



Illinois State Water Survey Division
GROUND-WATER SECTION

SWS Contract Report 473

**REGIONAL ASSESSMENT
OF NORTHERN ILLINOIS GROUND-WATER RESOURCES**

by

John S. Nealon, James R. Kirk, and Adrian P. Visocky

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Prepared for the
Illinois Department of Energy and Natural Resources

Champaign, Illinois
October 1989



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Illinois State Water Survey
2204 Griffith Drive
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REGIONAL ASSESSMENT OF NORTHERN ILLINOIS GROUND-WATER RESOURCES

INTRODUCTION

Aquifers which supply ground water to public water supplies in Illinois are basically divided into three groups: sands and/or gravels located in the unconsolidated deposits (or *drift*) above bedrock; shallow bedrock units; and the Cambrian-Ordovician and Mt. Simon aquifers, otherwise known as the deep sandstone. The latter produces water in the greatest abundance in the study area, and is extensively tapped in the Chicago area. The shallow bedrock also produces large quantities of water where present immediately beneath the drift in Lake, Cook, DuPage, Will, and Kankakee Counties. The presence of these productive aquifer groups aided in the tremendous growth and expansion of Chicago in the past century.

In recent years, scientists have become aware of concentrations of natural barium, radium, fluorides, arsenic, and nitrates, in exceedance of USEPA drinking water standards, in ground water produced in the Chicago area. These occurrences are particularly in the deeper and more productive units of the Cambrian-Ordovician aquifer, and in the Mt. Simon. These findings have led to studies both of water treatment techniques and of alternate sources of water supply in shallower aquifers. The present study was undertaken to examine potential ground-water resource alternatives not only near Chicago, but in a 35-county area of northern Illinois.

Purpose of Project

The purpose of this project is to identify areas in the 35-county study area where public ground-water-supply problems may be expected to arise (or to worsen) before the year 2025, due either to water-quality or water-quantity problems, and to identify possible water-supply alternatives. The study may indicate localities where alternate water supplies presently exist. Figure 1 shows the locations of public water supply (PWS) wells in the study area as of 1986. The scope of this study did not include surface-water supply pumpages, problems or alternatives, i.e., all public water supplies mentioned in this report are ground-water public water supplies.

Objective and Scope of FY 1987 Work

The objective of the FY 1987 portion of the study was to identify public water supply wells in the 35-county study area which produce raw water not in compliance with USEPA drinking water standards for the five above-mentioned constituents. To accomplish this, a search of the ISWS Ground-Water Quality Database was conducted to determine instances of noncompliance. To supplement the search, the Illinois Water Inventory Program (IWIP) annual survey was expanded to include a request for data generated by private water quality analyses. The search revealed that out of 947 public water supply wells sampled in the study area, 308 (32.5%)

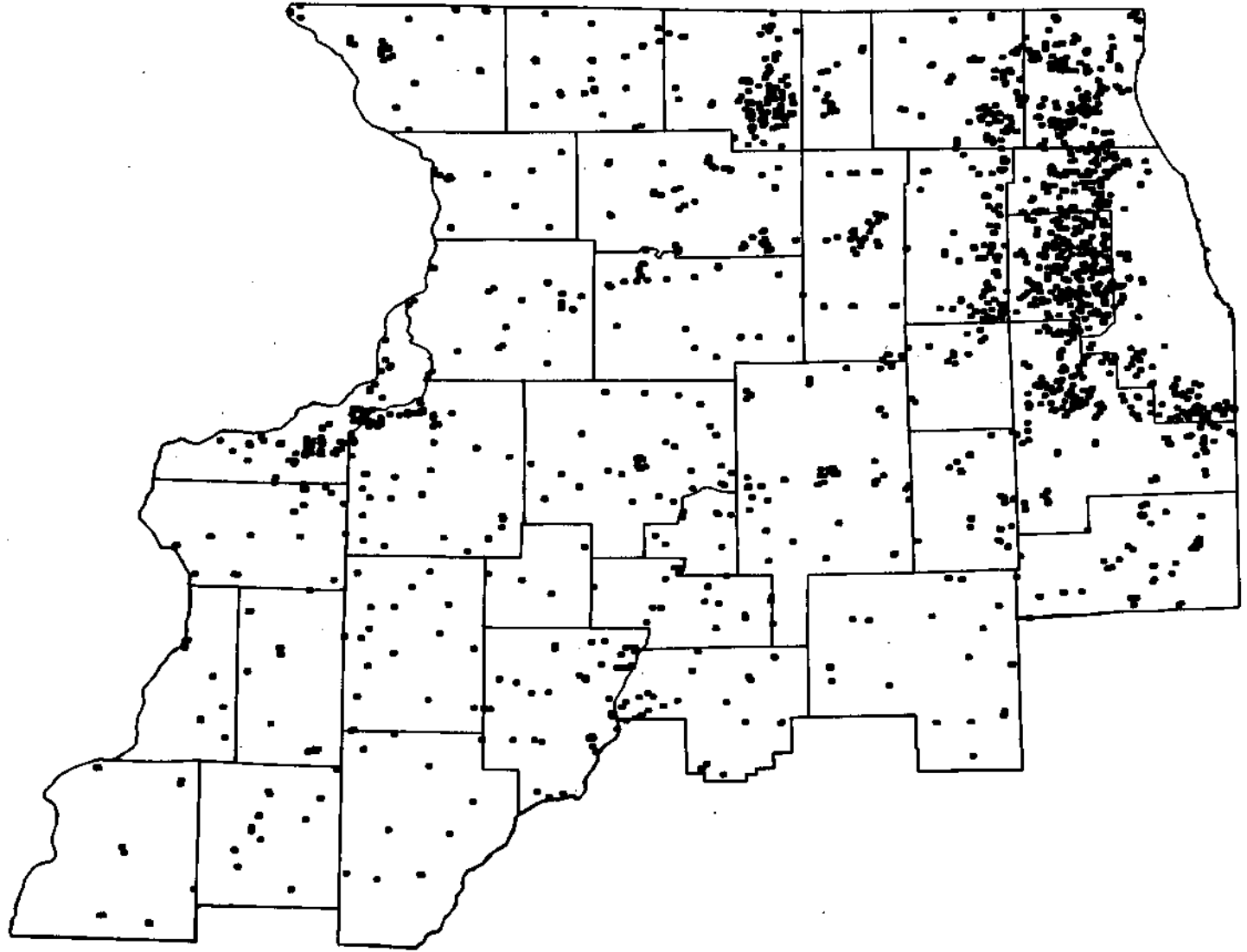


Figure 1. Active public water supply wells in the study area

produced raw water not in compliance with the standards. Figure 2 shows the locations of public water supply wells with raw water samples that have not met the USEPA drinking water standards for one or more of the five constituents.

Radium, barium, and nitrate accounted for the majority (86%) of the non-compliance. More than one analysis in four (28.7%) that were not in compliance were due to high radium levels, one in five (20.6%) were due to barium, and more than one in three (36.7%) were caused by nitrate. Fluoride accounted for about 10% of the non-compliance, and arsenic only 3%. Among the samples in non-compliance for radium, all were from wells finished in the deep sandstone aquifers, and most of these were concentrated in eight counties in the eastern portion of the study area: Cook, DuPage, Grundy, Kane, Kendall, Lake, LaSalle, and Will. Two-thirds of the non-compliance for barium was also from wells finished in the deep sandstone, and the majority of these samples were also from eastern counties: Cook, DeKalb, DuPage, Kane, and Lake. High fluoride levels were overwhelmingly concentrated in bedrock aquifers rather than in sands and gravels and, geographically, were scattered across the study area as were the occurrences of high arsenic. High nitrate levels were chiefly in the sand and gravel and shallow bedrock aquifers, but nearly 30% were from the deep sandstone aquifers. Since high nitrates are usually found at shallow depths and are associated with fertilizers and organic wastes, it is speculated that their presence in many of the bedrock wells is caused by basal sands and gravels lying atop fractured or otherwise permeable bedrock formations or by improperly sealed well casing.

All of these five constituents in levels exceeding drinking water standards present problems for communities that have few alternative sources of water, inasmuch as they are either not amenable to common treatment methods or - as in the case with radium - merely transfer the problem from the water supply to that of finding adequate sludge disposal facilities. Most communities that have the option are seeking solutions to high concentrations of these constituents by dilution with a secondary source of water.

Objectives and Scope of FY 1988 Work

Objectives of the FY 1988 portion of the study were: 1) to estimate increases in the populations being served by ground water from public water supplies, in the period 1985-2025; and 2) to estimate increases in pumpage, on a township basis, by public water supplies from the three aquifer groups described above, in the same period.

Population growth estimates generated by the Illinois Bureau of the Budget (IBOB) were used in this study, as well as current ground-water pumpage data generated through the Illinois Water Inventory Program (IWIP). Because the study included every public ground-water supply in the 35-county area, the scope of work did not include more detailed estimation methods of population and pumpage increases, such as those employed by Singh et al. (1988) in their study of surface water supplies in southern Illinois.

- + Radium-Alpha
- ∇ Arsenic
- Fluoride
- Barium
- △ Nitrate

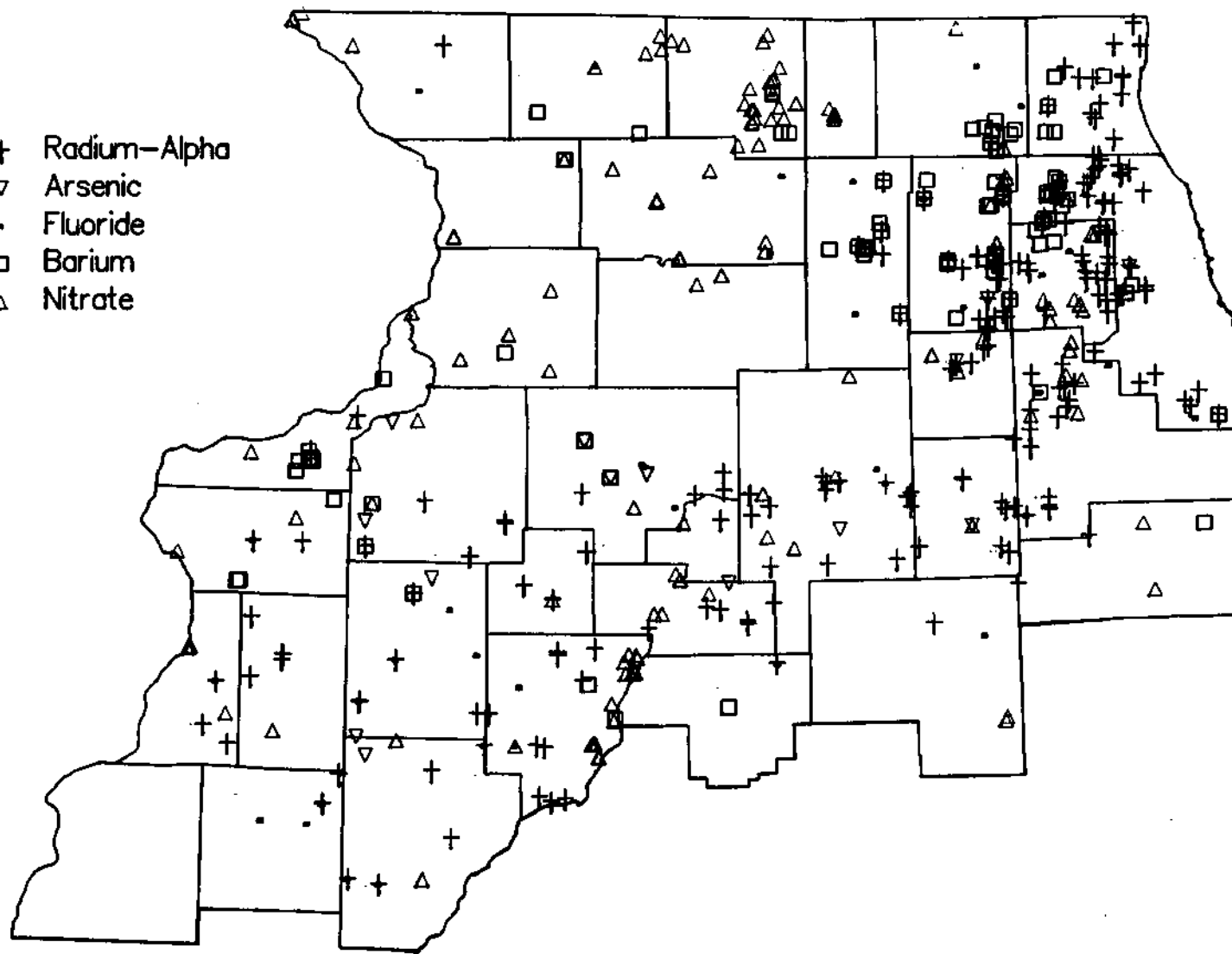


Figure 2. Public water supplies with raw water analyses failing drinking water standards

Objectives and Scope of FY 1989 Work

The objectives of the FY 1989 portion of the study were: 1) to generate use/yield ratio maps for the 35-county study area based on predictions of public water-supply pumpage from the three aquifer groups in the year 2025; 2) to assess existing and potential water-quantity problem areas; and 3) to evaluate possible ground-water supply alternatives for those areas.

Ground-water pumpages in municipalities receiving (or scheduled to receive) Lake Michigan water allocations were removed from pumpage predictions for the year 2025. Irrigation and industrial pumpages were included on the use/yield ratio maps, although for the purposes of this study, it was assumed that these pumpages would remain the same in the future, i.e., future pumpage projections on a township or county basis were not made. For each separate aquifer group, and for all aquifer groups combined, the following use/yield ratio maps were generated:

- 1986 Use/Yield
- 2025 Use/Yield
- 2025 Use/Yield, Multiplying PWS Usage By 1.5
- 2025 Use/Yield, Doubling PWS Usage
- 2025 Use/Yield, Multiplying All Usage By 1.5 (including irrigation and industrial pumpage).

Acknowledgements

This report was written under the general supervision of Ellis W. Sanderson, who reviewed the final draft. Anna L. Zahn used the DENR Prime computer to generate all of the use/yield maps as well as the maps showing well locations and drinking water standards noncompliance. Pamela Lovett typed the final manuscript.

PRESENT AND PROJECTED POPULATIONS

Population projections are generated by the State of Illinois Bureau of the Budget (IBOB), and are updated every two years. The most current data available in machine-readable form were generated in 1986, and were used in this study. This data set showed population projections for the period 1985-2025. Population projections generated in 1977 were originally considered for use because 1977 was the last year in which the IBOB made population projections on the *township* level: if the 1977 data would not prove useful, then the 1986 county-level data would have to be further broken down to the township level. The 1977 projections appear to be more liberal than those of 1986, and the two sets were analyzed side-by-side in order to compare them.

For each county, 1985 population figures were compared to 2025 figures in both sets of data. Percentage increases were generated for all counties in the study in which population increases are projected; data for counties where population *decreases are* projected were left alone. These percentages are shown in Table 1. It is noted that for the 1986 data set, all counties projecting increases show the greatest populations to occur in 2025: for the 1977 data set, some counties with projected increases show peak populations between 2010 and 2025, indicating that their populations would begin another cycle of decline by 2025.

Graphs showing population projections for the period 1985-2025 were then plotted for all 35 counties being studied, and are shown in Appendix A. Both the 1977 and 1986 data sets were plotted: this was done in order to observe differences between projections in the two sets. The 1977 data set shows increases in all but one county (Stark), while the 1986 data show increases in only 22 of the counties. As stated above, the 1977 data are generally more liberal in their estimates; in eight of the counties, the 1977 and 1986 projections were in good agreement as to their estimates of actual county population in 2025, even though inspection of Table 1 suggests that this is not the case. The 1986 data set projects that 26 of the study counties will reach a low point in population at some time in the period 1985-2025; in 13 of these (50%), the low point is projected to be the year 2005. The other 13 cluster around this point. Data are shown in Table 2.

After comparing the 1977 and 1986 population projections, a decision was made to use the 1986 data set because the 1977 projections appeared to be too liberal in their estimates of 2025 populations. As mentioned above, this meant that the 1986 county-level data would have to be further broken down to the township level. Because the 1986 IBOB data were generated on a county-wide basis only, a simplifying assumption was made that the entire increase in county populations would occur in communities with public water supplies, and that rural areas would experience no growth. This is a conservative assumption.

Table 1. Percentage Increases For The Period
1985-2025, From 1977 And 1986 Data Sets*.

County	1977 Change (%)	Peak Year	1986 Change (%)	Peak Year
Boone	44.85	2025	14.75	2025
Bureau	19.40	2025	-----	1985
Carroll	23.78	2025	-----	1985
Cook	n/a	n/a	5.13	2025
DeKalb	49.76	2025	14.52	2025
DuPage	n/a	n/a	32.79	2025
Fulton	30.96	2025	-----	1985
Grundy	33.60	2025	13.15	2025
Hancock	23.79	2025	1.83	2025
Henderson	16.24	2010	7.28	2025
Henry	13.87	2025	-----	1985
JoDavie	21.21	2025	3.99	2025
Kane	n/a	n/a	50.33	2025
Kankakee	19.90	2015	-----	1985
Kendall	55.82	2025	8.03	2025
Knox	20.43	2025	-----	1985
Lake	n/a	n/a	25.36	2025
LaSalle	20.66	2025	-----	1985
Lee	28.78	2020	-----	1985
Livingston	14.80	2025	0.96	2025
McDonough	44.51	2020	4.69	2025
McHenry	n/a	n/a	45.69	2025
Marshall	7.24	2025	-----	1985
Mercer	25.25	2025	1.85	2025
Ogle	29.96	2025	4.08	2025
Peoria	19.08	2025	-----	1985
Putnam	23.61	2015	1.56	2025
Rock Island	21.91	2025	5.39	2025
Stark	-----	1985	-----	1985
Stephenson	13.17	2025	5.73	2025
Warren	15.80	2025	-----	1985
Whiteside	31.91	2025	-----	1985
Will	n/a	n/a	44.36	2025
Winnebago	36.50	2025	1.31	2025
Woodford	32.88	2025	4.08	2025

* Decreases indicated by dashes; n/a indicates data not available.

Table 2. Counties Projected By 1986 Data Set As Having
A Population Low In The Period 1985-2025.

1995	2000	2005	2010	2015	2020
DeKalb	Kendall McDonough	Hancock Henderson JoDavie Kankakee Livingston Mercer Ogle Peoria Rock Island Putnam Stephenson Warren Woodford	Bureau Carroll Lee Marshall Winnebago	Henry Knox LaSalle Whiteside	Fulton

PROJECTED PUMPAGE INCREASES

Two public water supply lists were generated from 1986 Illinois Water Inventory Program (IWIP) data: the first showed, for each county, the numbers of people served by each public water supply in that county in 1986; the second showed the quantity of ground water (in gallons) pumped by each public water supply from each aquifer group in 1986. The population increase for each county (generated by the 1986 data set) was then distributed proportionally among the public water supply populations listed for that county in the first 1986 IWIP data set. This produced estimates of the number of people that will be served by each public water supply in the year 2025. Next, the pumpages indicated on the second 1986 IWIP list were increased according to projected county population increases. A simplifying assumption was made that per capita pumpage would remain the same. This was necessary in light of the large number of public ground-water supplies in the 35-county study area.

For example, the 1986 IBOB population projection data showed that the 1985 population in Boone County was 29,109 people. The projected 2025 population is 33,404 people, showing an increase of 4,295 people by the year 2025, or a 14.75% county-wide increase. Of the 1985 population, 18,049 people were served by ground-water public water supplies. It is assumed conservatively that the population increase will occur in communities served by these public water supplies. Based on this assumption, the percentage of Boone County's population served by ground-water public water supplies will increase 23.80% by the year 2025 (i.e., 4,295 is 23.80% of 18,049). These 4,295 people were distributed proportionally among the ground-water public water supply populations in Boone County, and an estimate was obtained of how many people will be served by each ground-water public water supply in Boone in the year 2025. Next, the 1986 pumpages for each of those public water supplies in Boone County were increased by 23.80%, and thus an estimate was obtained of how much water will be pumped by each ground-water public water supply from each aquifer group in the year 2025.

Three aquifer groups were considered in this study: the sand and gravel overlying the bedrock; shallow bedrock units; and the Cambrian-Ordovician and Mt. Simon aquifers, designated in this report as the deep sandstone. The second 1986 IWIP list mentioned above indicates the quantity of pumpage by each public water supply from these three aquifer groups. Thus, for each public water supply in the thirty-five-county study area where population and pumpage increases are projected, an estimate of 2025 pumpage from each aquifer group has been obtained. These data are presented in Appendix B.

COMPARISON OF PRESENT AND PROJECTED PUMPAGES

Maps were generated showing use-to-yield ratios for each of the three aquifer groups in the 35-county area, as well as for all aquifer groups combined. These use/yield maps were generated for both years 1986 and 2025, and served to indicate localities where water-supply problems might exist or might be expected to arise or worsen in the next four decades. For counties where population decreases were predicted by IBOB, it was assumed that use/yield ratios would remain the same in 2025 as they were in 1986¹. The goal was to focus on areas of existing or potential water-supply problems and to determine possible suitable alternatives. The maps are shown in Appendix C, and results are discussed here on a county-by-county basis.

The use/yield ratio compares the pumpage from a certain aquifer group in a given area to the aquifer potential yield (i.e., the quantity of water the unit can be expected to safely yield). A use/yield ratio greater than 1.0 does not necessarily mean that water is being mined: it is merely an indicator (i.e., a "red flag") that water use may be approaching a point where increased or prolonged pumpage may not be sustained by the aquifer, and that alternatives to pumpage from that aquifer should be evaluated. It is noted that several townships appear on the use/yield ratio maps in red, but are surrounded by townships having use/yield ratios less than 0.5. In general, this occurrence should not arouse a great deal of concern since water pumped from public water supplies within these townships is most likely being replenished from the surrounding area without critically impacting water levels. However, it is of concern in two cases.

The first case is where use/yield ratios of sand and gravel aquifers is greater than 1.0. Because sand and gravel aquifers may not be continuous or areally extensive, pumpage from these units in a given township might not be buffered by a lack of pumpage in surrounding townships: therefore, public ground-water supplies within isolated townships having sand and gravel use/yield ratios greater than 1.0 may still encounter problems, and these should be further studied on a case-by-case basis. The second case of concern is where overpumpage from a bedrock unit is producing (or may in the future produce) water of poor quality. In this case it may be desirable or necessary to seek an alternate source of water on the basis of water quality.

Boone and Winnebago Counties

Boone and Winnebago Counties depend heavily on the deep sandstone for water supplies. The sands and gravels are not extensively tapped except

¹ The possibility of certain cities increasing in both population and ground-water pumpage while their counties as a whole decreased in population was recognized but not accounted for in the scope of this study. This is because IBOB stopped generating future population estimates on a township basis after 1977: since that time, they have only been available on a county-wide basis.

in the Rockford area. Belvidere and the Rockford area contribute to heavy pumpage from the deep sandstone in these counties. Very few wells are open exclusively to the shallow bedrock. Some wells are open to both the shallow bedrock and the deep sandstone, and have had their pumpage assigned to the deep sandstone on the use/yield ratio maps because 1) contributions from the shallow and deep bedrock cannot be distinguished, and 2) the deep sandstone contributes the most water to these wells.

The 2025 use/yield maps for these counties do not differ significantly from the 1986 maps, except for the scenarios where 2025 public water supply pumpage is 1.5 to 2 times greater than predicted. The use/yield ratio maps suggest that deep sandstone use/yield ratios in Boone and Winnebago Counties could be favorably reduced if need be by tapping the sands and gravels and the shallow bedrock more extensively. They also suggest that any future expansion of Belvidere's deep sandstone water supply should be directed eastward, although it may be desirable not to penetrate the lower units of this aquifer because of recent water-quality concerns.

**Bureau. Carroll. DeKalb. Fulton. Hancock. Henry.
Kankakee. Knox. McDonoueh. Marshall. Mercer.
Putnam. Stark, and Warren Counties**

Year 2025 use/yield maps do not forecast any development of ground-water supply problems in these counties in the future. Several counties show isolated townships having bedrock aquifer use/yield ratios greater than 1.0 surrounded by townships with smaller use/yield ratios. As stated above, this occurrence should not arouse a great deal of concern since water pumped from public water supplies within these townships is most likely being replenished from the surrounding area without critically impacting water levels.

Cook. DuPae. Lake, and Will Counties

Of interest in these counties is the long-term effects of Lake Michigan allocations. At present, large withdrawals from bedrock aquifers have caused use/yield ratios greater than 1.0 in most of DuPage County. Use/yield ratios for the deep sandstone are greater than 1.0 in most of Lake County, and in northern Will, eastern Kane, and western Cook Counties. The 2025 projections show no apparent improvement in use/yield ratios because of Lake Michigan allocations, because--despite reductions--total pumpage will still exceed yield.

Except for isolated areas, the maps predict use/yield ratios less than 1.0 for the upper bedrock. Ratios will remain above 1.0 for most of DuPage County; portions of southern and western Cook and northern Will Counties. Although Lake Michigan allocations will improve use/yield ratios in the upper bedrock, the Cook-Will border area may experience problems in the future if 2025 pumpage is greater than presently predicted.

Lake Michigan allocations will improve 2025 use/yield ratios in the deep sandstone in eastern DuPage and northern Cook Counties, although they will still exceed 1.0. Elsewhere, the 2025 scenario looks much the same. Deep sandstone use/yield ratios will remain above 1.0 in southern Lake County, along the Cook-DuPage border, western DuPage County, and in northwestern Will County.

One option available for these counties is to develop more of their sand and gravel resource. Another option for Lake and northern Cook County public water supplies is to develop more of their upper bedrock resource. The map of 2025 use/yield for all aquifers indicates that there will be ground water available in these counties at overall use/yield ratios less than 0.5, if 2025 pumpage is not too much greater than predicted.

Grundy and LaSalle Counties

At present, deep sandstone use/yield ratios are greater than 1.0 along the Illinois River in Grundy and LaSalle Counties. Use/yield ratio maps for all aquifers combined also show ratios greater than 1.0 in several townships in these counties. Heavy deep sandstone pumpage along the Grundy-Will County border is of some concern, although this area may see some beneficial effects from Lake Michigan allocations to the north. Because the shallow bedrock is expected to produce poorer-quality water in this area, the only ground-water alternative available to public water supplies in these counties may be exploration and testing of sand and gravel aquifers.

Henderson. JoDaviess. Livingston. Rock Island. Whiteside, and Woodford Counties

In general, year 2025 use/yield maps do not forecast any development of ground-water supply problems in these counties in the future. Several isolated townships in these counties have deep sandstone bedrock aquifer use/yield ratios greater than 1.0 surrounded by townships with smaller use/yield ratios. This occurrence is not presently of concern since water pumped from public water supplies within these townships is most likely being replenished from the surrounding area without critically impacting water levels.

Several counties show isolated townships having sand-and-gravel aquifer use/yield ratios greater than 1.0 surrounded by townships with smaller use/yield ratios. Unlike the bedrock case, however, sand and gravel aquifers may not be continuous or areally extensive; therefore, public ground-water supplies within isolated townships having use/yield ratios greater than 1.0 may still encounter problems where alternate bedrock sources are not available, and these should be further studied on a case-by-case basis.

In Rock Island County, potential problems are indicated mainly in cases where year 2025 pumpages are greater than predicted by this study.

Kane and Kendall Counties

Year 2025 deep sandstone use/yield ratio maps show ratios greater than 1.0 along the Fox River Valley in Kane and Kendall Counties. This is of some concern because of 2025 use/yield ratios greater than 1.0 in DuPage and northwestern Will Counties. Because the deep sandstone is the only bedrock aquifer available in these counties, the only ground-water option is development of sand and gravel supplies along the Fox River, which is already approaching full development in two Kane County townships.

The 2025 map of use/yield ratio for all aquifers combined suggests that ground-water use in most of the Fox River Valley in Kane County will exceed the safe yield available. With decreased use of the deep sandstone in DuPage and northern Cook Counties due to Lake Michigan allocations, however, impacts from continued use of the deep sandstone along the Fox River Valley may lessen. In addition, recent detailed studies of the sand and gravel resources in Kane County suggest that significantly larger quantities of ground water can be developed--especially along the Fox River and in the Newark buried bedrock valley--than were known at the time the use/yield ratios were derived in this study.

Lee County

Use/yield maps indicate that ground-water pumpage from sand and gravel aquifers in north-central and northwestern Lee County already exceeds the safe available yield, and will continue to do so. Sand and gravel pumpage is mainly for irrigation in this area, and has increased dramatically since the 1988 drought. Year 2025 use/yield ratio maps indicate that the shallow bedrock and deep sandstone could be further developed in the future to reduce use/yield ratios in the sand and gravel aquifers if necessary.

McHenry County

Use/yield ratio maps show a few isolated townships presently (and in the future) having sand-and-gravel aquifer use/yield ratios greater than 1.0 surrounded by townships with smaller use/yield ratios. If 2025 pumpage is greater than presently predicted, these areas will be more extensive. Because sand and gravel aquifers may not be continuous or areally extensive, public ground-water supplies within isolated townships having use/yield ratios greater than 1.0 may encounter water-supply problems in the future.

Use/yield ratio maps indicate that the deep sandstone could be further developed in the future in most of McHenry County, although it may be desirable to avoid the deeper units of this aquifer because of recent water-quality concerns. However, the 1986 use/yield ratio map shows deep sandstone ratios already greater than 1.0 along the county's eastern edge. The 2025 use/yield ratio for all aquifers is predicted to be greater than

1.0 in Algonquin Township, which could be a problem because of similar predictions along the Fox River Valley in Kane County.

