Water Withdrawals and Use in Illinois, 1990

By Charles Avery

Abstract

The total amount of water withdrawn in Illinois during 1990 was about 18,016 million gallons per day (Mgal/d). This amount was about 740 Mgal/d less than in 1988. The total water withdrawn for thermoelectric-power generation was about 15,170 Mgal/d; about 370 Mgal/d was consumptively used. About 936 Mgal/d, or 33 percent, of the total water withdrawn in Illinois during 1990 was ground water, excluding withdrawals for thermoelectric-power generation; about 1,911 Mgal/d of surface water was withdrawn and used, excluding withdrawals for thermoelectric-power generation. Seventy-four percent of the total surface water, excluding withdrawals for thermoelectric-power generation, was withdrawn by public-supply facilities. The next largest use of surface water was for self-supplied industrial withdrawals. Forty-seven percent of the total ground water was withdrawn by public-supply facilities. The next largest use of ground water was for irrigation. About 25 Mgal/d of the total ground water withdrawn was saline. Sixty-five percent of the total water withdrawn, excluding thermoelectric withdrawals, in Illinois during 1990 was for public-supply facilities. The next largest users of the total water withdrawn was for self-supplied withdrawals by industries and for irrigation.

Water withdrawn and delivered from public-supply facilities in Illinois during 1990 totaled about 1,859 Mgal/d. Surface water and ground water were the sources for about 1,415 and 444 Mgal/d, respectively, of the withdrawals for public supply. The total water obtained from Lake Michigan for public-water supply was about 1,146 Mgal/d. About 115 Mgal/d was withdrawn for self-supplied domestic purposes. Total self-supplied withdrawals and deliveries from public-water facilities for commercial use were about 672 Mgal/d. About 173 Mgal/d was self supplied by the commercial establishments. Total irrigation water withdrawals were about 78 Mgal/d. Total estimated livestock withdrawals were about 63 Mgal/d. Total self-supplied withdrawals and deliveries from public-supply facilities for industrial purposes were about 728 Mgal/d. About 464 Mgal/d was self-supplied withdrawals by industrial facilities. A total of about 94 Mgal/d was withdrawn during mining activities. A total of about 33 Mgal/d was withdrawn during mining from ground-water sources; about 25 Mgal/d of the ground water withdrawn was saline.

INTRODUCTION

Water-use information aids in the planning and management of water resources in Illinois. Water-use data serve the needs of governmental agencies, public water-supply operators, water-resource managers, and researchers for assessing current water-use patterns and anticipating future water demands. This report, prepared in cooperation with the Illinois State Water Survey (ISWS), provides statewide water-use data for

1990. The last comprehensive water-use report for Illinois provides data for 1988 (Avery, 1995).

The State of Illinois has an abundant but finite supply of *surface water*[1] and *ground water*. The State is bounded by major surface-water resources; the Mississippi River on the western border, the Ohio and Wabash Rivers on the south and southeast, and Lake Michigan on the northeast (fig. 1). Major tributaries to the rivers bounding the State are the Illinois, Kaskaskia, Rock, Big Muddy, Embarras, and Kankakee Rivers. No saline surface-water sources are found in Illinois. Ground water also is a widely available *freshwater* resource in Illinois. Major aquifers underlying Illinois include the saturated unconsolidated sand and gravel deposits, the Pennsylvanian-Mississippian aquifer, Silurian aquifer, and the Cambrian-Ordovician aquifer (U.S. Geological Survey, 1985).

Definition of terms is critical in understanding water-use data. Water-use terms utilized in this report are presented in the glossary (at the back of the report). Definitions of water-use terms in the glossary are from Solley and others (1993). This report deals primarily with water *withdrawals*. Some withdrawal data are documented quantities, obtained from questionnaires sent to water users by the ISWS, of water withdrawn for *public supply*, for commercial establishments, for industrial and mining activities, and for thermoelectric-power generation. Other withdrawal values are estimated quantities of water, determined by extrapolating from related known data for the categories of domestic, irrigation, and livestock use. Water withdrawn in a county or hydrologic unit (drainage basin) may or may not be used in the same county or hydrologic unit; when water-withdrawal values are estimated, it is assumed that the water was withdrawn in the same county or hydrologic unit as its use, which may or may not be the case, however.

Data bases of water-use information are maintained by the ISWS and the U.S. Geological Survey (USGS). The data base maintained by the USGS includes water-withdrawal data collected and aggregated by the ISWS, water-returns data collected by the Illinois Environmental Protection Agency, and water-use data estimated by the USGS. This USGS data base contains a site-specific water-use data system (SSWUDS) and an aggregated water-use data system (AWUDS).

[1]Italicized terms are defined in the Glossary.

Purpose and Scope

The purpose of this report is to present aggregated data on water withdrawals during 1990 in Illinois. Water-withdrawal data were collected from public-supply facilities, mining companies, thermoelectric-power generating plants, and self-supplied commercial and industrial establishments. Withdrawals for self-supplied domestic, irrigation, and livestock purposes were estimated by means of methods discussed later in the report. The data for the entire State were aggregated by county (fig. 1) and hydrologic unit (fig. 2).

Acknowledgments

The author thanks Kenneth J. Hlinka, Kris K. Klindworth, and Kay M. Charles of the Illinois State Water Survey for the time and effort expended to collect and compile the water-withdrawal data for 1990.

METHODOLOGY

Water-withdrawal data are collected or estimated using various methods. Data provided by the water users generally are more accurate than estimates because they are measured values, in most cases.

Collection of Water-Withdrawal Data

Water-withdrawal data (primarily site-specific metered usage) for public-supply facilities, mining companies, thermoelectric-power generating plants, and self-supplied commercial and industrial establishments are obtained every year from questionnaires sent to about 4,000 water users by the ISWS. The water users are asked to return the forms to the ISWS where the data are checked and digitized. If a water user does not respond to the questionnaire, a second questionnaire is sent, and a follow-up telephone call is made as a final recourse. If it is determined that a water user cannot provide the data, an amount is estimated based on other information provided by the water user or by extrapolating data from previous years. If no previous data are available to make an estimate, no withdrawal data for that water user are entered into the data base. These data are aggregated by county and hydrologic unit by the ISWS and released to the USGS.

Water-Withdrawals Estimation Techniques

Water use for self-supplied domestic, irrigation, and livestock purposes is estimated from other related data available by county aggregation, such as population and agricultural census figures. The estimated withdrawal data are subsequently aggregated by hydrologic unit by multiplying the proportion of each hydrologic unit within a county by the water-use estimate for the county. It is assumed that all unmetered *self-supplied water* use for domestic purposes, irrigation, and livestock in Illinois is obtained from ground-water sources, except for a small amount of surface water used for irrigation. The estimated withdrawal data are entered directly into AWUDS. Deliveries from public supplies were estimated for domestic, commercial, industrial, and thermoelectric-power generation uses.

Self-Supplied Domestic Withdrawals

Self-supplied *domestic water use* is estimated by multiplying an estimated rural domestic per capita water use for each county by the self-supplied population for each county. The estimated rural domestic per capita water use in each county is the average per capita water use of the small water-supply systems that serve 800 people or less and have two or less commercial establishments (Kirk, 1987, p. 7). The self-supplied population is the difference between the total county population and the population served by public water-supply facilities in the county. The statewide average rural domestic per capita water use during 1990 was calculated at 95 gal/d.

Irrigation Withdrawals

Irrigation water withdrawals are estimated by multiplying the irrigated crop acreage by the cumulative moisture surplus or deficit for plant transpiration determined from rainfall amounts (Kirk, 1987). The irrigated crop acreage in each county was obtained from Bowman and Kimpel (1991). Counties with a large number of golf courses have had the acreage of the golf courses included as irrigated acreage. Daily rainfall totals at weather stations for nearly all the counties were obtained from the monthly reports of the National Oceanic and Atmospheric Administration (1991a, 1991b, 1991c, 1991d). The rainfall between May 1 and August 31, 1990, was totaled on a 7-day basis and the seasonal cumulative moisture surplus or deficit was determined for each county by the following procedure.

1. If more than 1.25 in. of rain falls during the first 7 days of the growing season, one-half the amount of rain exceeding 1.25 in. is assumed to contribute to moisture surplus and is added to the cumulative moisture determination. If less than 1.25 in. of rain falls during that period, the difference between the actual rainfall and 1.25 in. is estimated to be the quantity of water, in inches, applied by irrigation during that period. This difference is subtracted from the cumulative moisture determination.

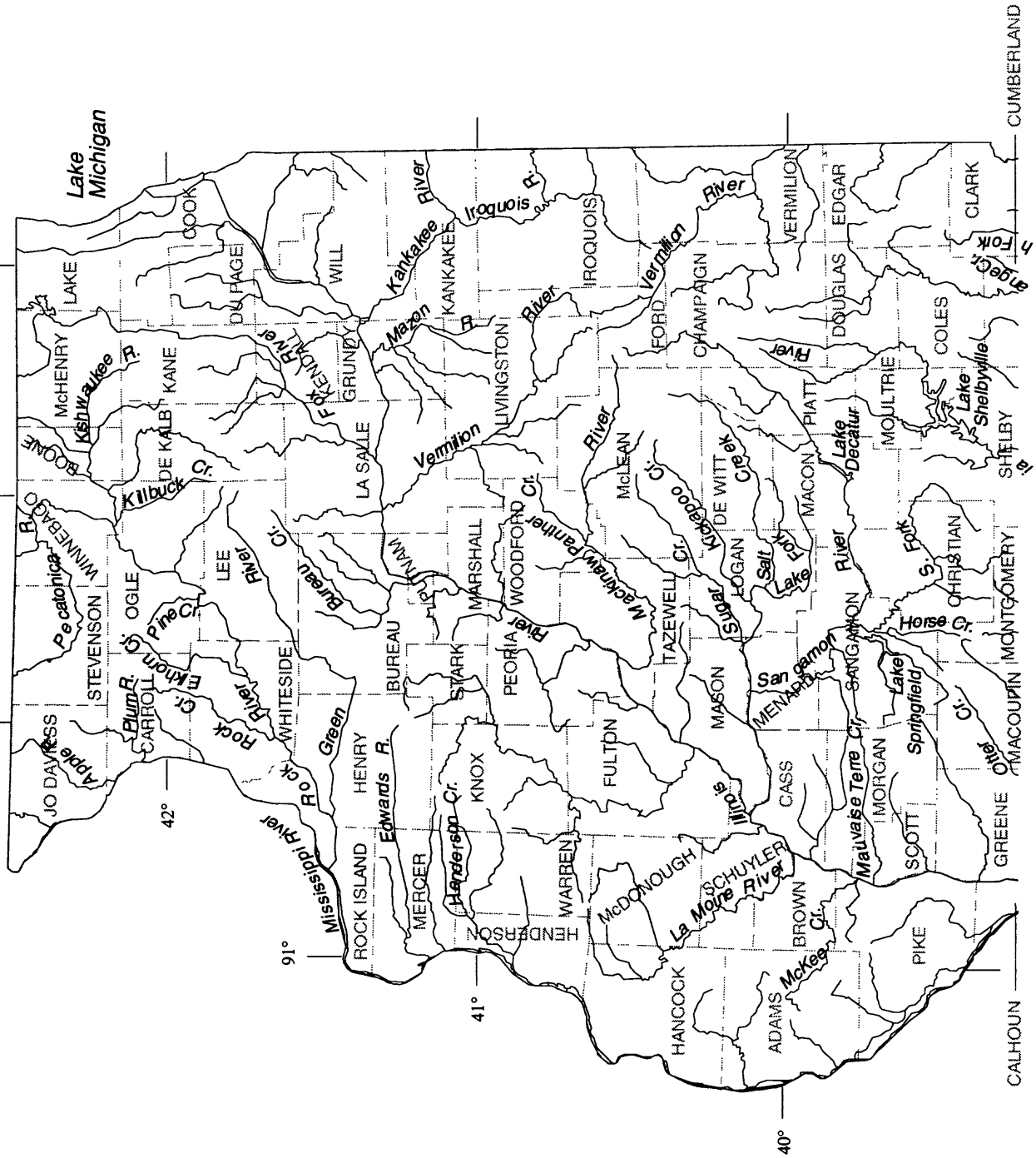
2. For each subsequent 7-day period during the growing season, the rainfall is totaled. One-half of the rainfall during the period in excess of 1.25 in. is added to the cumulative moisture determination. If the rainfall amount is less than 1.25 in., then the difference is subtracted from the cumulative moisture determination. The seasonal cumulative moisture surplus or deficit is determined for the entire crop-growing season. If the seasonal moisture is in deficit, this value is the total estimated irrigation water applied, in inches, for the year.

The rainfall and cumulative moisture surplus or deficit for plant transpiration were determined for each county for the 1990 crop-growing season. The total *irrigation water use* in each county was calculated by multiplying the cumulative moisture deficit, in inches, by the irrigated acreage for the county. The total irrigation water use was divided by 365 days to obtain a daily rate for the year.

Livestock Withdrawals

Water use for livestock purposes is determined by multiplying the county population of each major type of farm animal by the estimated water directly consumed by the animal and other water used in association with the animal (Kirk, 1987). The major animal populations for each county were obtained from the U.S. Bureau of Census (1989). The estimated water used from direct consumption by and uses associated with each animal type are as follows:

Animal type	Estimated water use (gallons per day)
Dairy cows	35.0
Beef cattle	12.0
Horses and mules	12.0
Hogs	4.0
Goats	3.0
Sheep	2.0
Turkeys	.12
Chickens	.06
Rabbits	.05
Mink	.03


Lake Michigan
88°
89°
90°
91°
42°
41°
40°
JO DAVIESS
STEPHENSON
WINNEBAGO
BOONE
McHENRY
LAKE
COOK
DU PAGE
KANE
DE KALB
WILL
GRUNDY
KENDALL
LA SALLE
LIVINGSTON
IROQUOIS
FORD
CHAMPAIGN
VERMILION
EDGAR
CLARK
CUMBERLAND
DOUGLAS
COLES
MOULTRIE
PIATT
DE WITT
MACON
SHELBY
CARROLL
OGLE
LEE
WHITESIDE
BUREAU
MARSHALL
PUTNAM
STARK
WOODFORD
PEORIA
McLEAN
TAZEWELL
LOGAN
MASON
MENARD
SANGAMON
CHRISTIAN
MONTGOMERY
MACOUPIN
ROCK ISLAND
HENRY
MERCER
KNOX
WARREN
HENDERSON
FULTON
McDONOUGH
SCHUYLER
CASS
MORGAN
SCOTT
GREENE
CALHOUN
HANCOCK
ADAMS
BROWN
PIKE
Apple R.
Plum R.
Pecatonica R.
Elkhorn Cr.
Pine Cr.
Rock River
Killbuck Cr.
Kishwaukee R.
Green R.
Edwards R.
Henderson Cr.
Mississippi River
Bureau Cr.
Vermilion River
Kankakee River
Iroquois R.
Mazon R.
Illinois
La Moine River
Mackinaw River
Panther Cr.
Kickapoo Cr.
Sugar Creek
Salt Fork
Lake Decatur
Lake Shelbyville
Lake Springfield
Sangamon River
Horse Cr.
Mauvaise Terre Cr.
McKee Cr.
Otter Cr.
Big Creek
South Fork

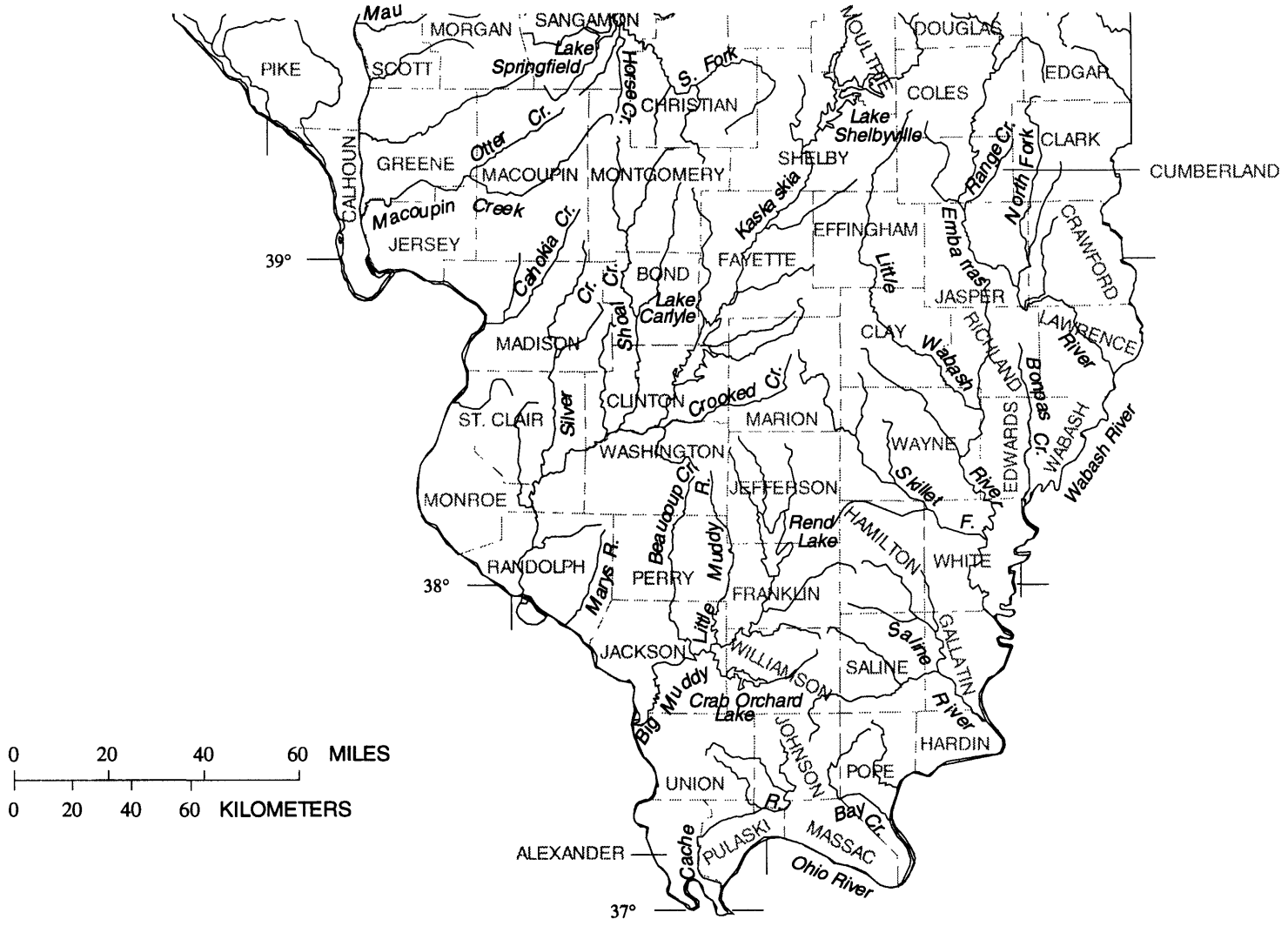


Figure 1. Counties and major surface-water bodies in Illinois.

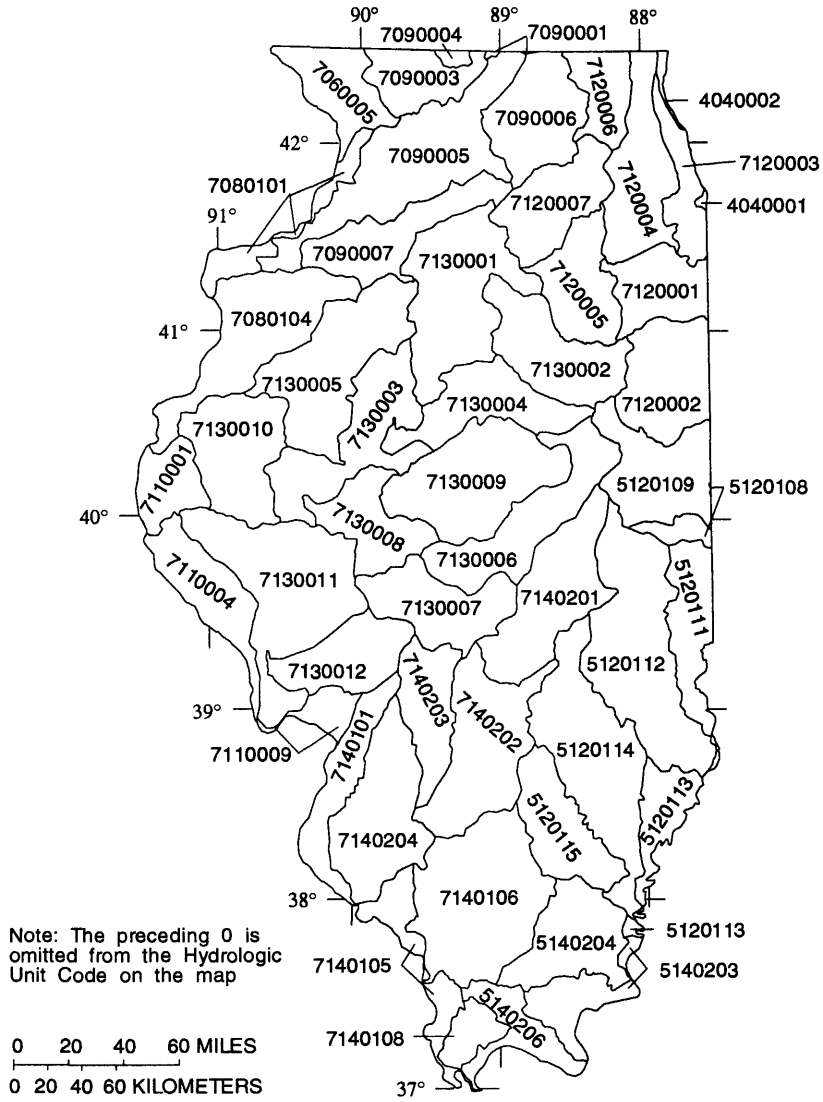


Figure 2. Hydrologic-unit boundaries in Illinois.

EXPLANATION

HYDROLOGIC-UNIT CODE	DRAINAGE BASIN NAME
04040001	Little Calumet-Galien
04040002	Pike-Root
04060200	Lake Michigan (not shown)
05120108	Middle Wabash-Little Vermilion
05120109	Vermilion (Wabash River drainage)
05120111	Middle Wabash-Busseron
05120112	Embarras
05120113	Lower Wabash
05120114	Little Wabash
05120115	Skillet
05140203	Lower Ohio-Bay
05140204	Saline
05140206	Lower Ohio
07060005	Apple-Plum
07080101	Copperas-Duck
07080104	Flint-Henderson
07090001	Upper Rock
07090003	Pecatonica
07090004	Sugar
07090005	Lower Rock
07090006	Kishwaukee
07090007	Green
07110001	Bear-Wyaconda
07110004	The Sny
07110009	Peruque-Piasa
07120001	Kankakee
07120002	Iroquois
07120003	Chicago
07120004	Des Plaines
07120005	Upper Illinois
07120006	Upper Fox
07120007	Lower Fox
07130001	Lower Illinois-Senachwine Lake
07130002	Vermilion (Illinois River drainage)
07130003	Lower Illinois-Lake Chautauqua
07130004	Mackinaw
07130005	Spoon
07130006	Upper Sangamon
07130007	South Fork Sangamon
07130008	Lower Sangamon
07130009	Salt
07130010	La Moine
07130011	Lower Illinois
07130012	Macoupin
07140101	Cahokia-Joachim
07140105	Upper Mississippi-Cape Girardeau
07140106	Big Muddy
07140108	Cache
07140201	Upper Kaskaskia
07140202	Middle Kaskaskia
07140203	Shoal
07140204	Lower Kaskaskia

(modified from Seaber and others, 1987)

ESTIMATED WATER WITHDRAWALS AND USE IN ILLINOIS, 1990

Only *offstream uses* of water in Illinois are presented in this report; *instream uses*, such as for hydroelectric-power generation, are not considered. Data are aggregated by county and hydrologic unit. Surface-water and ground-water withdrawals are aggregated by major categories of water use.