Ogle County

Ogle's Byron Township is located on the Ogle-Winnebago border, and may be affected in the future by heavy pumpage from the deep sandstone in Winnebago County. Other isolated townships having present or predicted deep sandstone use/yield ratios greater than 1.0 are not of concern at this time, although a possible future merging of pumping centers in Winnebago, Ogle, and Stephenson Counties is visible on the 2025 deep sandstone use/yield ratio map showing predicted usages multiplied by 1.5 and 2.0. The maps of use/yield ratio for all aquifers show future use/yield ratios less than 0.5 for most of Ogle County, and suggest that sand and gravel aquifers are available for future development.

Peoria County

Use/yield maps indicate that ground-water pumpage from sand and gravel aquifers in southern Peoria County exceed the safe available yield, and will continue to do so. Because sand and gravel aquifers may not be continuous or areally extensive, the use/yield ratios suggest that these townships may encounter water supply problems in the future. The City of Peoria produces water from the Sankoty Sand, a prolific aquifer found along the Illinois River. Both the city and industries also derive a large portion of their total water needs directly from the river. The three townships to the west (Trivoli, Logan, and Limestone) have sparse sand and gravel aquifers and, therefore low safe yields. Estimates of rural pumpage were spread evenly across the county, and these estimated withdrawals apparently exceed the safe yield in these three townships. These cases of use/yield ratios in excess of 1.0 are obviously not significant.

Because of heavy industrial and municipal ground-water withdrawals at Peoria in the 1940's, water levels reached critically low stages, and a system of recharge pits was constructed along the Illinois River to alleviate the problem. In recent years industrial pumpage has declined, and most of the recharge pits have not been in use. While the sand and gravel aquifer at Peoria is still extensively used, water level records in the area do not indicate that the aquifer is being overpumped at this time. Even with the drought of 1988 acting as an impetus for heavier-than-normal withdrawals, water levels in a key observation well away from the pumping centers are at higher stages than in the 1940's. Thus, while local effects from heavy pumpage might be serious, on a regional scale the sand and gravel aquifer in the Peoria area appears to belie the condition suggested by the use/yield maps.

The maps of use/yield ratios for all aquifers show future ratios less than 0.5 for most of Peoria County, and suggest that the bedrock is available for some future development. Because of water-quality problems associated with the bedrock aquifers, however, the use of these aquifers

is most likely limited to the St. Peter Sandstone, a unit of the deep sandstone aquifer.

Stephenson County

Present and future ground-water pumpage exceeding safe available yield is indicated for Lancaster Township, which includes the northeastern part of Freeport. This should not pose any problems for wells completed in the bedrock, but further exploration and development of sand and gravel aquifers may be necessary in the future. Although not of concern at this time, a possible future merging of pumping centers in Winnebago, Ogle, and Stephenson Counties is visible on the 2025 deep sandstone use/yield ratio map showing predicted usages multiplied by 1.5 and 2.0.

SUMMARY

Use/yield ratios for the year 2025 show that, in general, critical water problems are unlikely over the study area. Even with unanticipated growth in water usage, adequate public water supplies should be available in one or more of the three major aquifer systems. The areas of concern are just where one might expect them: in the collar counties around Chicago, the Rockford and Belvidere area, and the Illinois River cities. Most of the concern in these areas centers on pumpage from the deep sandstone aquifers. In the Chicago area, of course, Lake Michigan allocations will lessen some of the heavy demand, but continuing overpumpage as well as radium and barium problems there will necessitate the development of shallower ground-water resources as well as surface water. With some judicious planning, additional deep sandstone development could help the Belvidere area, but water quality will ultimately limit this usage. Instead, exploration of sand and gravel resources appears to be the likely alternative there and at Rockford. Because deep sandstone withdrawals along the Illinois River in Grundy and LaSalle Counties have caused concern, future development of ground-water supplies appears limited to sand and gravel aquifers. For this reason, exploration of this resource might have to be pursued in the future.

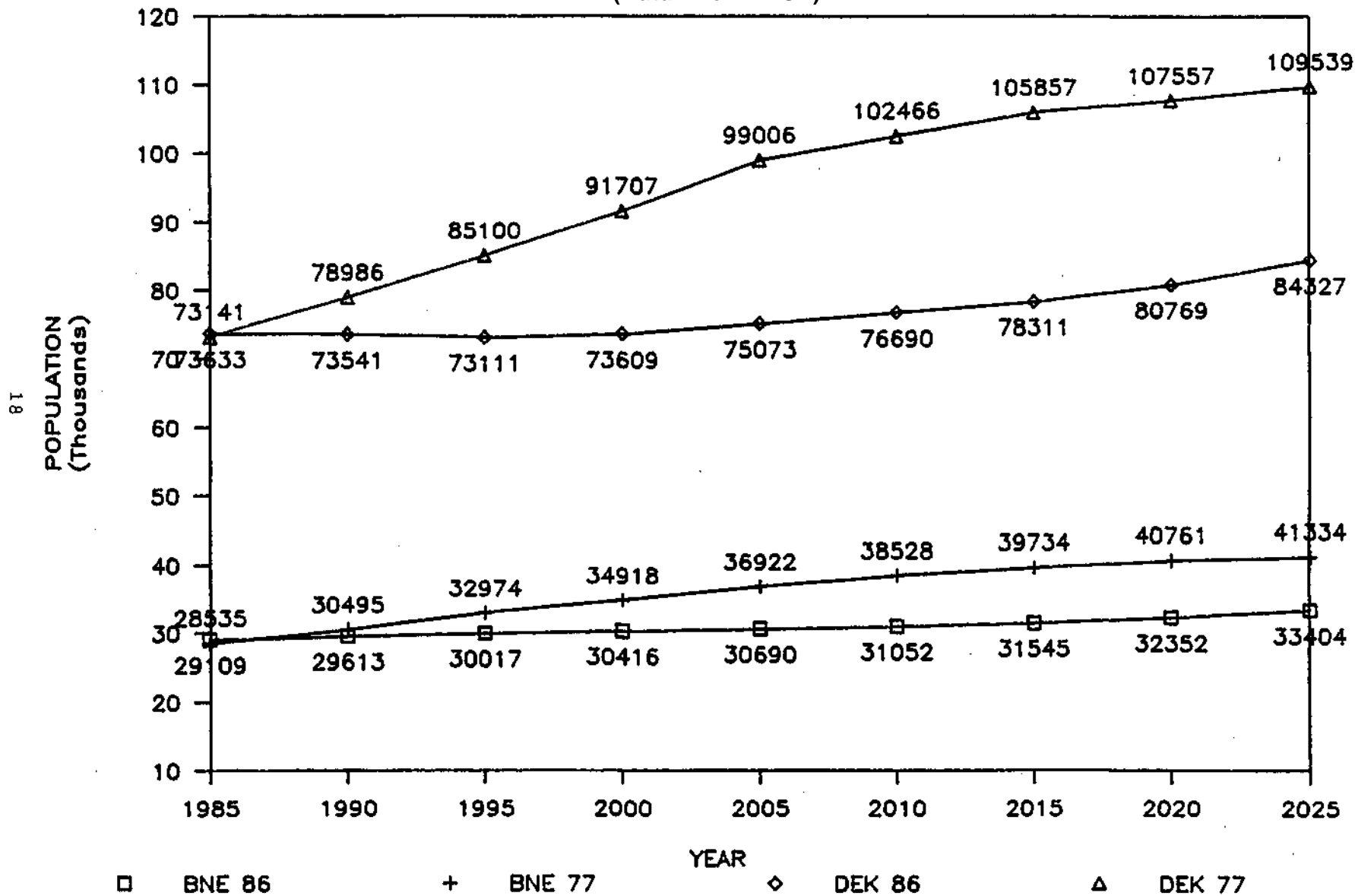
Water quality concerns are also, for the most part, connected with the deep sandstone aquifers. Radium and barium are commonly in excess of public drinking water standards in these aquifers, and conventional treatment either does not effectively remove them or merely transfers the problem to one of sludge disposal. Dilution with another water source remains, at present, the most feasible solution for these constituents as well as for fluoride and arsenic. Nitrate problems are generally associated with organic contamination and must be addressed as pollution problems rather than as an overall water quality characterization of the aquifers. Generally speaking, the shallower aquifers, especially sands and gravels - where present - offer a reasonable alternative to the poorer quality of the deep sandstone. Water in the shallower aquifers is usually hard and contains iron but is treatable by conventional means.

Appendix A

IBOB Population Estimates, 1985-2025
(1977 and 1986 Data Sets)

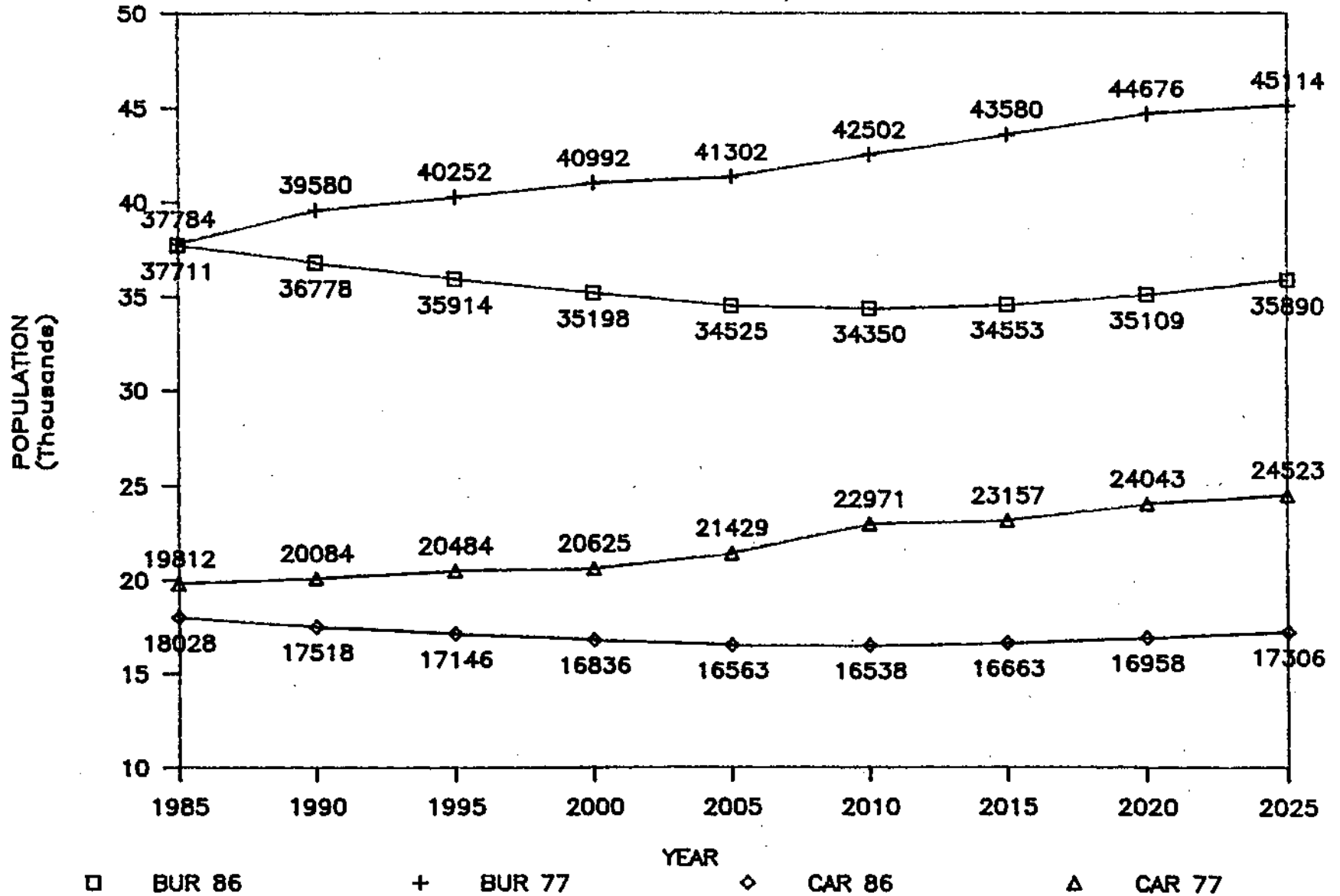
BOONE AND DEKALB COUNTIES

(Data From IBOB)



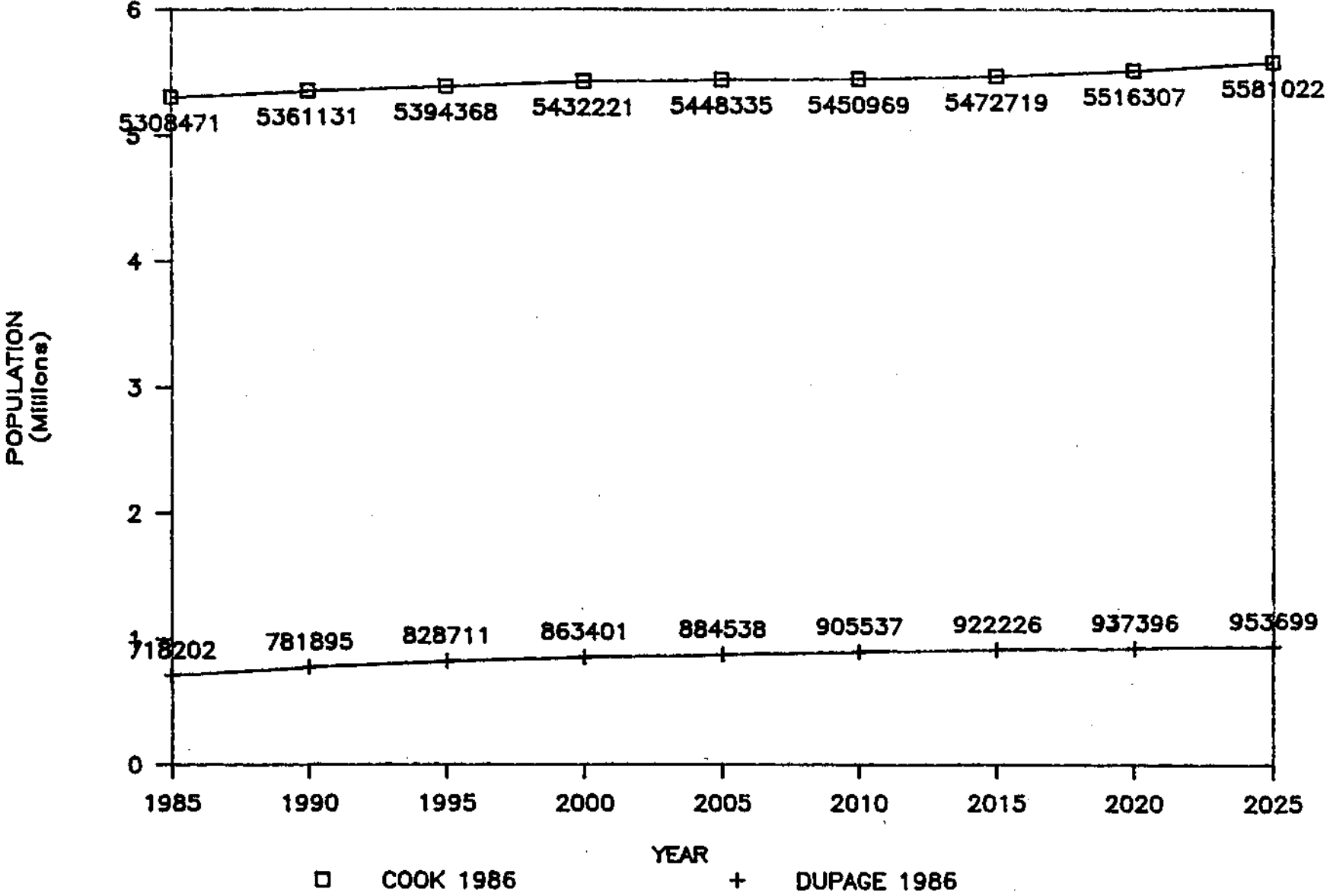
BUREAU AND CARROLL COUNTIES

(Data From IBOB)



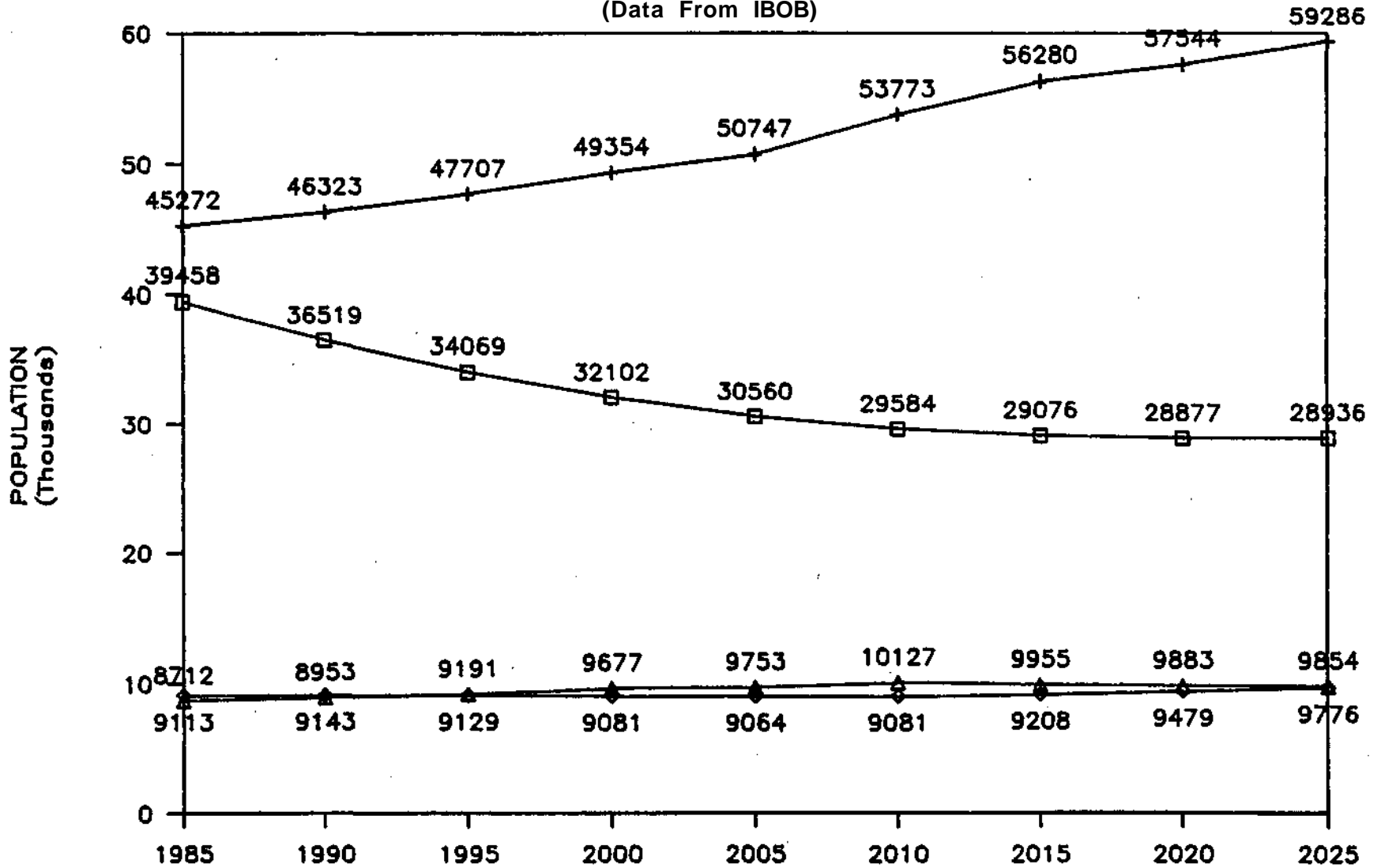
COOK AND DUPAGE COUNTIES

(Data From IBOB; 1977 Data Unavailable)



FULTON AND HENDERSON COUNTIES

(Data From IBOB)



FUL 86

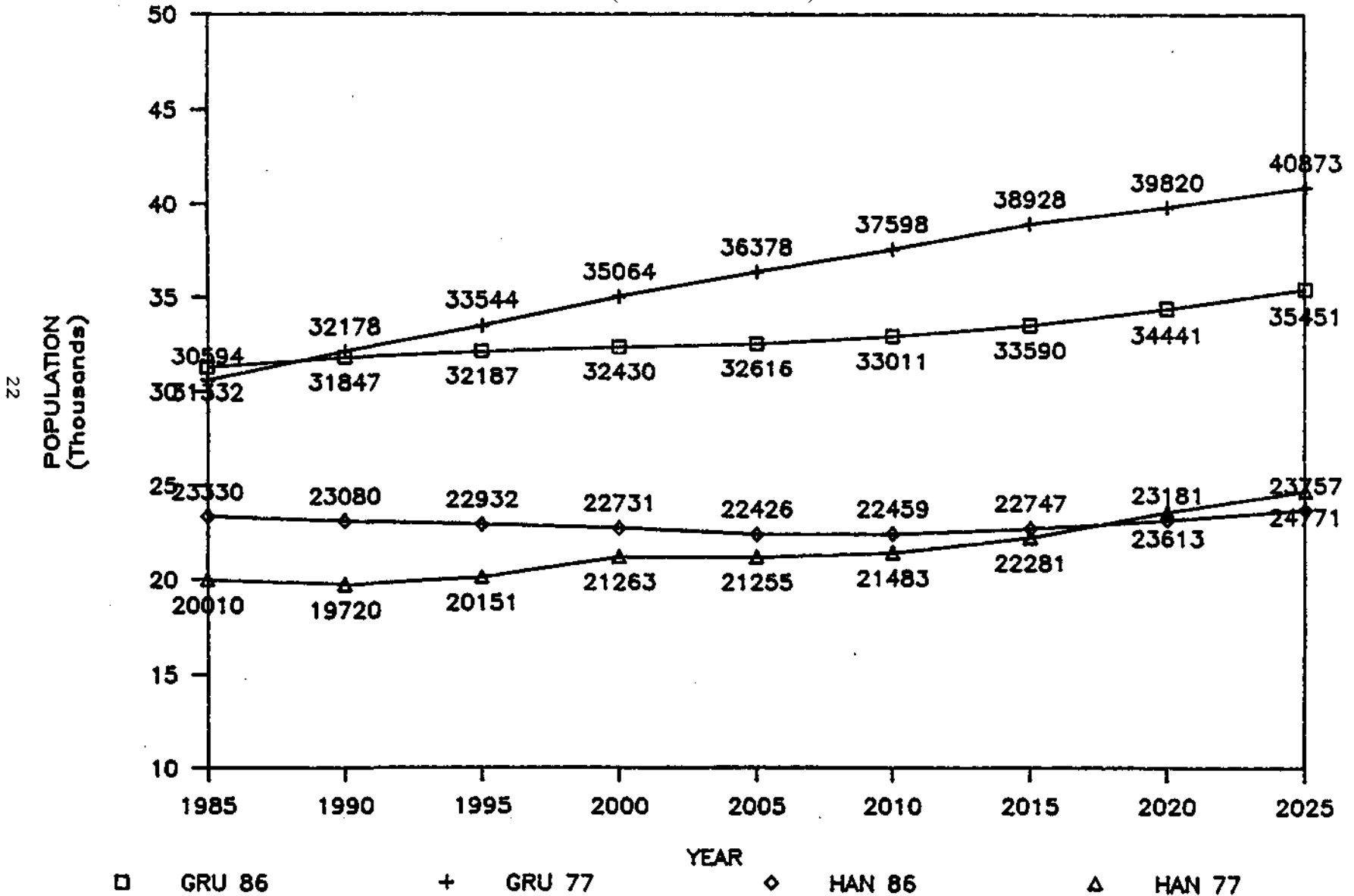
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 HND 86

 HND 77

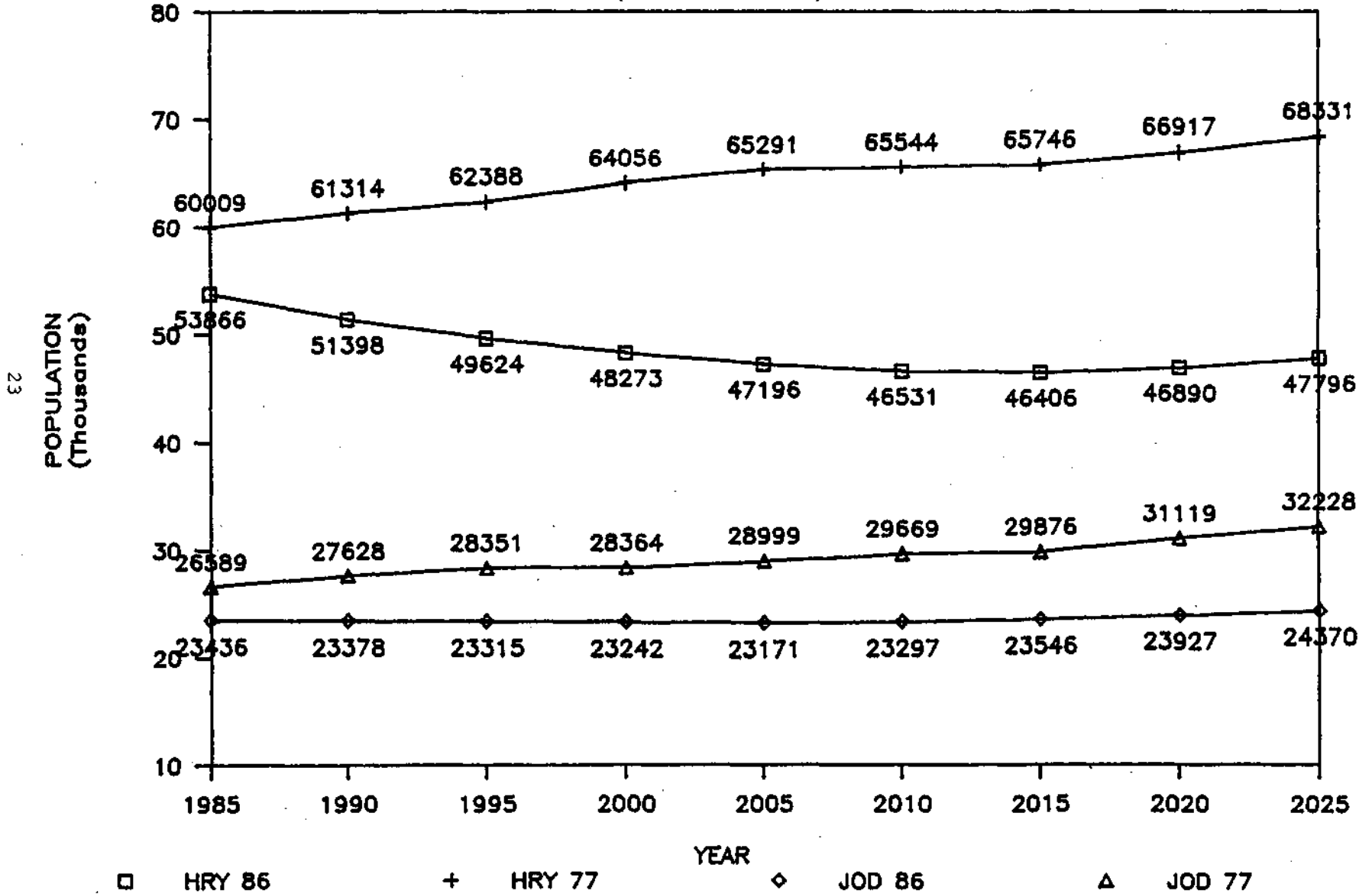
GRUNDY AND HANCOCK COUNTIES

(Data From IBOB)



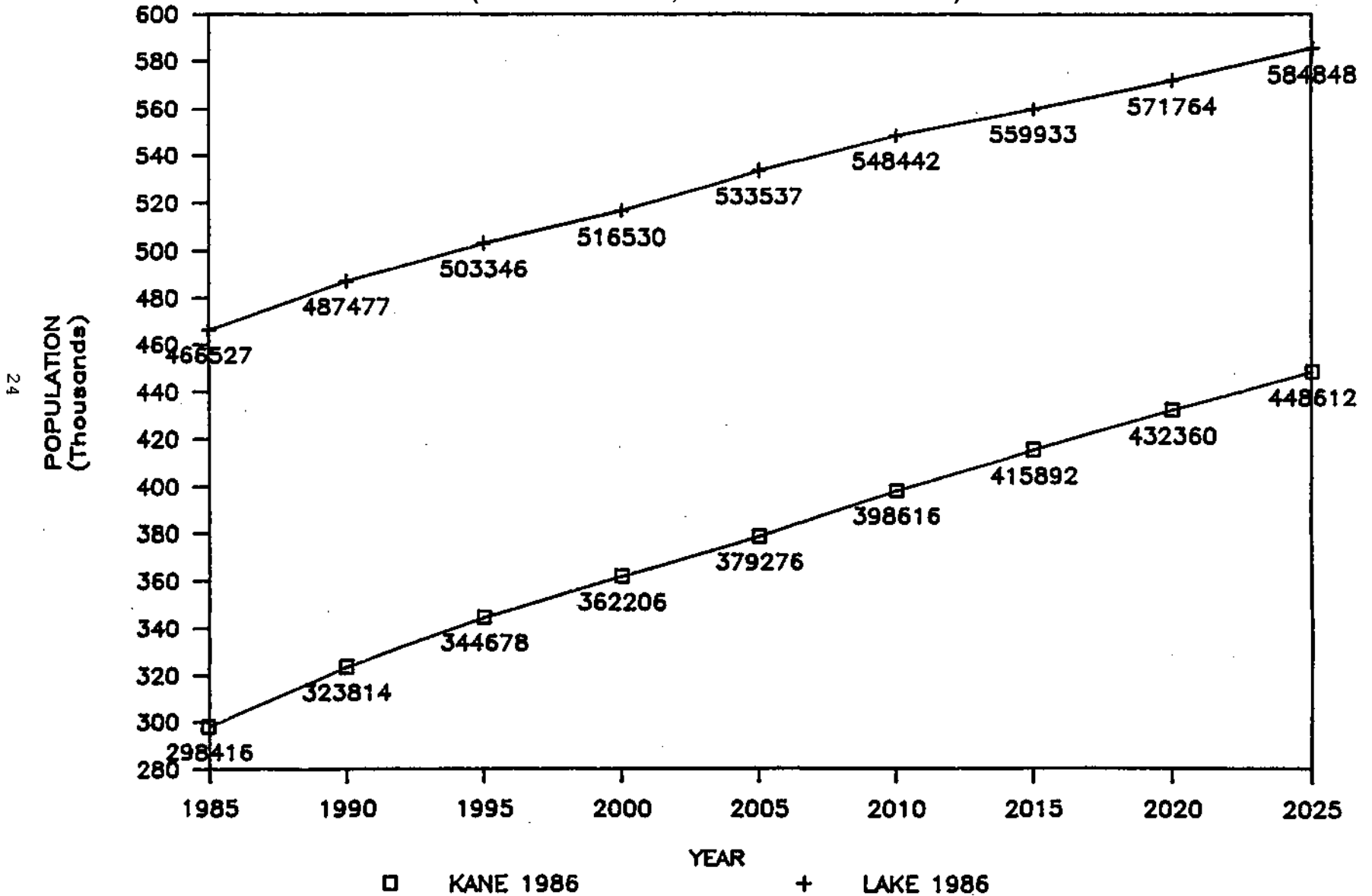
HENRY AND JO DAVIESS COUNTIES

(Data From IBOB)