Public-Supply Withdrawals

Water withdrawn and delivered from public-supply facilities in Illinois during 1990 totaled about 1,859 Mgal/d (tables 1 and 2; all tables at end of report); about 1,956 Mgal/d was withdrawn in 1988 (Avery, 1995). Surface water and ground water were the sources for about 1,415 and 444 Mgal/d, respectively, of the withdrawals for public supply during 1990; about 1,495 and 462 Mgal/d of surface water and ground water, respectively, were withdrawn in 1988 (Avery, 1995).

Withdrawals from ground water and surface water for public supply are subsequently delivered to water users connected to the water-distribution system. Water from public-supply facilities is delivered to households for domestic purposes, commercial establishments, industrial concerns, and thermoelectric-power plants. Eighty-nine, seventy-four, and thirty-six percent of the water used for domestic, commercial, and industrial purposes, respectively, were delivered by public-supply facilities. A minimal amount (less than 2 Mgal/d) of water was delivered by public-supply facilities to thermoelectric-power generators.

Eighty-eight percent of the population of Illinois are served by public-supply facilities. The largest withdrawals of ground water for public supply were in Champaign, Cook, Du Page, Kane, Lake, La Salle, McHenry, Madison, Peoria, Tazewell, Will, and Winnebago Counties (fig. 3). The largest amounts of surface water withdrawn for public supply were from Lake Michigan, the Mississippi River, and the Sangamon River. About 1,146 Mgal/d, or 81 percent of the surface water withdrawn and used in Illinois for public supply, is obtained from Lake Michigan (hydrologic unit 04060200) (table 2). Counties with large withdrawals from surface-water sources for public supply were Cook, Lake, Macon, Madison, and Sangamon (fig. 4).

Estimated Self-Supplied Domestic Withdrawals

Self-supplied water for domestic use includes the relatively small amounts of water used by individual households. All self-supplied domestic water in Illinois is reported to be ground water obtained from a water well or spring (Kirk, 1987). About 115 Mgal/d is estimated to have been withdrawn for self-supplied domestic purposes in 1990 (tables 1 and 2); about 122 Mgal/d was estimated to have been used in 1988 (Avery, 1995).

About 11 percent of the total water used for domestic use in Illinois was self supplied. The largest withdrawals of self-supplied domestic water were in Du Page, Lake, McHenry, Will, and Winnebago Counties (fig. 5). The population served by public-supply facilities and the self-supplied population in Illinois are shown in tables 3 and 4. The greatest proportion of self-supplied to public-supplied population is in Calhoun, Cumberland, Edwards, Henderson, Jasper, Kendall, and Shelby Counties.

Commercial Withdrawals

Total self-supplied withdrawals and deliveries from public-water facilities for commercial use were about 672 Mgal/d (tables 5 and 6). About 173 Mgal/d was self supplied by the commercial establishments. More surface water than ground water was withdrawn for self-supplied commercial use. The largest self-supplied commercial withdrawals of ground water were in Champaign, Cook, Du Page, Jackson, Madison, Mason, Massac, and St. Clair Counties (fig. 6). The largest self-supplied commercial withdrawals of surface water were in Calhoun, Carroll, Cook, Jersey, and Williamson Counties (fig. 7).

Estimated Irrigation Withdrawals

Total irrigation withdrawals were estimated to have been about 78 Mgal/d in 1990 (tables 7 and 8); about 302 Mgal/d was withdrawn in 1988 (Avery, 1995). Irrigated acreage has increased from 281,370 in 1988 (Avery, 1995) to 286,540 acres in 1990.

Irrigation water is applied during the growing season of May–August, but the total water used is averaged over the entire year (as presented in this report). The source of most irrigation water is ground water,

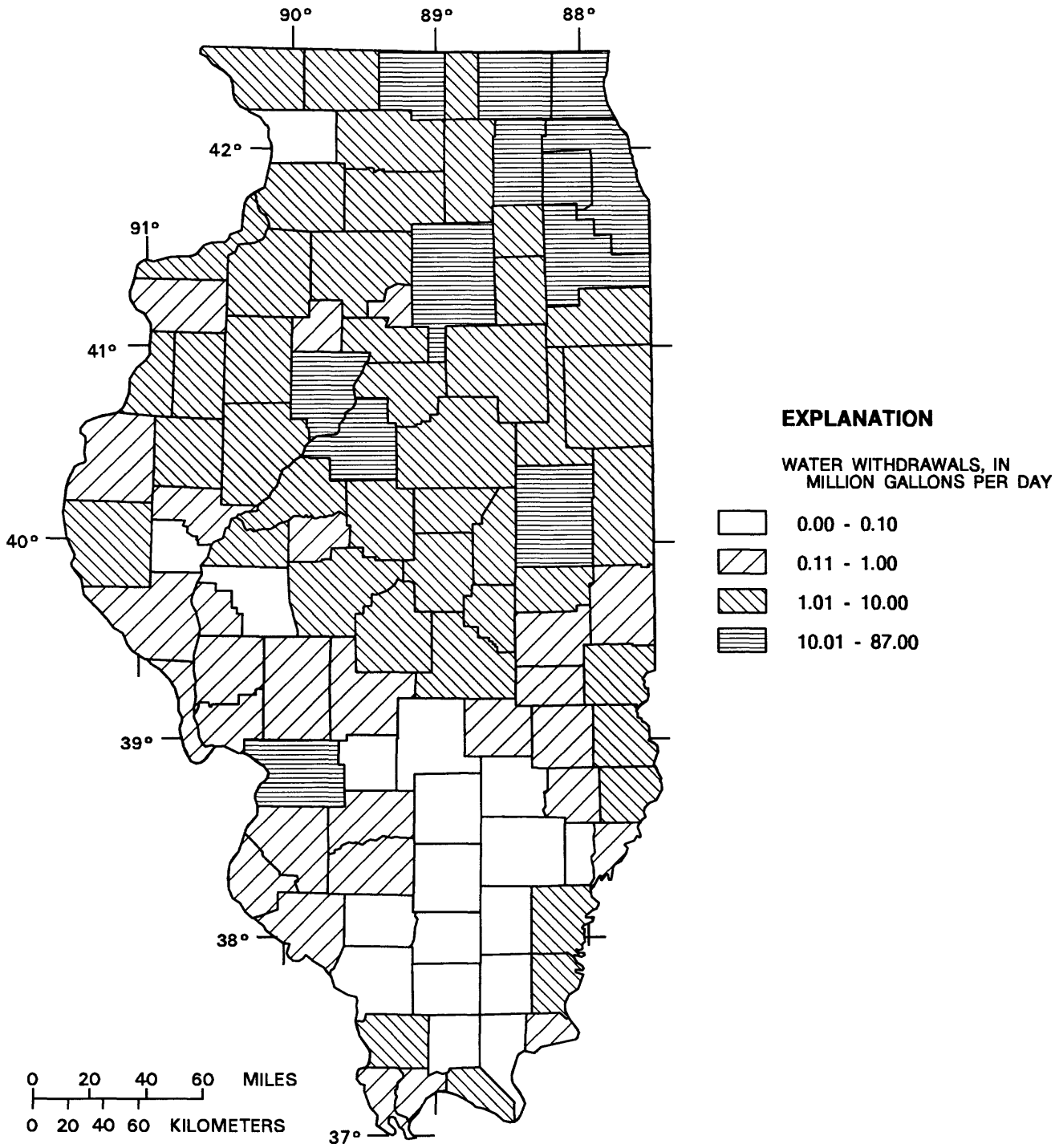


Figure 3. Public-supply withdrawals of ground water in Illinois, by county, 1990.

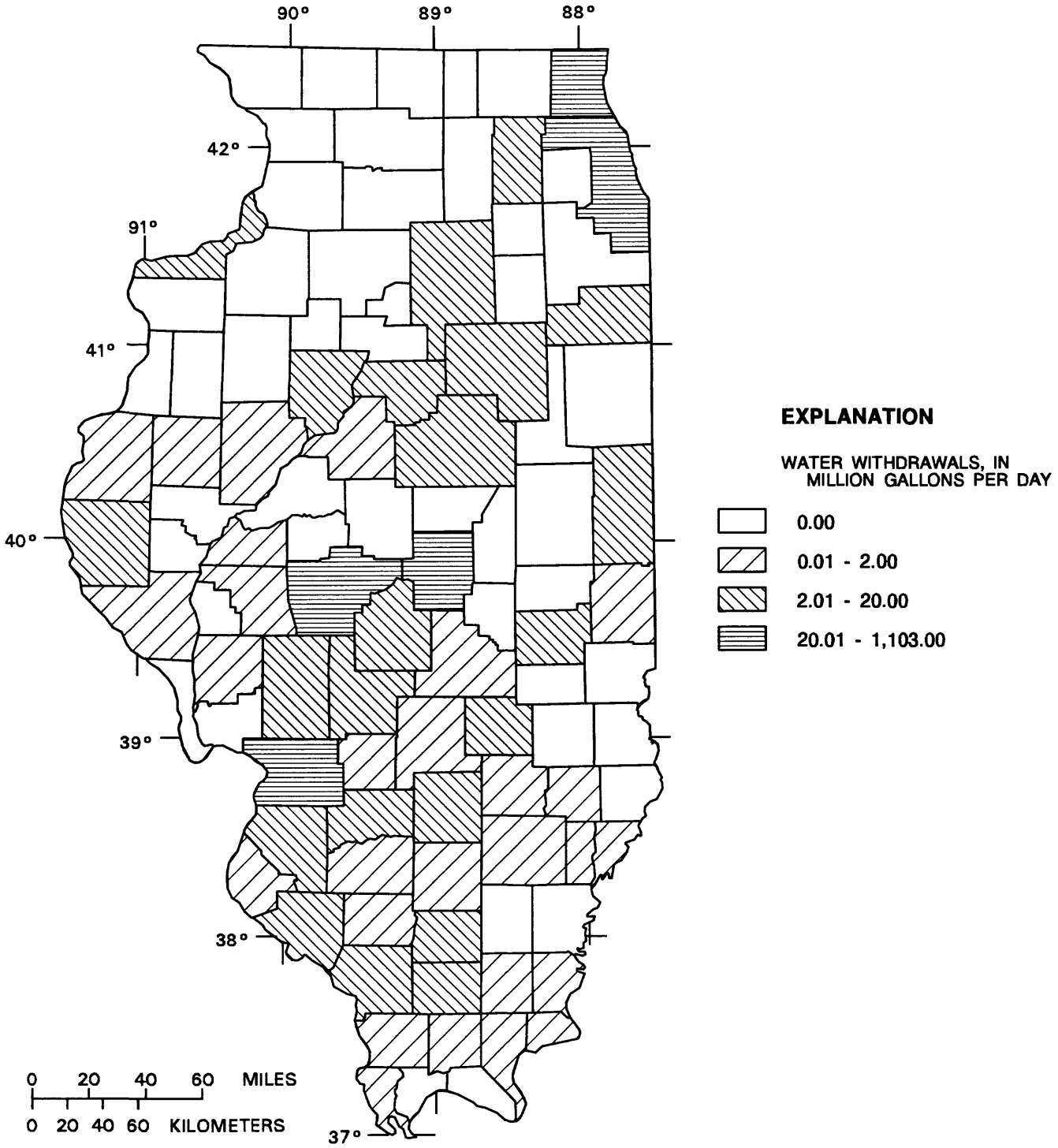


Figure 4. Public-supply withdrawals of surface water in Illinois, by county, 1990.

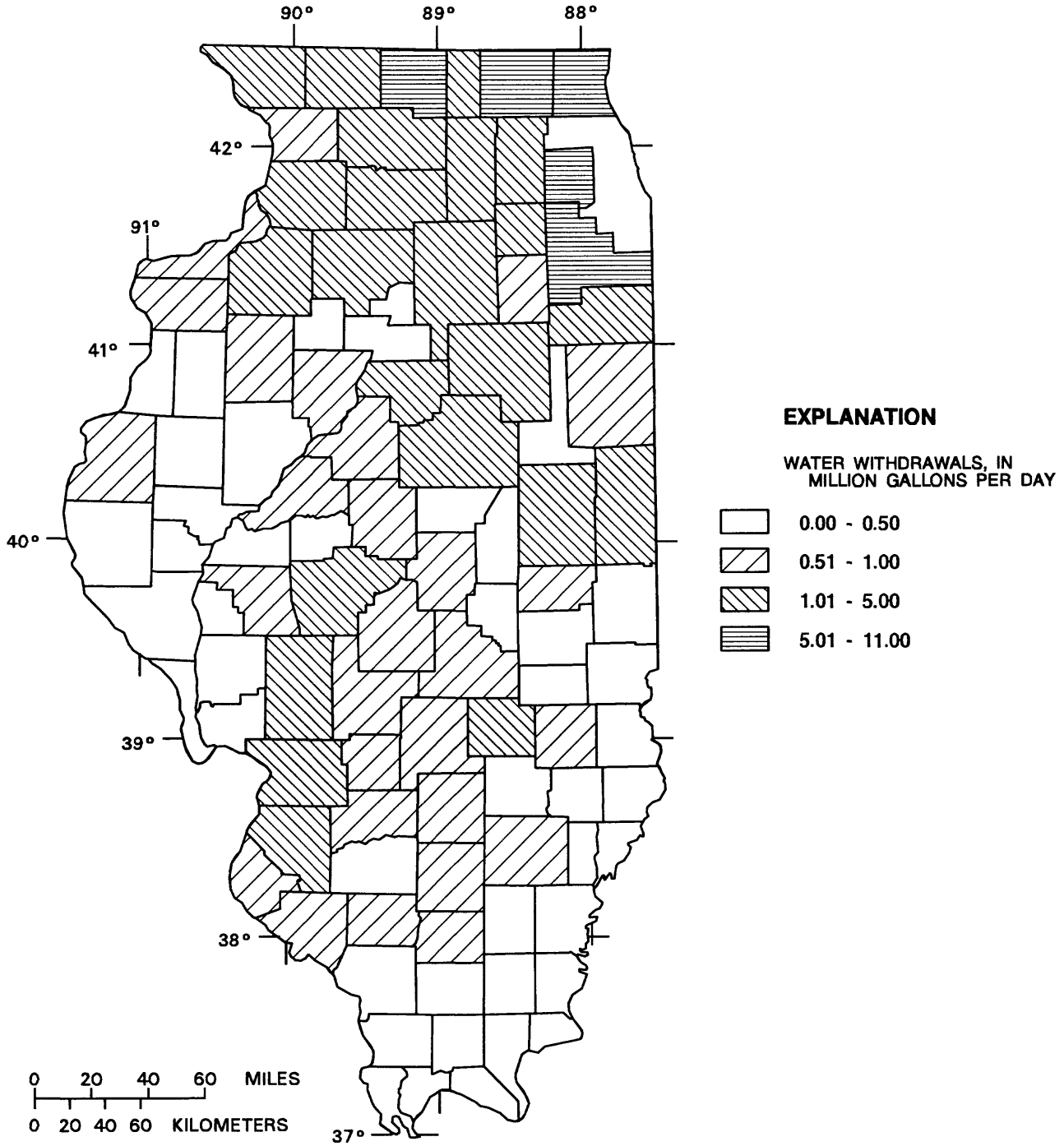


Figure 5. Estimated self-supplied domestic withdrawals of water in Illinois, by county, 1990.

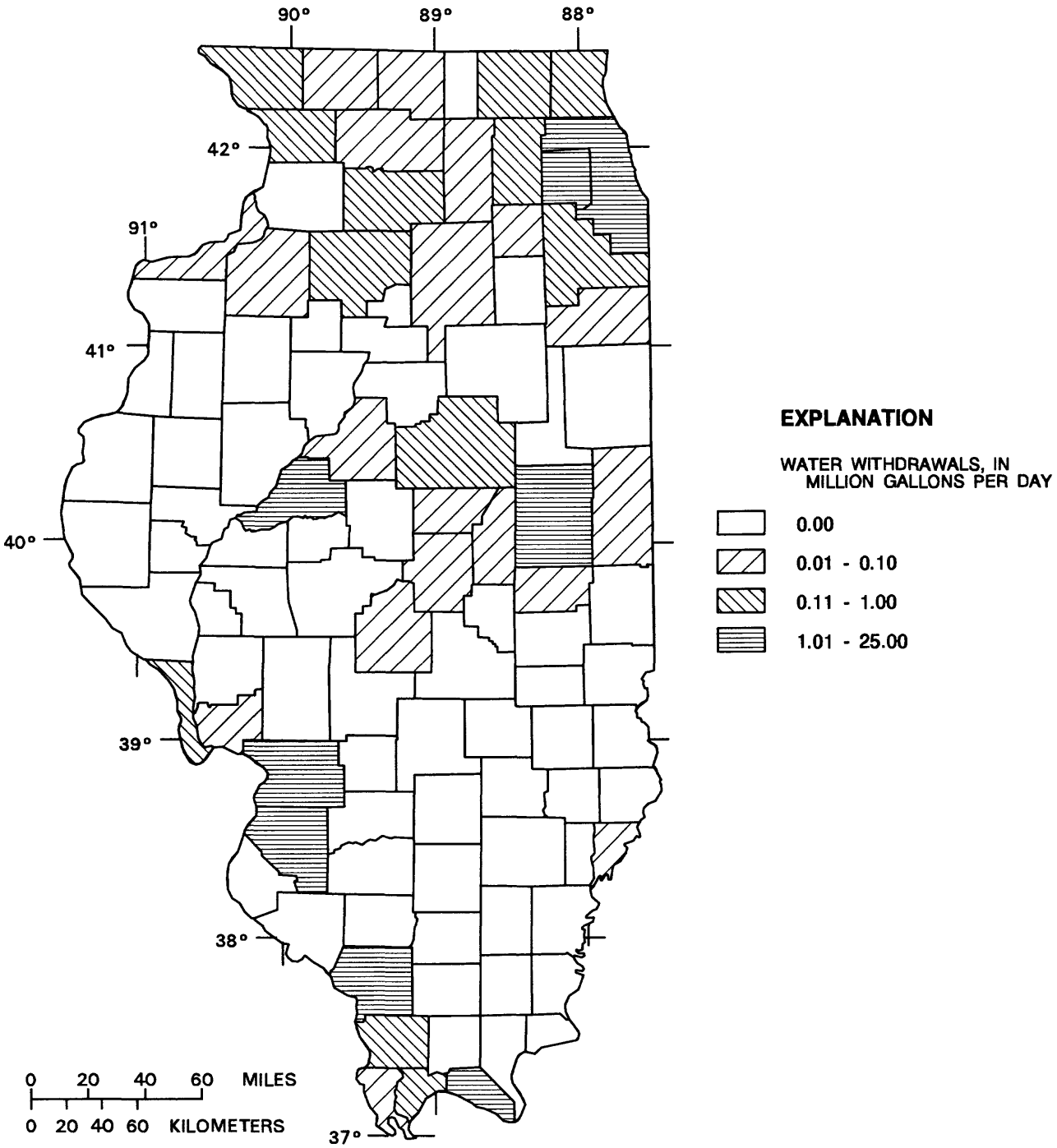


Figure 6. Self-supplied commercial withdrawals of ground water in Illinois, by county, 1990.

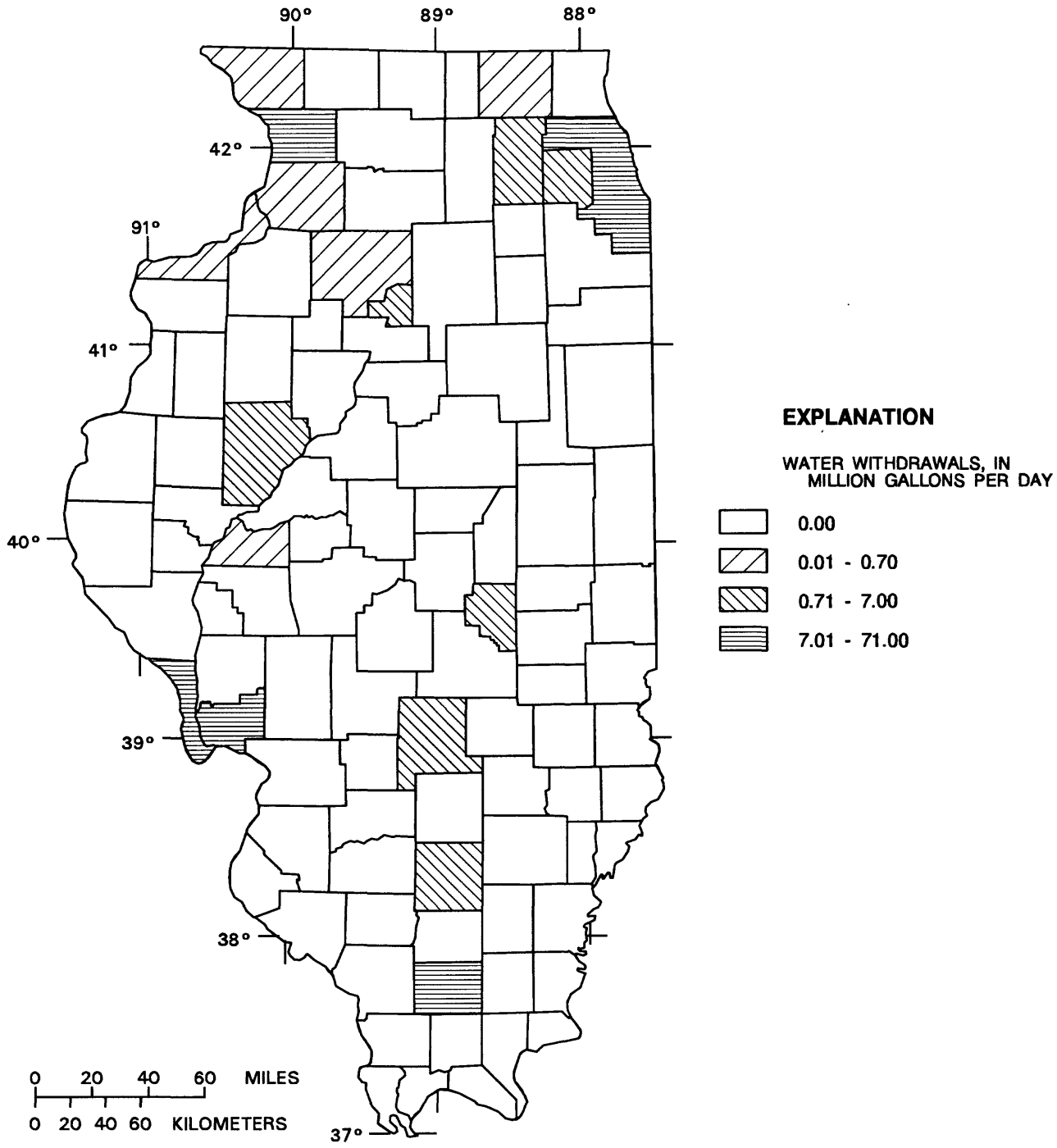


Figure 7. Self-supplied commercial withdrawals of surface water in Illinois, by county, 1990.

except for relatively small amounts (less than 1 Mgal/d) of surface water applied in numerous counties throughout the State. All ground water used for irrigation is applied by spray methods; thus, very little *conveyance loss* results during the process of irrigation. Most of the irrigation water was used in Clark, Cook, Du Page, Gallatin, Kankakee, Lawrence, Lee, Mason, Tazewell, White, and Whiteside Counties (fig. 8).

Estimated Livestock Withdrawals

Total withdrawals for livestock and animal specialties use were about 63 Mgal/d in 1990 (tables 7 and 8); about 56 Mgal/d was used for livestock in 1988 (Avery, 1995). It is assumed that the source of water for livestock uses is ground water, either wells or springs. About 9 Mgal/d of ground water and about 2 Mgal/d of surface water were used for animal specialties. The largest use for livestock and animal specialties was in Henry, Jo Daviess, Mason, and Stephenson Counties (fig. 9).

Industrial Withdrawals

Self-supplied withdrawals and deliveries from public supply for industrial use were about 728 Mgal/d in 1990 (tables 9 and 10); about 743 Mgal/d was used in 1988 (Avery, 1995). The industries included in this category are the 20 major Division D Manufacturing groups from the Standard Industrial Classification Manual (Office of Management and Budget, 1987). About 464 Mgal/d was self-supplied withdrawals by industrial facilities; 33 percent of the self-supplied water was from ground-water sources. The largest self-supplied withdrawals of ground water for industrial use were in Adams, Champaign, Cook, Grundy, La Salle, Madison, Massac, Morgan, Peoria, Rock Island, Tazewell, Whiteside, Will, and Winnebago Counties (fig. 10). The largest self-supplied withdrawals of surface water for industrial use were in Cook, Lake, Madison, Peoria, Rock Island, Tazewell, and Will Counties (fig. 11). No saline ground water or surface water is withdrawn for industrial use.

Mining Withdrawals

A total of about 94 Mgal/d was withdrawn during mining activities in 1990; about 94 Mgal/d was withdrawn in 1988 (Avery, 1995). Both fresh and saline ground water are withdrawn during mining (tables 11 and 12). Only fresh surface water occurs in Illinois; thus, the fresh surface water used during mining is all freshwater. About 61 Mgal/d of mining withdrawals was from surface-water sources. About 33 Mgal/d of mining withdrawals was from ground-water sources; about 25 Mgal/d of the ground water was saline. Most of the ground water withdrawn during mining was in the southern Illinois counties of Crawford, Fayette, Gallatin, Hardin, Jasper, Lawrence, Perry, Wabash, Wayne, and White (fig. 12). Most of the surface water withdrawn during mining was in Champaign, DeKalb, Franklin, La Salle, McHenry, Perry, St. Clair, Saline, and Williamson Counties (fig. 13). The total consumptive use of the water withdrawn during mining was about 46 Mgal/d, or about 49 percent of the total water withdrawn during mining (tables 11 and 12).

Thermoelectric-Power Generation Withdrawals

Self-supplied withdrawals and deliveries from public supplies for thermoelectric-power generation were about 15,170 Mgal/d in 1990 (tables 13 and 14); about 15,589 Mgal/d was withdrawn in 1988 (Avery, 1995). Both fossil-fuel and nuclear-fuel thermoelectric-power generators are included in this category.

Most of the water withdrawn for thermoelectric-power generation is from surface-water sources and is withdrawn at or near the power-generating stations, although a small amount of water is obtained from self-supplied ground water and deliveries from public-water facilities. Most of the ground water withdrawn for thermoelectric-power generation was in Rock Island, Tazewell, and Will Counties (fig. 14). Most of the surface water withdrawn for thermoelectric-power generation was in Grundy, Lake, Randolph, and Will Counties (fig. 15). *Consumptive use* of water for thermoelectric-power generation was about 370 Mgal/d, or about 2 percent of the total water withdrawn for thermoelectric-power generation.

Total Water Withdrawals

The total amount of water withdrawn in Illinois during 1990 was about 18,016 Mgal/d (tables 15 and 16). This amount was about 740 Mgal/d less than in

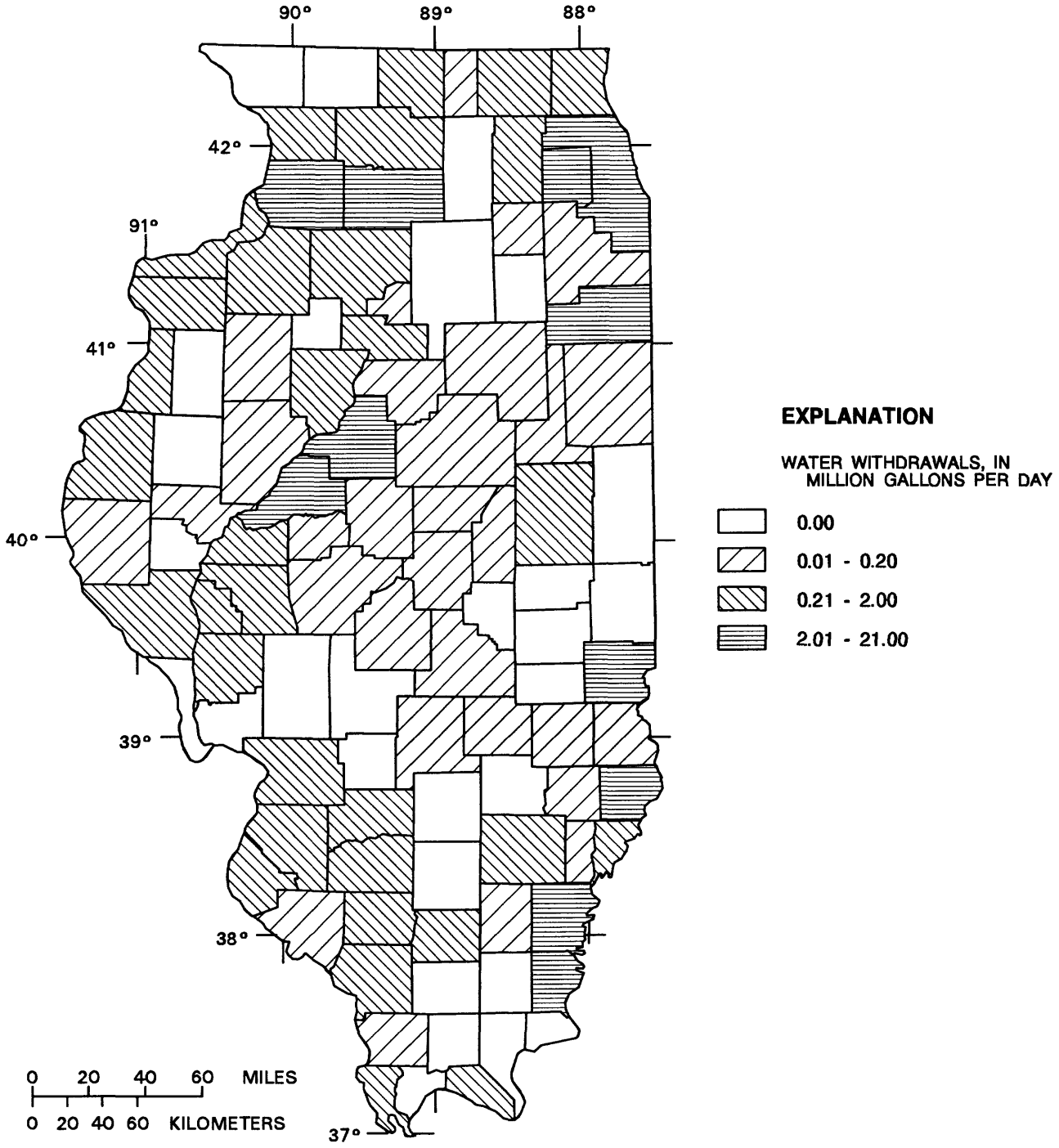


Figure 8. Estimated irrigation withdrawals of water in Illinois, by county, 1990.

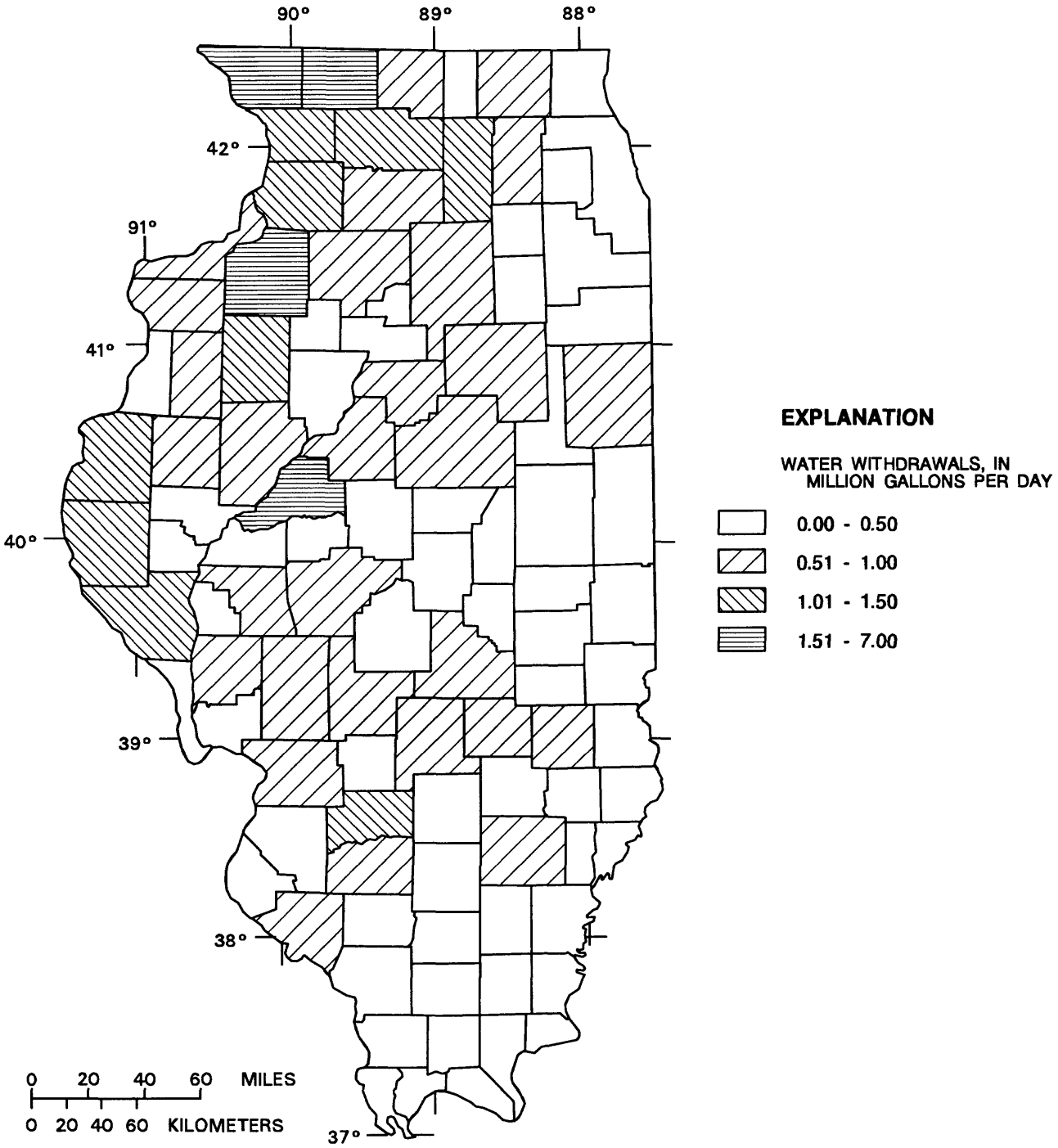


Figure 9. Estimated livestock and animal specialties withdrawals of water in Illinois, by county, 1990.

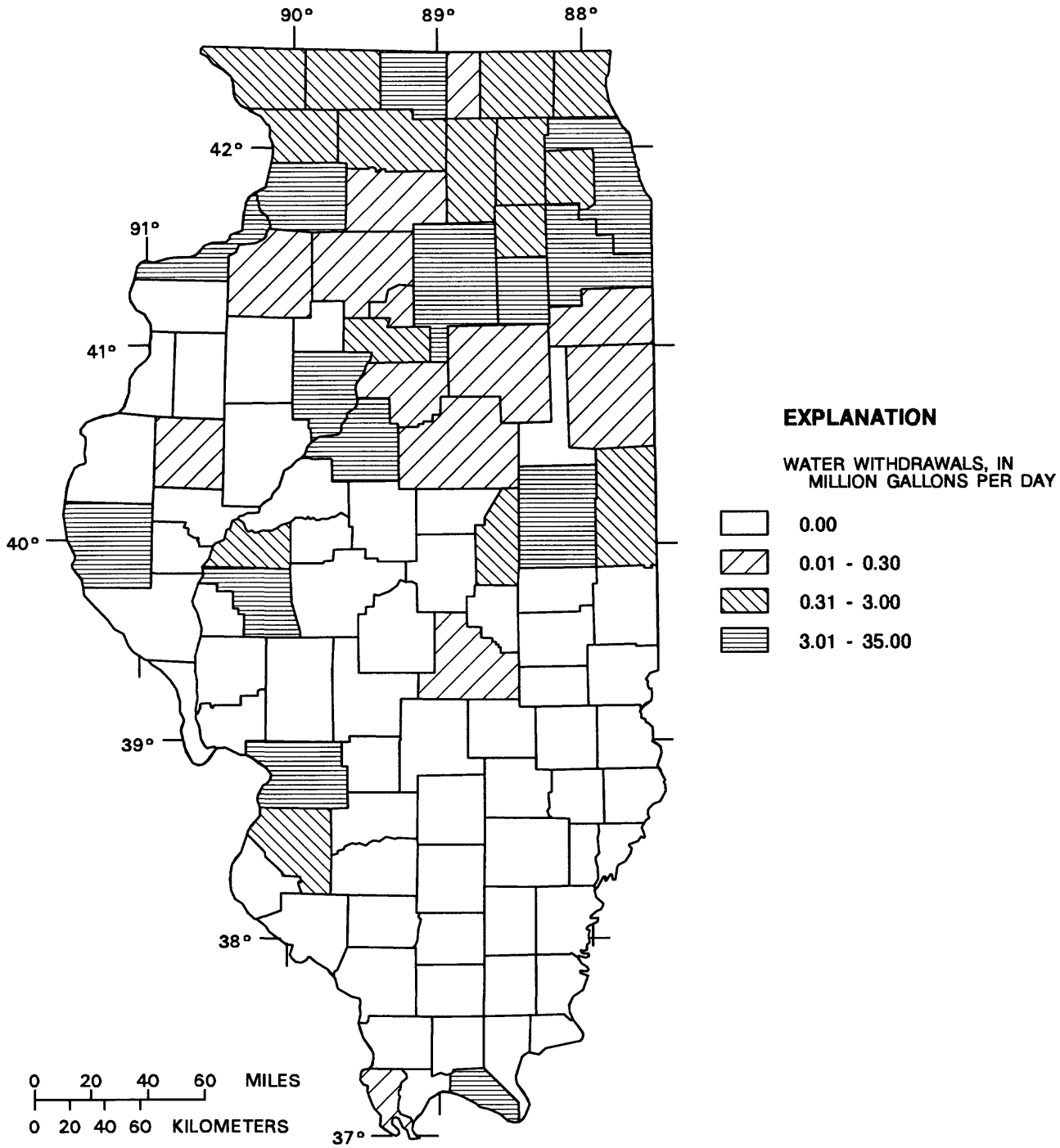


Figure 10. Self-supplied industrial withdrawals of ground water in Illinois, by county, 1990.

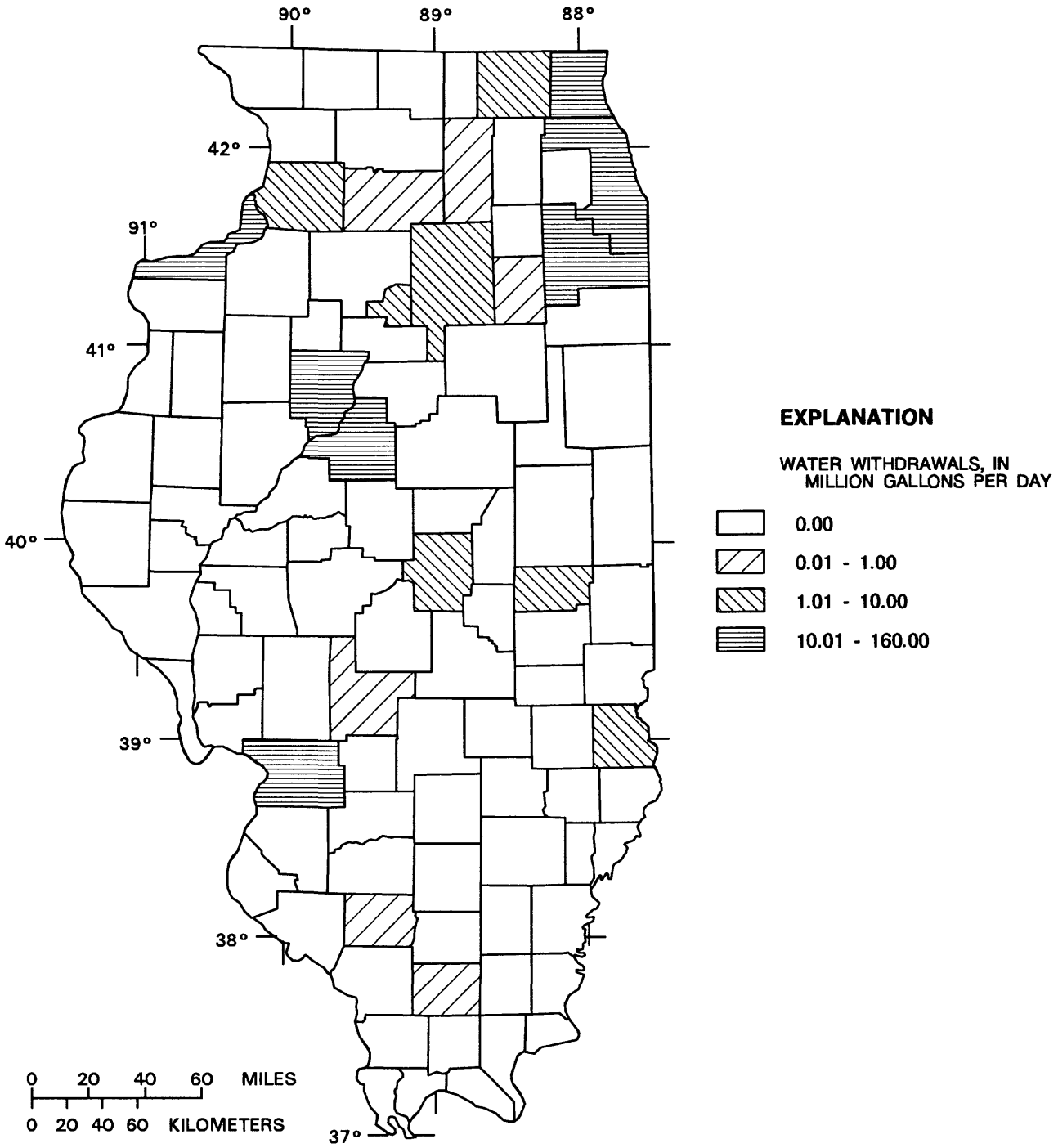


Figure 11. Self-supplied industrial withdrawals of surface water in Illinois, by county, 1990.

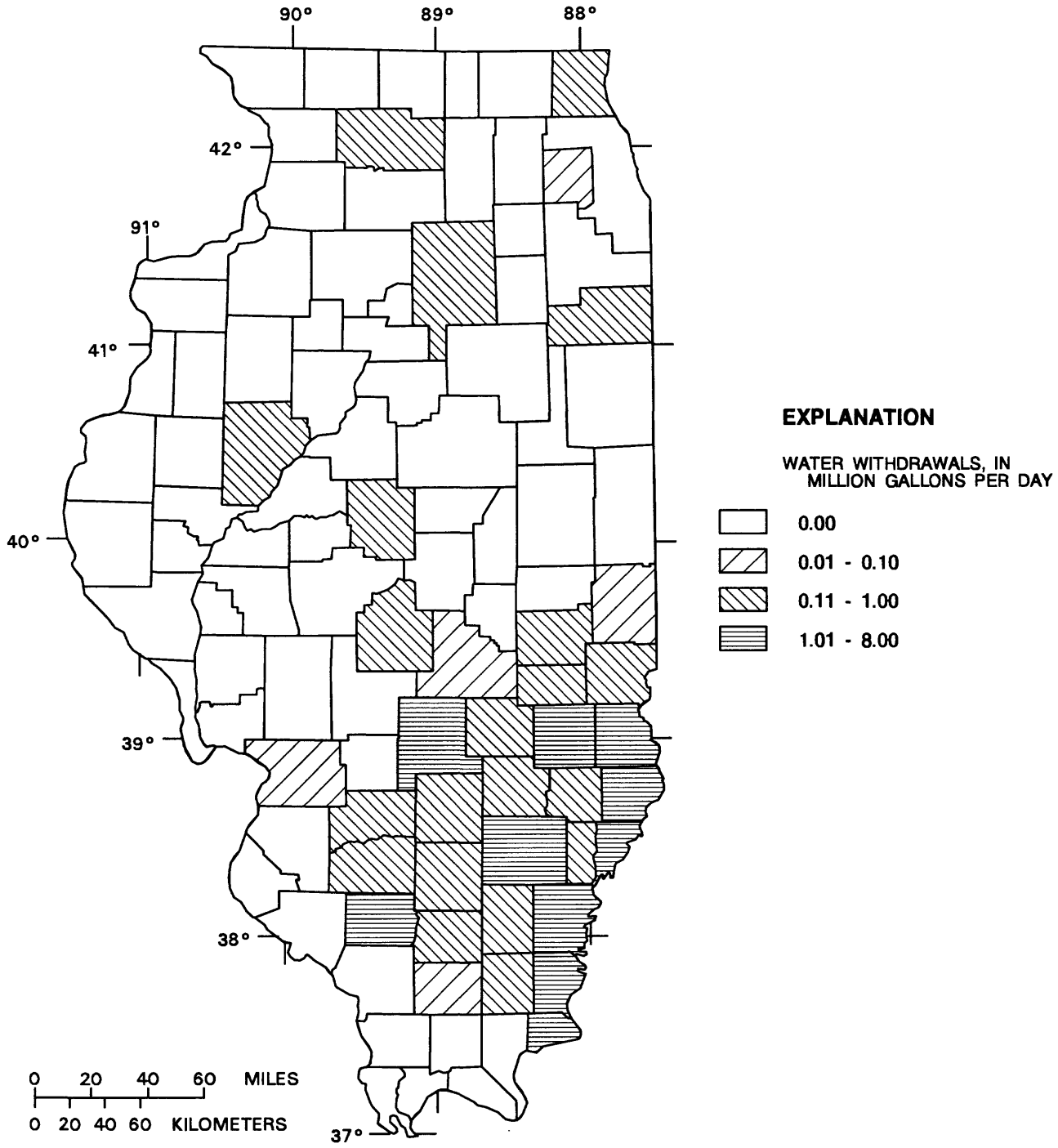


Figure 12. Mining withdrawals of ground water in Illinois, by county, 1990.