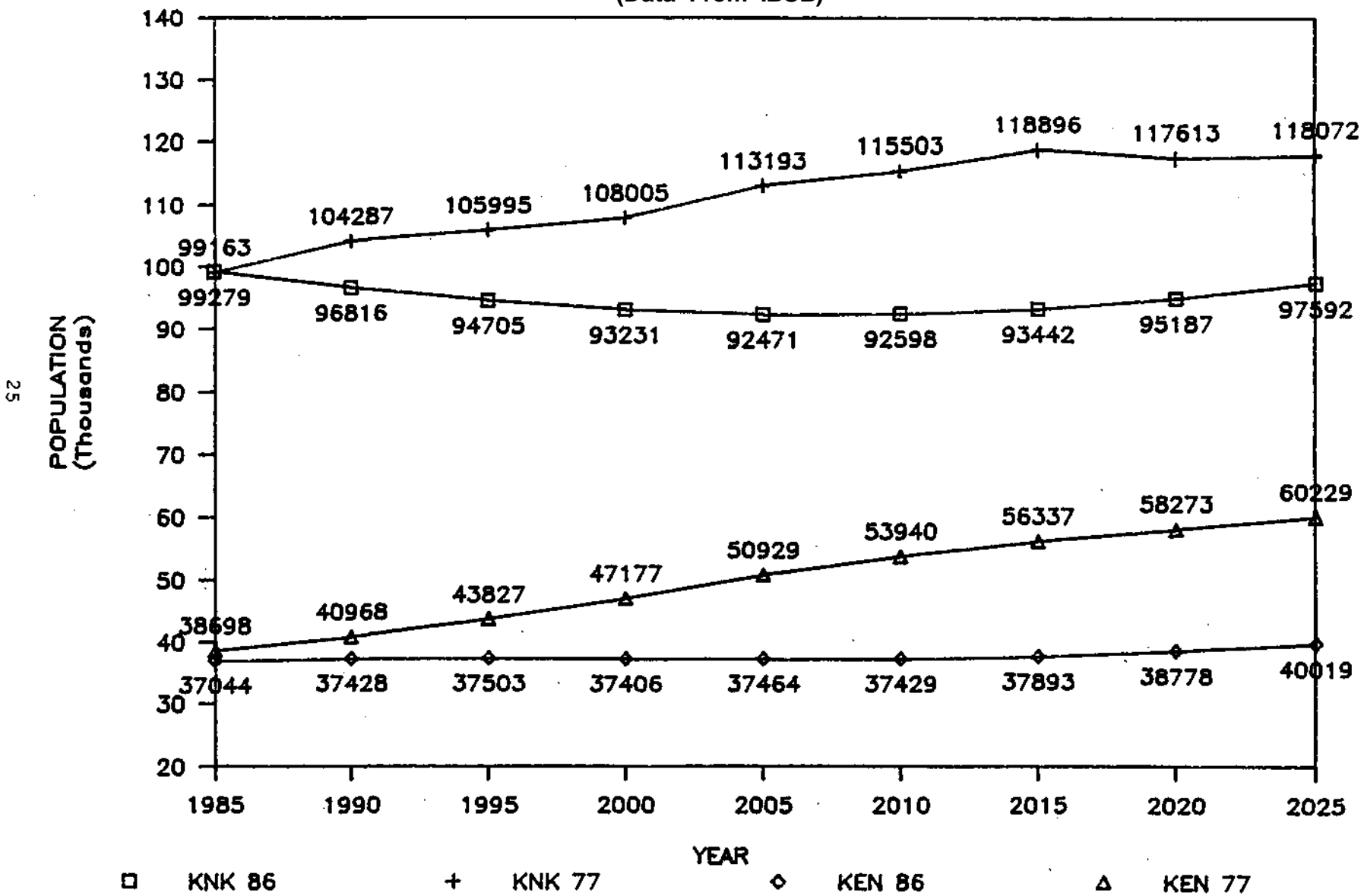
KANE AND LAKE COUNTIES

(Data From IBOB; 1977 Data Unavailable)



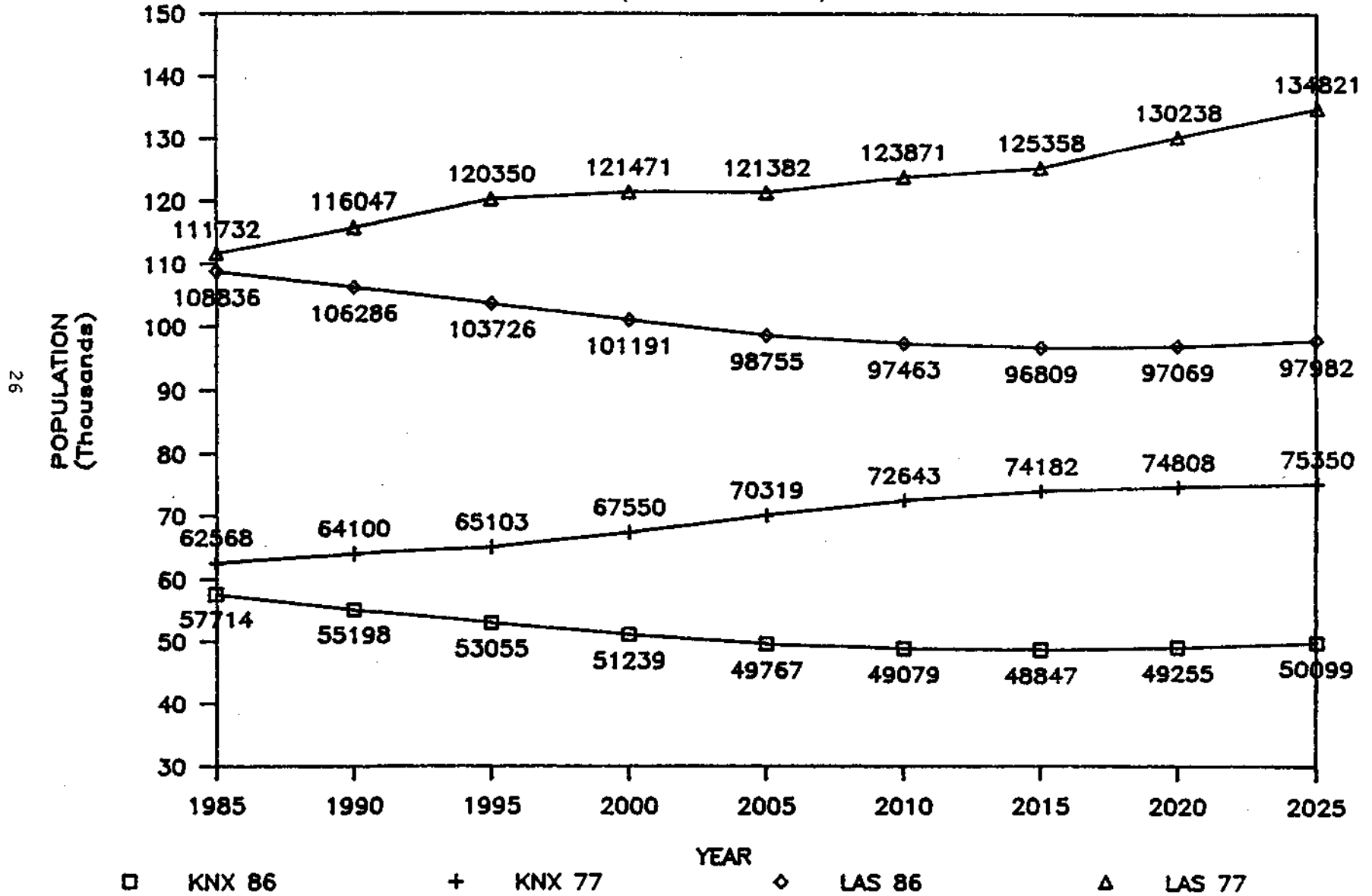
KANKAKEE AND KENDALL COUNTIES

(Data From IBOB)



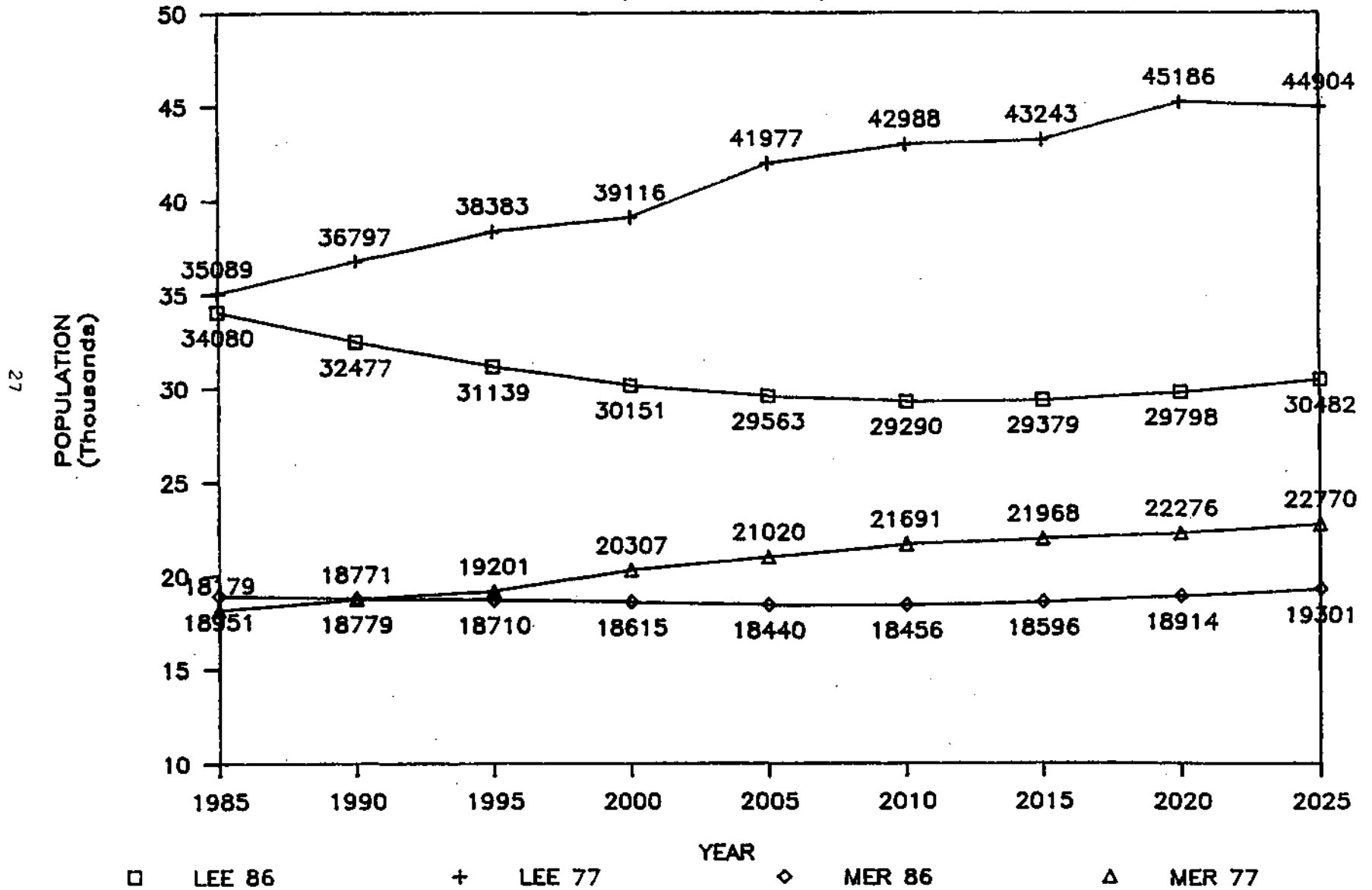
KNOX AND LA SALLE COUNTIES

(Data From IBOB)



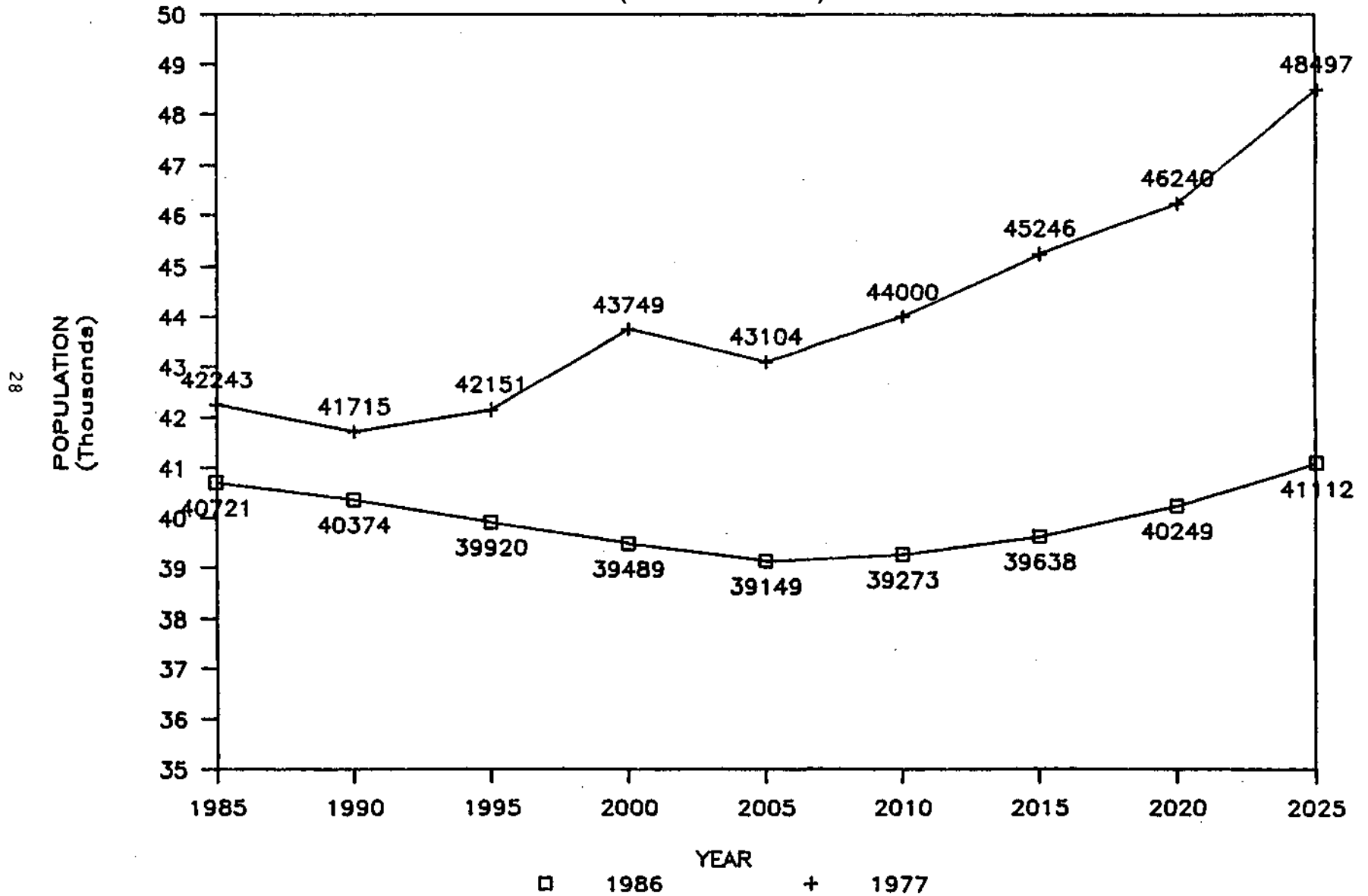
LEE AND MERCER COUNTIES

(Data From IBOB)



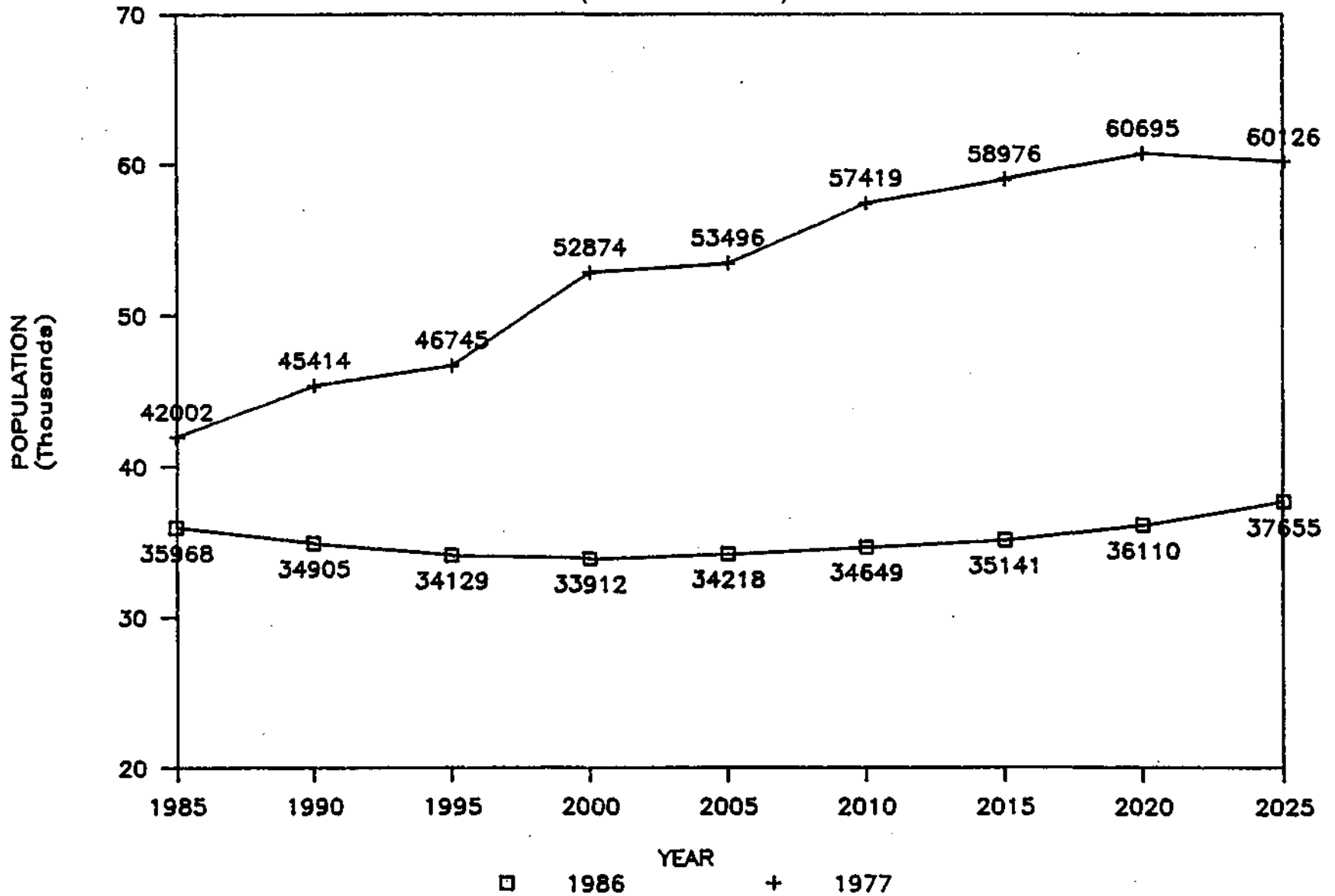
LIVINGSTON COUNTY

(Data From IBOB)



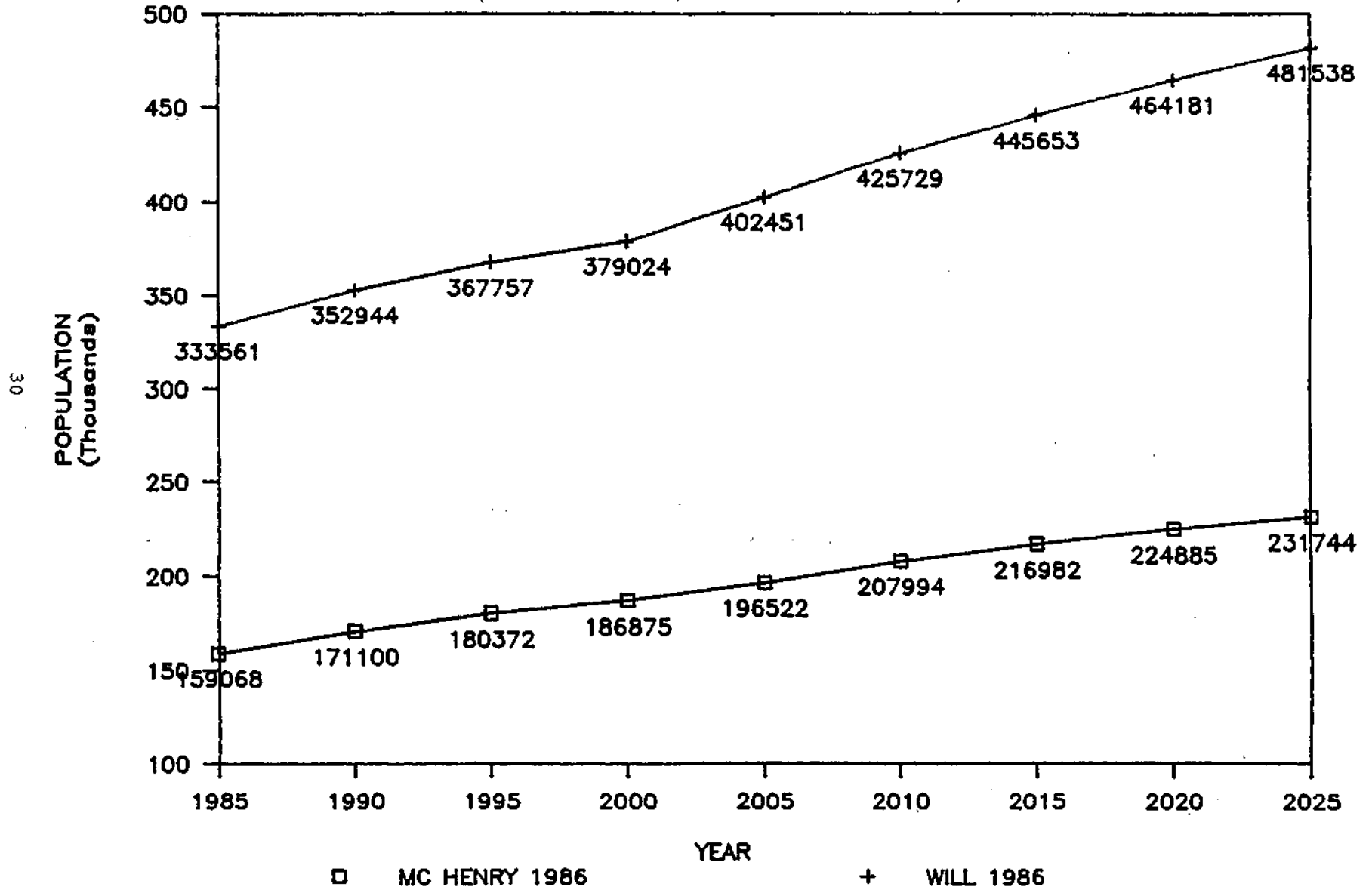
MC DONOUGH COUNTY

(Data From IBOB)



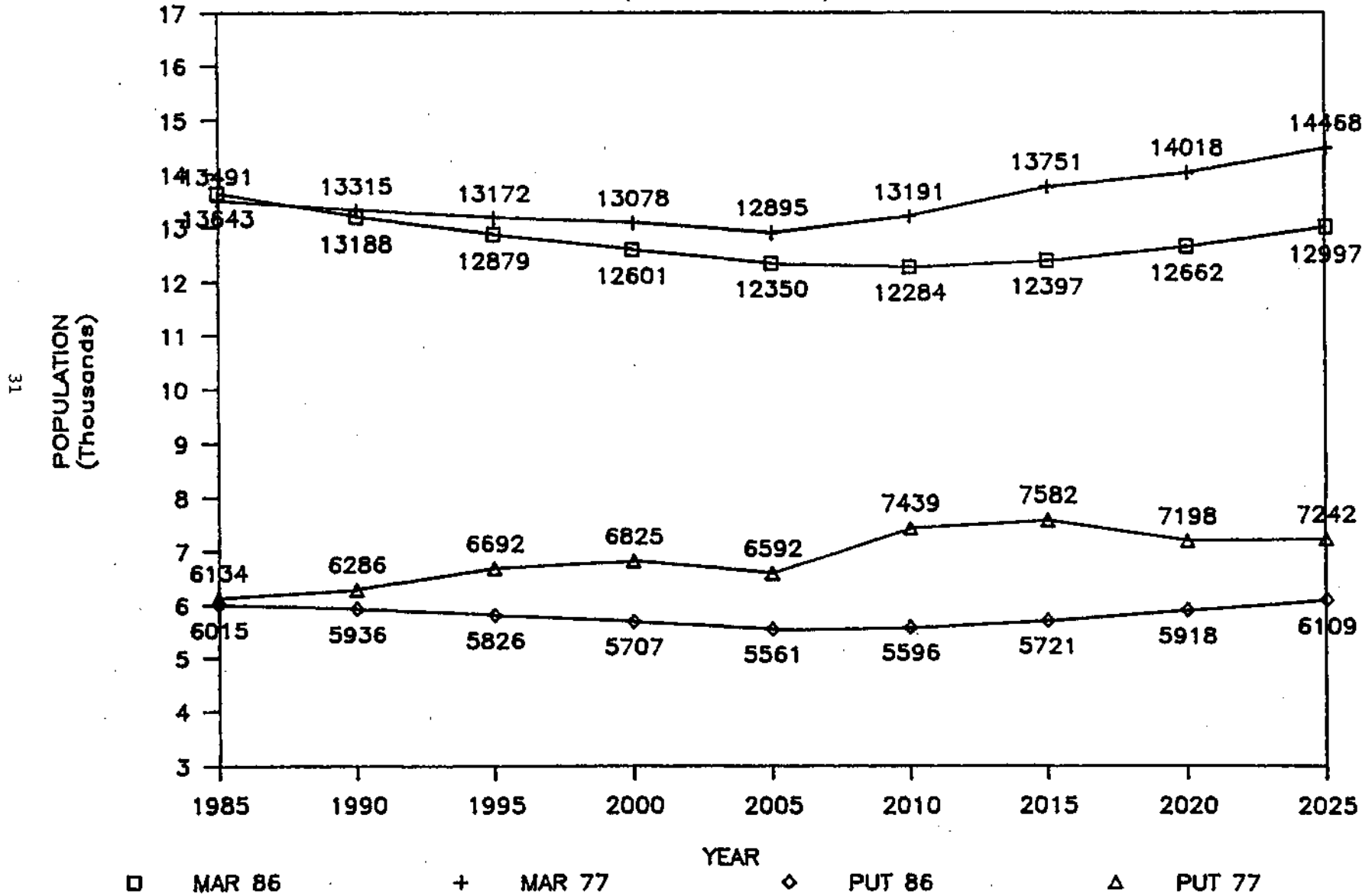
MC HENRY AND WILL COUNTIES

(Data From IBOB; 1977 Data Unavailable)



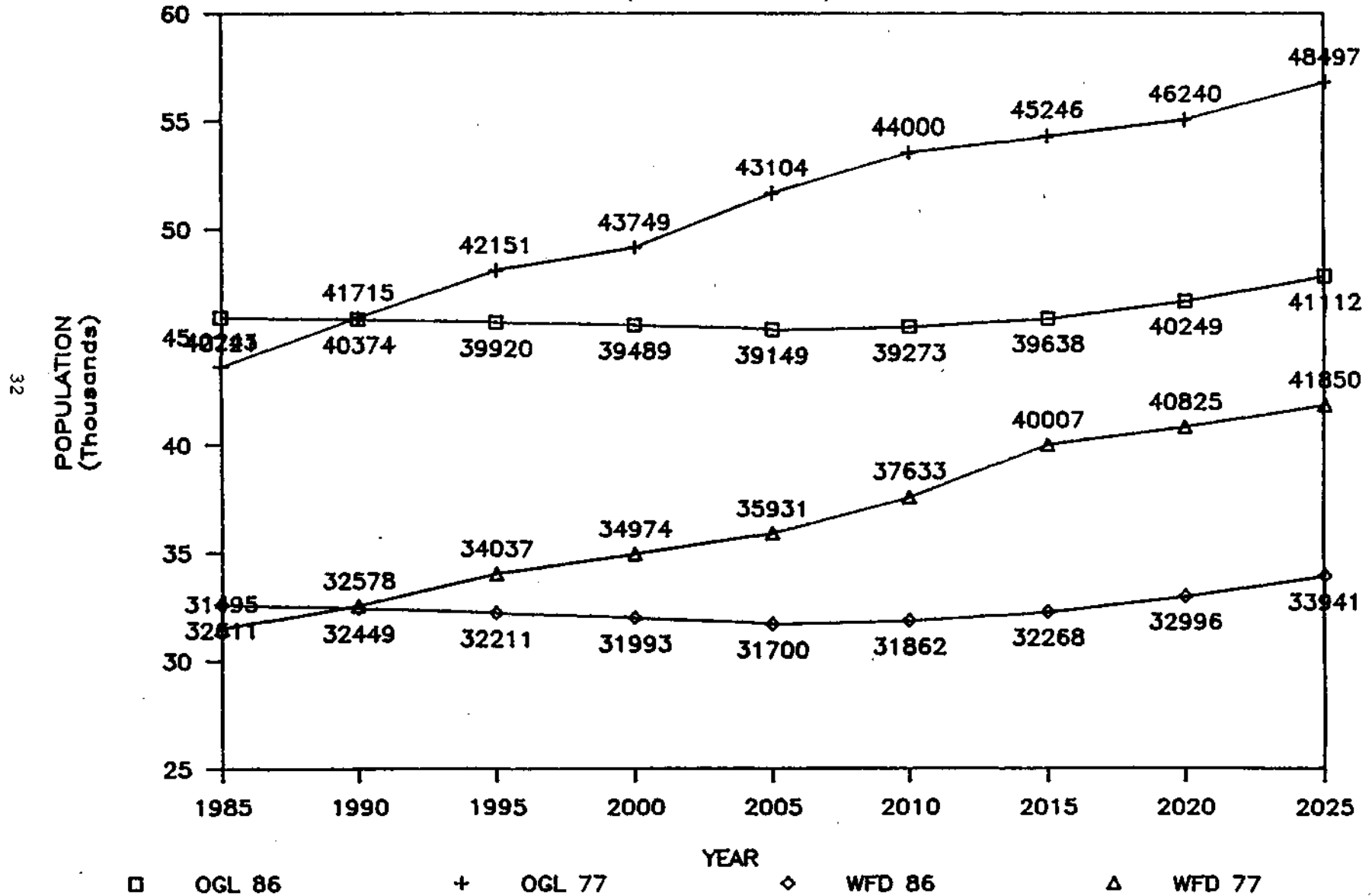
MARSHALL AND PUTNAM COUNTIES

(Data From IBOB)



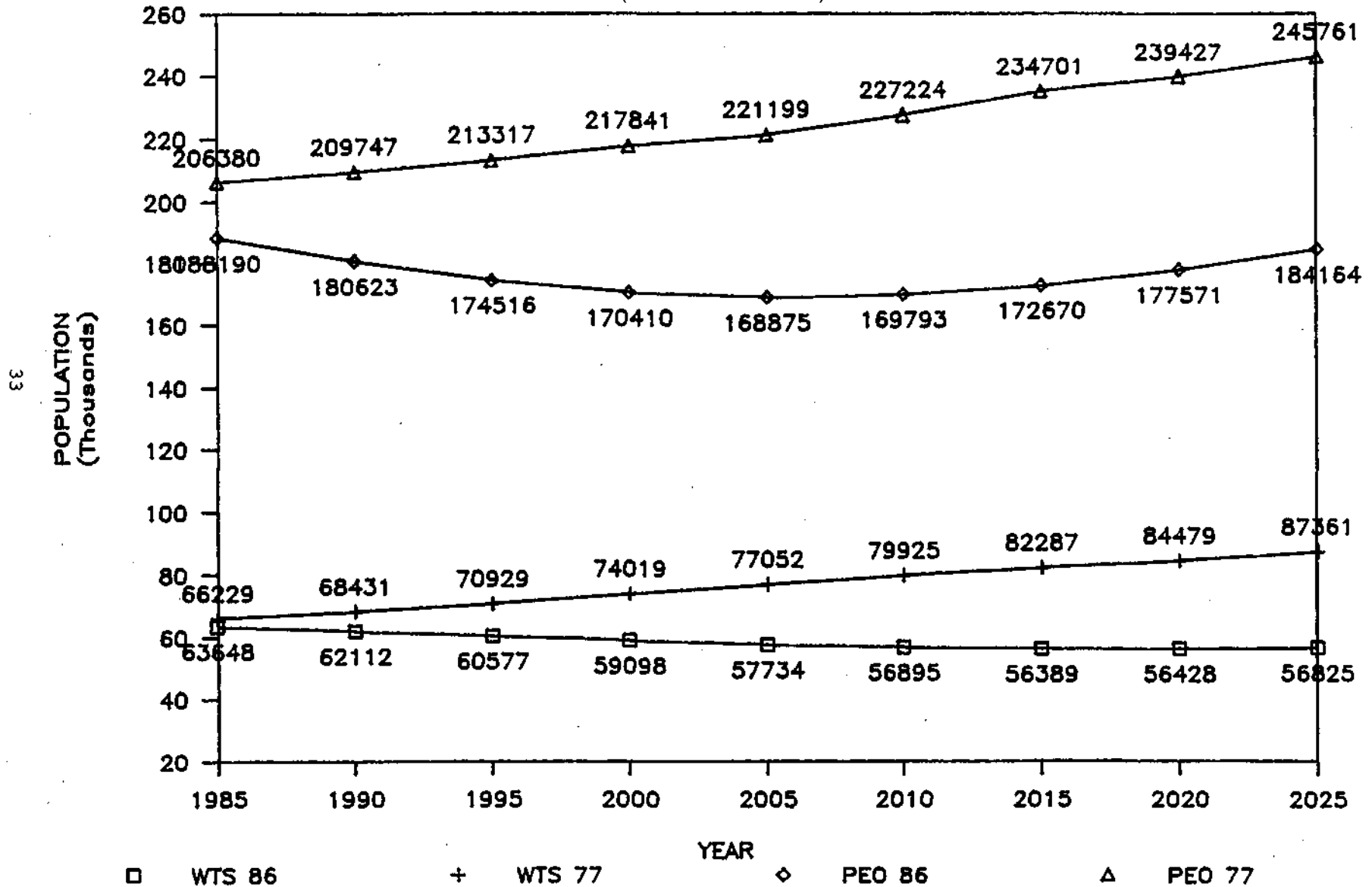
OGLE AND WOODFORD COUNTIES

(Data From IBOB)



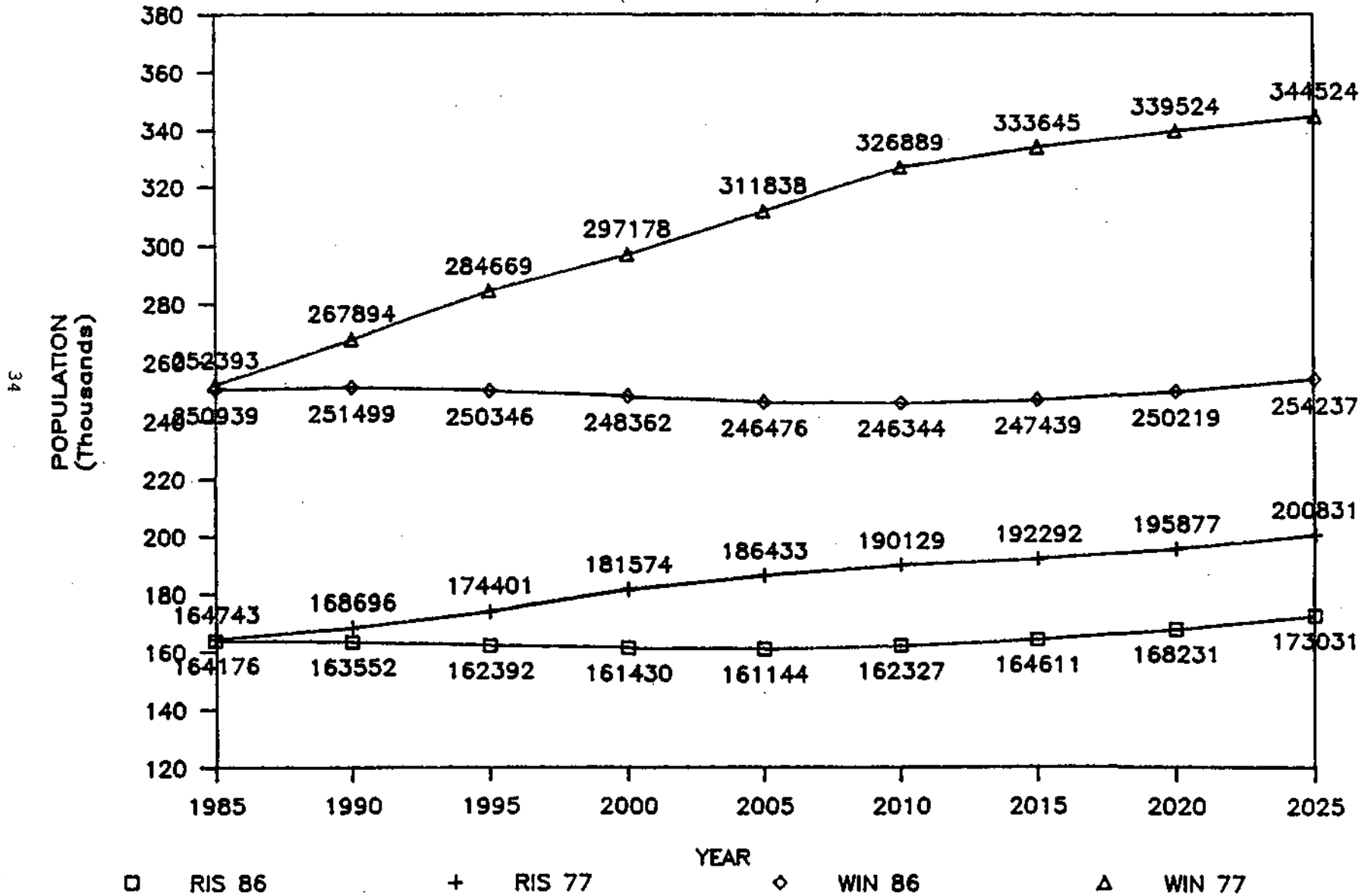
PEORIA AND WHITESIDE COUNTIES

(Data From IBOB)



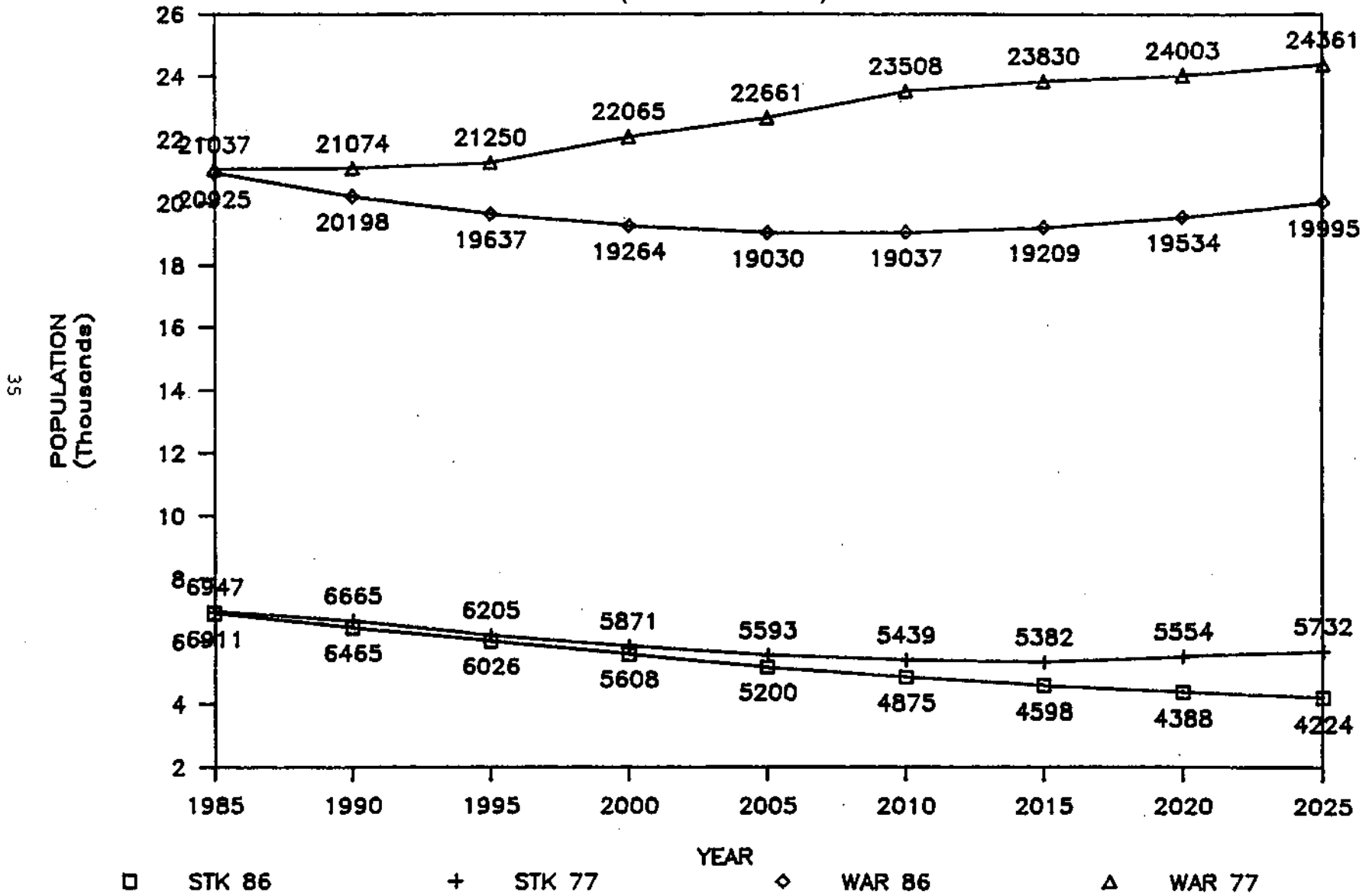
ROCK ISLAND AND WINNEBAGO COUNTIES

(Data From IBOB)



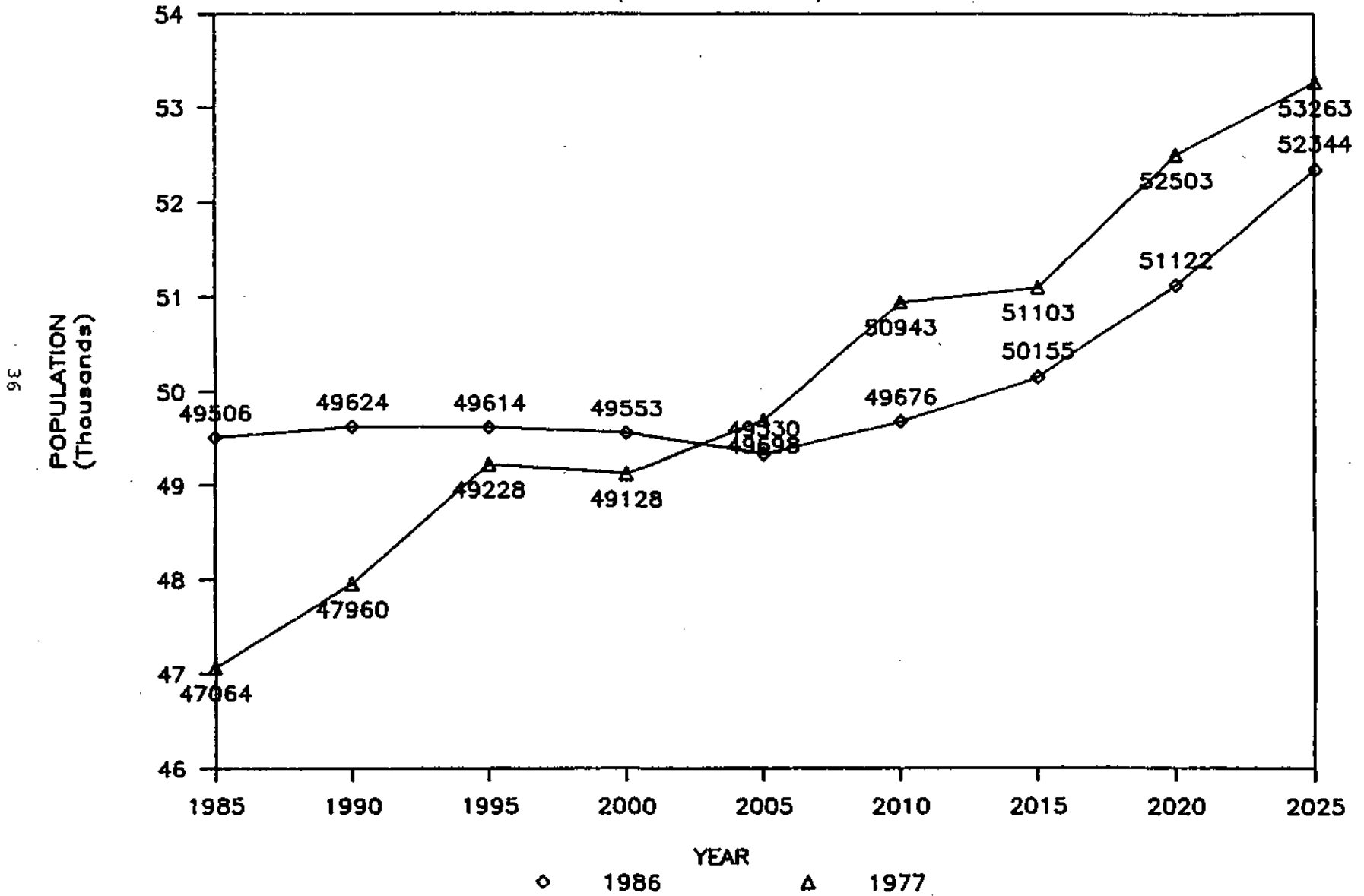
STARK AND WARREN COUNTIES

(Data From IBOB)



STEPHENSON COUNTY

(Data From IBOB)



Appendix B

Ground-Water Pumpage Estimates, Year 2025,
by Township and Aquifer Group

(For Counties Predicted by IBOB Estimates
to Undergo Population Increases)

BOONE COUNTY

Location	PWS ID#	S&G	SBR	DBR	PWS Name
00743N03E	00795185	0.000	0.000	12.799	FOUR SEASONS MHP
00743N03E	00795235	0.000	4.216	0.000	PARK MEADOWLAND WEST MHP
00744N03E	00790050	290.803	0.000	1280.911	BELVIDERE
00744N03E	00795289	0.000	2.937	0.000	MAPLE CREST NURSING HOME
00745N03E	00795050	15.150	0.000	0.000	CONSUMER IL WTR-CANDLEWICK LKE
00745N03E	00795275	0.000	18.017	0.000	OAK LAWN MHP
00745N04E	00790100	0.000	0.000	26.901	CAPRON
00745N04E	00790150	35.042	0.000	0.000	POPLAR GROVE
00745N04E	00795105	4.074	0.000	0.000	CAPRON MHP

COOK COUNTY

Location	PWS ID#	S&G	SBR	DBR	PWS Name
03134N14E	03194860	0.000	194.884	0.000	STEGER
03135N13E	03192550	0.000	399.111	0.000	RICHTON PARK
03135N13E	03194740	0.000	851.905	0.000	PARK FOREST
03135N14E	03190720	0.000	502.095	0.000	FORD HEIGHTS
03135N14E	03192790	0.000	486.799	0.000	SAUK VILLAGE
03135N14E	03192940	0.000	179.182	0.000	SOUTH CHICAGO HEIGHTS
03135N14E	03194740	0.000	1.604	0.000	PARK FOREST
03135N14E	03194860	0.000	123.582	0.000	STEGER
03135N14E	03195175	0.000	27.725	0.000	CANDLELIGHT VILLAGE MHP
03135N15E	03195125	0.000	0.403	0.000	ALPINE VILLAGE MHP
03135N15E	03195935	0.000	19.344	0.000	LINWAY ESTATES MHP
03135N15E	03197725	0.000	1.124	0.000	SILO MHP
03136N12E	03197000	0.000	2.541	0.000	ORLAND HILLS SUBD
03136N12E	03197850	0.000	96.078	0.000	TINLEY PARK MENTAL HEALTH CTR
03137N11E	03191620	0.000	0.000	275.723	LEMONT
03137N12E	03197050	0.000	8.955	0.000	METRO UTIL-MIDWEST PALOS DIV
03138N12E	03191710	0.000	0.000	345.220	LYONS
03138N12E	03193180	0.000	0.000	488.863	WESTERN SPRINGS
03139N12E	03190150	0.000	0.000	1246.851	BELLWOOD
03140N09E	03194120	132.953	13.907	224.352	BARTLETT
03141N09E	03194120	0.000	1.782	0.000	BARTLETT
03141N09E	03195145	26.480	0.000	0.000	SPRING LAKES MHP
03141N10E	03195200	0.000	5.791	0.000	
03141N11E	03192730	0.000	0.000	41.410	ROLLING MEADOWS
03141N11E	03195185	0.000	32.879	0.000	OASIS MHP
03141N11E	03197595	0.000	30.036	0.000	WILLOWAY TERRACE MHP
03141N11E	03197765	0.000	3.151	33.606	TOUHY MHP
03141N11E	03197775	0.000	3.137	16.186	DES PLAINES MHP
03141N11E	03197799	0.000	1.433	0.000	MOORINGS HEALTH CENTER
03141N12E	03195350	0.000	0.000	908.650	NORTH SUBURBAN PUBLIC UTIL CO
03142N10E	03192730	0.000	0.000	106.740	ROLLING MEADOWS
03142N10E	03195050	6.517	0.000	0.000	BARRINGTON WOODS MUTUAL WTR AS
03142N10E	03195100	13.603	0.000	0.000	COUNTY LINE WATER CO
03142N10E	03195168	0.000	1.275	0.000	BOURBON SQUARE APARTMENTS

Appendix B Page 2

COOK COUNTY

Location	PWS ID#	S&G	SBR	DBR	PWS Name
03142N10E	03197950	0.000	79.815	0.000	PLUM GROVE CONDOMINIUMS
03142N11E	03192530	0.000	0.892	40.413	PROSPECT HEIGHTS
03142N11E	03195848	0.000	30.876	0.000	LAKE RUN APARTMENTS
03142N11E	03197080	0.000	0.000	17.729	PLUM CREEK CONDOMINIUMS
03142N12E	03195195	0.000	3.312	0.000	NORTH GLENVIEW MHP
03142N12E	03195589	0.000	0.000	6.515	DIVINE WORD SEMINARY
03142N12E	03195920	0.000	51.944	69.045	MISSION BROOK SANITARY DIST

DE KALB COUNTY

Location	PWS ID#	S&G	SBR	DBR	PWS Name
03737N05E	03794850	0.000	0.000	317.739	SANDWICH
03737N05E	03794870	0.000	0.000	70.460	SOMONAUK
03737N05E	03795100	0.000	4.195	4.195	BUCK LAKE ESTATES SUBD
03738N03E	03790450	43.977	0.000	0.000	SHABBONA
03738N04E	03790600	0.000	61.238	0.000	WATERMAN
03738N05E	03790200	0.000	0.000	52.175	HINCKLEY
03740N03E	03790350	0.000	0.000	42.946	MALTA
03740N04E	03790100	0.000	0.000	0.000	DE KALB
03740N04E	03790550	0.000	0.000	338.774	SYCAMORE
03740N04E	03795148	0.000	0.000	18.390	DE KALB UNIV DEVELOPMENT CORP
03740N04E	03795150	0.000	0.000	0.835	DONNY BROOK ESTATES SUBD
03740N05E	03790051	0.000	0.000	5.573	CORTLAND (WOODLAND ACRES)
03740N05E	03790550	0.000	0.000	0.000	SYCAMORE
03740N05E	03795125	0.002	0.000	11.236	CORTLAND CORNERS MHP
03741N05E	03790550	0.000	0.000	276.586	SYCAMORE
03741N05E	03795265	0.449	0.000	0.000	EVERGREEN VILLAGE MHP
03742N03E	03790300	0.000	0.000	53.850	KIRKLAND
03742N04E	03790250	0.000	0.000	23.438	KINGSTON
03742N04E	03795200	0.000	0.000	3.266	VALLEY VIEW SUBD
03742N05E	03790150	0.000	0.000	176.182	GENOA

DU PAGE COUNTY

Location	PWS ID#	S&G	SBR	DBR	PWS Name
04337N11E	04395726	0.000	1.152	0.000	COUNTRYSIDE WELL 2
04338N09E	04390833	0.000	97.824	0.000	WARRENVILLE
04338N10E	04395180	0.000	19.620	0.000	BELMONT-HIGHWOOD PWD
04338N10E	04395800	0.000	5.757	0.000	MAPLE HILL IMPROVEMENT ASSN
04338N10E	04395900	0.000	2.704	0.000	NORTHWEST BELMONT IMPRVMT ASSN
04338N11E	04395300	0.000	50.779	0.000	CLARENDON WATER CO
04338N11E	04395368	0.000	15.504	0.000	FAIRWAY GROVE APARTMENTS
04338N11E	04395600	0.000	53.099	0.000	LIBERTY PARK HOMEOWNERS ASSN
04338N11E	04397150	0.000	3.255	0.000	SOUTH GROVE SUBD
04338N11E	04397300	0.000	37.228	0.000	TRI-STATE VILLAGE
04339N09E	04390832	0.000	3.256	0.000	WARRENVILLE-RAY ST HOMEOWNERS
04339N09E	04390833	0.000	268.912	0.000	WARRENVILLE
04339N09E	04390900	0.000	96.545	867.271	WEST CHICAGO
04339N09E	04391150	0.000	307.368	0.000	WINFIELD
04339N09E	04395945	0.000	4.101	0.000	PLEASANT RIDGE MHP

DU PAGE COUNTY

Location	PWS ID#	S&G	SBR	DBR	PWS Name
04339N10E	04395650	0.000	48.395	0.000	METRO UTIL LIBERTY RIDGE DIV
04339N10E	04395980	0.000	5.263	0.000	PLEASANT HILL COMMUNITY ASSN
04339N10E	04397000	0.000	7.134	0.000	POLO DRIVE & SADDLE ROAD SUBD
04339N10E	04397200	0.000	4.191	0.000	TEE AND GREEN SUBD
04339N10E	04397500	0.000	6.044	0.000	WHEATON WATER CO
04339N11E	04395560	0.000	65.300	0.000	HIGHLAND HILLS SANITARY DIST
04339N11E	04397285	0.000	3.293	0.000	WALLS INC MHP
04339N11E	04397550	0.000	8.517	0.000	YORK CENTER CO-OP
04340N09E	04390900	0.000	157.865	0.000	WEST CHICAGO
04340N10E	04395850	0.000	30.602	0.000	NORDIC PARK WTR & SEWER CO INC
04340N10E	04395866	0.000	1.303	0.000	NORTHSIDE PETERSON WELL FUND
04340N10E	04397040	0.000	1.578	0.000	ST CHARLES COMM WELL FUND 3
04340N10E	04397320	0.000	1.200	0.000	SOUTH BURDETTE WATER CO
04340N11E	04397245	0.000	3.977	0.000	VIETZEN MHP

GRUNDY COUNTY

Location	PWS ID#	S&G	SBR	DBR	PWS Name
06331N06E	06390450	0.000	0.000	5.946	KINSMAN
06331N08E	06390400	0.000	14.324	37.345	GARDNER
06331N08E	06390650	4.350	0.000	35.432	SOUTH WILMINGTON
06332N07E	06390500	37.011	0.000	0.000	MAZON
06332N07E	06395165	1.008	0.000	0.000	OLD MAZON MHP
06332N08E	06390050	0.000	0.000	19.058	BRACEVILLE
06332N08E	06395125	0.000	0.000	15.116	BOOKWALTER WOODS MHP
06333N07E	06390600	0.000	0.000	473.137	MORRIS
06333N07E	06395150	0.000	0.000	4.046	HEATHERFIELD SUBD
06333N08E	06390100	0.000	0.000	13.817	CARBON HILL
06333N08E	06390200	0.000	0.000	189.478	COAL CITY
06334N07E	06391000	0.000	0.000	2.865	LISBON NORTH INC
06334N07E	06395100	0.000	6.000	9.363	METRO UTILITY RIDGECREST DIV
06334N07E	06395250	0.000	0.000	2.861	RIDGECREST NORTH SUBD
06334N08E	06395225	16.099	0.000	0.000	SHADY OAKS MHP
06334N09E	06390550	0.000	0.000	84.380	MINOOKA
06703N06W	06790200	9.682	9.785	0.000	BOWEN
06703N07W	06790700	4.338	0.000	0.000	WEST POINT
06704N05W	06790550	24.509	0.000	0.000	PLYMOUTH
06705N07W	06790250	47.861	0.000	47.861	CARTHAGE
06707N05W	06790450	44.899	0.000	0.000	LA HARPE
06707N07W	06795125	0.000	0.411	0.000	LEISURELAND MHP

HENDERSON COUNTY

Location	PWS ID#	S&G	SBR	DBR	PWS Name
07108N04W	07190350	0.000	0.000	6.661	RARITAN
07109N04W	07190250	0.000	7.864	0.000	MEDIA
07109N05W	07190400	0.000	32.209	0.182	STRONGHURST
07110N04W	07190050	0.000	0.000	10.957	BIGGSVILLE
07111N05W	07190300	42.941	0.000	0.000	OQUAWKA