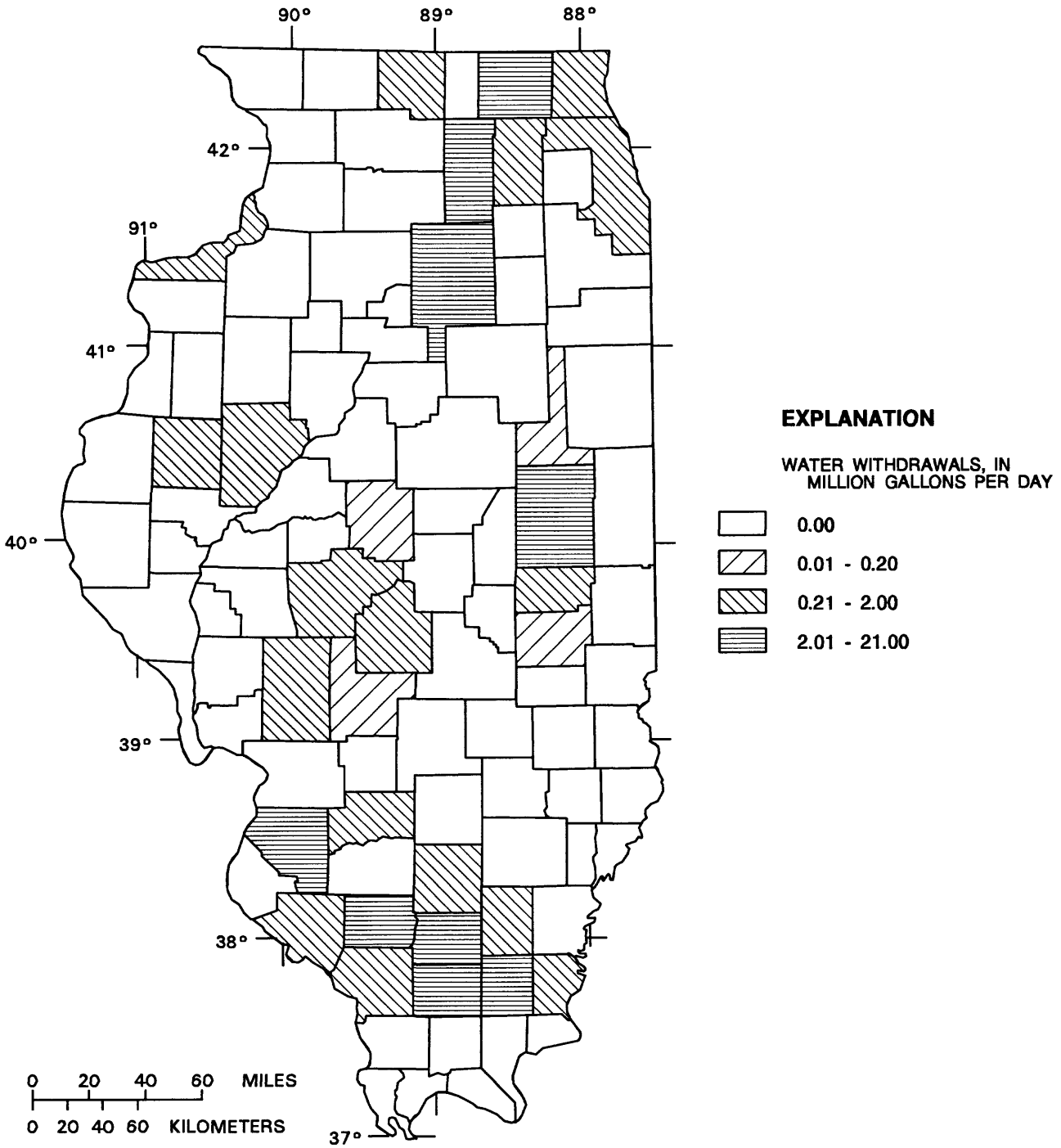


Figure 13. Mining withdrawals of surface water in Illinois, by county, 1990.

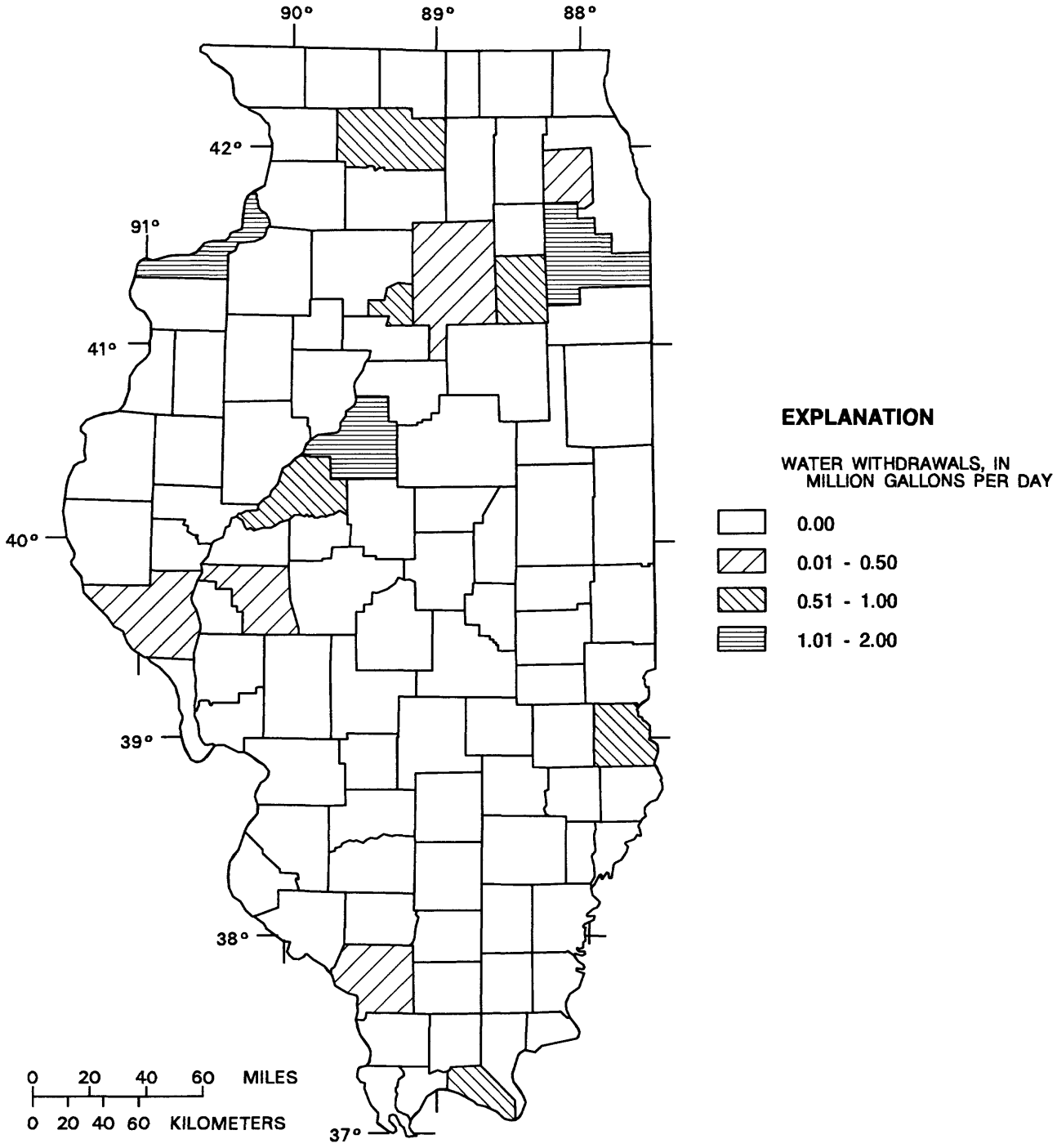


Figure 14. Self-supplied thermoelectric-power withdrawals of ground water in Illinois, by county, 1990.

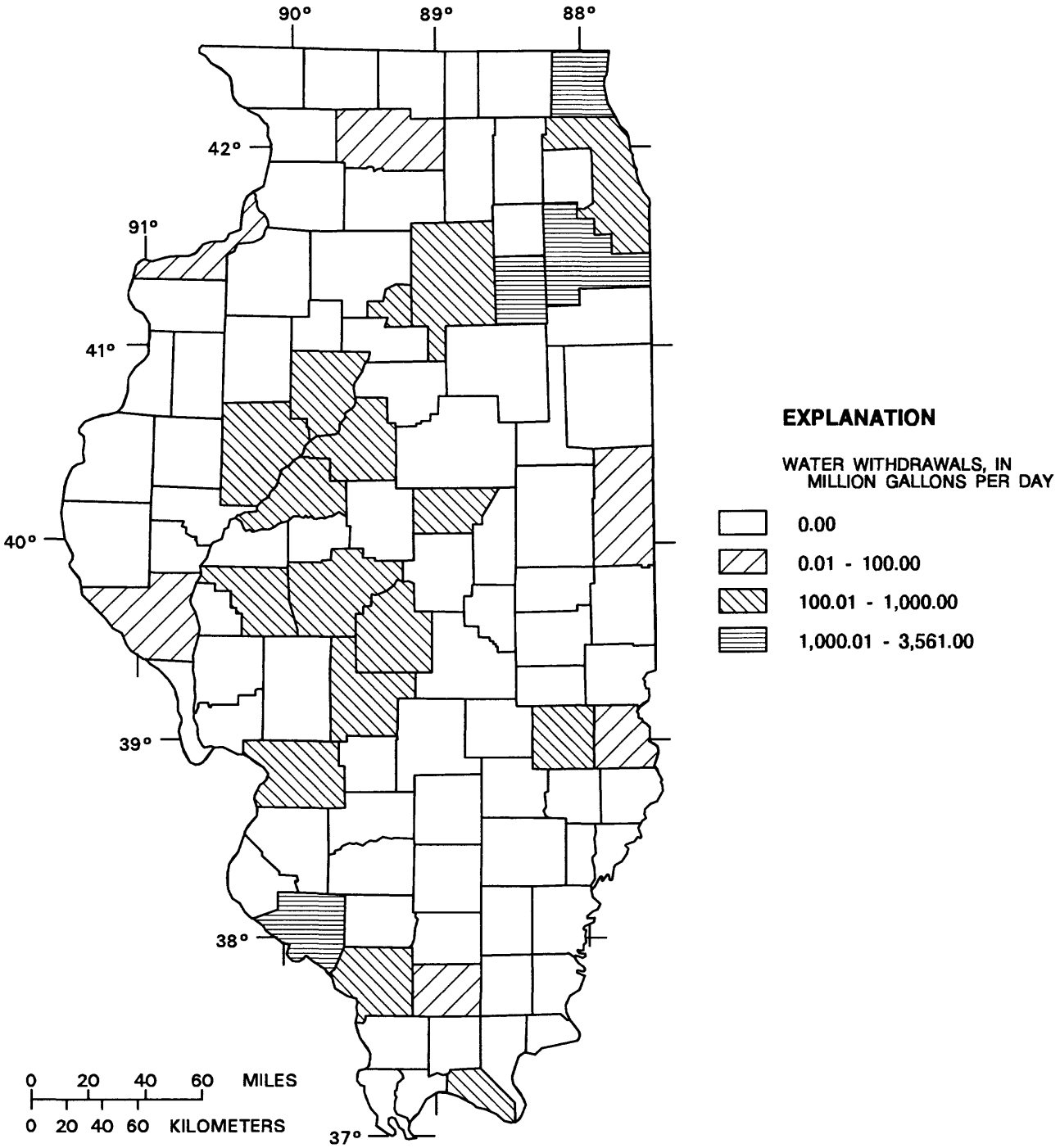


Figure 15. Self-supplied thermoelectric-power withdrawals of surface water in Illinois, by county, 1990.

1988. The total withdrawal of fresh ground water, surface water, and saline ground water, excluding self-supplied thermoelectric-power withdrawals, was about 2,847 Mgal/d. Self-supplied thermoelectric-power withdrawals are not considered in the data totals because the amount of water is so great relative to other water-use categories and the consumptive use is very low. About 936 Mgal/d, or 33 percent, of the total water withdrawn in Illinois, excluding the self-supplied withdrawals for thermoelectric-power generation, was ground water; about 1,911 Mgal/d of surface water was withdrawn, excluding the large self-supplied withdrawals for thermoelectric-power generation. About 25 Mgal/d of the total ground water withdrawn and used in Illinois was saline.

Fifty-eight percent of the ground water withdrawn in 1990 was in Champaign, Cook, Du Page, Jackson, Kane, Lake, McHenry, Madison, Mason, Peoria, Tazewell, Will, and Winnebago Counties (fig. 16). Seventy-six percent of the surface water, excluding self-supplied thermoelectric-power withdrawals, was withdrawn in 1990 in Christian, Cook, Grundy, La Salle, Lake, Randolph, Tazewell, and Will Counties (fig. 17).

Surface-water, ground-water, and total water withdrawals by water-use category for Illinois during 1990 are shown in figure 18. Seventy-four percent of the total surface water, excluding withdrawals for thermoelectric-power generation, was withdrawn by public-supply facilities. The next largest use of surface water was self-supplied industrial withdrawals. Forty-seven percent of the total ground water was withdrawn by public-supply facilities. The next largest use of ground water was for irrigation. Sixty-five percent of the total water withdrawn in Illinois during 1990 was by public-supply facilities. The next largest uses of water in Illinois during 1990 were self-supplied industrial withdrawals and irrigation.

SUMMARY

Water withdrawn from public-supply facilities in Illinois during 1990 totaled about 1,859 Mgal/d. Surface water and ground water were the sources for about 1,415 and 444 Mgal/d, respectively, of the withdrawals for public supply in 1990. The total water obtained from Lake Michigan for public supply was about 1,146 Mgal/d. A total of about 115 Mgal/d was withdrawn for self-supplied domestic purposes. Total self-supplied withdrawals and deliveries from public-supply facilities for commercial use were about 672 Mgal/d, of which about 173 Mgal/d was self supplied by the commercial establishments. Total irrigation water withdrawals were about 78 Mgal/d. Total livestock and animal specialties withdrawals were about 63 Mgal/d. Total self-supplied withdrawals and deliveries from public-supply facilities for industrial use were about 728 Mgal/d. About 464 Mgal/d was self-supplied withdrawals by industrial facilities. A total of about 94 Mgal/d was withdrawn during mining activities. A total of about 33 Mgal/d of ground water was withdrawn during mining activities; about 25 Mgal/d of the ground water was saline. Total self-supplied withdrawals and deliveries from public-supply facilities for thermoelectric-power generation were about 15,170 Mgal/d, about 370 Mgal/d was consumptively used.

The total amount of water withdrawn in Illinois during 1990 was about 18,016 Mgal/d. This amount was about 740 Mgal/d less than in 1988. The total water withdrawal, excluding self-supplied thermoelectric-power withdrawals, was about 2,847 Mgal/d. About 936 Mgal/d, or 33 percent, of the total water withdrawn in Illinois, excluding withdrawals for thermoelectric-power generation, was ground water; about 1,911 Mgal/d of surface water was withdrawn, excluding withdrawals for thermoelectric-power generation. About 25 Mgal/d of the total ground water withdrawn was saline. Seventy-four percent of the total surface water, excluding withdrawals for thermoelectric-power generation, was withdrawn by public-supply facilities. The next largest use of surface water was self-supplied industrial withdrawals. Forty-seven percent of the total ground water was withdrawn by public-supply facilities. The next largest use of ground water was for irrigation. Sixty-five percent of the total water withdrawn, excluding withdrawals for thermoelectric-power generation, in Illinois during 1990 was for public-supply facilities. The next largest uses of water in Illinois during 1990 were self-supplied industrial and irrigation withdrawals.

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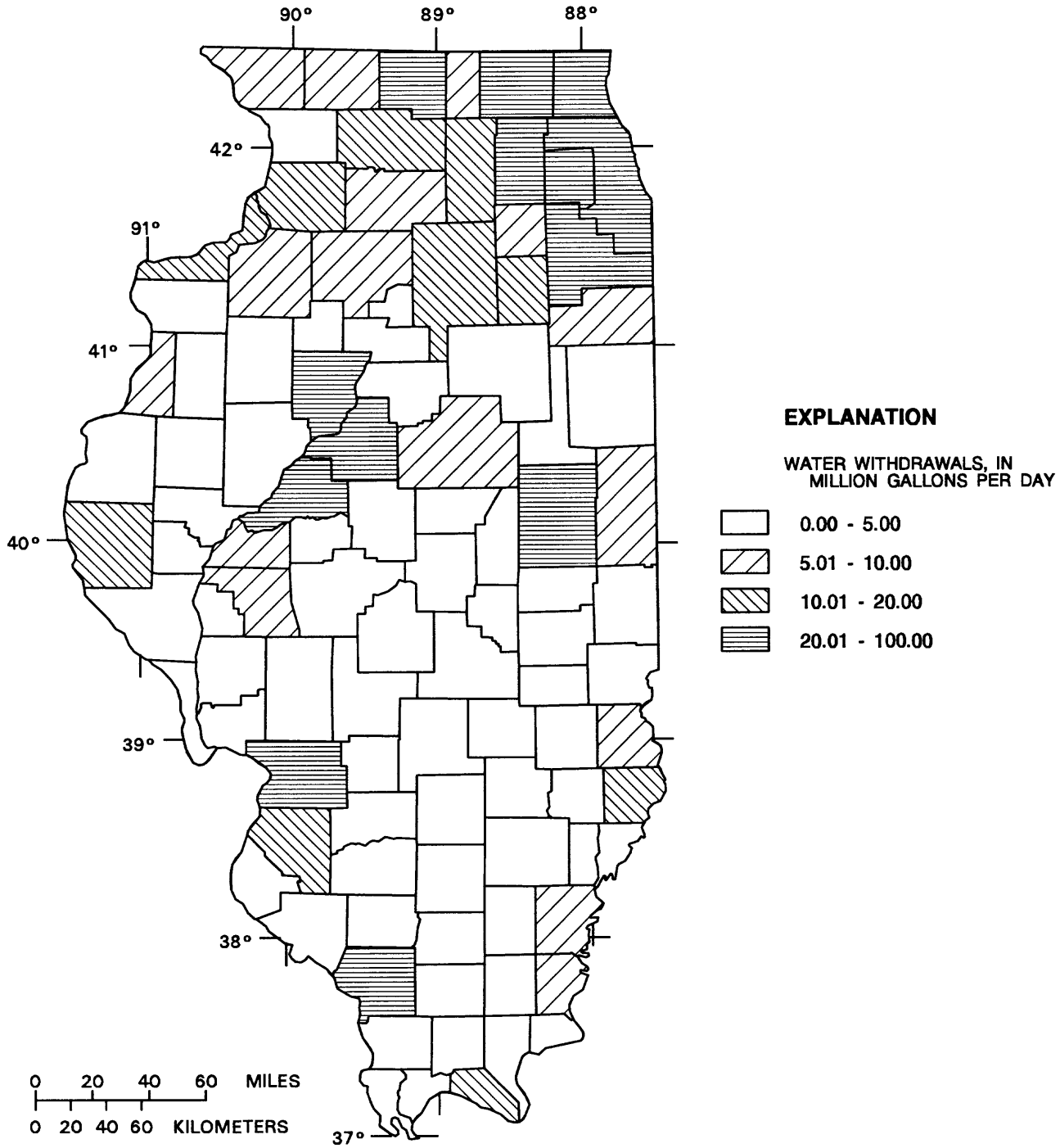

Figure 16. Total withdrawals of ground water in Illinois, by county, 1990.

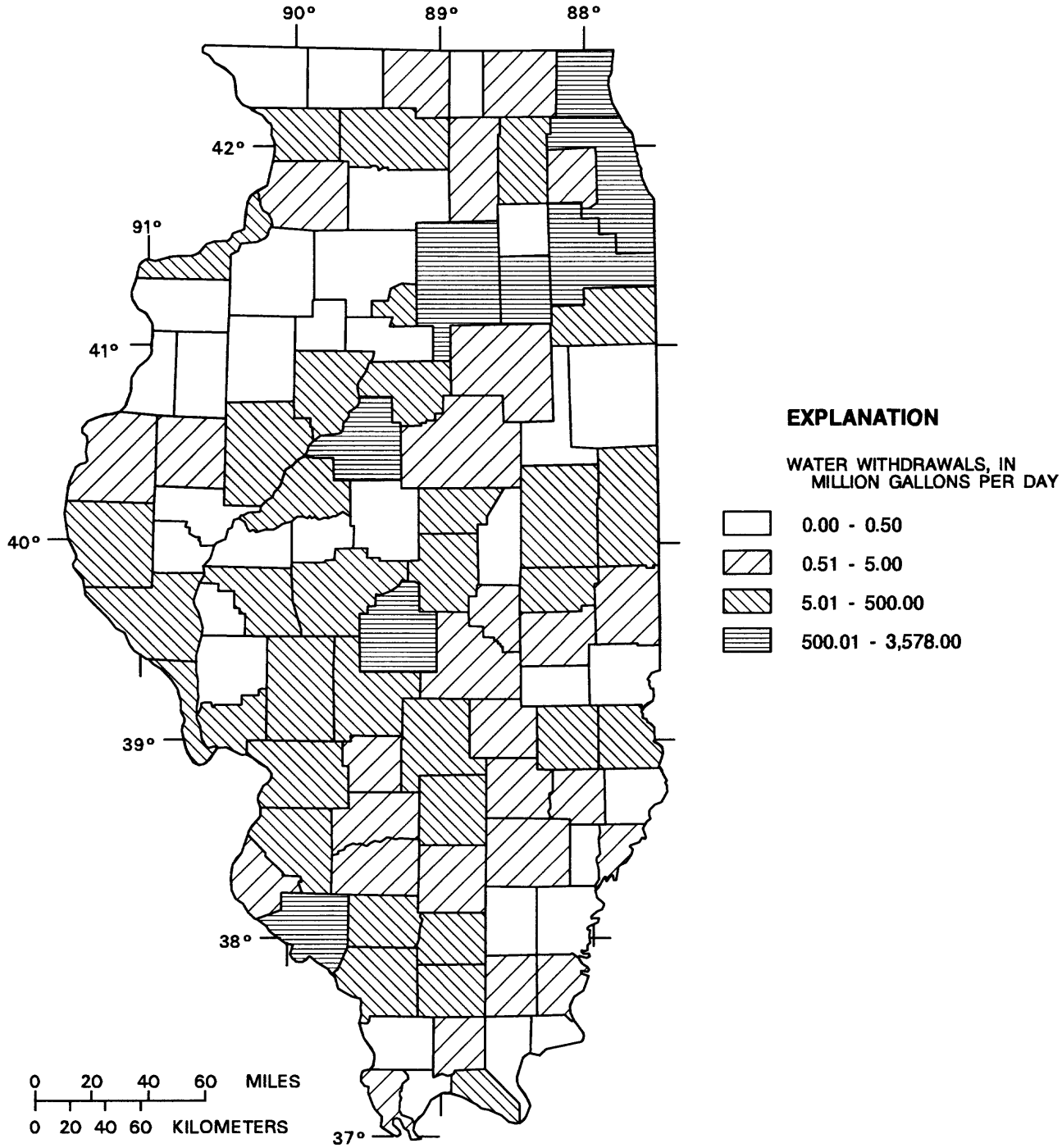

Figure 17. Total withdrawals of surface water in Illinois, by county, 1990.