JO DAVIESS COUNTY

Location	PWS ID#	S&G	SBR	DBR	PWS Name
08526N02E	08590250	0.000	0.000	58.205	HANOVER
08526N02E	08595145	0.000	0.000	0.754	WOODLAND VALLEY MHP
08527N02E	08590150	0.000	0.000	39.344	ELIZABETH
08527N04E	08590450	0.000	0.000	169.345	STOCKTON
08528N01W	08590200	0.000	0.000	269.688	GALENA
08528N02E	08595050	0.000	0.000	29.020	GALENA TERRITORY UTILITIES INC
08528N03E	08595150	0.000	0.000	35.562	APPLE CANYON UTILITY CO
08529N02E	08590400	0.000	0.000	21.416	SCALES MOUND
08529N02W	08590100	106.092	0.000	0.000	EAST DUBUQUE
08529N02W	08595100	0.000	0.000	14.419	MT VERNON WATER & SEWER CORP
08529N02W	08595200	0.000	0.000	19.575	PIONEER ACRES WATER CO
08529N04E	08590050	0.000	0.000	15.554	APPLE RIVER
08529N04E	08590500	0.000	0.000	60.337	WARREN

KANE COUNTY

Location	PWS ID#	S&G	SBR	DBR	PWS Name
08938N07E	08990850	67.567	0.000	7.782	SUGAR GROVE
08938N07E	08994070	0.000	0.000	1286.470	AURORA
08938N07E	08995520	57.653	0.000	0.000	PRESTBURY UTILITY CO
08938N08E	08990600	0.000	0.000	573.234	NORTH AURORA
08938N08E	08994070	0.000	0.000	3933.673	AURORA
08938N08E	08994690	0.000	0.000	1009.745	MONTGOMERY
08938N08E	08995125	0.000	0.000	5.898	BREAZEALE MHP
08938N08E	08995185	0.000	1.091	0.000	DEARBORN MHP
08938N08E	08995285	0.000	0.000	13.401	MARGARET'S HI-ACRE MHP
08938N08E	08995300	0.000	61.192	0.000	MOECHERVILLE SUBD
08938N08E	08995365	0.000	14.335	0.000	OAK GROVE MHP
08938N08E	08995400	0.000	25.347	0.000	OGDEN GARDENS SUBD
08938N08E	08995445	0.000	1.044	0.000	PATTERSON MHP
08938N08E	08995500	0.000	6.544	0.000	PARK VIEW WATER CORP
08938N08E	08995545	0.000	14.027	0.000	MARGARET'S PARK VIEW EST MHP
08938N08E	08995750	0.000	2.649	0.000	WERMES SUBD
08938N09E	08994070	0.000	0.000	805.554	AURORA
08939N07E	08990300	0.000	0.000	5.574	ELBURN
08939N07E	08995149	0.000	0.000	14.300	BROADVIEW ACADEMY
08939N08E	08990350	0.000	0.000	1022.794	GENEVA
08939N08E	08994130	0.000	0.000	1170.629	BATAVIA
08939N08E	08995319	0.000	0.000	115.588	MOOSEHEART HOME
08940N06E	08990500	0.000	0.000	28.905	MAPLE PARK
08940N07E	08990300	0.000	0.000	54.691	ELBURN
08940N07E	08995800	31.745	0.000	0.000	FERSON CREEK UTILITY CO
08940N08E	08994830	964.302	0.000	1125.484	ST CHARLES
08940N08E	08995030	52.979	0.000	0.000	ST CHAS SKYLINE SEWER & WTR CO
08940N08E	08995530	0,000	2.431	0.000	HIGHLAND SUBD
08940N08E	08995600	3.701	0.000	0.000	RIVER GRANGE LAKES SUBD
08940N08E	08995930	0.000	0.000	70.250	IL YOUTH CENTER - ST CHARLES

KANE COUNTY

Location	PWS ID#	S&G	SBR	DBR	PWS Name
08941N06E	08990150	0.000	0.000	34.674	BURLINGTON
08941N08E	08990800	421.085	0.000	0.000	SOUTH ELGIN
08941N08E	08994380	0.000	0.000	836.669	ELGIN
08941N08E	08995150	0.000	8.960	0.000	METRO UTILITY ROLLINS DIV
08942N06E	08990450	0.000	0.000	92.870	HAMPSHIRE
08942N07E	08995550	2.805	0.000	0.000	POWERS WATER INC
08942N08E	08990200	1564.207	0.000	0.000	CARPENTERSVILLE
08942N08E	08990250	302.192	0.000	0.000	EAST DUNDEE
08942N08E	08990950	319.945	0.000	18.698	WEST DUNDEE
08942N08E	08995200	20.296	6.764	0.000	LAKE MARIAN WATER CORP

KENDALL COUNTY

Location	PWS ID#	S&G	SBR	DBR	PWS Name
09335N06E	09390100	0.000	0.000	28.786	NEWARK
09336N07E	09390250	3.702	0.000	0.000	YORKVILLE
09336N07E	09395150	0.000	0.000	9.912	FOX LAWN UTILITY CO
09337N06E	09390200	310.454	0.000	0.000	PLANO
09337N06E	09395200	0.000	3.649	0.000	HOLLIS PARK SUBD
09337N07E	09390250	0.000	0.000	155.685	YORKVILLE
09337N07E	09395140	0.000	0.000	1.353	FARM COLONY SUBD
09337N07E	09395250	0.000	5.169	0.000	STORYBROOK HIGHLANDS SUBD
09337N08E	09390150	0.000	0.000	123.088	OSWEGO
09337N08E	09395100	0.000	32.981	32.981	METRO UTILITY VALLEY DIV

LAKE COUNTY

Location	PWS ID#	S&G	SBR	DBR	PWS Name
09742N09E	09794080	0.000	613.190	0.000	BARRINGTON
09743N09E	09794080	117.846	0.000	0.000	BARRINGTON
09743N09E	09795010	58.624	0.000	0.000	TOWER LAKES WATER CO
09743N09E	09795140	5.073	0.000	0.000	COUNTRY CLUB ESTATES
09743N09E	09795450	0.000	15.104	0.000	TRI-COUNTY WATER CO
09743N09E	09795520	133.756	0.000	0.000	LAKE BARRINGTON SHORES SUBD
09743N09E	09799030	0.000	3.290	0.000	BARRINGTON PARK DISTRICT
09743N10E	09790450	0.000	26.428	0.000	HAWTHORN WOODS
09743N10E	09790850	0.000	0.000	1392.676	LAKE ZURICH
09743N10E	09791050	0.026	0.026	6.464	FIELDS OF LONG GROVE
09743N10E	09795020	0.000	8.099	0.000	ACORN ACRES SUBD
09743N10E	09795196	0.000	1.586	0.000	BLACKWELL COMMUNITY WELL
09743N10E	09795280	0.000	1.625	0.000	SUMMIT HOMEOWNERS ASSN
09743N10E	09795400	0.000	2.643	0.000	LAKEWOOD WATER SYSTEM
09743N10E	09795500	0.000	7.568	0.000	FOREST LAKE ADDN
09743N10E	09795849	0.000	8.818	0.000	MT ST JOSEPH SHELTER CARE HOME
09743N10E	09795950	0.000	4.493	0.000	RAND ESTATES SUBD
09743N10E	09797010	0.000	2.246	0.000	STURM SUBD
09743N10E	09797300	0.000	7.101	0.000	VALENTINE WATER SERVICE INC
09743N11E	09795150	0.000	10.571	0.000	CHEVY CHASE SEWER & WATER CO
09743N11E	09795900	0.000	178.505	0.000	PEKARA SUBD
09743N11E	09797250	0.000	20.666	0.000	TOWNERS SUBD

LAKE COUNTY

Location	PWS ID#	S&G	SBR	DBR	PWS Name
09744N09E	09791850	0.000	239.600	13.790	WAUCONDA
09744N09E	09795080	102.518	0.000	0.000	ISLAND LAKE WATER CO
09744N10E	09791150	214.512	0.000	348.654	MUNDELEIN
09744N10E	09795185	0.000	2.308	0.000	DIAMOND LAKE MHP
09744N10E	09795200	0.000	15.138	0.000	COUNTRYSIDE LAKE SUBD
09744N10E	09795485	0.000	1.343	0.000	PAUL'S MHP
09744N10E	09797050	0.000	8.541	0.000	WEST SHORELAND SUBD
09744N10E	09797100	4.133	4.777	0.000	SYLVAN LAKE 1ST SUBD
09744N10E	09797150	8.756	11.355	0.000	SYLVAN LAKE 2ND & 3RD SUBD
09744N10E	09797189	33.051	0.000	0.000	GLENKIRK CAMPUS NORTH
09744N10E	09797199	1.794	0.000	0.000	GLENKIRK CAMPUS SOUTH
09744N10E	09797370	0.000	0.000	19.030	WEST SHORE PARK SUBD
09744N11E	09791150	0.000	0.000	371.492	MUNDELEIN
09744N11E	09795238	0.000	0.000	10.025	HEIDEN GARDENS CONDOMINIUMS
09744N11E	09795250	0.000	27.889	7.944	COUNTRYSIDE MANOR SUBD
09744N12E	09795050	0.000	2.269	0.000	ARDEN SHORES ESTATES SUBD
09744N12E	09795585	4.493	0.000	0.000	ROCKLAND MHP
09745N09E	09790200	152.146	0.000	108.719	FOX LAKE
09745N09E	09795380	5.814	0.000	0.000	DL WELL OWNERS ASSN
09745N09E	09795550	67.109	0.000	0.000	FOX LAKE HILLS SUBD
09745N09E	09795700	11.880	0.000	0.000	HILLDALE MANOR WATER CO
09745N10E	09790840	91.938	0.000	0.000	LAKE VILLA
09745N10E	09791000	77.241	0.000	0.000	LINDENHURST
09745N10E	09795139	4.437	0.000	0.000	ALLENDALE SCHOOL
09745N10E	09795165	0.000	7.770	0.000	CHAIN O' LAKES MHP
09745N10E	09795750	0.000	10.293	0.000	HIGHLAND LAKE SUBD
09745N11E	09795350	0.000	4.989	0.000	CHARMAR WATER CO
09745N11E	09795575	0.000	0.000	44.399	PARK CITY MHP .
09745N11E	09795600	73.341	0.000	0.000	GRANDWOOD PARK SUBD
09745N12E	09795170	0.000	0.000	18.235	COLONIAL PARK APARTMENTS
09746N09E	09795780	54.621	0.000	0.000	FOX LAKE PLANT 2
09746N10E	09790050	358.322	0.000	0.000	ANTIOCH
09746N10E	09791000	154.482	0.000	0.000	LINDENHURST
09746N10E	09795620	5.617	0.000	0.000	HARBOR RIDGE UTILITY INC
09746N11E	09797320	0.000	0.000	6.651	WADSWORTH OAKS SUBD
09746N12E	09795125	3.647	0.000	0.000	AVALON MHP
09746N12E	09795245	0.000	2.643	0.000	HOLLY HOCK HILL MHP
09746N12E	09795345	0.000	0.000	17.442	LAKE VIEW MHP
09746N12E	09795615	0.000	0.000	19.821	SHORELINE TERRACE MHP

LIVINGSTON COUNTY

Location	PWS ID#	S&G	SBR	DBR	PWS Name
10525N07E	10590700	7.195	0.000	0.000	STRAWN
10526N06E	10590350	129.195	0.000	0.000	FAIRBURY
10526N07E	10590450	50.642	0.000	0.000	FORREST
10526N08E	10590100	20.414	0.000	0.000	CHATSWORTH
10527N05E	10595189	5.406	0.000	0.000	LIVINGSTON MANOR
10527N08E	10590100	30.621	0.000	0.000	CHATSWORTH
10528N03E	10590400	31.330	0.000	0.000	FLANAGAN

LIVINGSTON COUNTY

Location	PWS ID#	S&G	SBR	DBR	PWS Name
10528N03E	10595229	1.570	0.000	0.000	SALEM CHILDREN'S HOME
10528N07E	10590650	11.150	0.000	0.000	SAUNEMIN
10528N08E	10590200	24.346	0.000	0.000	CULLOM
10529N04E	10590150	26.596	0.000	0.000	CORNELL
10529N04E	10595285	0.000	0.900	0.000	VALLEY VIEW MHP
10529N06E	10590550	0.000	0.000	32.763	ODELL
10529N07E	10590300	0.000	0.000	2.661	EMMINGTON
10530N06E	10595510	0.000	0.000	45.851	DWIGHT CORRECTIONAL CENTER
10530N07E	10590250	171.007	0.000	0.000	DWIGHT
10530N08E	10590050	5.979	0.000	0.000	CAMPUS

MC DONOUGH COUNTY

Location	PWS ID#	S&G	SBR	DBR	PWS Name
10904N02W	10990300	0.000	13.519	0.000	INDUSTRY
10905N03W	10990200	10.161	14.465	16.881	COLCHESTER
10905N03W	10995125	0.000	1.994	0.000	COUNTRYAIRE MHP
10906N02W	10990050	0.000	0.000	7.323	BARDOLPH
10906N03W	10990350	0.000	806.966	0.000	MACOMB
10906N03W	10995165	0.000	0.831	0.000	JACKSON HEIGHTS MHP
10906N03W	10995200	0.000	1.350	0.000	EMMETT UTILITIES
10907N01W	10990150	0.000	0.000	204.609	BUSHNELL
10907N01W	10990400	0.000	21.476	0.000	PRAIRIE CITY
10907N03W	10990250	13.315	0.000	0.000	GOOD HOPE

MC HENRY COUNTY

Location	PWS ID#	S&G	SBR	DBR	PWS Name
11143N06E	11190900	16.199	0.000	34.185	UNION
11143N07E	11190350	236.553	0.000	0.000	HUNTLEY
11143N07E	11195760	0.000	0.000	21.374	TURNBERRY UTILITIES INC
11143N08E	11190050	183.869	309.169	3.871	ALGONQUIN
11143N08E	11190100	549.156	0.000	13.580	CARY
11143N08E	11190150	0.000	0.000	1286.048	CRYSTAL LAKE
11143N08E	11190400	41.568	193.984	34.640	LAKE IN THE HILLS
11143N08E	11195100	0.000	6.235	0.000	CRYSTAL HEIGHTS ASSN
11143N08E	11195125	18.017	0.000	0.000	OAKBROOK ESTATES MHP
11143N08E	11195145	5.178	0.000	0.000	ROYAL OAKS MHP
11143N08E	11195150	35.371	1.044	0.000	CRYSTAL CLEAR WATER CO
11143N08E	11195400	0.000	63.011	0.000	KILLARNEY WATER CO
11143N09E	11190200	0.000	259.325	0.000	FOX RIVER GROVE
11144N05E	11190650	331.104	0.000	0.000	MARENGO
11144N07E	11190950	148.945	0.000	0.000	WOODSTOCK
11144N08E	11190150	0.000	7.988	545.230	CRYSTAL LAKE
11144N08E	11190600	0.000	151.096	0.000	MC HENRY
11144N08E	11195020	39.315	0.000	10.434	MC HENRY SHORES WATER CO
11144N08E	11195200	1.652	1.706	0.000	DEERING OAKS SUBD
11144N08E	11195800	0.000	42.681	0.000	WALKUP WOODS WATER CO
11144N09E	11195270	2.338	0.000	0.000	C AND A WATER ORGANIZATION
11144N09E	11195350	32.115	0.000	0.000	COMMUNITY SERVICE CORP

MC HENRY COUNTY

Location	PWS ID#	S&G	SBR	DBR	PWS Name
11144N09E	11195600	0.000	12.924	0.000	NUNDA UTILITY CO
11145N06E	11195189	5.707	0.000	0.000	VALLEY HI NURSING HOME
11145N07E	11190950	1084.717	0.000	0.000	WOODSTOCK
11145N07E	11195300	60.163	0.000	0.000	HIGHLAND SHORES WATER CO
11145N07E	11195750	55.011	0.000	0.000	WONDER LAKE WATER CO
11145N08E	11190600	458.421	218.684	0.000	MC HENRY
11145N08E	11195080	0.000	17.320	0.000	CLAREMONT HILLS SUBD
11145N08E	11195250	32.605	32.605	0.000	EASTWOOD MANOR WATER CO
11145N08E	11195730	6.010	0.000	0.000	PRAIRIE RIDGE ASSN
11145N08E	11195850	25.046	0.000	0.000	NORTHERN IL UTILITIES INC
11145N09E	11195700	7.329	230.945	0.000	WHISPERING HILLS WATER CO
11146N05E	11190250	498.508	0.000	0.000	HARVARD
11146N07E	11190300	86.254	0.000	0.000	HEBRON
11146N08E	11190750	65.472	0.000	0.000	RICHMOND

MERCER COUNTY

Location	PWS ID#	S&G	SBR	DBR	PWS Name
13113N01W	13190300	0.000	0.000	7.210	NORTH HENDERSON
13113N04W	13190350	0.000	0.000	7.493	SEATON
13113N05W	13190150	44.601	0.000	0.000	KEITHSBURG
13114N01W	13190500	0.000	0.000	28.372	NEW WINDSOR
13114N02W	13190450	0.000	0.000	37.681	VIOLA
13114N03W	13190050	0.000	0.000	113.008	ALEDO
13114N04W	13190100	0.000	0.000	15.815	JOY
13114N05W	13190250	24.819	0.000	0.000	NEW BOSTON
13115N01W	13190400	0.000	0.000	17.438	SHERRARD
13115N01W	13195050	0.000	0.000	13.453	FYRE LAKE WATER CO
13115N01W	13195200	0.000	0.000	4.145	SWEDONA WATER ASSN
13115N02W	13190200	0.000	0.000	23.140	MATHERVILLE
13115N02W	13195146	0.000	0.000	0.894	ASH'S WELL 2 SUBD
13115N02W	13195150	0.000	0.000	2.587	MCLW SYSTEM
13115N02W	13195186	0.000	0.000	0.784	ASH'S WELL 4 SUBD
13115N02W	13195250	0.000	0.000	2.126	CAMPBELL'S WATER CORP NO. 1

OGLE COUNTY

Location	PWS ID#	S&G	SBR	DBR	PWS Name
14122N10E	14195100	0.000	0.000	8.975	NEW LANDING UTILITIES INC
14123N08E	14190450	0.000	0.000	94.135	POLO
14123N10E	14190400	0.000	0.000	152.984	OREGON
14124N09E	14190350	0.000	0.000	105.301	MT MORRIS
14124N09E	14195185	0.000	0.000	9.104	MT MORRIS ESTATES MHP
14124N11E	14190550	0.000	0.000	41.931	STILLMAN VALLEY
14124N11E	14195165	0.000	0.000	2.979	MERIDIAN MANOR MHP
14124N11E	14195330	0.000	0.000	0.572	NORDIC WOODS SUBD
14125N08E	14190200	0.000	0.054	69.480	FORRESTON
14125N09E	14190300	0.000	0.000	43.879	LEAF RIVER
14125N11E	14190100	0.000	0.000	177.370	BYRON
14125N11E	14195145	0.000	0.000	2.138	LAKEVIEW MHP

OGLE COUNTY

Location	PWS ID#	S&G	SBR	DBR	PWS Name
14140N01E	14190250	0.000	0.000	29.951	HILLCREST
14140N01E	14190500	0.000	0.000	1181.292	ROCHELLE
14140N01E	14195050	0.000	0.000	9.379	WOODLAWN UTILITY CORP
14140N01E	14195150	0.000	0.000	10.714	ASKVIG IMPROVEMENT ASSN
14140N01E	14195245	0.000	0.000	0.808	ROLLING GREEN ESTATES MHP
14140N01E	14195285	0.000	0.000	11.611	SHANGRI-LA MHP
14140N02E	14190150	0.000	0.000	22.260	CRESTON
14140N02E	14190500	0.000	0.000	57.694	ROCHELLE
14141N02E	14195220	2.050	0.000	0.000	COUNTRY VIEW ESTATES SUBD
14141N02E	14195300	0.000	0.000	0.781	LINDENWOOD WATER ASSN
14142N01E	14195265	0.000	0.000	81.800	ROLLING MEADOWS MHP
14142N02E	14195250	0.000	0.000	3.285	KNOLLS EDGE WATER ASSN

PUTMAN COUNTY

Location	PWS ID#	S&G	SBR	DBR	PWS Name
15514N09E	15595050	14.832	0.000	0.000	LAKE THUNDERBIRD SUBD
15530N01W	15590200	16.051	0.000	0.000	MAGNOLIA
15531N01W	15590150	10.564	0.000	0.000	MCNABB
15532N01W	15590050	0.000	0.000	58.879	GRANVILLE
15532N01W	15590300	0.000	0.000	10.167	STANDARD
15532N02W	15595100	52.654	0.000	0.000	HENNEPIN PWD

ROCK ISLAND COUNTY

Location	PWS ID#	S&G	SBR	DBR	PWS Name
16116N01W	16195226	0.000	0.926	0.000	BAILY RETREAT WATER SYSTEM
16116N01W	16195420	0.000	1.897	0.000	HALEN HEIGHTS ADDN
16116N01W	16195580	0.000	1.087	0.000	RAINBOW RIDGE
16116N01W	16197286	0.000	0.801	0.000	COUNTRY CLUB MANOR WELL 1
16116N01W	16197649	0.000	5.417	0.000	OAK GLEN NURSING HOME
16116N02W	16195120	0.000	1.833	0.000	CHERRY DALE SUBD
16116N02W	16195150	0.000	3.772	0.000	COYNE CENTER COOP
16116N02W	16195200	0.000	1.753	0.000	CROPPERS 2ND & 3RD ADDNS
16116N02W	16195236	0.000	0.784	0.000	ECKSTROMS 1ST ADDN
16116N02W	16195250	0.000	1.683	0.000	CROPPERS 1ST
16116N02W	16195280	0.000	0.724	0.000	EBERTS 2ND ADDITION
16116N02W	16195330	0.000	1.957	0.000	EBERTS 3RD ADDN
16116N02W	16195670	0.000	9.241	0.000	WSCO DEVEL- RIDGEWOOD
16116N02W	16195780	0.000	2.361	0.000	TOWER RIDGE WATER ASSN
16116N02W	16197366	0.000	0.586	0.000	FRIENDLY CORNERS WATER ASSN
16116N02W	16197376	0.000	0.784	0.000	TINDALLS 3RD & 6TH ADDNS
16116N02W	16197785	0.000	2.829	0.000	OAK GROVE MHP
16116N02W	16197856	0.000	0.854	0.000	TINDALLS 4TH AND 5TH ADDNS
16116N02W	16197925	0.000	14.509	14.826	WOODLAND A&B MHP
16116N02W	16197956	0.000	1.071	0.000	TINDALLS ADDN WATER SYSTEM
16116N03W	16194800	0.000	4.595	0.000	REYNOLDS
16116N03W	16195550	0.000	8.101	0.000	LEMON STREET WELL CO
16116N03W	16197436	0.000	0.666	0.000	FITZPATRICK WELL
16116N04W	16195140	0.000	1.249	0.000	CHIGAKWA PARK ESTATES SUBD

ROCK ISLAND COUNTY

Location	PWS ID#	S&G	SBR	DBR	PWS Name
16117N01E	16190100	0.000	29.309	0.003	CARBON CLIFF
16117N01E	16195350	0.000	3.799	0.000	FAIRACRES ASSN
16117N01E	16195400	0.000	12.428	0.000	GLENDALE SUBD
16117N01E	16197546	0.000	1.063	0.000	MERRY OAKS 1ST ADDN WELL 11
16117N01E	16197566	0.000	0.865	0.000	MERRY OAKS 2ND ADDN WELL 1
16117N01E	16197596	0.000	1.029	0.000	WHITES ADDN WELL 1
16117N01W	16194260	0.000	117.308	0.000	COAL VALLEY
16117N01W	16195130	0.000	0.866	0.000	WATER WORKS
16117N01W	16195185	0.000	7.646	0.000	AIR VIEW MHP
16117N01W	16195376	0.000	0.485	0.000	SOUTH WELL 16
16117N01W	16195386	0.000	0.835	0.000	WATER XIV
16117N01W	16195416	0.000	0.999	0.000	FERROUS WATER ASSN
16117N01W	16195476	0.000	0.854	0.000	BALCAEN 3RD ADDN WELL 4
16117N01W	16195520	0.000	4.132	0.000	INDIAN BLUFFS WATER CO
16117N01W	16197196	0.000	0.808	0.000	PARKBROOK LANE LOT 34 WELL
16117N01W	16197485	0.000	2.004	0.000	L AND G MHP
16117N01W	16197665	0.000	5.304	0.000	PARADISE MANOR MHP
16117N02W	16190400	0.000	0.000	298.097	MILAN
16117N02W	16195436	0.000	0.854	0.000	HICKORY HILLS SUBD WELL 1
16117N02W	16195450	0.000	0.894	0.000	HICKORY HILLS 2ND ADDN
16117N02W	16195686	0.000	1.309	0.000	TURKEY HOLLOW WELL CORP
16117N02W	16195800	0.000	1.693	0.000	SUBURBAN HEIGHTS SUBD
16117N02W	16197686	0.000	0.854	0.000	PARK HILL ESTATES WELL 2
16117N02W	16197756	0.000	1.029	0.000	QUAIL RUN WELL ASSN
16117N02W	16197806	0.000	1.065	0.000	PARK HILL ESTATES WELL 1
16117N03W	16190050	0.000	31.846	0.000	ANDALUSIA
16117N03W	16195490	0.000	2.257	0.000	HILLCREST COURT 2ND ADDN
16117N03W	16195510	0.000	2.922	0.000	HILLCREST COURT SUBD
16117N03W	16195850	0.000	2.009	0.000	WINDING CREEK ESTATES
16117N03W	16195900	0.000	1.575	0.000	WOOD PARK WATER CO
16117N04W	16195260	0.000	1.324	0.000	DOYLES 1ST ADDITION
16118N01E	16190600	0.000	23.762	0.000	RAPIDS CITY
16118N01E	16190700	0.000	95.028	132.320	SILVIS
16118N01E	16195170	0.000	14.070	0.000	CEDAR BROOK ESTATES SUBD
16118N01E	16195310	0.000	4.098	0.000	EVERGREEN VILLAGE SUBD
16118N01E	16195750	0.000	50.663	0.000	SILVIS HEIGHTS WATER CORP
16118N01E	16197188	0.000	0.485	0.000	FIRST AVE NORTH APARTMENTS
16118N01E	16197635	0.000	18.168	0.000	MOBET MEADOWS MHP
16118N01E	16197745	1.851	0.000	0.000	PRICE MHP
16118N01E	16197945	0.000	11.653	0.000	RIVER OAKS MHP
16119N01E	16190550	0.000	36.036	0.000	PORT BYRON
16119N02E	16197186	0.000	0.894	0.000	BYRON HILLS SUBD WELL 3
16119N02E	16197206	0.000	0.894	0.000	BYRON HILLS SUBD WELL 4
16119N02E	16197266	0.000	0.915	0.000	BYRON HILLS SUBD WELL 6
16119N02E	16197476	0.000	1.169	0.000	FAIRFIELD ROAD ADDN
16119N03E	16195530	0.000	5.934	0.000	HILLSDALE MHP
16119N03E	16195728	0.000	0.894	0.000	LARSON COURT RENTALS
16120N02E	16190150	0.000	19.816	0.000	CORDOVA

STEPHENSON COUNTY

Location	PWS ID#	S&G	SBR	DBR	PWS Name
17726N06E	17790400	0.000	0.000	34.246	PEARL CITY
17726N08E	17795255	0.000	0.000	4.488	TIMBER RIDGE MHP
17726N09E	17790250	0.000	0.-000	16.155	GERMAN VALLEY
17727N07E	17795050	0.000	0.000	12.683	NORTHERN HILLS UTILITY CO
17727N07E	17795100	0.000	0.000	26.311	PARK CREST WATER CO
17727N07E	17795235	0.000	0.000	4.500	STEPHENSON MOBILE ESTATES MHP
17727N08E	17790200	864.276	0.000	1197.720	FREEPORT
17727N08E	17795185	0.000	0.000	5.046	RIVER ROAD MHP
17728N06E	17790300	0.000	0.000	83.864	LENA
17728N07E	17790050	0.000	0.000	24.850	CEDARVILLE
17728N08E	17790100	0.000	0.000	20.559	DAKOTA
17728N09E	17790150	0.000	0.000	22.984	DAVIS
17728N09E	17790500	0.000	0.000	10.946	ROCK CITY
17729N06E	17790550	0.000	0.000	11.050	WINSLOW
17729N07E	17790350	0.000	0.000	21.814	ORANGEVILLE

WILL COUNTY

Location	PWS ID#	S&G	SBR	DBR	PWS Name
19732N09E	19790150	0.000	0.000	228.903	BRAIDWOOD
19732N09E	19795930	0.000	0.000	27.741	LAKESWOOD SHORES IMPRVMT ASSN
19732N10E	19797940	0.000	0.000	3.472	IL YOUTH CTR-KANKAKEE SCH CAMP
19733N09E	19791100	0.000	0.000	376.257	WILMINGTON
19733N09E	19795445	0.000	0.579	0.000	RIVERSIDE MHP
19733N12E	19790750	0.000	241.957	0.000	PEOTONE
19733N14E	19790050	0.000	172.183	0.000	BEECHER
19734N09E	19790200	0.000	0.000	9.495	CHANNAHON
19734N09E	19795465	11.096	0.000	0.000	TREASURE ISLAND MHP
19734N10E	19790350	0.000	42.642	0.000	ELWOOD
19734N11E	19790550	0.000	92.102	0.000	MANHATTAN
19734N13E	19790650	0.000	42.849	0.000	MONEE
19734N13E	19795030	0.000	711.501	0.000	CONSUMERS ILL WATER CO
19734N14E	19790300	0.000	287.963	0.000	CRETE
19734N14E	19795125	0.000	1.585	0.000	GIANNIS MHP
19734N14E	19795170	0.000	3.012	0.000	BECKWITH SUBD
19734N14E	19795180	0.000	11.040	0.000	BALMORAL HEIGHTS SUBD
19734N14E	19795385	0.000	19.576	0.000	PHEASANT LAKE ESTATES
19734N14E	19795500	0.000	6.737	0.000	UTILITIES UNLIMITED
19734N14E	19795520	0.000	8.131	0.000	DIXIE ESTATES SUBD
19734N14E	19795840	0.000	2.613	0.000	HUNTLEY COMMUNITY SUBD
19734N14E	19797850	0.000	22.695	0.000	DIXIE DELLS SUBD
19734N15E	19797870	0.000	99.939	0.000	WILLOWBROOK DIV-KANKAKEE W C
19735N09E	19790450	0.000	0.000	1229.984	JOLIET
19735N09E	19795200	0.000	0.000	24.937	CAMELOT UTILITIES
19735N09E	19795225	0.000	0.000	14.953	IMPERIAL MHP
19735N10E	19790450	0.000	0.000	2639.042	JOLIET
19735N10E	19790850	0.000	0.000	254.425	ROCKDALE
19735N10E	19795105	0.000	5.548	0.000	BAJT'S MHP

WILL COUNTY

Location	PWS ID#	S&G	SBR	DBR	PWS Name
19735N10E	19795130	0.000	3.170	0.000	BEL-AIR SUBD
19735N10E	19795265	0.000	3.329	0.000	MODERN MHP
19735N10E	19795360	0.000	21.242	0.000	CLEARVIEW SUBD
19735N10E	19795495	0.000	7.926	0.000	WOODCREEK MHP
19735N10E	19795600	0.000	.33.606	0.000	EAST MORELAND WATER ASSN
19735N10E	19795640	0.000	8.003	0.000	EAST MORELAND WATER CORP
19735N10E	19795680	0.000	6.228	0.000	FAIR ACRES SUBD
19735N10E	19795760	0.000	1.332	0.000	GREENFIELD COMMUNITY WELL CO
19735N10E	19795880	0.000	25.458	0.000	INGALLS PARK SUBD
19735N10E	19795920	0.000	2.695	0.000	LAKEVIEW IMPROVEMENT ASSN
19735N10E	19797210	0.000	16.909	0.000	OAKVIEW AVE WATERWORKS
19735N10E	19797330	0.000	2.853	0.000	PARK ROAD WATER ASSN
19735N10E	19797490	0.000	70.304	0.000	SOUTHEAST JOLIET SANITARY DIST
19735N10E	19797650	0.000	14.990	0.000	RIDGEWOOD SUBD
19735N10E	19797660	0.000	2.695	0.000	SCRIBNER STREET SUBD
19735N10E	19797690	0.000	13.053	0.000	SHAWNITA TERRACE WATER ASSN
19735N11E	19790450	490.835	0.000	1305.702	JOLIET
19735N11E	19790700	0.000	402.852	0.000	NEW LENOX
19735N11E	19795280	0.000	36.558	0.000	CHERRY HILL WATER CO
19735N11E	19795800	0.000	14.829	0.000	HILLVIEW SUBD
19735N12E	19790400	0.000	425.539	0.000	FRANKFORT
19735N12E	19790600	0.000	241.853	0.000	MOKENA
19735N12E	19795040	0.000	106.611	0.000	CITIZENS ARBURY DIV
19735N12E	19795270	0.000	312.270	0.000	FRANKFORT SQUARE SUBD
19735N13E	19797530	0.000	196.650	0.000	PRESTWICK UTILITY CO
19736N09E	19790450	0.000	0.000	443.460	JOLIET
19736N09E	19790800	0.000	0.000	346.988	PLAINFIELD
19736N09E	19795210	0.000	2.557	0.000	CENTRAL STATES UTILITY CO
19736N09E	19795480	0.000	58.552	0.000	CRYSTAL LAWNS SUBD
19736N09E	19797730	0.000	9.358	0.000	SUNNYLAND SUBD
19736N10E	19790250	0.000	509.744	0.000	CREST HILL
19736N10E	19790500	0.000	0.000	577.013	LOCKPORT
19736N10E	19790900	0.000	0.000	5.769	ROMEOVILLE
19736N10E	19795140	0.000	86.503	0.000	BONNIE BRAE-FOREST MNR SAN DIS
19736N10E	19795239	0.000	39.453	18.877	LEWIS UNIVERSITY
19736N10E	19795400	0.000	30.559	0.000	COLLEGE VIEW SUBD
19736N10E	19795425	0.000	2.536	0.000	REESE MHP
19736N10E	19797910	0.000	0.000	348.928	STATEVILLE CORRECTIONAL CTR
19736N11E	19790450	542.598	0.000	73.988	JOLIET
19736N11E	19790500	0.000	9.511	0.000	LOCKPORT
19736N11E	19795320	0.000	273.669	0.000	METRO UTILITY CHICKASAW DIV
19736N11E	19795510	0.000	310.774	0.000	DERBY MEADOWS UTILITY CO
19736N11E	19797070	0.000	46.544	0.000	LOCKPORT HEIGHTS SANITARY DIST
19737N09E	19795195	0.000	2.220	0.000	BUSY BEE MHP
19737N10E	19790900	0.000	615.279	268.542	ROMEOVILLE
19737N10E	19794150	0.000	614.525	0.000	BOLINGBROOK
19737N10E	19794151	0.000	1504.245	0.000	CITIZENS WEST SUBURBAN DIV
19737N10E	19795060	0.000	43.474	0.000	CITIZENS SANTA FE DIV
19737N11E	19795060	0.000	1.832	0.000	CITIZENS SANTA FE DIV
19738N10E	19794150	0.000	178.725	0.000	BOLINGBROOK

WINNEBAGO COUNTY

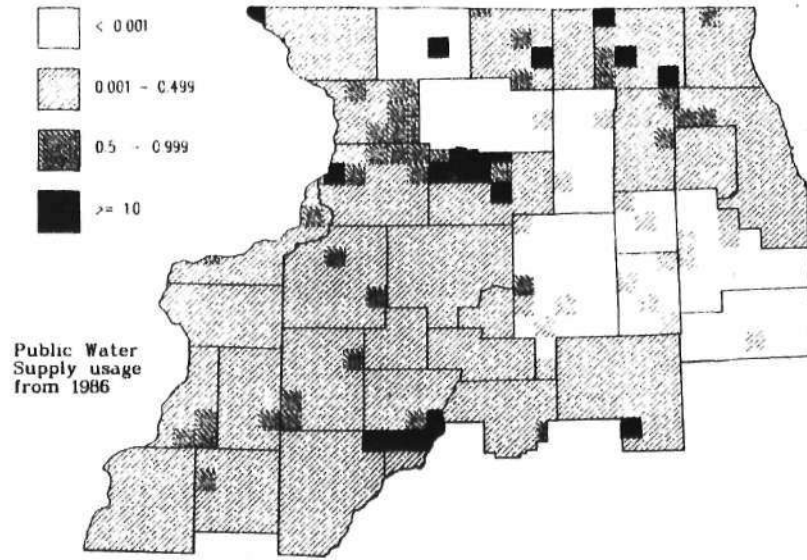
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20126N10E	20195685	0.000	0.000	0.688	SIX OAKS MHP
20126N11E	20190500	0.000	0.000	76.081	WINNEBAGO
20127N10E	20190250	0.000	0.000	204.891	PECATONICA
20128N09E	20195320	0.000	0.000	40.725	OTTER CREEK LAKE UTILITY DIST
20128N10E	20190100	0.000	0.000	53.043	DURAND
20128N10E	20195320	0.000	0.000	82.540	OTTER CREEK LAKE UTILITY DIST
20143N01E	20190300	859.760	0.000	0.000	ROCKFORD
20143N01E	20195125	3.980	0.000	0.000	AMERICAN MHP
20143N01E	20195225	1.629	0.000	0.000	ANN'S MHP
20143N01E	20195250	0.000	0.000	3.461	BLUE & GOLD HOMEOWNERS ASSN
20143N01E	20195345	0.000	0.000	4.377	BILL-MAR HEIGHTS MHP
20143N01E	20195495	25.162	0.000	0.000	GEM SUBURBAN MHP
20143N01E	20195545	0.000	0.000	19.340	MANCUSO VILLAGE PARK
20143N01E	20195655	8.382	0.000	0.000	RIVERVIEW MHP
20143N01E	20195745	0.000	0.000	5.130	TIMBERLANE MHP
20143N02E	20190300	0.000	0.000	410.405	ROCKFORD
20143N02E	20195150	0.000	0.000	17.923	COVENTRY HILLS EAST SUBD
20143N02E	20195160	0.000	0.000	4.352	COVENTRY CREEK SUBD
20143N02E	20195280	0.000	0.000	7.094	
20143N02E	20195488	0.000	0.000	0.388	GREAT OAKS & BEACON HILLS APTS
20144N01E	20190300	548.192	0.000	1742.326	ROCKFORD
20144N01E	20195100	0.000	0.000	5.788	BALCITIS PUMP CORP
20144N01E	20195235	0.000	0.000	5.232	BARRETT'S MHP
20144N01E	20195425	0.000	0.000	1.150	CLARK'S MHP
20144N01E	20195868	0.000	0.000	2.443	2800 APARTMENTS
20144N02E	20190150	698.496	0.000	0.000	LOVES PARK
20144N02E	20190300	981.045	0.000	5177.803	ROCKFORD
20144N02E	20195050	8.545	0.000	0.000	BRADLEY HEIGHTS SUBD
20144N02E	20195190	0.000	0.000	1.629	BRIAR GARDEN APARTMENTS
20144N02E	20195278	0.000	0.000	1.629	CHERRY VIEW APARTMENTS
20144N02E	20195290	0.000	0.000	1.160	LARCHMONT SUBD
20144N02E	20195400	0.000	0.000	12.642	WILDWOOD UTILITY CO
20144N02E	20195450	0.000	0.000	2.358	NEWBURGH LANDOWNERS WATER ASSN
20144N02E	20195470	0.000	0.000	4.367	CHERRY VALE EAST APARTMENTS
20144N02E	20195845	0.000	0.000	4.013	WOODLAND MHP
20145N01E	20190300	540.655	0.000	0.000	ROCKFORD
20145N01E	20195446	0.000	0.000	0.845	LEANNA LAKESIDE WELL 1
20145N01E	20195500	108.230	0.000	0.000	NORTH PARK PWD
20145N02E	20190150	0.000	0.000	250.422	LOVES PARK
20145N02E	20195245	0.916	0.000	0.000	BEL-ROCK MHP
20145N02E	20195500	532.192	0.000	0.000	NORTH PARK PWD
20145N02E	20195645	2.443	0.000	0.000	RAINBOW LANE MHP
20146N01E	20190350	139.452	0.000	53.440	ROCKTON
20146N02E	20190450	29.996	0.000	0.000	SOUTH BELOIT
20146N02E	20195300	0.000	0.000	3.023	LEGEND LAKES WATER ASSN
20146N02E	20195439	3.037	0.000	0.000	GOLDIE B FLOBERG CENTER
20146N02E	20195550	0.000	0.000	17.365	HONONEGAH COUNTRY ESTATES
20146N02E	20195625	2.545	0.000	0.000	PHIL-AIRE ESTATES MHP

WOODFORD COUNTY

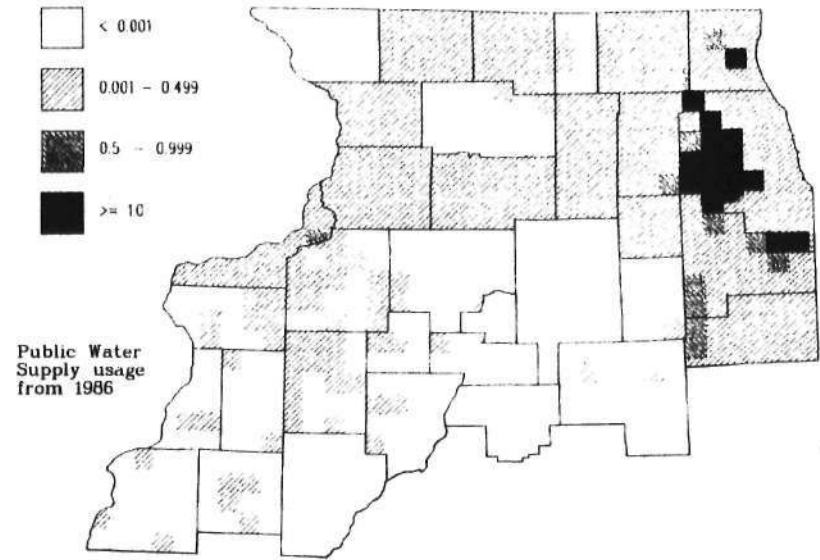
Location	PWS ID#	S&G	SBR	DBR	PWS Name
20325N01W	20390100	12.720	0.000	0.000	CONGERVILLE
20325N02W	20394450	17.681	0.000	0.000	GOODFIELD
20326N01E	20390600	15.256	0.000	0.000	SECOR
20326N02E	20390150	109.017	0.000	0.000	EL PASO
20326N02W	20390200	220.350	0.000	0.000	EUREKA
20327N01W	20390550	84.769	0.000	0.000	ROANOKE
20327N02W	20390350	37.006	0.000	0.000	METAMORA
20327N03W	20390350	57.414	0.000	0.000	METAMORA
20327N03W	20395030	83.514	0.000	0.000	CATERPILLAR TRAILS PWD
20327N03W	20395040	1.286	0.000	0.000	CEDAR HILLS HOMEOWNERS ASSN
20327N03W	20395150	1.418	0.000	0.000	TEN MILE VIEW SUBD
20327N03W	20395200	1.496	0.000	0.000	TIMBERLAN SUBD
20327N03W	20395300	9.175	0.000	0.000	OAK RIDGE SANITARY DISTRICT
20327N04W	20395165	3.104	0.000	0.000	MILL POINT MHP
20328N01E	20390050	11.356	0.000	0.000	BENSON
20328N02E	20390400	0.000	0.000	82.484	MINONK
20328N02W	20394940	51.760	0.000	0.000	WASHBURN

Appendix C

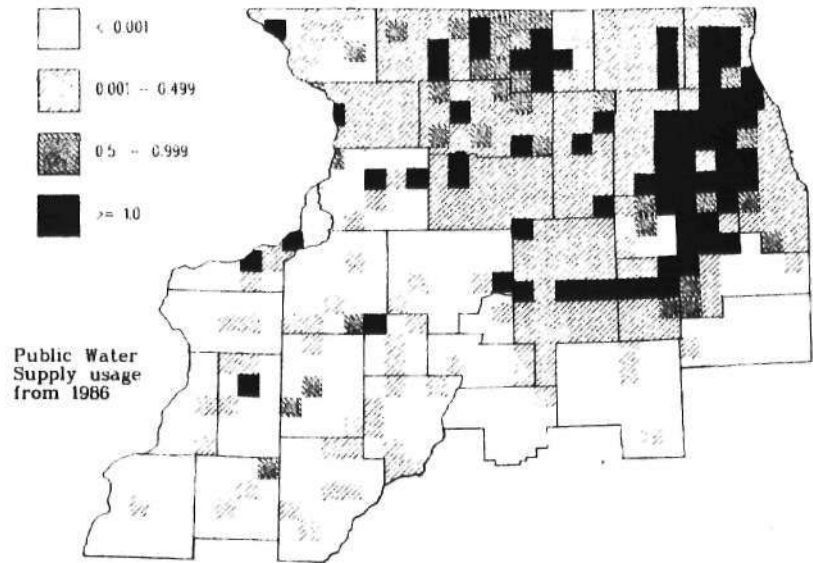
Use/Yield Ratio Maps,
Years 1986 and 2025



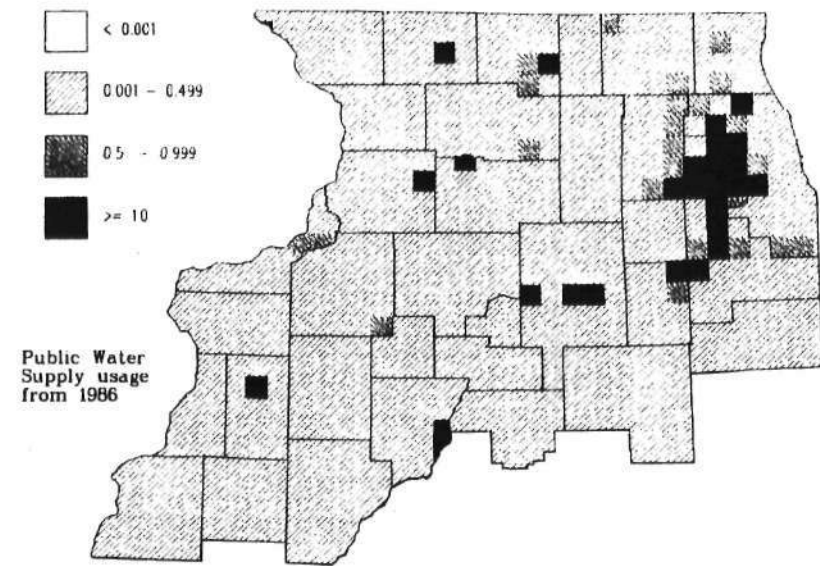
Use/yield ratio for Sand & Gravel Aquifers



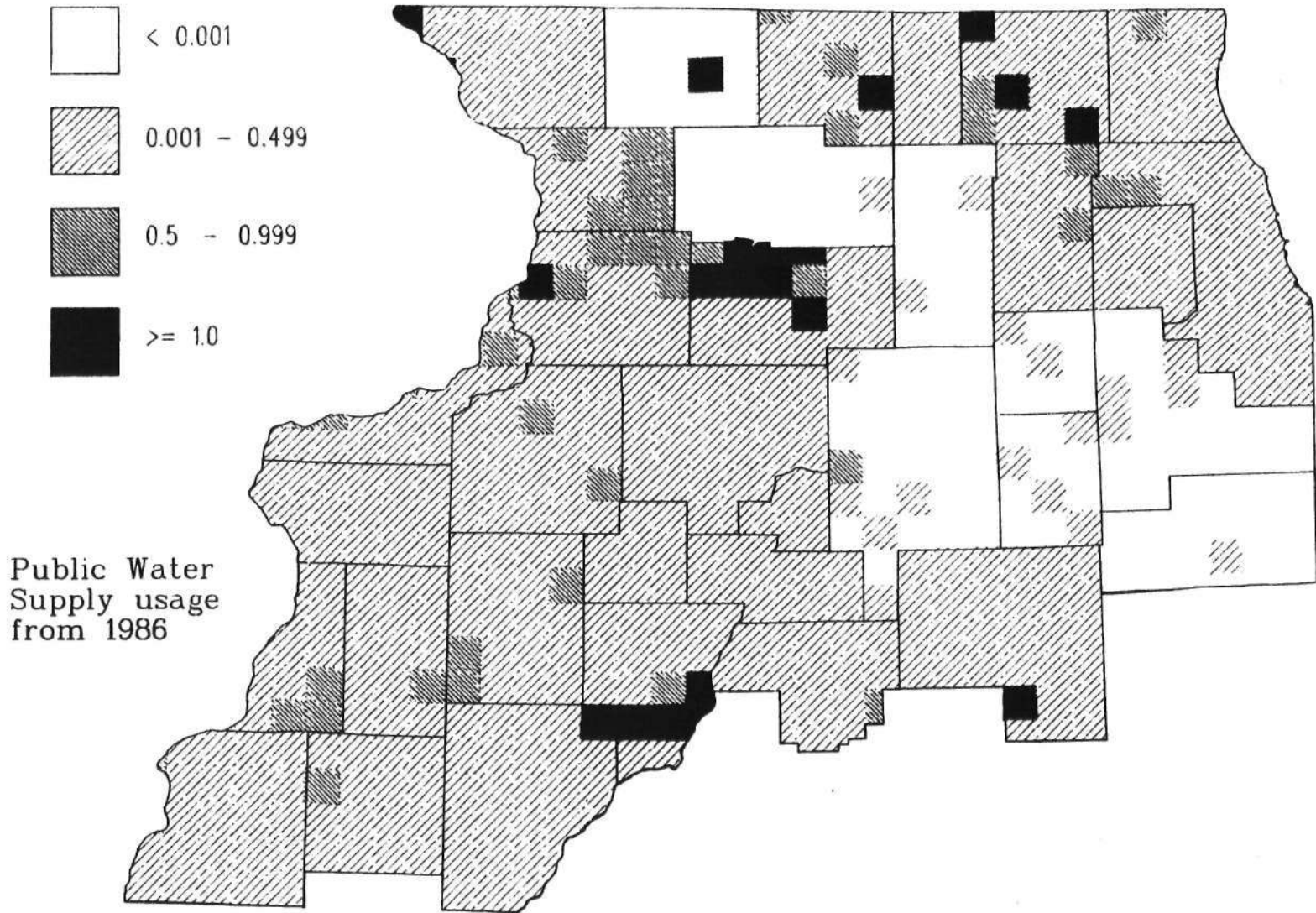
Use/yield ratio for Upper Bedrock Aquifers



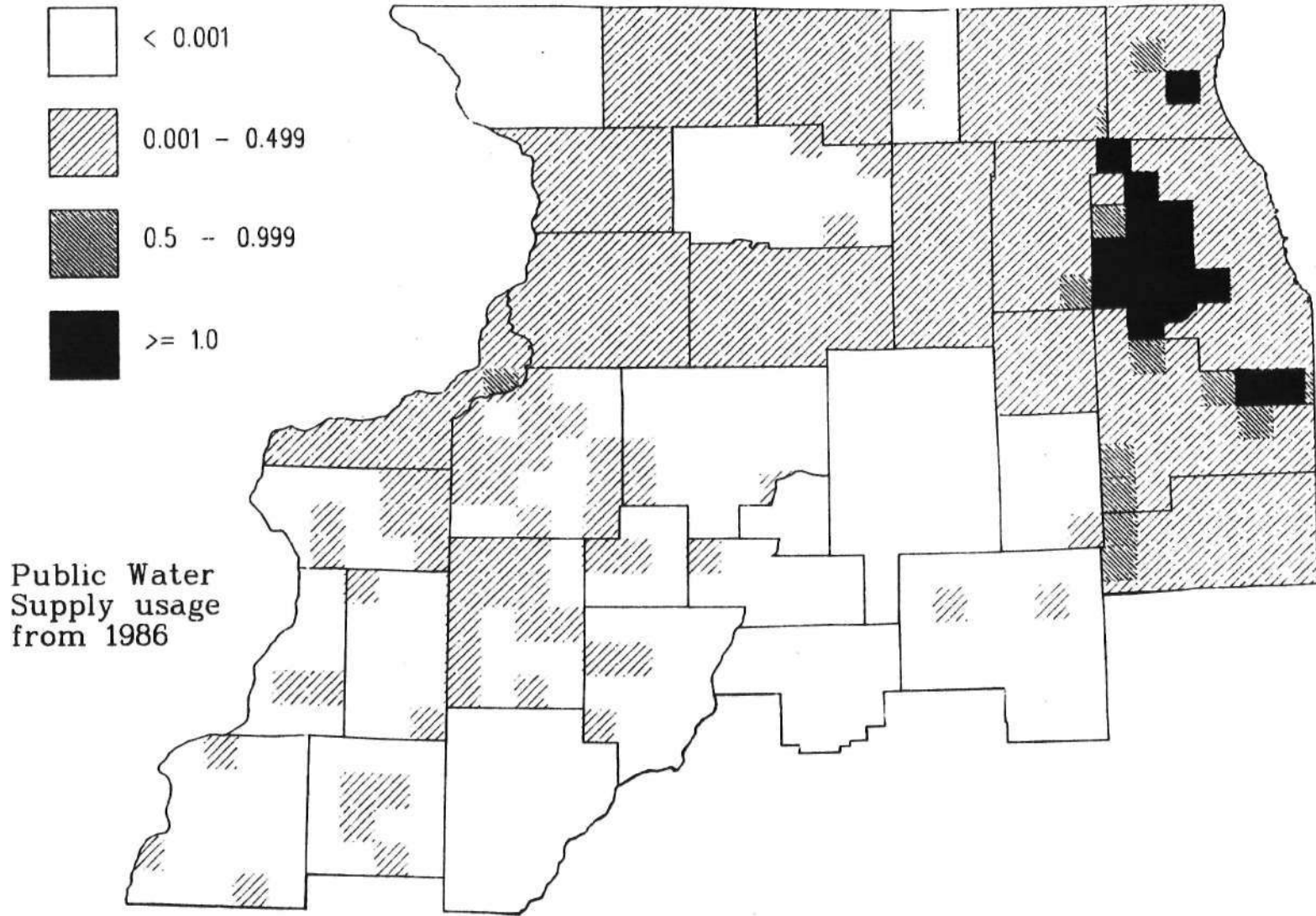
Use/yield ratio for Deep Sandstone Aquifers



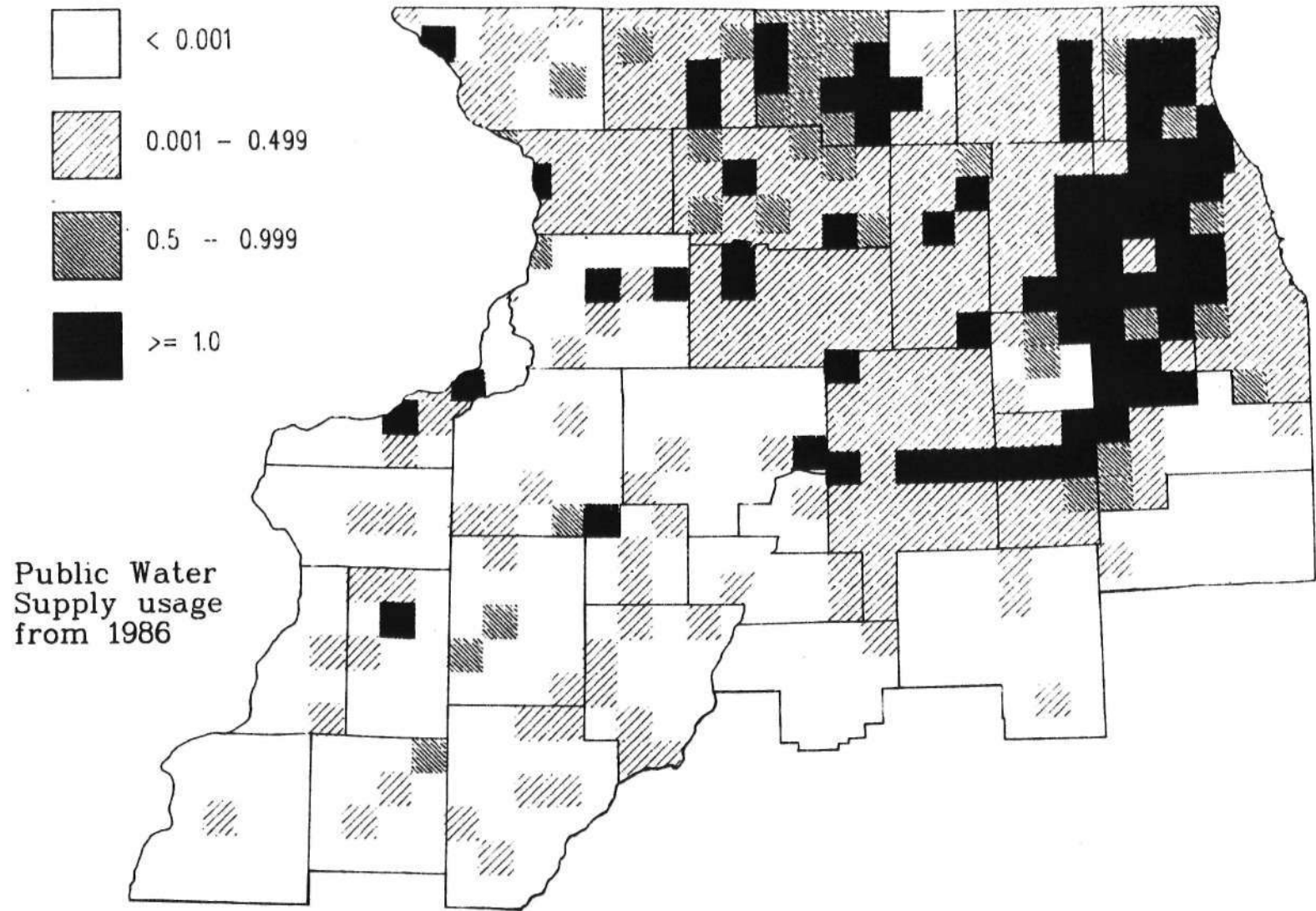
Use/yield ratio for All Aquifers



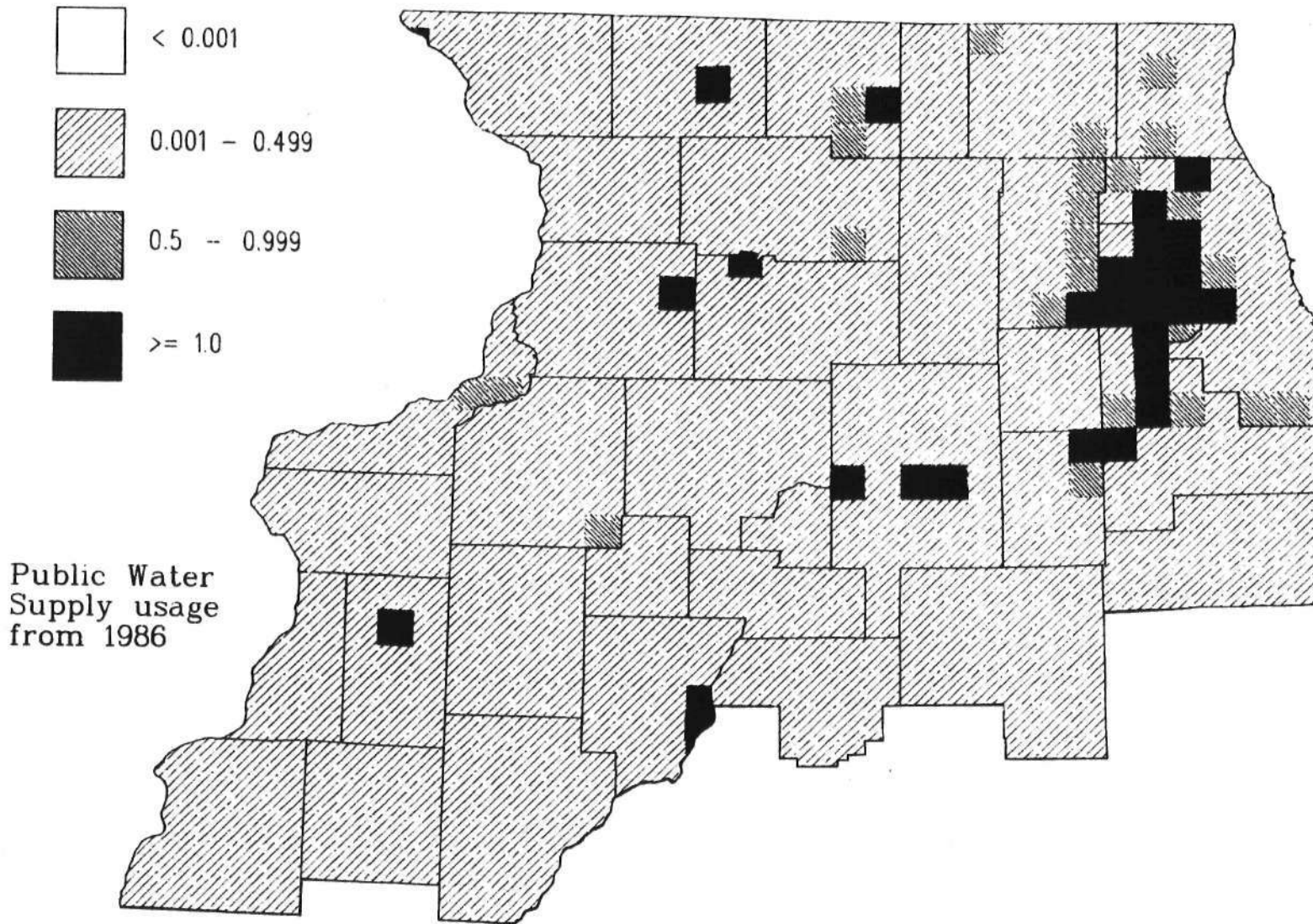
Use/yield ratio for Sand & Gravel Aquifers