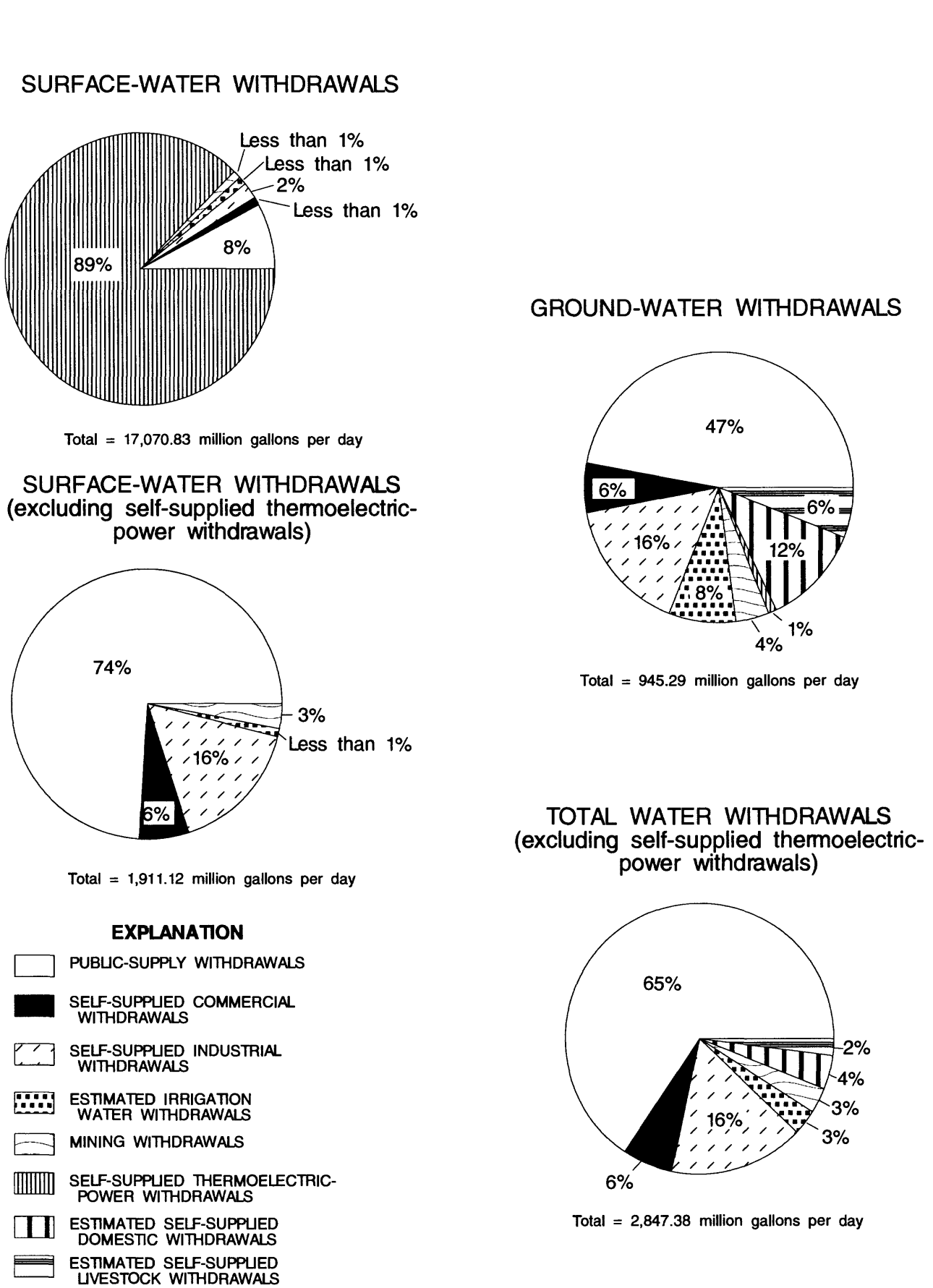

Figure 18. Surface-water, ground-water, and total water withdrawals by water-use category for Illinois, 1990.

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GLOSSARY

TERMS USED IN THIS REPORT (from Solley and others, 1993):

Animal specialties. Water use associated with the production of fish in captivity except fish hatcheries, fur-bearing animals in captivity, horses, rabbits, and pets.

Commercial water use. Water for motels, hotels, restaurants, office buildings, other commercial facilities, and institutions. The water may be obtained from a public supply or may be self supplied.

Consumptive use. That part of water withdrawn that is evaporated, transpired, incorporated into products or crops, consumed by humans or livestock, or otherwise removed from the immediate water environment.

Conveyance loss. Water that is lost in transit from a pipe, canal, conduit, or ditch by leakage or evaporation. Generally, the water is not available for further use; however, leakage from an irrigation ditch, for example, may percolate to a groundwater source and be available for further use.

Delivery. The amount of water delivered to the point of use.

Domestic water use. Water for household purposes, such as drinking, food preparation, bathing, washing clothes and dishes, flushing toilets, and watering lawns and gardens. Also called residential water use.

Freshwater. Water that contains less than 1,000 mg/L (milligrams per liter) of dissolved solids; generally, more than 500 mg/L of dissolved solids is undesirable for drinking and many industrial uses.

Gigawatt-hour (GWh). One billion watt-hours.

Ground water. Generally all subsurface water as distinct from surface water; specifically, that part of the subsurface water in the saturated zone (a zone in which all voids are filled with water) where the water is under pressure greater than atmospheric.

Industrial water use. Water used for industrial purposes such as fabrication, processing, washing, and cooling, and includes such industries as steel, chemical and allied products, paper and allied products, mining, and petroleum refining. The water may be obtained from a public supply or may be self supplied.

Instream use. Water use that is used, but not withdrawn, from a ground- or surface-water source for such purposes as hydroelectric power generation, navigation, water-quality improvement, fish propagation, and recreation. Sometimes called nonwithdrawal use or in-channel use.

Irrigation water use. Artificial application of water on lands to assist in the growing of crops and pastures or to maintain vegetative growth in recreational lands, such as parks and golf courses.

Livestock water use. Water for livestock watering, feed lots, dairy operations, fish farming, and other on-farm needs. Livestock as used here includes cattle, sheep, goats, hogs, and poultry.

Million gallons per day (Mgal/d). A rate of flow of water.

Mining water use. Water use for the extraction of minerals occurring naturally including solids, such as coal and ores; liquids, such as crude petroleum; and gases, such as natural gas. Also includes uses associated with quarrying, well operations (dewatering), milling (crushing, screening, washing, floatation, and so forth), and other preparations customarily done at the mine site or as part of a mining activity.

Offstream use. Water withdrawn or diverted from a ground- or surface-water source for public-water supply, industry, irrigation, livestock, thermoelectric-power generation, and other uses. Sometimes called off-channel use or withdrawal use.

Per capita use. The average amount of water used per person during a standard time period, generally per day.

Public supply. Water withdrawn by public and private water suppliers and delivered to groups of users. Public suppliers provide water for a variety of uses, such as domestic, commercial, thermoelectric-power generation, industrial, and public water use.

Public-supply deliveries. Water provided to users through a public-supply distribution system.

Saline water. Water that contains more than 1,000 milligrams per liter of dissolved solids.

Self-supplied water. Water withdrawn from a surface- or ground-water source by a user rather than being obtained from a public supply.

Surface water. An open body of water, such as a stream or a lake.

Thermoelectric-power water use. Water used in the process of the generation of thermoelectric power. The water may be obtained from a public supply or may be self supplied.

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

TABLES

Table 1. Public-supply water withdrawals and domestic water use in Illinois, by county, 1990
[All values in million gallons per day]

County	Public-supply withdrawals			Domestic water use		
	Ground water	Surface water	Total	Public-supplied deliveries	Self-supplied withdrawals	Total
Adams	1.67	7.06	8.73	4.53	0.37	4.90
Alexander	.36	1.42	1.78	.81	.07	.88
Bond	.07	.94	1.01	.63	.58	1.21
Boone	3.83	.00	3.83	1.64	1.21	2.85
Brown	.09	.00	.09	.20	.22	.42
Bureau	3.18	.00	3.18	2.61	1.10	3.71
Calhoun	.34	.00	.34	.13	.29	.42
Carroll	.06	.00	.06	1.11	.64	1.75
Cass	2.97	.04	3.01	.83	.22	1.05
Champaign	20.57	.00	20.57	10.29	2.24	12.53
Christian	1.25	2.16	3.41	1.95	.68	2.63
Clark	1.23	.00	1.23	.73	.42	1.15
Clay	.00	.88	.88	.59	.44	1.03
Clinton	.25	2.02	2.27	2.05	.56	2.61
Coles	.84	4.19	5.03	3.13	.44	3.57
Cook	20.04	1,102.83	1,122.87	482.15	.47	482.62
Crawford	2.05	.00	2.05	.96	.43	1.39
Cumberland	.28	.00	.28	.34	.43	.77
De Kalb	7.79	.00	7.79	4.82	2.16	6.98
De Witt	2.21	.00	2.21	.85	.49	1.34
Douglas	1.24	.00	1.24	.81	.56	1.37
Du Page	86.35	.00	86.35	61.32	9.30	70.62
Edgar	.34	1.20	1.54	.89	.49	1.38
Edwards	.02	.11	.13	.32	.33	.65
Effingham	.24	2.21	2.45	1.30	1.01	2.31
Fayette	.09	1.20	1.29	.79	.72	1.51
Ford	1.68	.00	1.68	.83	.20	1.03
Franklin	.00	12.52	12.52	2.79	.59	3.38
Fulton	1.34	1.38	2.72	2.33	.49	2.82
Gallatin	2.68	.04	2.72	.46	.11	.57
Greene	.36	.30	.66	.89	.28	1.17
Grundy	2.53	.00	2.53	2.27	.89	3.16
Hamilton	.02	.00	.02	.35	.37	.72
Hancock	.21	1.04	1.25	.84	.81	1.65
Hardin	.12	.15	.27	.38	.06	.44
Henderson	5.90	.00	5.90	.21	.46	.67
Henry	4.76	.00	4.76	3.93	1.45	5.38
Iroquois	2.17	.00	2.17	1.50	.79	2.29
Jackson	.07	7.93	8.00	4.34	.26	4.60
Jasper	.40	.00	.40	.27	.52	.79
Jefferson	.00	1.28	1.28	2.28	.70	2.98
Jersey	.90	.00	.90	1.40	.16	1.56
Jo Daviess	2.44	.00	2.44	1.33	1.05	2.38
Johnson	.02	.62	.64	.32	.46	.78
Kane	28.82	9.08	37.90	25.89	3.49	29.38
Kankakee	2.23	11.29	13.52	5.14	2.17	7.31
Kendall	2.01	.00	2.01	1.16	2.65	3.81
Knox	1.39	.00	1.39	3.63	.51	4.14
Lake	17.20	41.13	58.33	35.70	10.85	46.55
La Salle	10.83	3.41	14.24	8.45	1.36	9.81
Lawrence	1.68	.00	1.68	.79	.34	1.13
Lee	3.94	.00	3.94	2.45	1.10	3.55
Livingston	1.71	2.05	3.76	2.02	1.01	3.03
Logan	3.30	.00	3.30	1.80	.51	2.31
McDonough	1.45	1.73	3.18	2.13	.41	2.54

Table 1. Public-supply water withdrawals and domestic water use in Illinois, by county, 1990—Continued

County	Public-supply withdrawals			Domestic water use		
	Ground water	Surface water	Total	Public-supplied deliveries	Self-supplied withdrawals	Total
McHenry	14.52	0.00	14.52	9.36	6.65	16.01
McLean	5.78	3.35	9.13	8.30	1.12	9.42
Macon	1.31	32.56	33.87	8.51	.67	9.18
Macoupin	.14	3.62	3.76	2.62	1.10	3.72
Madison	12.28	43.83	56.11	17.40	1.16	18.56
Marion	.03	6.87	6.90	2.44	.61	3.05
Marshall	1.74	.00	1.74	.70	.30	1.00
Mason	1.16	.00	1.16	.72	.60	1.32
Massac	1.66	.00	1.66	.94	.27	1.21
Menard	.71	.00	.71	.53	.39	.92
Mercer	.95	.00	.95	.93	.96	1.89
Monroe	.13	.49	.62	1.01	.71	1.72
Montgomery	.58	2.22	2.80	1.53	.85	2.38
Morgan	.07	.69	.76	2.23	.52	2.75
Moultrie	1.08	.00	1.08	.73	.29	1.02
Ogle	5.62	.00	5.62	2.57	2.05	4.62
Peoria	19.77	6.92	26.69	13.02	.85	13.87
Perry	.07	.48	.55	.91	.79	1.70
Piatt	1.93	.00	1.93	.83	.38	1.21
Pike	.95	.51	1.46	.87	.44	1.31
Pope	.00	.08	.08	.34	.04	.38
Pulaski	.50	.00	.50	.44	.22	.66
Putnam	.49	.00	.49	.43	.18	.61
Randolph	.77	2.60	3.37	2.14	.62	2.76
Richland	.13	1.44	1.57	.80	.32	1.12
Rock Island	2.80	14.65	17.45	14.56	.95	15.51
St. Clair	.19	19.77	19.96	17.29	3.11	20.40
Saline	.00	.34	.34	1.96	.27	2.23
Sangamon	2.31	31.66	33.97	12.06	1.38	13.44
Schuyler	.64	.00	.64	.32	.26	.58
Scott	.98	.00	.98	.23	.22	.45
Shelby	1.07	1.46	2.53	.78	.88	1.66
Stark	.70	.00	.70	.31	.19	.50
Stephenson	4.80	.00	4.80	3.88	1.08	4.96
Tazewell	15.69	.58	16.27	8.60	.75	9.35
Union	1.25	.15	1.40	.91	.48	1.39
Vermilion	1.47	9.99	11.46	5.18	1.30	6.48
Wabash	.69	1.13	1.82	.83	.28	1.11
Warren	2.36	.00	2.36	1.08	.41	1.49
Washington	.11	.70	.81	1.00	.22	1.22
Wayne	.10	1.15	1.25	.73	.68	1.41
White	1.39	.00	1.39	.98	.39	1.37
Whiteside	5.03	.00	5.03	4.10	2.27	6.37
Will	33.83	.00	33.83	21.79	10.68	32.47
Williamson	.00	2.36	2.36	4.47	.14	4.61
Winnebago	36.76	0.00	36.76	19.05	6.32	25.37
Woodford	1.64	5.68	7.32	1.49	1.04	2.53
Total	443.70	1,415.49	1,859.19	903.56	115.31	1,018.87

Table 2. Public-supply withdrawals and domestic water use in Illinois, by hydrologic unit, 1990
[All values in million gallons per day]

Hydrologic unit	Public-supply withdrawals			Domestic water use		
	Ground water	Surface water	Total	Public-supplied deliveries	Self-supplied withdrawals	Total
04040001	0.00	0.00	0.00	15.91	0.02	15.93
04040002	.10	.00	.10	19.21	1.45	20.66
04060200	.00	1,146.33	1,146.33	.00	.00	.00
05120108	.07	.37	.44	.99	.26	1.25
05120109	3.61	9.62	13.23	8.88	2.08	10.96
05120111	2.83	1.20	4.03	1.29	.67	1.96
05120112	4.36	1.75	6.11	6.49	2.67	9.16
05120113	2.01	1.24	3.25	1.45	.61	2.06
05120114	1.22	8.09	9.31	3.61	2.59	6.20
05120115	.12	.17	.29	2.10	.95	3.05
05140203	.39	.23	.62	.93	.26	1.19
05140204	2.23	1.04	3.27	4.51	.87	5.38
05140206	2.18	2.04	4.22	1.36	.62	1.98
07060005	3.66	.00	3.66	2.10	1.43	3.53
07080101	.88	14.65	15.53	4.29	.91	5.20
07080104	9.65	.58	10.23	6.49	2.37	8.86
07090001	.65	.00	.65	.41	.15	.56
07090003	5.22	.00	5.22	10.13	3.22	13.35
07090004	.45	.00	.45	2.17	.71	2.88
07090005	50.12	.00	50.12	18.52	7.46	25.98
07090006	14.00	.00	14.00	17.46	7.47	24.93
07090007	3.49	.00	3.49	9.63	2.22	11.85
07110001	1.31	7.23	8.54	2.37	.42	2.79
07110004	1.07	.00	1.07	1.86	.58	2.44
07110009	4.66	8.91	13.57	3.78	.40	4.18
07120001	3.28	11.26	14.54	12.10	5.65	17.75
07120002	2.56	.00	2.56	2.53	1.14	3.67
07120003	11.08	.00	11.08	223.02	1.63	224.65
07120004	132.84	.00	132.84	263.73	18.11	281.84
07120005	4.38	.03	4.41	5.50	2.96	8.46
07120006	25.28	.00	25.28	70.59	8.27	78.86
07120007	32.73	9.08	41.81	28.99	6.09	35.08
07130001	27.30	6.84	34.14	8.81	2.26	11.07
07130002	1.92	5.46	7.38	4.28	1.30	5.58
07130003	19.80	1.54	21.34	13.64	1.53	15.17
07130004	4.84	9.60	14.44	5.70	1.19	6.89
07130005	4.89	.00	4.89	11.26	1.67	12.93
07130006	7.14	32.56	39.70	11.70	1.72	13.42
07130007	1.26	33.76	35.02	7.20	1.39	8.59
07130008	2.57	.11	2.68	6.60	1.22	7.82
07130009	11.30	.00	11.30	9.86	1.98	11.84
07130010	1.60	1.93	3.53	2.75	.95	3.70
07130011	3.08	1.42	4.50	5.27	1.45	6.72
07130012	.28	3.02	3.30	2.76	1.04	3.80
07140101	7.70	51.76	59.46	13.58	2.10	15.68
07140105	1.59	2.02	3.61	2.30	.53	2.83
07140106	.08	24.43	24.51	12.31	2.30	14.61
07140108	.40	.10	.50	.87	.31	1.18
07140201	19.69	1.33	21.02	4.63	1.83	6.46
07140202	.34	7.60	7.94	4.03	1.66	5.69
07140203	.58	3.75	4.33	2.14	1.17	3.31
07140204	.91	4.44	5.35	21.47	3.47	24.94
Total	443.70	1,415.49	1,859.19	903.56	115.31	1,018.87

Table 3. Population served by public-supply facilities and self-supplied population in Illinois, by county, 1990

County	Public-supplied population	Self-supplied population
Adams	60,970	5,120
Alexander	9,710	920
Bond	7,070	7,920
Boone	17,630	13,180
Brown	2,810	3,030
Bureau	24,630	11,060
Calhoun	1,300	4,020
Carroll	10,360	6,440
Cass	10,420	3,020
Champaign	141,980	31,040
Christian	25,140	9,280
Clark	9,820	6,100
Clay	8,080	6,380
Clinton	26,560	7,380
Coles	45,270	6,370
Cook	5,099,990	5,080
Crawford	13,230	6,230
Cumberland	4,450	6,220
De Kalb	54,350	23,580
De Witt	9,880	6,640
Douglas	11,240	8,220
Du Page	680,130	101,540
Edgar	12,460	7,140
Edwards	3,240	4,200
Effingham	16,960	14,740
Fayette	10,430	10,460
Ford	11,540	2,740
Franklin	32,870	7,450
Fulton	31,310	6,770
Gallatin	5,570	1,340
Greene	11,440	3,880
Grundy	22,600	9,740
Hamilton	3,780	4,720
Hancock	10,090	11,280
Hardin	4,380	810
Henderson	1,660	6,440
Henry	36,650	14,510
Iroquois	19,840	10,950
Jackson	56,630	4,440
Jasper	3,020	7,590
Jefferson	28,160	8,860
Jersey	18,390	2,150
Jo Daviess	11,280	10,540
Johnson	5,250	6,100
Kane	279,370	38,100
Kankakee	66,210	30,050
Kendall	10,430	28,980
Knox	49,360	7,030
Lake	397,980	118,440
La Salle	92,080	14,830
Lawrence	10,930	5,040
Lee	23,340	11,050
Livingston	25,300	14,000
Logan	23,920	6,880
McDonough	29,560	5,680
McHenry	110,680	72,560
McLean	114,060	15,120
Macon	108,190	9,020
Macoupin	32,610	15,070
Madison	233,410	15,830
Marion	32,620	8,940
Marshall	8,760	4,090
Mason	8,200	8,070
Massac	11,290	3,460
Menard	5,860	5,300
Mercer	7,650	9,640
Monroe	13,110	9,310
Montgomery	19,120	11,610
Morgan	29,300	7,100
Moultrie	9,670	4,260
Ogle	25,400	20,560
Peoria	171,350	11,480
Perry	10,960	10,450
Piatt	10,230	5,320
Pike	11,520	6,060
Pope	3,900	470
Pulaski	4,560	2,960
Putnam	3,910	1,820
Randolph	26,350	8,230
Richland	11,800	4,740
Rock Island	139,240	9,480
St. Clair	222,340	40,510
Saline	23,160	3,390
Sangamon	159,510	18,880
Schuyler	3,950	3,550
Scott	2,570	3,070
Shelby	9,350	12,910
Stark	3,950	2,580
Stephenson	37,250	10,800
Tazewell	113,630	10,060
Union	11,350	6,270
Vermilion	70,170	18,090
Wabash	9,540	3,570
Warren	13,500	5,680
Washington	12,070	2,890
Wayne	8,710	8,530
White	11,600	4,920
Whiteside	37,450	22,740
Will	240,740	116,570
Williamson	55,870	1,860
Winnebago	189,560	63,350
Woodford	18,600	14,050
Total	10,059,670	1,370,920

Table 4. Population served by public-supply facilities and self-supplied population in Illinois, by hydrologic unit, 1990