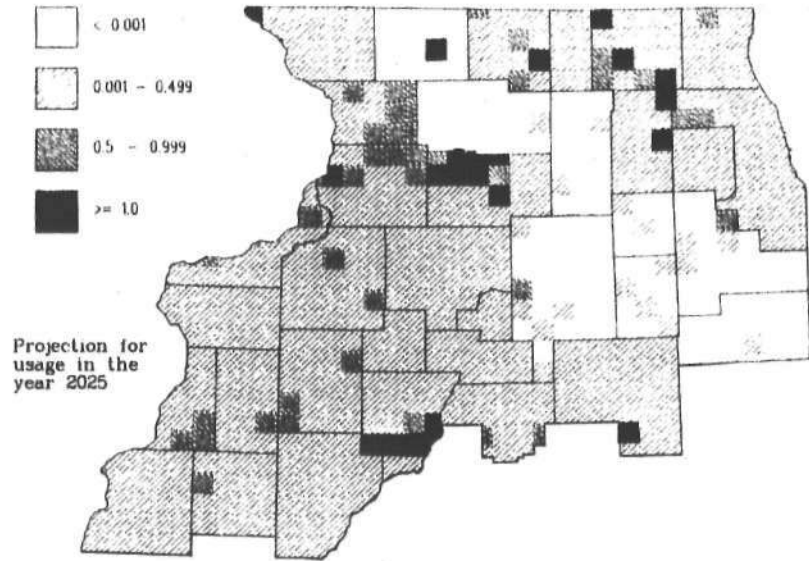
Use/yield ratio for Upper Bedrock Aquifers



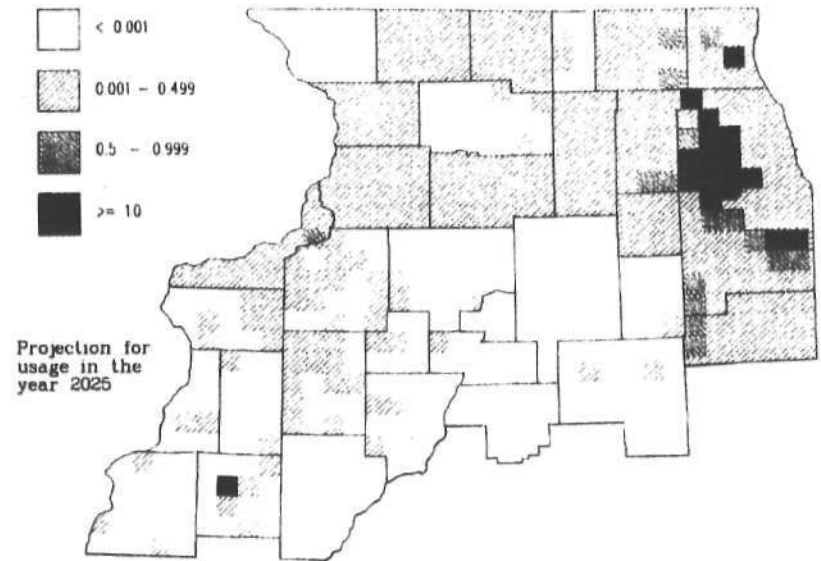
Use/yield ratio for Deep Sandstone Aquifers



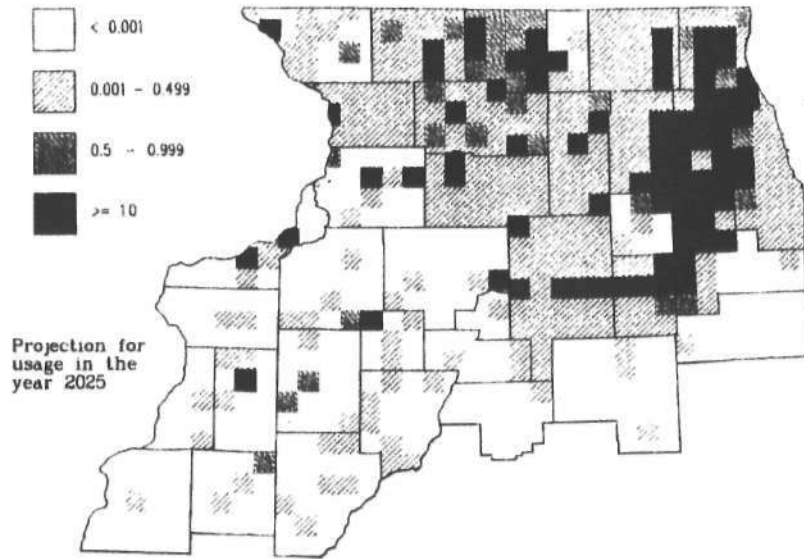
Use/yield ratio for All Aquifers



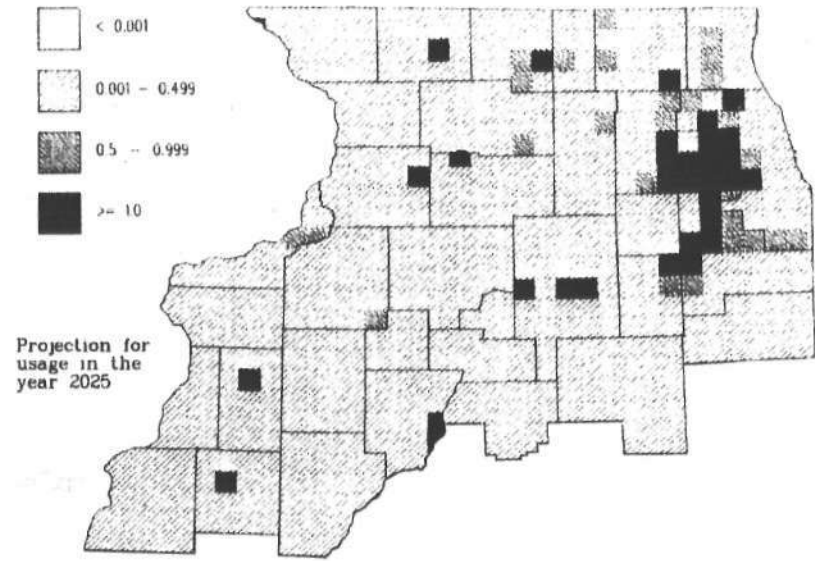
Use/yield ratio for Sand & Gravel Aquifers



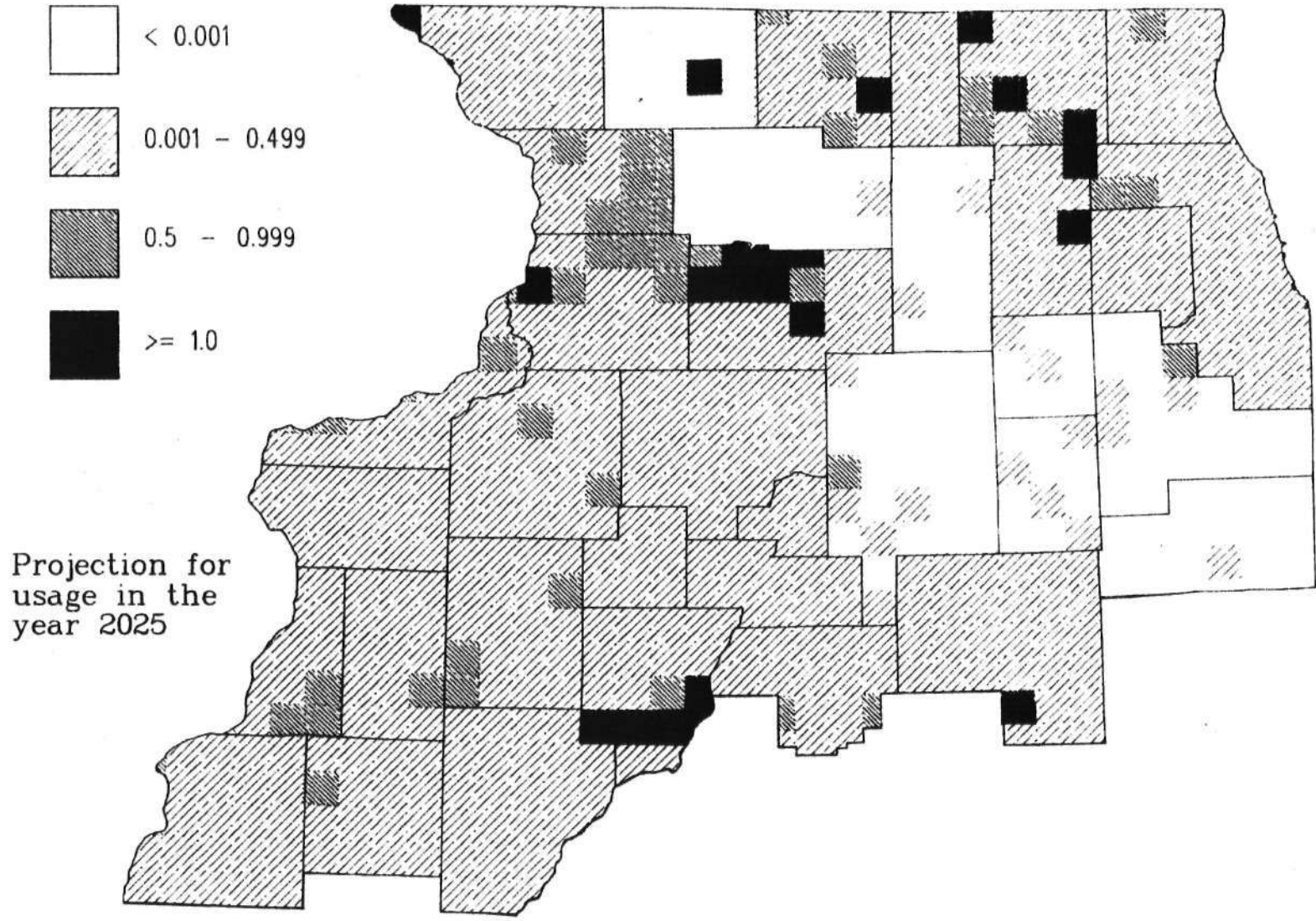
Use/yield ratio for Upper Bedrock Aquifers



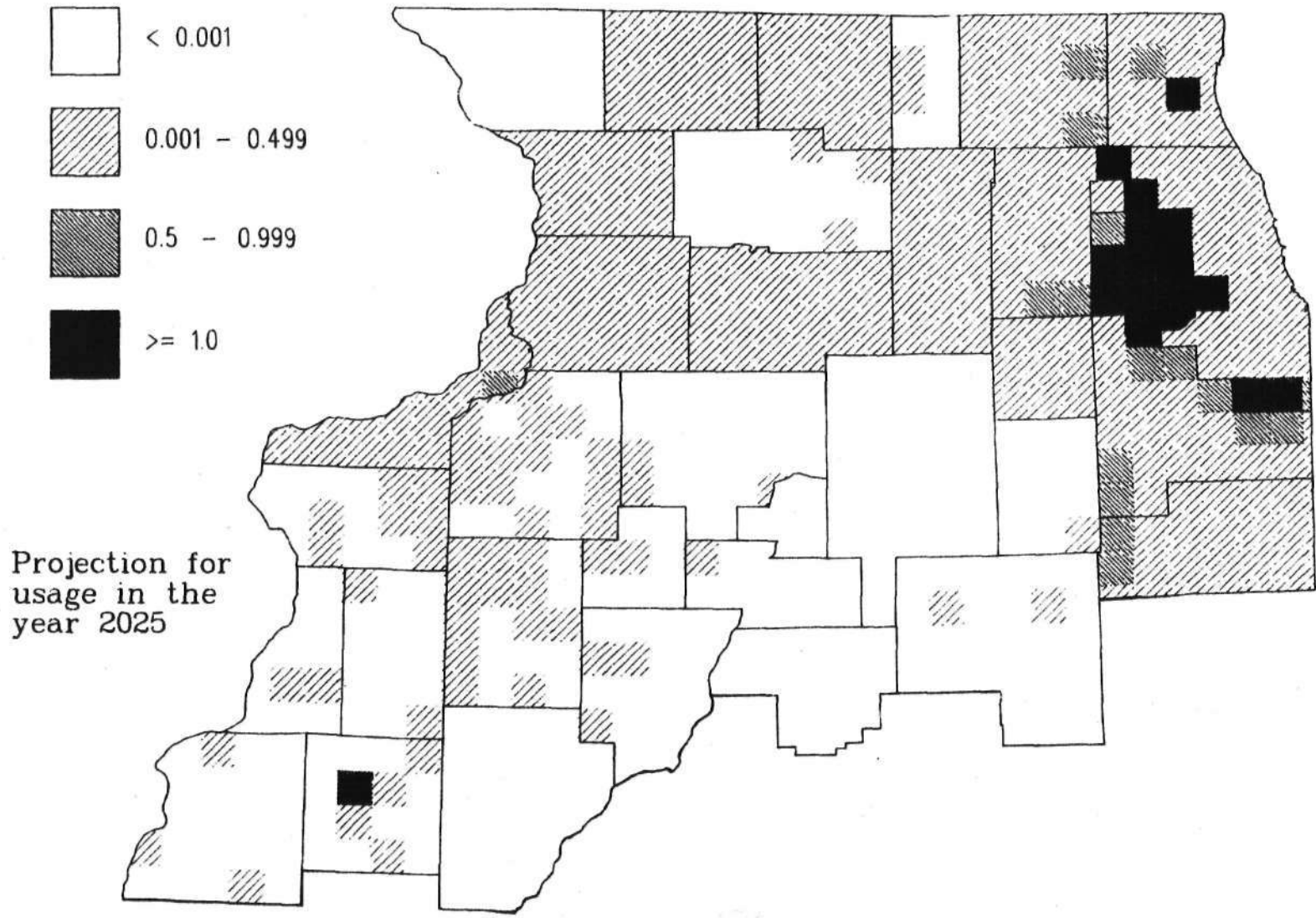
Use/yield ratio for Deep Sandstone Aquifers



Use/yield ratio for All Aquifers

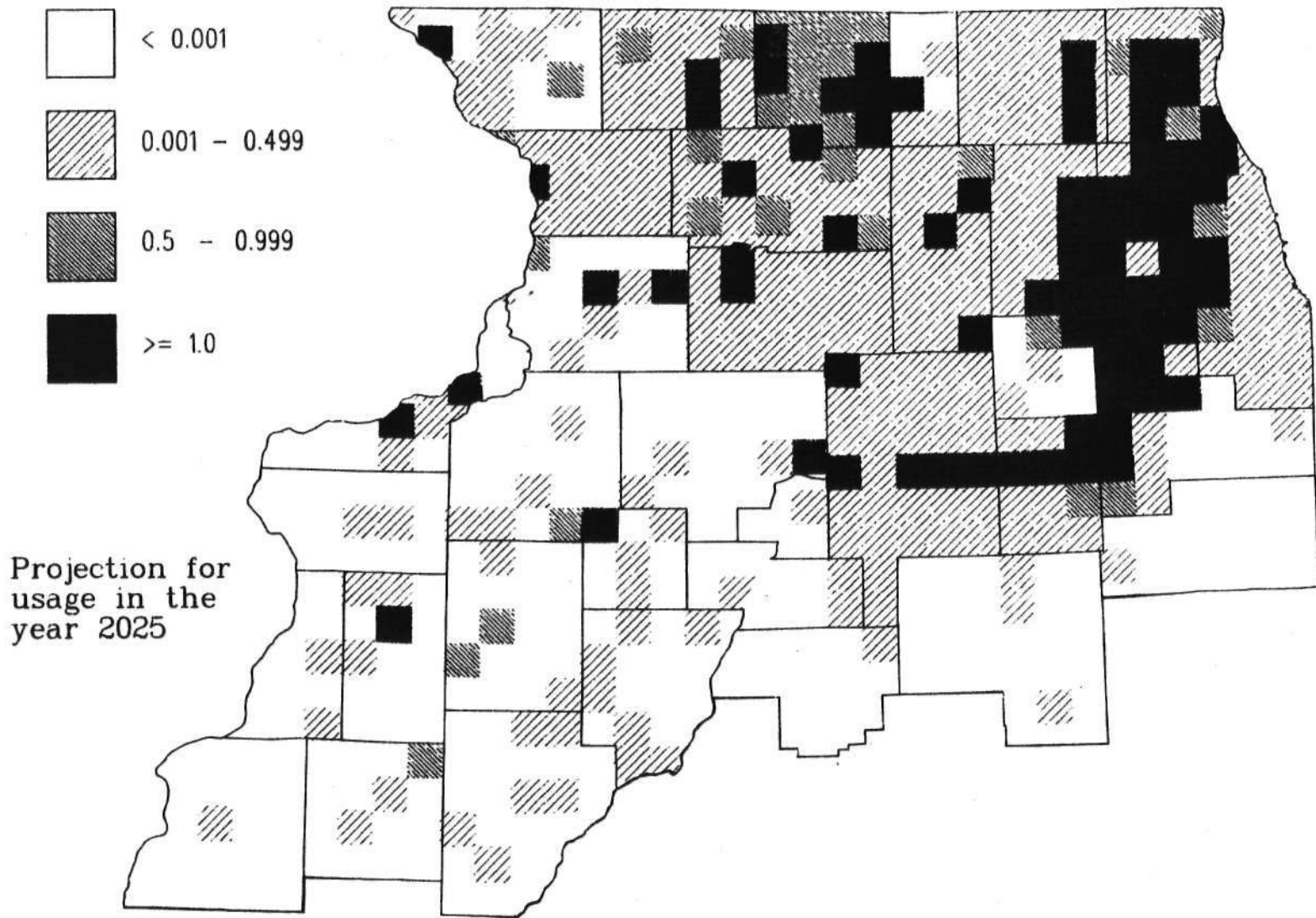


Use/yield ratio for Sand & Gravel Aquifers

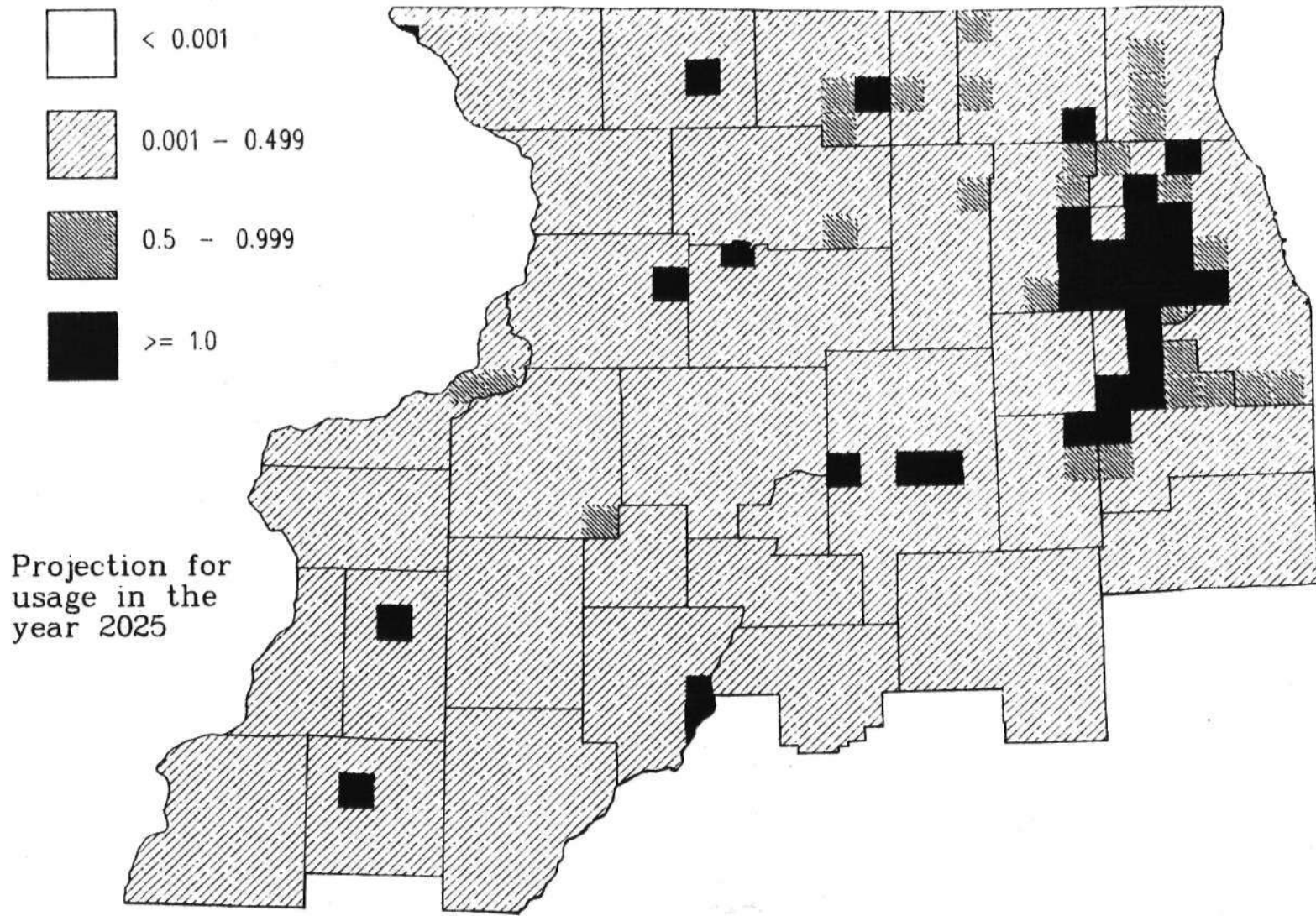


Projection for
usage in the
year 2025

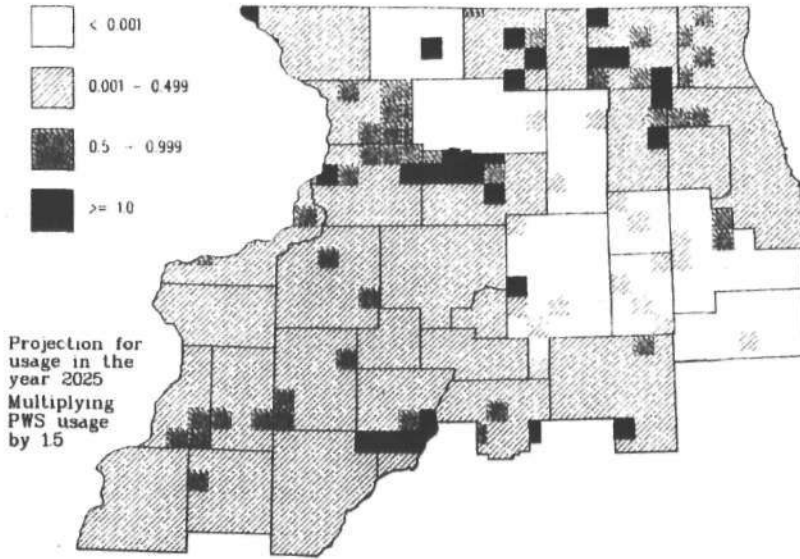
Use/yield ratio for Upper Bedrock Aquifers



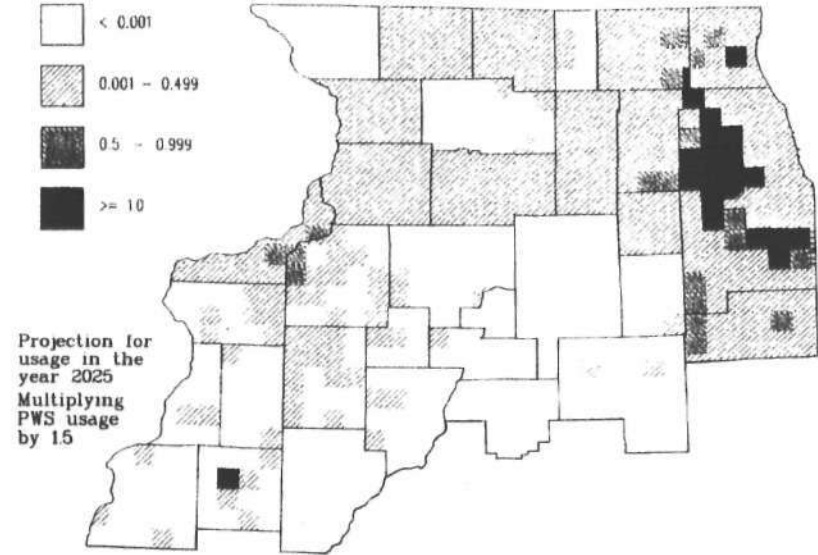
Use/yield ratio for Deep Sandstone Aquifers



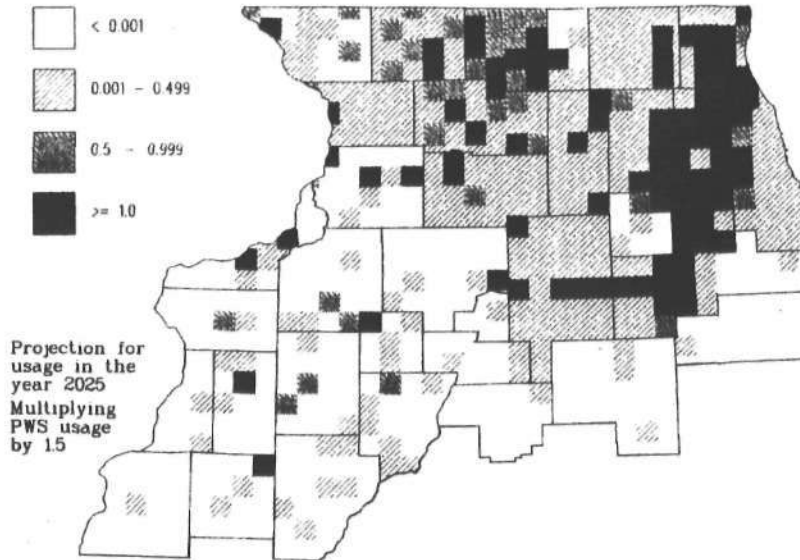
Use/yield ratio for All Aquifers



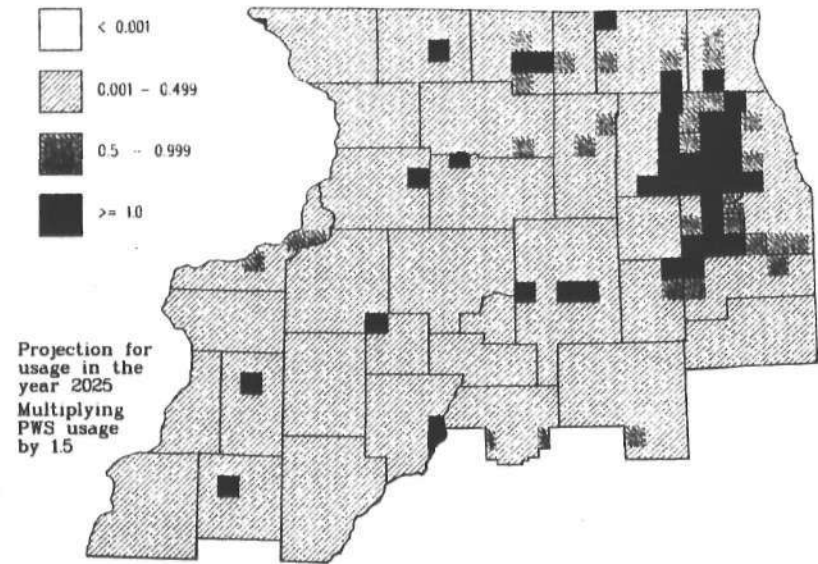
Use/yield ratio for Sand & Gravel Aquifers