Hydrologic unit	Public-supplied population	Self-supplied population
04040001	169,740	170
04040002	204,610	15,900
04060200	0	0
05120108	13,340	3,570
05120109	119,790	28,870
05120111	18,090	9,860
05120112	90,760	38,520
05120113	18,310	7,980
05120114	49,030	36,370
05120115	27,410	12,660
05140203	11,280	3,290
05140204	56,180	10,870
05140206	16,910	8,110
07060005	20,340	14,340
07080101	41,800	9,070
07080104	69,480	27,740
07090001	4,000	1,570
07090003	98,570	32,200
07090004	21,020	7,140
07090005	180,250	75,100
07090006	182,630	80,650
07090007	93,870	22,170
07110001	32,040	5,830
07110004	25,040	7,960
07110009	50,350	5,490
07120001	139,230	66,700
07120002	34,040	15,690
07120003	2,378,860	17,800
07120004	2,810,130	197,680
07120005	60,660	33,610
07120006	750,930	90,190
07120007	307,700	66,490
07130001	100,540	26,180
07130002	52,340	16,850
07130003	179,460	20,600
07130004	74,820	16,050
07130005	146,410	22,140
07130006	155,330	23,660
07130007	95,640	19,260
07130008	87,480	16,450
07130009	129,380	26,710
07130010	36,950	13,150
07130011	70,080	19,810
07130012	36,460	14,310
07140101	177,940	27,980
07140105	29,520	6,990
07140106	154,700	30,720
07140108	11,060	4,180
07140201	63,910	26,210
07140202	54,800	23,680
07140203	27,870	15,950
07140204	278,590	46,450
Total	10,059,670	1,370,920

Table 5. Commercial self-supplied withdrawals and deliveries from public-supply facilities for commercial use in Illinois, by county, 1990
[All values are in millions of gallons per day]

County	Self-supplied withdrawals			Deliveries from public-supply facilities	Total self-supplied withdrawals and public-supply deliveries
	Ground water	Surface water	Total		
Adams	0.00	0.00	0.00	1.71	1.71
Alexander	.07	.00	.07	.14	.21
Bond	.00	.00	.00	.16	.16
Boone	.00	.00	.00	.11	.11
Brown	.00	.00	.00	.12	.12
Bureau	.44	.28	.72	.30	1.02
Calhoun	.58	9.05	9.63	.03	9.66
Carroll	.14	7.73	7.87	.11	7.98
Cass	.00	.03	.03	.07	.10
Champaign	1.64	.00	1.64	3.68	5.32
Christian	.01	.00	.01	.09	.10
Clark	.00	.00	.00	.11	.11
Clay	.00	.00	.00	.14	.14
Clinton	.00	.00	.00	.04	.04
Coles	.00	.00	.00	2.67	2.67
Cook	3.55	70.57	74.12	370.60	444.72
Crawford	.00	.00	.00	.56	.56
Cumberland	.00	.00	.00	.02	.02
De Kalb	.03	.00	.03	1.51	1.54
De Witt	.04	.00	.04	.01	.05
Douglas	.01	.00	.01	.17	.18
Du Page	1.13	4.91	6.04	10.91	16.95
Edgar	.00	.00	.00	.01	.01
Edwards	.00	.00	.00	.11	.11
Effingham	.00	.00	.00	.06	.06
Fayette	.00	4.05	4.05	.89	4.94
Ford	.00	.00	.00	.13	.13
Franklin	.00	.00	.00	.13	.13
Fulton	.00	2.52	2.52	.58	3.10
Gallatin	.00	.00	.00	.04	.04
Greene	.00	.00	.00	.15	.15
Grundy	.00	.00	.00	.09	.09
Hamilton	.00	.00	.00	.00	.00
Hancock	.00	.00	.00	.05	.05
Hardin	.00	.00	.00	.01	.01
Henderson	.00	.00	.00	.01	.01
Henry	.01	.00	.01	.20	.21
Iroquois	.00	.00	.00	.15	.15
Jackson	24.53	.00	24.53	.29	24.82
Jasper	.00	.00	.00	.00	.00
Jefferson	.00	1.89	1.89	.08	1.97
Jersey	.04	7.35	7.39	.06	7.45
Jo Daviess	.23	.08	.31	.20	.51
Johnson	.00	.00	.00	.00	.00
Kane	.11	.87	.98	4.19	5.17
Kankakee	.05	.00	.05	2.61	2.66
Kendall	.01	.00	.01	.29	.30
Knox	.00	.00	.00	.65	.65
Lake	.82	.00	.82	8.90	9.72
La Salle	.05	.00	.05	1.02	1.07

Table 5. Commercial self-supplied withdrawals and deliveries from public-supply facilities for commercial use in Illinois, by county, 1990—Continued

County	Self-supplied withdrawals			Deliveries from public-supply facilities	Total self-supplied withdrawals and public-supply deliveries
	Ground water	Surface water	Total		
Lawrence	0.00	0.00	0.00	0.12	0.12
Lee	.16	.00	.16	.40	.56
Livingston	.00	.00	.00	.28	.28
Logan	.00	.00	.00	.91	.91
McDonough	.00	.00	.00	1.34	1.34
McHenry	.34	.03	.37	1.44	1.81
McLean	.11	.00	.11	3.58	3.69
Macon	.08	.00	.08	20.68	20.76
Macoupin	.00	.00	.00	.06	.06
Madison	2.29	.00	2.29	4.35	6.64
Marion	.00	.00	.00	.91	.91
Marshall	.00	.00	.00	.07	.07
Mason	6.75	.00	6.75	.05	6.80
Massac	1.39	.00	1.39	.01	1.40
Menard	.00	.00	.00	.05	.05
Mercer	.00	.00	.00	.11	.11
Monroe	.00	.00	.00	.09	.09
Montgomery	.00	.00	.00	.05	.05
Morgan	.00	.00	.00	.66	.66
Moultrie	.00	.99	.99	.02	1.01
Ogle	.01	.00	.01	.55	.56
Peoria	.00	.00	.00	7.40	7.40
Perry	.00	.00	.00	.00	.00
Piatt	.02	.00	.02	.03	.05
Pike	.00	.00	.00	.17	.17
Pope	.00	.00	.00	.00	.00
Pulaski	.16	.00	.16	.11	.27
Putnam	.00	.79	.79	.06	.85
Randolph	.00	.00	.00	.21	.21
Richland	.00	.00	.00	.45	.45
Rock Island	.01	.02	.03	.34	.37
St. Clair	8.18	.00	8.18	4.50	12.68
Saline	.00	.00	.00	1.37	1.37
Sangamon	.00	.00	.00	7.43	7.43
Schuyler	.00	.00	.00	.01	.01
Scott	.00	.00	.00	.02	.02
Shelby	.00	.00	.00	.01	.01
Stark	.00	.00	.00	.01	.01
Stephenson	.01	.00	.01	.02	.03
Tazewell	.01	.00	.01	1.39	1.40
Union	.85	.00	.85	.07	.92
Vermilion	.01	.00	.01	1.93	1.94
Wabash	.02	.00	.02	.15	.17
Warren	.00	.00	.00	.11	.11
Washington	.00	.00	.00	.26	.26
Wayne	.00	.00	.00	.04	.04
White	.00	.00	.00	.02	.02
Whiteside	.00	.18	.18	.53	.71
Will	.32	.00	.32	6.66	6.98
Williamson	.00	7.74	7.74	.68	8.42
Winnebago	.08	.00	.08	14.14	14.22
Woodford	.00	.00	.00	.21	.21
Total	54.29	119.08	173.37	498.22	671.59

Table 6. Commercial self-supplied withdrawals and deliveries from public-supply facilities for commercial use in Illinois, by hydrologic unit, 1990
[All values are in millions of gallons per day]

Hydrologic unit	Self-supplied withdrawals			Deliveries from public-supply facilities	Total self-supplied withdrawals and public-supply deliveries
	Ground water	Surface water	Total		
04040001	0.00	0.00	0.00	8.29	8.29
04040002	.00	14.12	14.12	8.72	22.84
04060200	.00	.00	.00	.00	.00
05120108	.00	.00	.00	.35	.35
05120109	1.64	.00	1.64	3.17	4.81
05120111	.00	.00	.00	.25	.25
05120112	.01	.00	.01	3.01	3.02
05120113	.02	.00	.02	.29	.31
05120114	.00	.00	.00	.81	.81
05120115	.00	.00	.00	.37	.37
05140203	.00	.00	.00	.02	.02
05140204	.00	.00	.00	1.63	1.63
05140206	1.39	.00	1.39	.07	1.46
07060005	.37	7.81	8.18	.26	8.44
07080101	.01	.02	.03	.42	.45
07080104	.00	.00	.00	.36	.36
07090001	.00	.00	.00	.27	.27
07090003	.01	.00	.01	4.84	4.85
07090004	.00	.00	.00	1.54	1.54
07090005	.20	.18	.38	7.35	7.73
07090006	.03	.00	.03	4.17	4.20
07090007	.05	.00	.05	.48	.53
07110001	.00	.00	.00	.81	.81
07110004	.58	3.21	3.79	.56	4.35
07110009	.08	.00	.08	1.79	1.87
07120001	.06	.00	.06	4.50	4.56
07120002	.00	.00	.00	.61	.61
07120003	.21	6.61	6.82	115.28	122.10
07120004	4.94	50.65	55.59	232.22	287.81
07120005	.01	.00	.01	.90	.91
07120006	.99	.03	1.02	29.43	30.45
07120007	.14	5.25	5.39	5.40	10.79
07130001	.49	1.07	1.56	1.65	3.21
07130002	.00	.00	.00	.59	.59
07130003	6.77	2.52	9.29	6.40	15.69
07130004	.00	.00	.00	1.00	1.00
07130005	.00	.00	.00	2.60	2.60
07130006	.10	.00	.10	15.00	15.10
07130007	.01	.00	.01	1.13	1.14
07130008	.00	.00	.00	7.58	7.58
07130009	.16	.00	.16	9.13	9.29
07130010	.00	.00	.00	1.32	1.32
07130011	.05	12.94	12.99	1.30	14.29
07130012	.00	.00	.00	.12	.12
07140101	10.38	.00	10.38	5.53	15.91
07140105	.85	.00	.85	.17	1.02
07140106	24.50	9.63	34.13	.96	35.09
07140108	.24	.00	.24	.20	.44
07140201	.00	.99	.99	1.84	2.83
07140202	.00	4.05	4.05	1.48	5.53
07140203	.00	.00	.00	.19	.19
07140204	.00	.00	.00	1.86	1.86
Total	54.29	119.08	173.37	498.22	671.59

Table 7. Estimated irrigation water withdrawals, irrigated land, and estimated water withdrawals for livestock and animal specialties in Illinois, by county, 1990
[Mgal/d, million gallons per day]

County	Estimated irrigation water withdrawals, in Mgal/d			Irrigated land, in acres	Estimated livestock water withdrawals, in Mgal/d	Estimated withdrawals for animal specialties, in Mgal/d		Total withdrawals for livestock and animal specialties, in Mgal/d		
	Ground water	Surface water	Total			Ground water	Surface water	Ground water	Surface water	Total
Adams	0.03	0.00	0.03	140	1.23	0.02	0.00	1.25	0.00	1.25
Alexander	.35	.00	.35	700	.04	.01	.00	.05	.00	.05
Bond	.00	.00	.00	0	.42	.01	.00	.43	.00	.43
Boone	.06	.00	.06	260	.42	.02	.00	.44	.00	.44
Brown	.00	.00	.00	0	.28	.01	.00	.29	.00	.29
Bureau	.49	.00	.49	2,270	.92	.02	.00	.94	.00	.94
Calhoun	.00	.00	.00	0	.28	.01	.03	.29	.03	.32
Carroll	.49	.11	.60	2,800	1.20	.01	.02	1.21	.02	1.23
Cass	1.13	.16	1.29	3,220	.45	.00	.02	.45	.02	.47
Champaign	.81	.00	.81	2,660	.26	.02	.00	.28	.00	.28
Christian	.08	.00	.08	190	.23	.01	.00	.24	.00	.24
Clark	2.07	.00	2.07	5,390	.35	.01	.00	.36	.00	.36
Clay	.00	.00	.00	0	.25	.01	.02	.26	.02	.28
Clinton	.27	.00	.27	540	1.27	.01	.00	1.28	.00	1.28
Coles	.00	.00	.00	0	.21	.01	.00	.22	.00	.22
Cook	3.85	.00	3.85	15,410	.02	.05	.00	.07	.00	.07
Crawford	.12	.00	.12	320	.47	.01	.00	.48	.00	.48
Cumberland	.00	.00	.00	20	.33	.01	.02	.34	.02	.36
De Kalb	.00	.00	.00	0	1.10	.02	.00	1.12	.00	1.12
De Witt	.13	.00	.13	590	.12	.01	.19	.13	.19	.32
Douglas	.00	.00	.00	0	.22	.05	.03	.27	.03	.30
Du Page	2.36	.00	2.36	9,420	.01	.02	.00	.03	.00	.03
Edgar	.00	.00	.00	0	.40	.01	.00	.41	.00	.41
Edwards	.07	.00	.07	120	.34	.02	.01	.36	.01	.37
Effingham	.00	.08	.08	200	.74	.02	.00	.76	.00	.76
Fayette	.00	.10	.10	250	.40	.30	.00	.70	.00	.70
Ford	.09	.00	.09	300	.26	.00	.01	.26	.01	.27
Franklin	.00	.35	.35	630	.17	.01	.00	.18	.00	.18
Fulton	.16	.00	.16	680	.71	.02	.03	.73	.03	.76
Gallatin	3.24	.00	3.24	5,760	.12	.01	.03	.13	.03	.16
Greene	.48	.00	.48	1,210	.65	.01	.00	.66	.00	.66
Grundy	.00	.00	.00	0	.14	.01	.00	.15	.00	.15
Hamilton	.08	.00	.08	140	.20	.01	.03	.21	.03	.24
Hancock	.28	.00	.28	1,160	1.04	.02	.00	1.06	.00	1.06
Hardin	.00	.00	.00	0	.09	.01	.03	.10	.03	.13

Table 7. Estimated irrigation water withdrawals, irrigated land, and estimated water withdrawals for livestock and animal specialties in Illinois, by county, 1990—Continued

County	Estimated irrigation water withdrawals, in Mgal/d			Irrigated land, in acres	Estimated livestock water withdrawals, in Mgal/d	Estimated withdrawals for animal specialties, in Mgal/d		Total withdrawals for livestock and animal specialties, in Mgal/d		
	Ground water	Surface water	Total			Ground water	Surface water	Ground water	Surface water	Total
Henderson	1.24	0.00	1.24	5,150	0.48	0.01	0.00	0.49	0.00	0.49
Henry	.65	.00	.65	3,050	2.04	.02	.00	2.06	.00	2.06
Iroquois	.11	.08	.19	630	.72	.02	.00	.74	.00	.74
Jackson	.23	.15	.38	770	.34	.04	.85	.38	.85	1.23
Jasper	.01	.01	.02	30	.55	.01	.00	.56	.00	.56
Jefferson	.00	.00	.00	0	.35	.02	.00	.37	.00	.37
Jersey	.00	.00	.00	0	.35	.00	.00	.35	.00	.35
Jo Daviess	.00	.00	.00	0	1.63	.02	.00	1.65	.00	1.65
Johnson	.00	.00	.00	0	.30	.02	.02	.32	.02	.34
Kane	.61	.04	.65	2,630	.55	.05	.01	.60	.01	.61
Kankakee	3.71	.05	3.76	12,380	.27	.01	.00	.28	.00	.28
Kendall	.11	.00	.11	430	.30	.01	.00	.31	.00	.31
Knox	.01	.00	.01	30	1.18	.02	.00	1.20	.00	1.20
Lake	1.27	.00	1.27	5,090	.09	.05	.03	.14	.03	.17
La Salle	.00	.00	.00	0	.67	.02	.00	.69	.00	.69
Lawrence	2.75	.00	2.75	7,150	.22	.00	.00	.22	.00	.22
Lee	2.44	.00	2.44	11,380	.62	.01	.00	.63	.00	.63
Livingston	.00	.10	.10	340	.72	.01	.01	.73	.01	.74
Logan	.06	.00	.06	270	.48	.00	.00	.48	.00	.48
McDonough	.00	.00	.00	0	.57	.01	.00	.58	.00	.58
McHenry	.90	.23	1.13	4,500	.88	.08	.01	.96	.01	.97
McLean	.06	.00	.06	250	.67	.07	.03	.74	.03	.77
Macon	.01	.01	.02	70	.15	.05	.00	.20	.00	.20
Macoupin	.00	.00	.00	0	.90	.02	.02	.92	.02	.94
Madison	.86	.00	.86	2,150	.62	.03	.03	.65	.03	.68
Marion	.00	.00	.00	0	.30	.02	.03	.32	.03	.35
Marshall	.35	.01	.36	1,610	.27	.01	.00	.28	.00	.28
Mason	20.27	.00	20.27	90,830	.20	6.63	.00	6.83	.00	6.83
Massac	.85	.01	.86	1,530	.25	.01	.02	.26	.02	.28
Menard	.11	.00	.11	500	.31	.01	.00	.32	.00	.32
Mercer	.62	.00	.62	2,880	.75	.02	.00	.77	.00	.77
Monroe	.51	.24	.75	1,520	.34	.01	.02	.35	.02	.37
Montgomery	.00	.00	.00	0	.65	.03	.02	.68	.02	.70
Morgan	.26	.00	.26	630	.62	.01	.00	.63	.00	.63
Moultrie	.00	.00	.00	0	.19	.02	.00	.21	.00	.21

Table 7. Estimated irrigation water withdrawals, irrigated land, and estimated water withdrawals for livestock and animal specialties in Illinois, by county, 1990—Continued

County	Estimated irrigation water withdrawals, in Mgal/d			Irrigated land, in acres	Estimated livestock water withdrawals, in Mgal/d	Estimated withdrawals for animal specialties, in Mgal/d		Total withdrawals for livestock and animal specialties, in Mgal/d		
	Ground water	Surface water	Total			Ground water	Surface water	Ground water	Surface water	Total
Ogle	0.26	0.00	0.26	1,220	1.36	0.03	0.00	1.39	0.00	1.39
Peoria	.11	.11	.22	1,000	.40	.02	.00	.42	.00	.42
Perry	.00	.68	.68	1,380	.30	.01	.03	.31	.03	.34
Piatt	.13	.00	.13	420	.15	.00	.00	.15	.00	.15
Pike	.56	.00	.56	1,390	1.27	.01	.00	1.28	.00	1.28
Pope	.00	.00	.00	0	.13	.01	.00	.14	.00	.14
Pulaski	.00	.00	.00	0	.11	.07	.00	.18	.00	.18
Putnam	.14	.00	.14	640	.15	.00	.00	.15	.00	.15
Randolph	.07	.00	.07	140	.53	.01	.23	.54	.23	.77
Richland	.00	.01	.01	20	.29	.01	.00	.30	.00	.30
Rock Island	.55	.00	.55	2,560	.50	.02	.00	.52	.00	.52
St. Clair	.29	.37	.66	1,350	.42	.04	.02	.46	.02	.48
Saline	.00	.00	.00	0	.13	.01	.00	.14	.00	.14
Sangamon	.00	.07	.07	180	.59	.03	.00	.62	.00	.62
Schuyler	.00	.04	.04	160	.37	.01	.02	.38	.02	.40
Scott	1.06	.00	1.06	2,640	.27	.00	.02	.27	.02	.29
Shelby	.00	.04	.04	100	.57	.20	.00	.77	.00	.77
Stark	.00	.00	.00	0	.22	.00	.00	.22	.00	.22
Stephenson	.00	.00	.00	10	2.24	.01	.00	2.25	.00	2.25
Tazewell	5.80	.00	5.80	25,990	.75	.02	.00	.77	.00	.77
Union	.08	.06	.14	290	.25	.01	.00	.26	.00	.26
Vermilion	.00	.00	.00	0	.33	.02	.01	.35	.01	.36
Wabash	.22	.00	.22	390	.14	.00	.00	.14	.00	.14
Warren	.00	.00	.00	0	.79	.01	.00	.80	.00	.80
Washington	.20	.39	.59	1,200	.79	.00	.00	.79	.00	.79
Wayne	.22	.00	.22	390	.49	.09	.15	.58	.15	.73
White	4.65	.09	4.74	8,420	.22	.02	.00	.24	.00	.24
Whiteside	4.75	.00	4.75	22,150	1.17	.02	.02	1.19	.02	1.21
Will	.16	.00	.16	640	.31	.05	.06	.36	.06	.42
Williamson	.00	.00	.00	0	.17	.02	.03	.19	.03	.22
Winnebago	.61	.08	.69	3,210	.71	.02	.00	.73	.00	.73
Woodford	.07	.04	.11	470	.64	.01	.00	.65	.00	.65
Total	74.57	3.71	78.28	286,540	51.63	8.95	2.16	60.58	2.16	62.74

Table 8. Estimated irrigation water withdrawals, irrigated land, and estimated water withdrawals for livestock and animal speciaities in Illinois, by hydrologic unit, 1990

[Mgal/d, million gallons per day]

Hydrologic unit	Estimated irrigation water withdrawals, in Mgal/d			Irrigated land, in acres	Estimated livestock water withdrawals, in Mgal/d	Estimated withdrawals for animal specialties, in Mgal/d		Total withdrawals for livestock and animal specialties, in Mgal/d		
	Ground water	Surface water	Total			Ground water	Surface water	Ground water	Surface water	Total
04040001	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00
04040002	.00	.00	.00	0	.01	.01	.00	.02	.00	.02
04060200	.00	.00	.00	0	.00	.00	.00	.00	.00	.00
05120108	.02	.00	.02	60	.07	.00	.00	.07	.00	.07
05120109	.39	.00	.39	1,290	.47	.03	.01	.50	.01	.51
05120111	1.25	.00	1.25	3,270	.60	.02	.00	.62	.00	.62
05120112	3.19	.01	3.20	8,360	1.82	.07	.04	1.89	.04	1.93
05120113	1.97	.01	1.98	4,040	.42	.01	.00	.43	.00	.43
05120114	1.54	.13	1.67	3,000	1.92	.16	.11	2.08	.11	2.19
05120115	.75	.01	.76	1,350	.55	.06	.09	.61	.09	.70
05140203	1.05	.01	1.06	1,860	.31	.02	.03	.33	.03	.36
05140204	3.87	.05	3.92	6,970	.55	.05	.06	.60	.06	.66
05140206	.80	.02	.82	1,480	.45	.05	.03	.50	.03	.53
07060005	.28	.06	.34	1,560	2.34	.03	.01	2.37	.01	2.38
07080101	1.14	.02	1.16	5,400	.65	.00	.00	.65	.00	.65
07080104	2.08	.00	2.08	8,990	2.73	.05	.00	2.78	.00	2.78
07090001	.01	.00	.01	70	.02	.00	.00	.02	.00	.02
07090003	.23	.03	.26	1,210	2.38	.02	.00	2.40	.00	2.40
07090004	.07	.01	.08	350	.13	.00	.00	.13	.00	.13
07090005	5.50	.08	5.58	26,010	3.38	.05	.03	3.43	.03	3.46
07090006	.77	.14	.91	3,660	1.89	.08	.01	1.97	.01	1.98
07090007	2.15	.00	2.15	10,080	2.04	.04	.00	2.08	.00	2.08
07110001	.10	.00	.10	420	.89	.02	.00	.91	.00	.91
07110004	.96	.00	.96	2,390	1.37	.01	.02	1.38	.02	1.40
07110009	.16	.00	.16	390	.33	.01	.02	.34	.02	.36
07120001	2.97	.04	3.01	9,970	.33	.03	.02	.36	.02	.38
07120002	.54	.09	.63	2,040	.77	.02	.00	.79	.00	.79
07120003	2.28	.00	2.28	8,990	.03	.02	.00	.05	.00	.05
07120004	4.12	.00	4.12	16,510	.22	.09	.04	.31	.04	.35
07120005	.43	.03	.46	1,540	.55	.01	.00	.56	.00	.56
07120006	1.43	.12	1.55	6,250	.56	.07	.01	.63	.01	.64
07120007	.83	.02	.85	3,540	1.13	.06	.01	1.19	.01	1.20
07130001	1.18	.05	1.23	5,480	1.58	.03	.00	1.61	.00	1.61
07130002	.03	.08	.11	410	.87	.02	.01	.89	.01	.90
07130003	11.92	.12	12.04	53,380	1.25	3.16	.02	4.41	.02	4.43

Table 8. Estimated irrigation water withdrawals, irrigated land, and estimated water withdrawals for livestock and animal specialties in Illinois, by hydrologic unit, 1990—Continued

Hydrologic unit	Estimated irrigation water withdrawals, in Mgal/d			Irrigated land, in acres	Estimated livestock water withdrawals, in Mgal/d	Estimated withdrawals for animal specialties, in Mgal/d		Total withdrawals for livestock and animal specialties, in Mgal/d		
	Ground water	Surface water	Total			Ground water	Surface water	Ground water	Surface water	Total
07130004	2.04	0.02	2.06	9,180	0.78	0.38	0.01	1.16	0.01	1.17
07130005	1.70	.02	1.72	7,790	2.44	.04	.02	2.48	.02	2.50
07130006	.32	.02	.34	1,110	.49	.04	.01	.53	.01	.54
07130007	.06	.04	.10	240	.65	.05	.00	.70	.00	.70
07130008	8.13	.10	8.23	35,650	.81	2.34	.01	3.15	.01	3.16
07130009	3.55	.00	3.55	15,930	1.12	1.00	.19	2.12	.19	2.31
07130010	.12	.02	.14	620	1.34	.03	.01	1.37	.01	1.38
07130011	1.63	.05	1.68	4,220	2.40	.03	.03	2.43	.03	2.46
07130012	.16	.00	.16	410	1.09	.01	.02	1.10	.02	1.13
07140101	.79	.28	1.07	2,330	.76	.03	.05	.79	.05	.84
07140105	.27	.06	.33	670	.39	.02	.21	.41	.21	.62
07140106	.27	1.18	1.45	2,930	1.36	.07	.84	1.43	.84	2.27
07140108	.17	.01	.18	370	.17	.04	.00	.21	.00	.21
07140201	.17	.04	.21	670	.86	.21	.01	1.07	.01	1.08
07140202	.21	.27	.48	990	1.66	.28	.02	1.94	.02	1.96
07140203	.08	.00	.08	170	1.12	.03	.01	1.15	.01	1.16
07140204	.89	.47	1.36	2,940	1.58	.05	.15	1.63	.15	1.78
Total	74.57	3.71	78.28	286,540	51.63	8.95	2.16	60.58	2.16	62.74

Table 9. Industrial self-supplied withdrawals and deliveries from public-water facilities for industrial use in Illinois, by county, 1990

[All values are in million gallons per day]

County	Self-supplied withdrawals			Deliveries from public-supply facilities	Total self-supplied withdrawals and public-supply deliveries
	Ground water	Surface water	Total		
Adams	10.28	0.00	10.28	2.06	12.34
Alexander	.01	.00	.01	.39	.40
Bond	.00	.00	.00	.06	.06
Boone	.07	.00	.07	1.64	1.71
Brown	.00	.00	.00	.00	.00
Bureau	.02	.00	.02	.49	.51
Calhoun	.00	.00	.00	.00	.00
Carroll	1.96	.00	1.96	.17	2.13
Cass	1.70	.00	1.70	.00	1.70
Champaign	3.61	.00	3.61	2.15	5.76
Christian	.00	.00	.00	1.36	1.36
Clark	.00	.00	.00	.00	.00
Clay	.00	.00	.00	.22	.22
Clinton	.00	.00	.00	.01	.01
Coles	.00	.00	.00	.04	.04
Cook	20.08	159.35	179.43	174.05	353.48
Crawford	.00	4.26	4.26	.49	4.75
Cumberland	.00	.00	.00	.00	.00
De Kalb	.48	.16	.64	.43	1.07
De Witt	.00	.00	.00	.00	.00
Douglas	.00	5.48	5.48	.01	5.49
Du Page	.39	.00	.39	5.76	6.15
Edgar	.00	.00	.00	.00	.00
Edwards	.00	.00	.00	.03	.03
Effingham	.00	.00	.00	.01	.01
Fayette	.00	.00	.00	.07	.07
Ford	.00	.00	.00	.17	.17
Franklin	.00	.00	.00	.19	.19
Fulton	.00	.00	.00	.04	.04
Gallatin	.00	.00	.00	.00	.00
Greene	.00	.00	.00	.00	.00
Grundy	6.24	.07	6.31	.06	6.37
Hamilton	.00	.00	.00	.00	.00
Hancock	.00	.00	.00	.03	.03
Hardin	.00	.00	.00	.11	.11
Henderson	.00	.00	.00	.00	.00
Henry	.03	.00	.03	.21	.24
Iroquois	.07	.00	.07	.03	.10
Jackson	.00	.00	.00	2.41	2.41
Jasper	.00	.00	.00	.00	.00
Jefferson	.00	.00	.00	.02	.02
Jersey	.00	.00	.00	.00	.00
Jo Daviess	1.72	.00	1.72	.65	2.37
Johnson	.00	.00	.00	.00	.00
Kane	1.52	.00	1.52	5.20	6.72
Kankakee	.12	.00	.12	4.13	4.25
Kendall	.32	.00	.32	.23	.55
Knox	.00	.00	.00	2.83	2.83
Lake	.69	11.61	12.30	3.35	15.65
La Salle	3.25	3.93	7.18	1.30	8.48

Table 9. Industrial self-supplied withdrawals and deliveries from public-water facilities for industrial use in Illinois, by county, 1990—Continued

County	Self-supplied withdrawals			Deliveries from public-supply facilities	Total self-supplied withdrawals and public-supply deliveries
	Ground water	Surface water	Total		
Lawrence	0.00	0.00	0.00	0.03	0.03
Lee	.03	.02	.05	.65	.70
Livingston	.09	.00	.09	.34	.43
Logan	.00	.00	.00	.39	.39
McDonough	.02	.00	.02	.06	.08
McHenry	2.44	1.21	3.65	3.07	6.72
McLean	.03	.00	.03	.93	.96
Macon	.00	8.50	8.50	.00	8.50
Macoupin	.00	.00	.00	.14	.14
Madison	34.08	22.21	56.29	20.83	77.12
Marion	.00	.00	.00	.36	.36
Marshall	1.24	.00	1.24	.00	1.24
Mason	.00	.00	.00	.04	.04
Massac	4.87	.00	4.87	.00	4.87
Menard	.00	.00	.00	.00	.00
Mercer	.00	.00	.00	.00	.00
Monroe	.00	.00	.00	.11	.11
Montgomery	.00	.44	.44	.10	.54
Morgan	3.91	.00	3.91	.02	3.93
Moultrie	.00	.00	.00	.00	.00
Ogle	.68	.00	.68	2.57	3.25
Peoria	15.37	11.83	27.20	1.82	29.02
Perry	.00	.61	.61	.00	.61
Piatt	.74	.00	.74	.02	.76
Pike	.00	.00	.00	.01	.01
Pope	.00	.00	.00	.00	.00
Pulaski	.00	.00	.00	.02	.02
Putnam	.10	4.30	4.40	.09	4.49
Randolph	.00	.00	.00	.16	.16
Richland	.00	.00	.00	.60	.60
Rock Island	12.58	36.41	48.99	2.45	51.44
St. Clair	2.73	.00	2.73	8.19	10.92
Saline	.00	.00	.00	.39	.39
Sangamon	.00	.00	.00	.04	.04
Schuyler	.00	.00	.00	.03	.03
Scott	.00	.00	.00	.00	.00
Shelby	.29	.00	.29	.00	.29
Stark	.00	.00	.00	.00	.00
Stephenson	1.82	.00	1.82	.01	1.83
Tazewell	6.50	17.44	23.94	.97	24.91
Union	.00	.00	.00	.06	.06
Vermilion	2.96	.00	2.96	3.35	6.31
Wabash	.00	.00	.00	.15	.15
Warren	.00	.00	.00	.07	.07
Washington	.00	.00	.00	.12	.12
Wayne	.00	.00	.00	.00	.00
White	.00	.00	.00	.00	.00
Whiteside	3.62	4.03	7.65	.79	8.44
Will	4.53	17.19	21.72	2.10	23.82
Williamson	.00	.40	.40	.07	.47
Winnebago	3.59	.00	3.59	1.92	5.51
Woodford	.01	.00	.01	.01	.02
Total	154.79	309.45	464.24	263.48	727.72

Table 10. Industrial self-supplied withdrawals and deliveries from public-water facilities for industrial use in Illinois, by hydrologic unit, 1990

[All values are in million gallons per day]

Hydrologic unit	Self-supplied withdrawals			Deliveries from public-supply facilities	Total self-supplied withdrawals and public-supply deliveries
	Ground water	Surface water	Total		
04040001	0.00	35.78	35.78	3.21	38.99
04040002	.02	69.71	69.73	3.37	73.10
04060200	.00	11.61	11.61	.00	11.61
05120108	.00	.00	.00	.50	.50
05120109	2.98	.00	2.98	3.61	6.59
05120111	.00	4.26	4.26	.17	4.43
05120112	.00	.00	.00	.76	.76
05120113	.00	.00	.00	.26	.26
05120114	.00	.00	.00	.67	.67
05120115	.00	.00	.00	.15	.15
05140203	.00	.00	.00	.09	.09
05140204	.00	.00	.00	.44	.44
05140206	4.87	.00	4.87	.02	4.89
07060005	3.67	.00	3.67	.73	4.40
07080101	10.79	36.41	47.20	2.57	49.77
07080104	.00	.00	.00	.61	.61
07090001	.36	.00	.36	.08	.44
07090003	1.82	.00	1.82	.73	2.55
07090004	.00	.00	.00	.21	.21
07090005	8.73	4.05	12.78	4.26	17.04
07090006	1.56	1.37	2.93	4.93	7.86
07090007	.03	.00	.03	.68	.71
07110001	9.53	.00	9.53	1.09	10.62
07110004	.00	.00	.00	.46	.46
07110009	12.63	4.41	17.04	.71	17.75
07120001	.12	.00	.12	4.01	4.13
07120002	.07	.00	.07	.80	.87
07120003	18.43	49.14	67.57	64.65	132.22
07120004	7.20	21.92	29.12	101.45	130.57
07120005	8.54	1.47	10.01	.88	10.89
07120006	2.16	.00	2.16	13.20	15.36
07120007	2.06	.00	2.06	4.71	6.77
07130001	5.20	11.11	16.31	1.21	17.52
07130002	.09	.00	.09	.61	.70
07130003	21.08	24.98	46.06	1.65	47.71
07130004	.09	.00	.09	.35	.44
07130005	.00	.00	.00	3.03	3.03
07130006	.74	8.50	9.24	.93	10.17
07130007	.00	.00	.00	1.04	1.04
07130008	.00	.00	.00	.11	.11
07130009	.03	.00	.03	1.14	1.17
07130010	.02	.00	.02	.22	.24
07130011	3.91	.00	3.91	.41	4.32
07130012	.00	.00	.00	.14	.14
07140101	24.17	17.80	41.97	1.69	43.66
07140105	.00	.00	.00	.44	.44
07140106	.00	1.01	1.01	2.34	3.35
07140108	.01	.00	.01	.42	.43
07140201	3.88	5.48	9.36	.40	9.76
07140202	.00	.00	.00	.35	.35
07140203	.00	.44	.44	.13	.57
07140204	.00	.00	.00	26.86	26.86
Total	154.79	309.45	464.24	263.48	727.72

Table 11. Mining withdrawals and consumptive use in Illinois, by county, 1990
[All values are in million gallons per day]

County	Withdrawals							Consumptive use		
	Ground water			Surface water	Total					
	Fresh	Saline	Total		Fresh	Saline	Total	Fresh	Saline	Total
Adams	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Alexander	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Bond	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Boone	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Brown	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Bureau	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Calhoun	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Carroll	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Cass	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Champaign	.00	.00	.00	5.23	5.23	.00	5.23	.78	.00	.78
Christian	.01	.46	.47	.22	.23	.46	.69	.11	.46	.57
Clark	.10	.11	.21	.00	.10	.11	.21	.05	.11	.16
Clay	.00	.72	.72	.00	.00	.72	.72	.00	.72	.72
Clinton	.37	.31	.68	1.39	1.76	.31	2.07	.77	.31	1.08
Coles	.00	.12	.12	.01	.01	.12	.13	.00	.12	.12
Cook	.00	.00	.00	.55	.55	.00	.55	.08	.00	.08
Crawford	.00	3.60	3.60	.00	.00	3.60	3.60	.00	3.60	3.60
Cumberland	.09	.11	.20	.00	.09	.11	.20	.04	.11	.15
De Kalb	.00	.00	.00	2.77	2.77	.00	2.77	.42	.00	.42
De Witt	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Douglas	.00	.00	.00	.24	.24	.00	.24	.12	.00	.12
Du Page	.06	.00	.06	.00	.06	.00	.06	.01	.00	.01
Edgar	.00	.09	.09	.00	.00	.09	.09	.00	.09	.09
Edwards	.00	.49	.49	.00	.00	.49	.49	.00	.49	.49
Effingham	.00	.22	.22	.00	.00	.22	.22	.00	.22	.22
Fayette	.00	1.28	1.28	.00	.00	1.28	1.28	.00	1.28	1.28
Ford	.00	.00	.00	.03	.03	.00	.03	.01	.00	.01
Franklin	.02	.23	.25	2.47	2.49	.23	2.72	1.21	.23	1.44
Fulton	.29	.00	.29	.73	1.02	.00	1.02	.41	.00	.41
Gallatin	1.54	.27	1.81	1.16	2.70	.27	2.97	1.32	.27	1.59
Greene	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Grundy	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Hamilton	.00	.51	.51	.32	.32	.51	.83	.16	.51	.67
Hancock	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Hardin	1.16	.00	1.16	.00	1.16	.00	1.16	.17	.00	.17
Henderson	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Henry	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Iroquois	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Jackson	.00	.00	.00	.72	.72	.00	.72	.35	.00	.35
Jasper	.00	1.10	1.10	.00	.00	1.10	1.10	.00	1.10	1.10
Jefferson	.00	.77	.77	.83	.83	.77	1.60	.41	.77	1.18
Jersey	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Jo Daviess	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Johnson	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Kane	.00	.00	.00	.79	.79	.00	.79	.12	.00	.12
Kankakee	.79	.00	.79	.00	.79	.00	.79	.12	.00	.12
Kendall	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Knox	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Lake	.51	.00	.51	.54	1.05	.00	1.05	.16	.00	.16
La Salle	.15	.00	.15	20.75	20.90	.00	20.90	3.14	.00	3.14
Lawrence	.40	7.22	7.62	.00	.40	7.22	7.62	.20	7.22	7.42
Lee	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Livingston	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Logan	.23	.00	.23	.11	.34	.00	.34	.17	.00	.17
McDonough	.00	.00	.00	.58	.58	.00	.58	.28	.00	.28

Table 11. Mining withdrawals and consumptive use in Illinois, by county, 1990—Continued

County	Withdrawals							Consumptive use		
	Ground water			Surface water	Total					
	Fresh	Saline	Total		Fresh	Saline	Total	Fresh	Saline	Total
McHenry	.00	.00	.00	2.59	2.59	.00	2.59	.39	.00	.39
McLean	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Macon	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Macoupin	.00	.00	.00	1.65	1.65	.00	1.65	.81	.00	.81
Madison	.00	.09	.09	.00	.00	.09	.09	.00	.09	.09
Marion	.00	.65	.65	.00	.00	.65	.65	.00	.65	.65
Marshall	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Mason	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Massac	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Menard	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Mercer	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Monroe	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Montgomery	.00	.00	.00	.14	.14	.00	.14	.07	.00	.07
Morgan	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Moultrie	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Ogle	.35	.00	.35	.00	.35	.00	.35	.05	.00	.05
Peoria	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Perry	1.28	.01	1.29	6.57	7.85	.01	7.86	3.85	.01	3.86
Piatt	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Pike	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Pope	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Pulaski	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Putnam	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Randolph	.00	.00	.00	.67	.67	.00	.67	.33	.00	.33
Richland	.00	.91	.91	.00	.00	.91	.91	.00	.91	.91
Rock Island	.00	.00	.00	.34	.34	.00	.34	.04	.00	.04
St. Clair	.00	.00	.00	2.19	2.19	.00	2.19	1.07	.00	1.07
Saline	.00	.35	.35	3.78	3.78	.35	4.13	1.85	.35	2.20
Sangamon	.00	.00	.00	1.02	1.02	.00	1.02	.15	.00	.15
Schuyler	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Scott	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Shelby	.00	.04	.04	.00	.00	.04	.04	.00	.04	.04
Stark	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Stephenson	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Tazewell	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Union	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Vermilion	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Wabash	.11	1.23	1.34	.00	.11	1.23	1.34	.05	1.23	1.28
Warren	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Washington	.00	.35	.35	.00	.00	.35	.35	.00	.35	.35
Wayne	.00	1.71	1.71	.00	.00	1.71	1.71	.00	1.71	1.71
White	.09	2.49	2.58	.00	.09	2.49	2.58	.04	2.49	2.53
Whiteside	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Will	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Williamson	.00	.03	.03	2.10	2.10	.03	2.13	1.03	.03	1.06
Winnebago	.00	.00	.00	.74	.74	.00	.74	.11	.00	.11
Woodford	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Total	7.55	25.47	33.02	61.23	68.78	25.47	94.25	20.45	25.47	45.92

Table 12. Mining withdrawals and consumptive use in Illinois, by hydrologic unit, 1990
[All values are in million gallons per day]

Hydrologic unit	Withdrawals							Consumptive use		
	Ground water			Surface water	Total					
	Fresh	Saline	Total		Fresh	Saline	Total	Fresh	Saline	Total
04040001	0.00	0.00	0.00	0.02	0.02	0.00	0.02	0.00	0.00	0.00
04040002	.07	.00	.07	.09	.16	.00	.16	.02	.00	.02
04060200	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
05120108	.00	.00	.00	.12	.12	.00	.12	.02	.00	.02
05120109	.00	.00	.00	2.32	2.32	.00	2.32	.34	.00	.34
05120111	.00	.05	.05	.00	.00	.05	.05	.00	.05	.05
05120112	.59	10.66	11.25	.83	1.42	10.66	12.08	.47	10.66	11.13
05120113	.32	2.55	2.87	.15	.47	2.55	3.02	.23	2.55	2.78
05120114	.03	5.32	5.35	.00	.03	5.32	5.35	.02	5.32	5.34
05120115	.01	1.14	1.15	.23	.24	1.14	1.38	.13	1.14	1.27
05140203	.29	.00	.29	.21	.50	.00	.50	.24	.00	.24
05140204	1.54	1.55	3.09	5.75	7.29	1.55	8.84	3.48	1.55	5.03
05140206	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
07060005	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
07080101	.00	.00	.00	.34	.34	.00	.34	.04	.00	.04
07080104	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
07090001	.00	.00	.00	.74	.74	.00	.74	.00	.00	.00
07090003	.26	.00	.26	.00	.26	.00	.26	.04	.00	.04
07090004	.08	.00	.08	.00	.08	.00	.08	.01	.00	.01
07090005	.61	.00	.61	.01	.62	.00	.62	.09	.00	.09
07090006	.12	.00	.12	1.76	1.88	.00	1.88	.29	.00	.29
07090007	.00	.00	.00	.02	.02	.00	.02	.00	.00	.00
07110001	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
07110004	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
07110009	.00	.00	.00	.14	.14	.00	.14	.07	.00	.07
07120001	.79	.00	.79	.00	.79	.00	.79	.12	.00	.12
07120002	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
07120003	.03	.00	.03	.28	.31	.00	.31	.05	.00	.05
07120004	.27	.00	.27	.43	.70	.00	.70	.11	.00	.11
07120005	.02	.00	.02	2.49	2.51	.00	2.51	.38	.00	.38
07120006	.20	.00	.20	2.86	3.06	.00	3.06	.46	.00	.46
07120007	.05	.00	.05	7.90	7.95	.00	7.95	1.22	.00	1.22
07130001	.06	.00	.06	7.82	7.88	.00	7.88	1.18	.00	1.18
07130002	.03	.00	.03	4.37	4.40	.00	4.40	.66	.00	.66
07130003	.04	.00	.04	.34	.38	.00	.38	.19	.00	.19
07130004	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
07130005	.25	.00	.25	.50	.75	.00	.75	.27	.00	.27
07130006	.00	.01	.01	1.49	1.49	.01	1.50	.24	.01	.25
07130007	.01	.45	.46	.68	.69	.45	1.14	.19	.45	.64
07130008	.00	.00	.00	.42	.42	.00	.42	.06	.00	.06
07130009	.23	.00	.23	.15	.38	.00	.38	.18	.00	.18
07130010	.00	.00	.00	.48	.48	.00	.48	.23	.00	.23
07130011	.00	.00	.00	.12	.12	.00	.12	.06	.00	.06
07130012	.00	.00	.00	1.13	1.13	.00	1.13	.56	.00	.56
07140101	.00	.00	.00	.92	.92	.00	.92	.45	.00	.45
07140105	.02	.00	.02	.46	.48	.00	.48	.23	.00	.23
07140106	1.23	1.20	2.43	11.13	12.36	1.20	13.56	6.08	1.20	7.28
07140108	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
07140201	.00	.04	.04	.95	.95	.04	.99	.18	.04	.22
07140202	.08	2.32	2.40	.66	.74	2.32	3.06	.36	2.32	2.68
07140203	.05	.03	.08	.49	.54	.03	.57	.27	.03	.30
07140204	.27	.15	.42	2.43	2.70	.15	2.85	1.23	.15	1.38
Total	7.55	25.47	33.02	61.23	68.78	25.47	94.25	20.45	25.47	45.92

Table 13. Thermoelectric-power self-supplied withdrawals, deliveries from public-supply facilities for thermoelectric-power generation, consumptive use, and power generated in Illinois, by county, 1990
[Mgal/d, million gallons per day; GWh, gigawatt-hour]

County	Self-supplied withdrawals, in Mgal/d			Deliveries from public-water facilities, in Mgal/d	Total self-supplied withdrawals and deliveries, in Mgal/d	Consumptive use, in Mgal/d	Power generated, in GWh
	Ground water	Surface water	Total				
Adams	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Alexander	.00	.00	.00	.00	.00	.00	.00
Bond	.00	.00	.00	.00	.00	.00	.00
Boone	.00	.00	.00	.00	.00	.00	.00
Brown	.00	.00	.00	.00	.00	.00	.00
Bureau	.00	.00	.00	.00	.00	.00	.00
Calhoun	.00	.00	.00	.00	.00	.00	.00
Carroll	.00	.00	.00	.00	.00	.00	.00
Cass	.00	.00	.00	.00	.00	.00	.00
Champaign	.00	.00	.00	.00	.00	.00	.00
Christian	.00	793.43	793.43	.00	793.43	7.93	4,489.00
Clark	.00	.00	.00	.00	.00	.00	.00
Clay	.00	.00	.00	.00	.00	.00	.00
Clinton	.00	.00	.00	.00	.00	.00	.00
Coles	.00	.00	.00	.00	.00	.00	.00
Cook	.00	409.64	409.64	.43	410.07	4.09	861.72
Crawford	.76	58.66	59.42	.00	59.42	.61	408.14
Cumberland	.00	.00	.00	.00	.00	.00	.00
De Kalb	.00	.00	.00	.00	.00	.00	.00
De Witt	.00	493.18	493.18	.00	493.18	14.79	3,051.00
Douglas	.00	.00	.00	.00	.00	.00	.00
Du Page	.01	.00	.01	.00	.01	.00	.00
Edgar	.00	.00	.00	.00	.00	.00	.00
Edwards	.00	.00	.00	.00	.00	.00	.00
Effingham	.00	.00	.00	.00	.00	.00	.00
Fayette	.00	.00	.00	.00	.00	.00	.00
Ford	.00	.00	.00	.00	.00	.00	.00
Franklin	.00	.00	.00	.00	.00	.00	.00
Fulton	.00	267.99	267.99	.00	267.99	8.04	1,880.21
Gallatin	.00	.00	.00	.00	.00	.00	.00
Greene	.00	.00	.00	.00	.00	.00	.00
Grundy	.85	1,537.09	1,537.94	.00	1,537.94	30.83	10,173.77
Hamilton	.00	.00	.00	.00	.00	.00	.00
Hancock	.00	.00	.00	.00	.00	.00	.00
Hardin	.00	.00	.00	.00	.00	.00	.00
Henderson	.00	.00	.00	.00	.00	.00	.00
Henry	.00	.00	.00	.00	.00	.00	.00
Iroquois	.00	.00	.00	.00	.00	.00	.00
Jackson	.09	142.76	142.85	.00	142.85	1.48	386.00
Jasper	.00	419.18	419.18	.00	419.18	3.45	4,756.00
Jefferson	.00	.00	.00	.00	.00	.00	.00
Jersey	.00	.00	.00	.00	.00	.00	.00
Jo Daviess	.00	.00	.00	.00	.00	.00	.00
Johnson	.00	.00	.00	.00	.00	.00	.00
Kane	.00	.00	.00	.00	.00	.00	.00
Kankakee	.00	.00	.00	.00	.00	.00	.00
Kendall	.00	.00	.00	.00	.00	.00	.00
Knox	.00	.00	.00	.00	.00	.00	.00
Lake	.00	2,789.62	2,789.62	.04	2,789.66	70.92	10,076.00
La Salle	.24	63.14	630.38	.00	630.38	63.04	13,170.00

Table 13. Thermoelectric-power self-supplied withdrawals, deliveries from public-supply facilities for thermoelectric-power generation, consumptive use, and power generated in Illinois, by county, 1990—Continued

County	Self-supplied withdrawals, in Mgal/d			Deliveries from public-water facilities, in Mgal/d	Total self-supplied withdrawals and deliveries, in Mgal/d	Consumptive use, in Mgal/d	Power generated, in GWh
	Ground water	Surface water	Total				
Lawrence	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lee	.00	.00	.00	.00	.00	.00	.00
Livingston	.00	.00	.00	.00	.00	.00	.00
Logan	.00	.00	.00	.00	.00	.00	.00
McDonough	.00	.00	.00	.00	.00	.00	.00
McHenry	.00	.00	.00	.00	.00	.00	.00
McLean	.00	.00	.00	.00	.00	.00	.00
Macon	.00	.00	.00	.00	.00	.00	.00
Macoupin	.00	.00	.00	.00	.00	.00	.00
Madison	.00	257.32	257.32	.01	257.33	2.63	1,705.00
Marion	.00	.00	.00	.00	.00	.00	.00
Marshall	.00	.00	.00	.00	.00	.00	.00
Mason	.83	102.00	102.83	.00	102.83	1.85	1,722.00
Massac	.93	466.55	467.48	.00	467.48	4.83	6,434.00
Menard	.00	.00	.00	.00	.00	.00	.00
Mercer	.00	.00	.00	.00	.00	.00	.00
Monroe	.00	.00	.00	.00	.00	.00	.00
Montgomery	.00	420.00	420.00	.02	420.02	48.41	3,958.00
Morgan	.07	136.44	136.51	.00	136.51	1.43	1,066.70
Moultrie	.00	.00	.00	.00	.00	.00	.00
Ogle	.58	57.26	57.84	.00	57.84	1.73	15,878.00
Peoria	.00	343.00	343.00	.01	343.01	3.43	3,183.44
Perry	.00	.00	.00	.00	.00	.00	.00
Piatt	.00	.00	.00	.00	.00	.00	.00
Pike	.02	13.61	13.63	.00	13.63	.13	102.00
Pope	.00	.00	.00	.00	.00	.00	.00
Pulaski	.00	.00	.00	.00	.00	.00	.00
Putnam	.62	170.96	171.58	.00	171.58	2.33	1,535.00
Randolph	.00	1,047.75	1,047.75	.01	1,047.76	10.68	9,240.00
Richland	.00	.00	.00	.00	.00	.00	.00
Rock Island	1.89	1.46	3.35	.00	3.35	.10	10,500.00
St. Clair	.00	.00	.00	.00	.00	.00	.00
Saline	.00	.00	.00	.00	.00	.00	.00
Sangamon	.00	204.58	204.58	.79	205.37	2.05	1,631.36
Schuyler	.00	.00	.00	.00	.00	.00	.00
Scott	.00	.00	.00	.00	.00	.00	.00
Shelby	.00	.00	.00	.00	.00	.00	.00
Stark	.00	.00	.00	.00	.00	.00	.00
Stephenson	.00	.00	.00	.00	.00	.00	.00
Tazewell	1.03	764.38	765.41	.00	765.41	8.67	3,822.75
Union	.00	.00	.00	.00	.00	.00	.00
Vermilion	.00	2.76	2.76	.00	2.76	2.76	912.90
Wabash	.00	.00	.00	.00	.00	.00	.00
Warren	.00	.00	.00	.00	.00	.00	.00
Washington	.00	.00	.00	.00	.00	.00	.00
Wayne	.00	.00	.00	.00	.00	.00	.00
White	.00	.00	.00	.00	.00	.00	.00
Whiteside	.00	.00	.00	.00	.00	.00	.00
Will	1.11	3,560.03	3,561.14	.00	3,561.14	73.52	15,787.52
Williamson	.00	69.92	69.92	.00	69.92	.65	1,164.37
Winnebago	.00	.00	.00	.00	.00	.00	.00
Woodford	.00	.00	.00	.00	.00	.00	.00
Total	9.03	15,159.71	15,168.74	1.31	15,170.05	370.38	127,894.88

Table 14. Thermoelectric-power self-supplied withdrawals, deliveries from public-supply facilities for thermoelectric-power generation, consumptive use, and power generated in Illinois, by hydrologic unit, 1990
[Mgal/d, million gallons per day; GWh, gigawatt-hour]

Hydrologic unit	Self-supplied withdrawals, in Mgal/d			Deliveries from public-water facilities, in Mgal/d	Total self-supplied withdrawals and deliveries, in Mgal/d	Consumptive use, in Mgal/d	Power generated, in GWh
	Ground water	Surface water	Total				
04040001	0.00	0.00	0.00	0.00	0.00	0.00	0.00
04040002	.00	.00	.00	.00	.00	.00	.00
04060200	.00	2,789.62	2,789.62	.04	2,789.66	70.92	10,076.00
05120108	.00	.00	.00	.00	.00	.00	.00
05120109	.00	2.76	2.76	.00	2.76	2.76	912.90
05120111	.76	58.66	59.42	.00	59.42	.61	408.14
05120112	.00	.00	.00	.00	.00	.00	.00
05120113	.00	.00	.00	.00	.00	.00	.00
05120114	.00	419.18	419.18	.00	419.18	3.45	4,756.00
05120115	.00	.00	.00	.00	.00	.00	.00
05140203	.00	.00	.00	.00	.00	.00	.00
05140204	.00	69.92	69.92	.00	69.92	.65	1,164.37
05140206	.93	466.55	467.48	.00	467.48	4.83	6,434.00
07060005	.00	.00	.00	.00	.00	.00	.00
07080101	1.89	1.46	3.35	.00	3.35	.10	10,500.00
07080104	.00	.00	.00	.00	.00	.00	.00
07090001	.00	.00	.00	.00	.00	.00	.00
07090003	.00	.00	.00	.00	.00	.00	.00
07090004	.00	.00	.00	.00	.00	.00	.00
07090005	.58	57.26	57.84	.00	57.84	1.73	15,878.00
07090006	.00	.00	.00	.00	.00	.00	.00
07090007	.00	.00	.00	.00	.00	.00	.00
07110001	.00	.00	.00	.00	.00	.00	.00
07110004	.00	.00	.00	.00	.00	.00	.00
07110009	.00	218.96	218.96	.01	218.97	2.25	1,686.00
07120001	.10	767.99	768.09	.00	768.09	22.11	10,173.11
07120002	.00	.00	.00	.00	.00	.00	.00
07120003	.00	20.34	20.34	.19	20.53	2.00	398.75
07120004	1.11	1,862.91	1,864.02	.24	1,864.26	19.22	11,359.49
07120005	1.00	3,305.65	3,306.65	.00	3,306.65	128.15	18,061.66
07120006	.00	.00	.00	.00	.00	.00	.00
07120007	.01	.00	.01	.00	.01	.00	.00
07130001	.62	17.96	171.58	.00	171.58	2.33	1,535.00
07130002	.00	.00	.00	.00	.00	.00	.00
07130003	1.85	1,477.38	1,479.23	.01	1,479.24	21.99	10,608.40
07130004	.00	.00	.00	.00	.00	.00	.00
07130005	.00	.00	.00	.00	.00	.00	.00
07130006	.00	.00	.00	.00	.00	.00	.00
07130007	.00	998.01	998.01	.79	998.80	9.98	6,120.36
07130008	.00	.00	.00	.00	.00	.00	.00
07130009	.00	493.18	493.18	.00	493.18	14.79	3,051.00
07130010	.00	.00	.00	.00	.00	.00	.00
07130011	.09	15.05	15.14	.00	15.14	1.56	1,168.70
07130012	.00	.00	.00	.00	.00	.00	.00
07140101	.00	38.36	38.36	.00	38.36	.38	19.00
07140105	.09	142.76	142.85	.00	142.85	1.48	386.00
07140106	.00	.00	.00	.00	.00	.00	.00
07140108	.00	.00	.00	.00	.00	.00	.00
07140201	.00	.00	.00	.00	.00	.00	.00
07140202	.00	.00	.00	.00	.00	.00	.00
07140203	.00	420.00	420.00	.02	420.02	48.41	3,958.00
07140204	.00	1,047.75	1,047.75	.01	1,047.76	1.68	9,240.00
Total	9.03	15,159.71	15,168.74	1.31	15,170.05	37.38	127,894.88

Table 15. Total withdrawals in Illinois, by county, 1990
[All values are in million gallons per day]

County	Withdrawals						
	Ground water			Surface water	Total		
	Fresh	Saline	Total		Fresh	Saline	Total
Adams	13.60	0.00	13.60	7.06	20.66	0.00	20.66
Alexander	.91	.00	.91	1.42	2.33	.00	2.33
Bond	1.08	.00	1.08	.94	2.02	.00	2.02
Boone	5.61	.00	5.61	.00	5.61	.00	5.61
Brown	.60	.00	.60	.00	.60	.00	.60
Bureau	6.17	.00	6.17	.28	6.45	.00	6.45
Calhoun	1.50	.00	1.50	9.08	10.58	.00	10.58
Carroll	4.50	.00	4.50	7.86	12.36	.00	12.36
Cass	6.47	.00	6.47	.25	6.72	.00	6.72
Champaign	29.15	.00	29.15	5.23	34.38	.00	34.38
Christian	2.27	.46	2.73	795.81	798.08	.46	798.54
Clark	4.18	.11	4.29	.00	4.18	.11	4.29
Clay	.70	.72	1.42	.90	1.60	.72	2.32
Clinton	2.73	.31	3.04	3.41	6.14	.31	6.45
Coles	1.50	.12	1.62	4.20	5.70	.12	5.82
Cook	48.06	.00	48.06	1,742.94	1,791.00	.00	1,791.00
Crawford	3.84	3.60	7.44	62.92	66.76	3.60	70.36
Cumberland	1.14	.11	1.25	.02	1.16	.11	1.27
De Kalb	11.58	.00	11.58	2.93	14.51	.00	14.51
De Witt	3.00	.00	3.00	493.37	496.37	.00	496.37
Douglas	2.08	.00	2.08	5.75	7.83	.00	7.83
Du Page	99.63	.00	99.63	4.91	104.54	.00	104.54
Edgar	1.24	.09	1.33	1.20	2.44	.09	2.53
Edwards	.78	.49	1.27	.12	.90	.49	1.39
Effingham	2.01	.22	2.23	2.29	4.30	.22	4.52
Fayette	1.51	1.28	2.79	5.35	6.86	1.28	8.14
Ford	2.23	.00	2.23	.04	2.27	.00	2.27
Franklin	.79	.23	1.02	15.34	16.13	.23	16.36
Fulton	3.01	.00	3.01	272.65	275.66	.00	275.66
Gallatin	7.70	.27	7.97	1.23	8.93	.27	9.20
Greene	1.78	.00	1.78	.30	2.08	.00	2.08
Grundy	10.66	.00	10.66	1,537.16	1,547.82	.00	1,547.82
Hamilton	.68	.51	1.19	.35	1.03	.51	1.54
Hancock	2.36	.00	2.36	1.04	3.40	.00	3.40
Hardin	1.44	.00	1.44	.18	1.62	.00	1.62
Henderson	8.09	.00	8.09	.00	8.09	.00	8.09
Henry	8.96	.00	8.96	.00	8.96	.00	8.96
Iroquois	3.88	.00	3.88	.08	3.96	.00	3.96
Jackson	25.56	.00	25.56	152.41	177.97	.00	177.97
Jasper	1.49	1.10	2.59	419.19	420.68	1.10	421.78
Jefferson	1.07	.77	1.84	4.00	5.07	.77	5.84
Jersey	1.45	.00	1.45	7.35	8.80	.00	8.80
Jo Daviess	7.09	.00	7.09	.08	7.17	.00	7.17
Johnson	.80	.00	.80	.64	1.44	.00	1.44
Kane	35.15	.00	35.15	10.79	45.94	.00	45.94
Kankakee	9.35	.00	9.35	11.34	20.69	.00	20.69
Kendall	5.41	.00	5.41	.00	5.41	.00	5.41
Knox	3.11	.00	3.11	.00	3.11	.00	3.11
Lake	31.48	.00	31.48	2,842.93	2,874.41	.00	2,874.41
La Salle	16.57	.00	16.57	658.23	674.80	.00	674.80
Lawrence	5.39	7.22	12.61	.00	5.39	7.22	12.61
Lee	8.30	.00	8.30	.02	8.32	.00	8.32
Livingston	3.54	.00	3.54	2.16	5.70	.00	5.70
Logan	4.58	.00	4.58	.11	4.69	.00	4.69
McDonough	2.46	.00	2.46	2.31	4.77	.00	4.77

Table 15. Total withdrawals in Illinois, by county—Continued

County	Withdrawals						
	Ground water			Surface water	Total		
	Fresh	Saline	Total		Fresh	Saline	Total
McHenry	25.81	0.00	25.81	4.07	29.88	0.00	29.88
McLean	7.84	.00	7.84	3.38	11.22	.00	11.22
Macon	2.27	.00	2.27	41.07	43.34	.00	43.34
Macoupin	2.16	.00	2.16	5.29	7.45	.00	7.45
Madison	51.32	.09	51.41	323.39	374.71	.09	374.80
Marion	.96	.65	1.61	6.90	7.86	.65	8.51
Marshall	3.91	.00	3.91	.01	3.92	.00	3.92
Mason	36.44	.00	36.44	102.00	138.44	.00	138.44
Massac	10.23	.00	10.23	466.58	476.81	.00	476.81
Menard	1.53	.00	1.53	.00	1.53	.00	1.53
Mercer	3.30	.00	3.30	.00	3.30	.00	3.30
Monroe	1.70	.00	1.70	.75	2.45	.00	2.45
Montgomery	2.11	.00	2.11	422.82	424.93	.00	424.93
Morgan	5.46	.00	5.46	137.13	142.59	.00	142.59
Moultrie	1.58	.00	1.58	.99	2.57	.00	2.57
Ogle	10.94	.00	10.94	57.26	68.20	.00	68.20
Peoria	36.52	.00	36.52	361.86	398.38	.00	398.38
Perry	2.45	.01	2.46	8.37	10.82	.01	10.83
Piatt	3.35	.00	3.35	.00	3.35	.00	3.35
Pike	3.25	.00	3.25	14.12	17.37	.00	17.37
Pope	.18	.00	.18	.08	.26	.00	.26
Pulaski	1.06	.00	1.06	.00	1.06	.00	1.06
Putnam	1.68	.00	1.68	176.05	177.73	.00	177.73
Randolph	2.00	.00	2.00	1,051.25	1,053.25	.00	1,053.25
Richland	.75	.91	1.66	1.45	2.20	.91	3.11
Rock Island	19.30	.00	19.30	52.88	72.18	.00	72.18
St. Clair	14.96	.00	14.96	22.35	37.31	.00	37.31
Saline	.41	.35	.76	4.12	4.53	.35	4.88
Sangamon	4.31	.00	4.31	237.33	241.64	.00	241.64
Schuyler	1.28	.00	1.28	.06	1.34	.00	1.34
Scott	2.53	.00	2.53	.02	2.55	.00	2.55
Shelby	3.01	.04	3.05	1.50	4.51	.04	4.55
Stark	1.11	.00	1.11	.00	1.11	.00	1.11
Stephenson	9.96	.00	9.96	.00	9.96	.00	9.96
Tazewell	30.55	.00	30.55	782.40	812.95	.00	812.95
Union	2.92	.00	2.92	.21	3.13	.00	3.13
Vermilion	6.09	.00	6.09	12.76	18.85	.00	18.85
Wabash	1.46	1.23	2.69	1.13	2.59	1.23	3.82
Warren	3.57	.00	3.57	.00	3.57	.00	3.57
Washington	1.32	.35	1.67	1.09	2.41	.35	2.76
Wayne	1.58	1.71	3.29	1.30	2.88	1.71	4.59
White	6.76	2.49	9.25	.09	6.85	2.49	9.34
Whiteside	16.86	.00	16.86	4.23	21.09	.00	21.09
Will	50.99	.00	50.99	3,577.28	3,628.27	.00	3,628.27
Williamson	.33	.03	.36	82.55	82.88	.03	82.91
Winnebago	48.09	.00	48.09	.82	48.91	.00	48.91
Woodford	3.41	.00	3.41	5.72	9.13	.00	9.13
Total	919.82	25.47	945.29	17,070.83	1,799.65	25.47	18,016.12

Table 16. Total withdrawals in Illinois, by hydrologic unit, 1990

[All values are in million gallons per day]

Hydrologic unit	Withdrawals						
	Ground water			Surface water	Total		
	Fresh	Saline	Total		Fresh	Saline	Total
04040001	0.02	0.00	0.02	35.80	35.82	0.00	35.82
04040002	1.66	.00	1.66	83.92	85.58	.00	85.58
04060200	.00	.00	.00	3,947.56	3,947.56	.00	3,947.56
05120108	.42	.00	.42	.49	.91	.00	.91
05120109	11.20	.00	11.20	14.71	25.91	.00	25.91
05120111	6.13	.05	6.18	64.12	70.25	.05	70.30
05120112	12.71	10.66	23.37	2.63	15.34	10.66	26.00
05120113	5.36	2.55	7.91	1.40	6.76	2.55	9.31
05120114	7.46	5.32	12.78	427.51	434.97	5.32	440.29
05120115	2.44	1.14	3.58	.50	2.94	1.14	4.08
05140203	2.32	.00	2.32	.48	2.80	.00	2.80
05140204	9.11	1.55	10.66	76.82	85.93	1.55	87.48
05140206	11.29	.00	11.29	468.64	479.93	.00	479.93
07060005	11.78	.00	11.78	7.88	19.66	.00	19.66
07080101	16.27	.00	16.27	52.90	69.17	.00	69.17
07080104	16.88	.00	16.88	.58	17.46	.00	17.46
07090001	1.19	.00	1.19	.74	1.93	.00	1.93
07090003	13.16	.00	13.16	.03	13.19	.00	13.19
07090004	1.44	.00	1.44	.01	1.45	.00	1.45
07090005	76.63	.00	76.63	61.61	138.24	.00	138.24
07090006	25.92	.00	25.92	3.28	29.20	.00	29.20
07090007	10.02	.00	10.02	.02	10.04	.00	10.04
07110001	12.27	.00	12.27	7.23	19.50	.00	19.50
07110004	4.57	.00	4.57	3.23	7.80	.00	7.80
07110009	18.27	.00	18.27	232.44	250.71	.00	250.71
07120001	13.33	.00	13.33	779.31	792.64	.00	792.64
07120002	5.10	.00	5.10	.09	5.19	.00	5.19
07120003	33.71	.00	33.71	256.37	290.08	.00	290.08
07120004	168.90	.00	168.90	1,935.95	2,104.85	.00	2,104.85
07120005	17.90	.00	17.90	3,309.67	3,327.57	.00	3,327.57
07120006	38.96	.00	38.96	3.02	41.98	.00	41.98
07120007	43.10	.00	43.10	22.26	65.36	.00	65.36
07130001	38.72	.00	38.72	197.85	236.57	.00	236.57
07130002	4.26	.00	4.26	9.92	14.18	.00	14.18
07130003	67.40	.00	67.40	1,506.90	1,574.30	.00	1,574.30
07130004	9.32	.00	9.32	9.63	18.95	.00	18.95
07130005	10.99	.00	10.99	.54	11.53	.00	11.53
07130006	10.55	.01	10.56	42.58	53.13	.01	53.14
07130007	3.43	.45	3.88	1,032.49	1,035.92	.45	1,036.37
07130008	15.07	.00	15.07	.64	15.71	.00	15.71
07130009	19.37	.00	19.37	493.52	512.89	.00	512.89
07130010	4.06	.00	4.06	2.44	6.50	.00	6.50
07130011	12.64	.00	12.64	164.61	177.25	.00	177.25
07130012	2.58	.00	2.58	4.17	6.75	.00	6.75
07140101	45.93	.00	45.93	109.17	155.10	.00	155.10
07140105	3.76	.00	3.76	145.51	149.27	.00	149.27
07140106	29.81	1.20	31.01	48.22	78.03	1.20	79.23
07140108	1.34	.00	1.34	.11	1.45	.00	1.45
07140201	26.64	.04	26.68	8.80	35.44	.04	35.48
07140202	4.23	2.32	6.55	12.60	16.83	2.32	19.15
07140203	3.03	.03	3.06	424.69	427.72	.03	427.75
07140204	7.17	.15	7.32	1,055.24	1,062.41	.15	1,062.56
Total	919.82	25.47	945.29	1,707.83	17,990.65	25.47	18,016.12