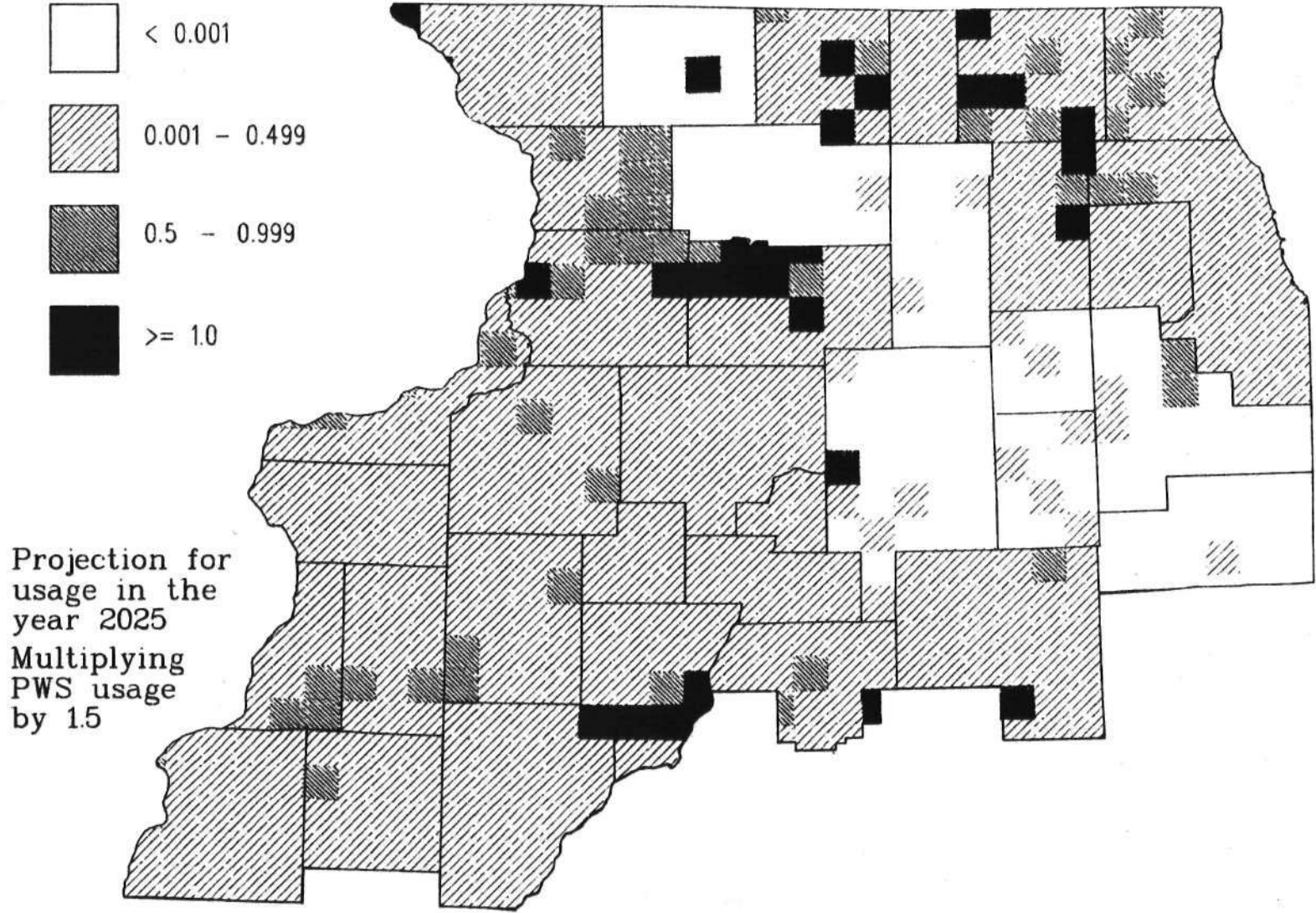
Use/yield ratio for Upper Bedrock Aquifers



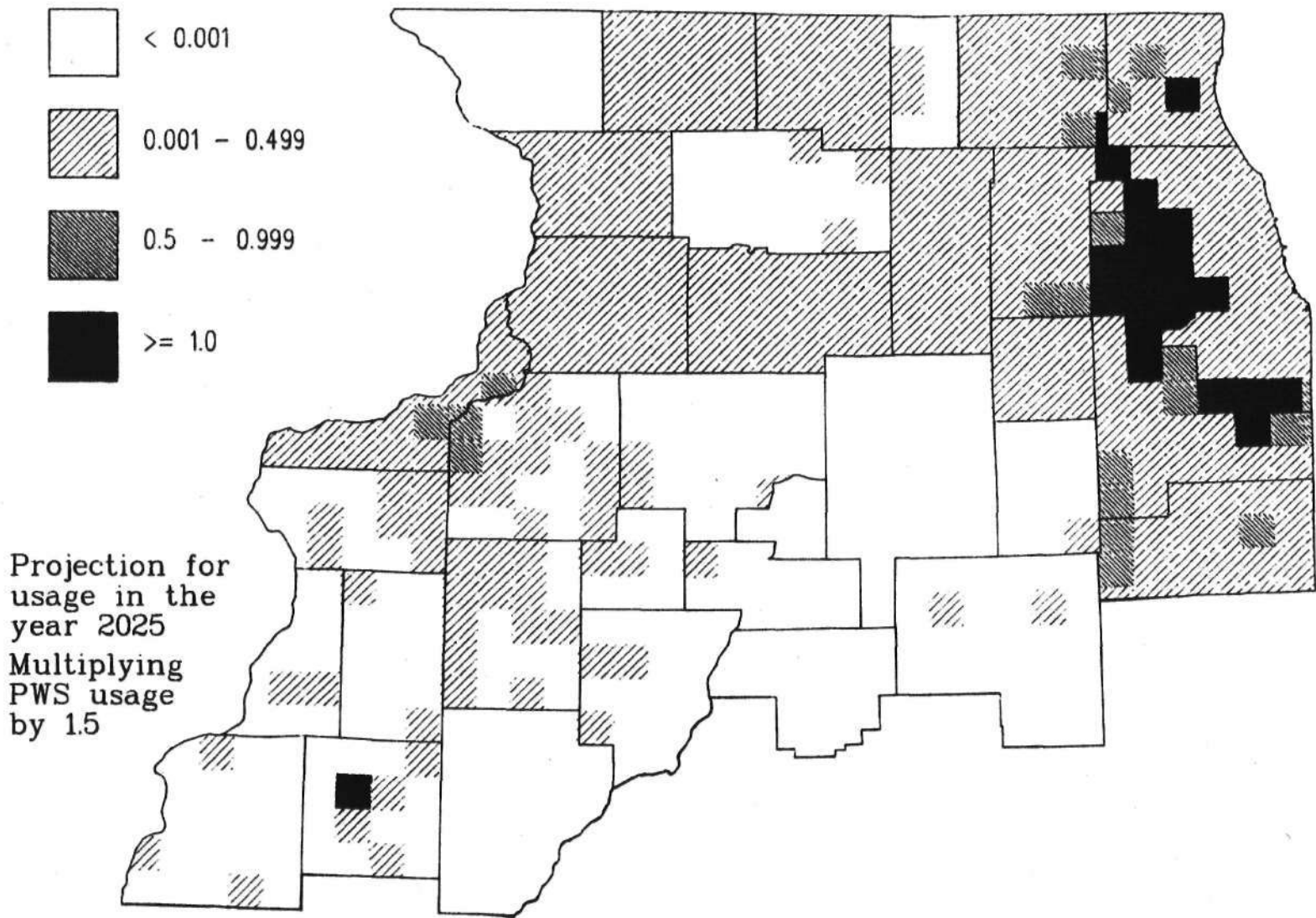
Use/yield ratio for Deep Sandstone Aquifers



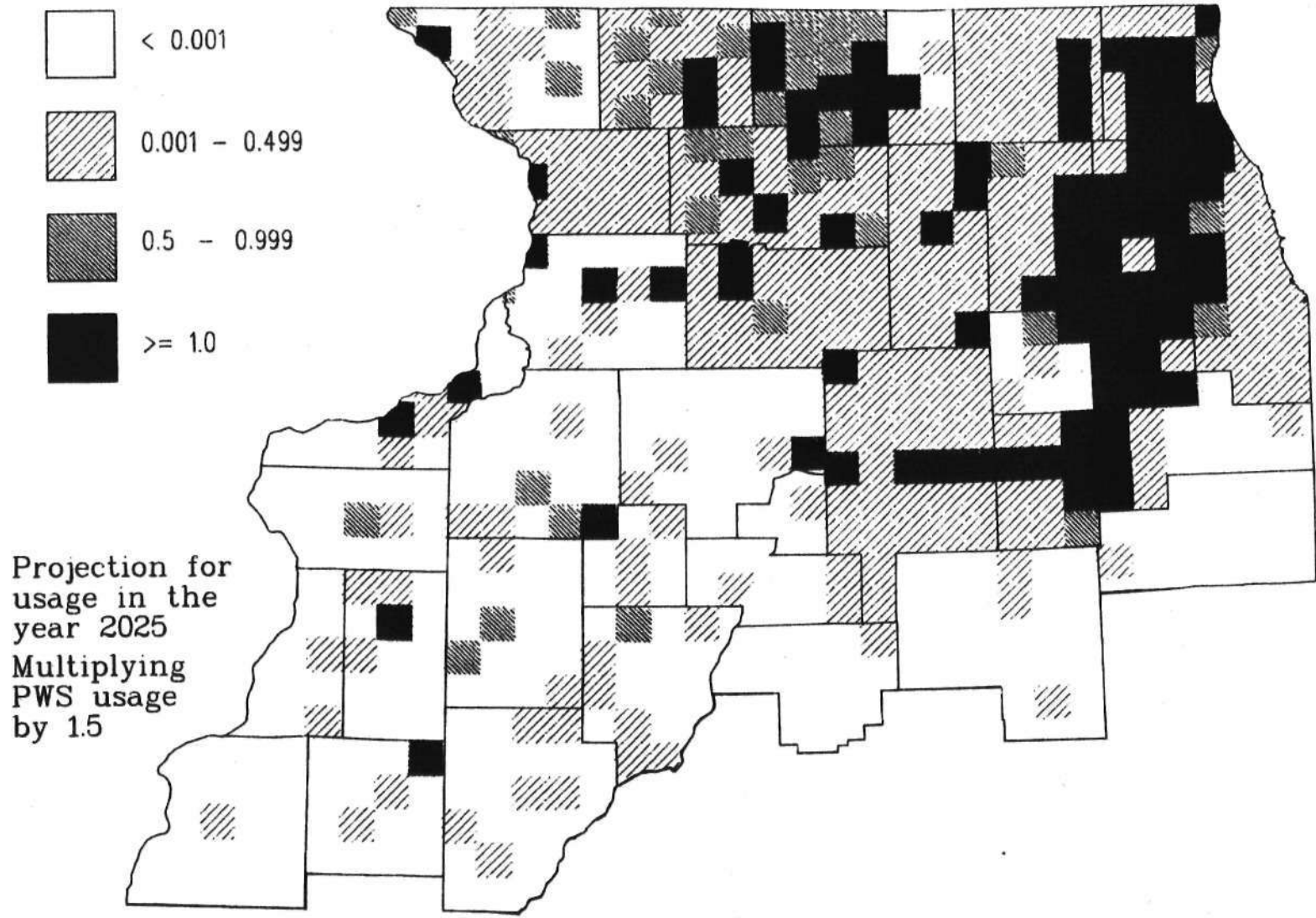
Use/yield ratio for All Aquifers



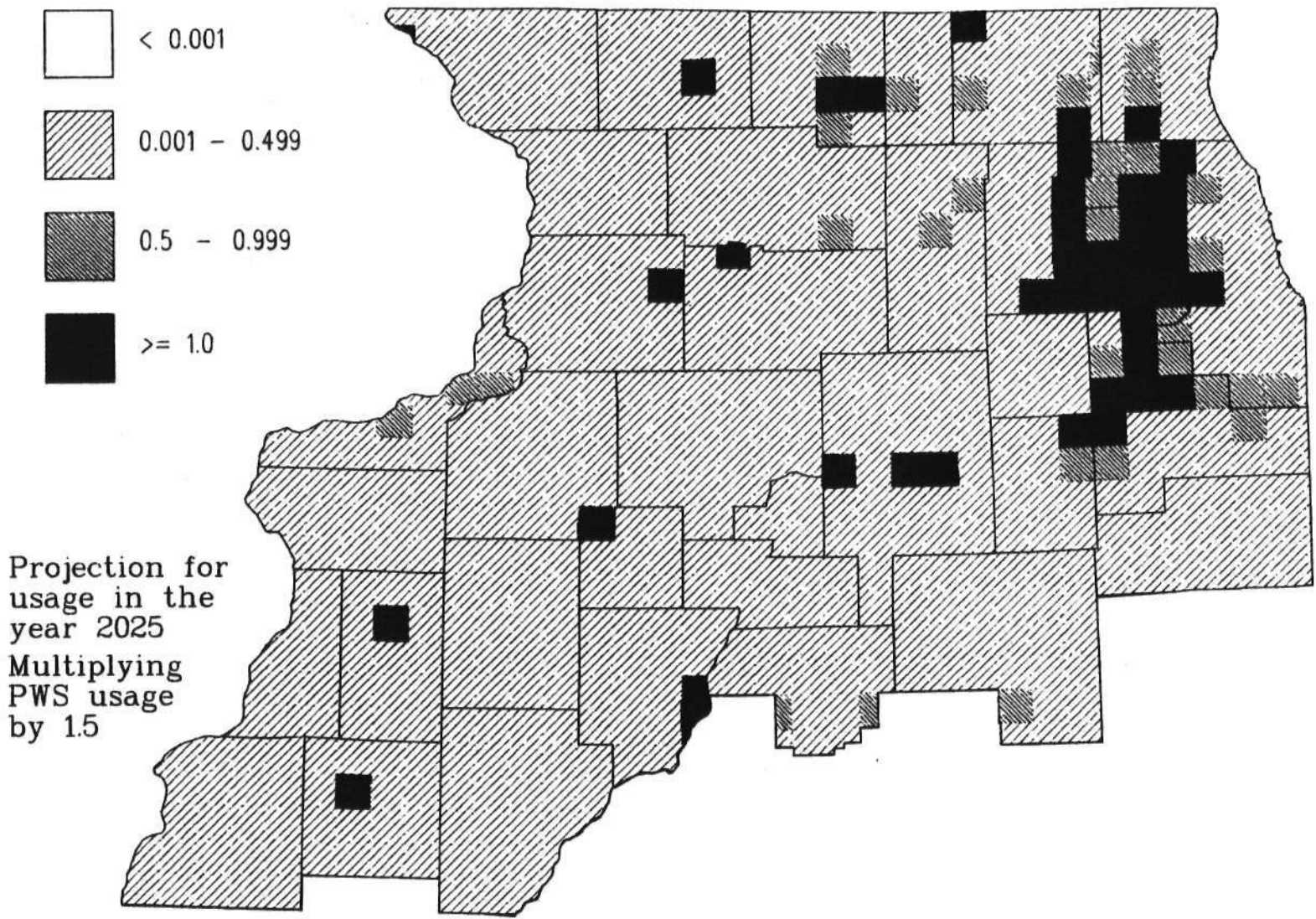
Use/yield ratio for Sand & Gravel Aquifers



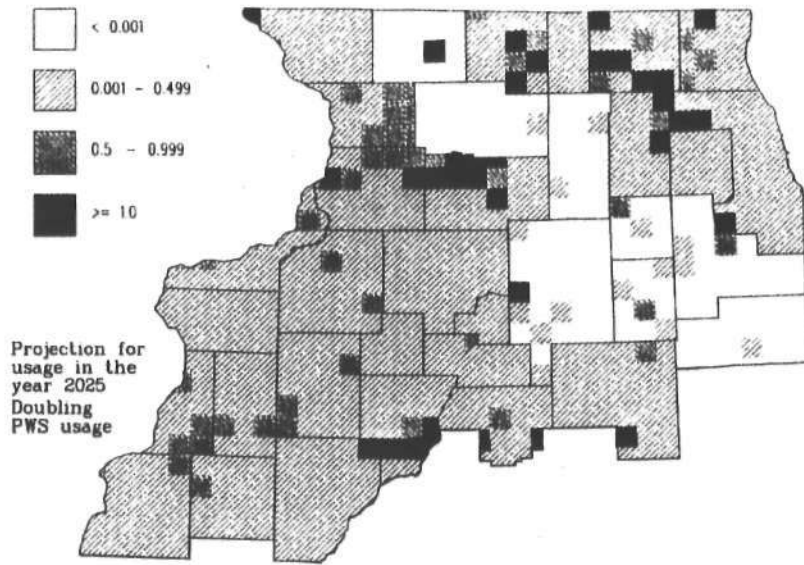
Use/yield ratio for Upper Bedrock Aquifers



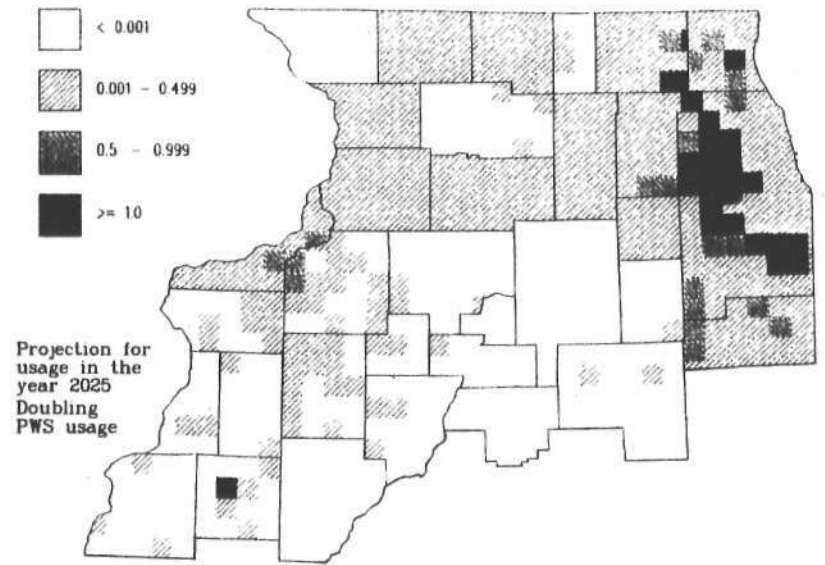
Use/yield ratio for Deep Sandstone Aquifers



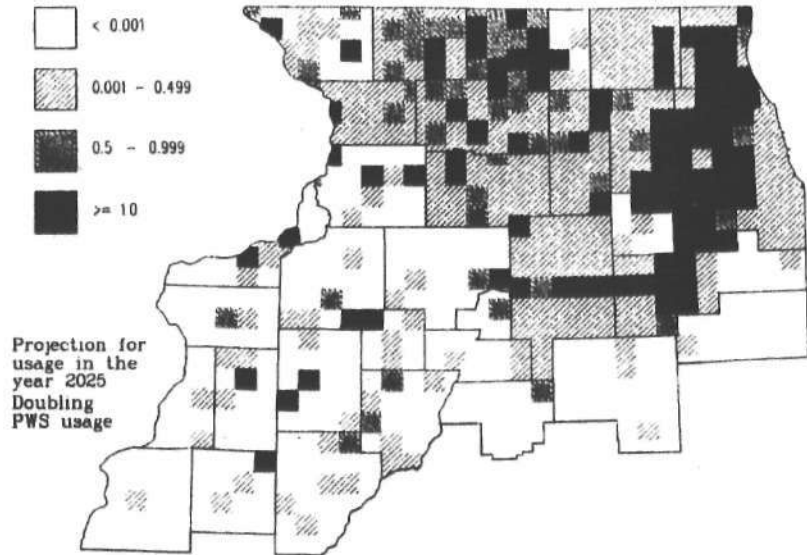
Use/yield ratio for All Aquifers



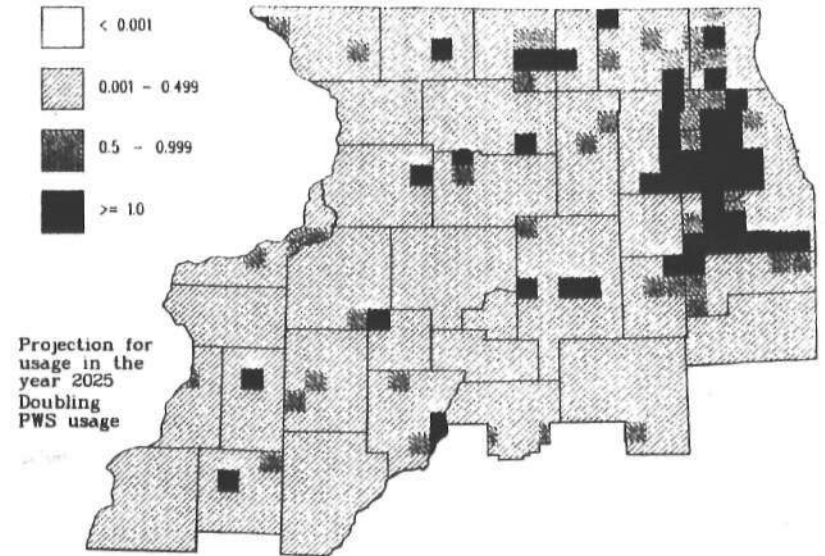
Use/yield ratio for Sand & Gravel Aquifers



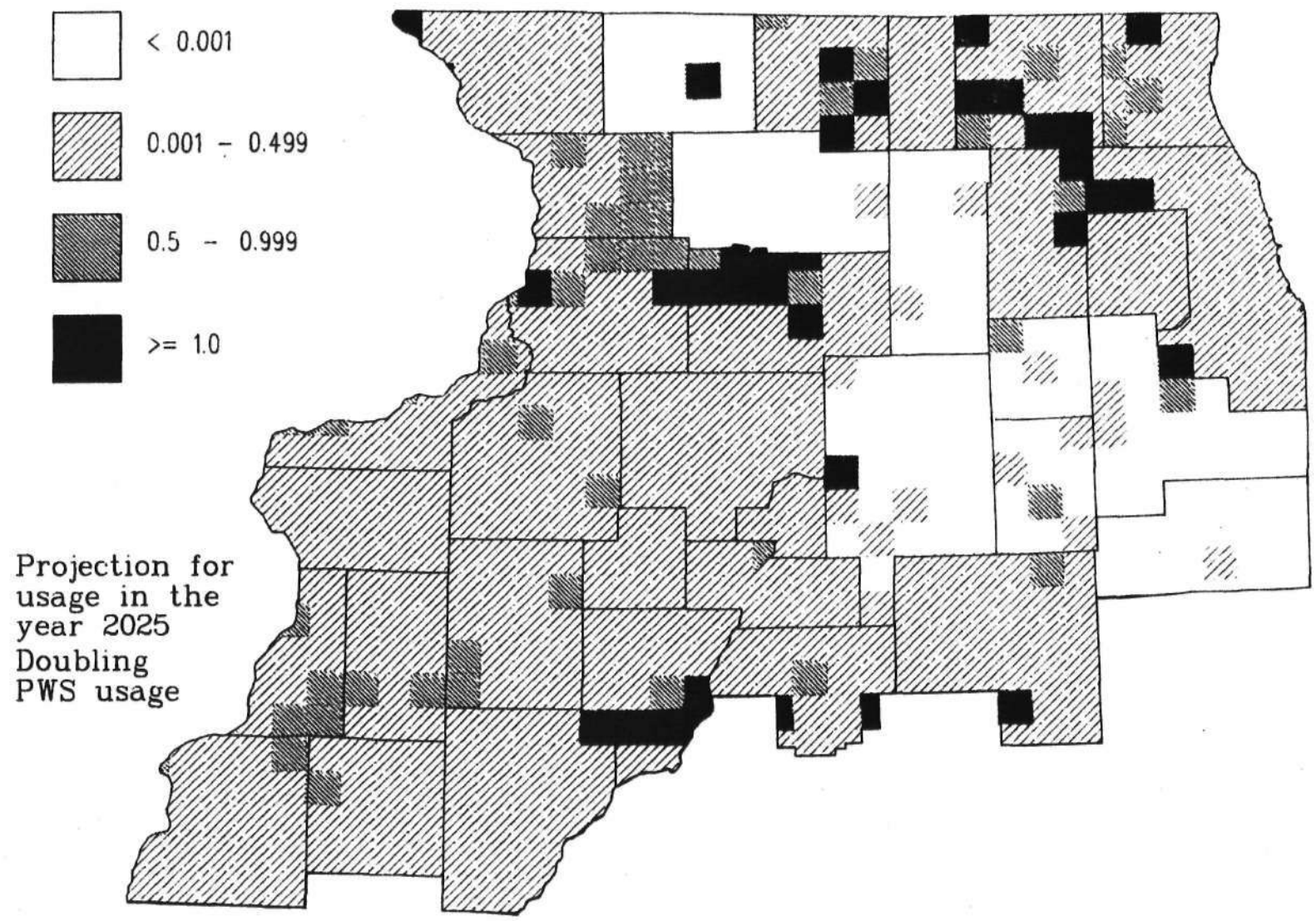
Use/yield ratio for Upper Bedrock Aquifers



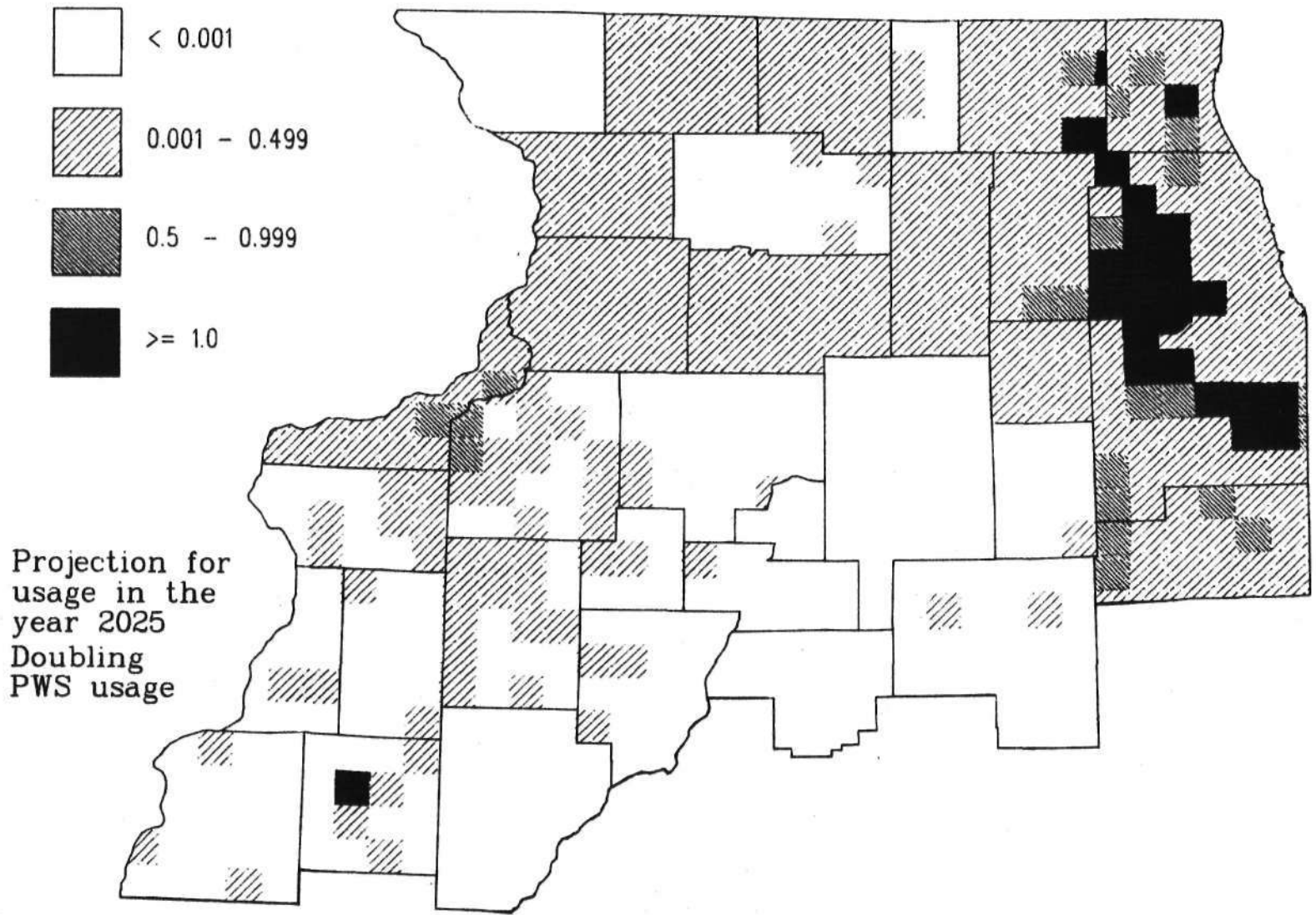
Use/yield ratio for Deep Sandstone Aquifers



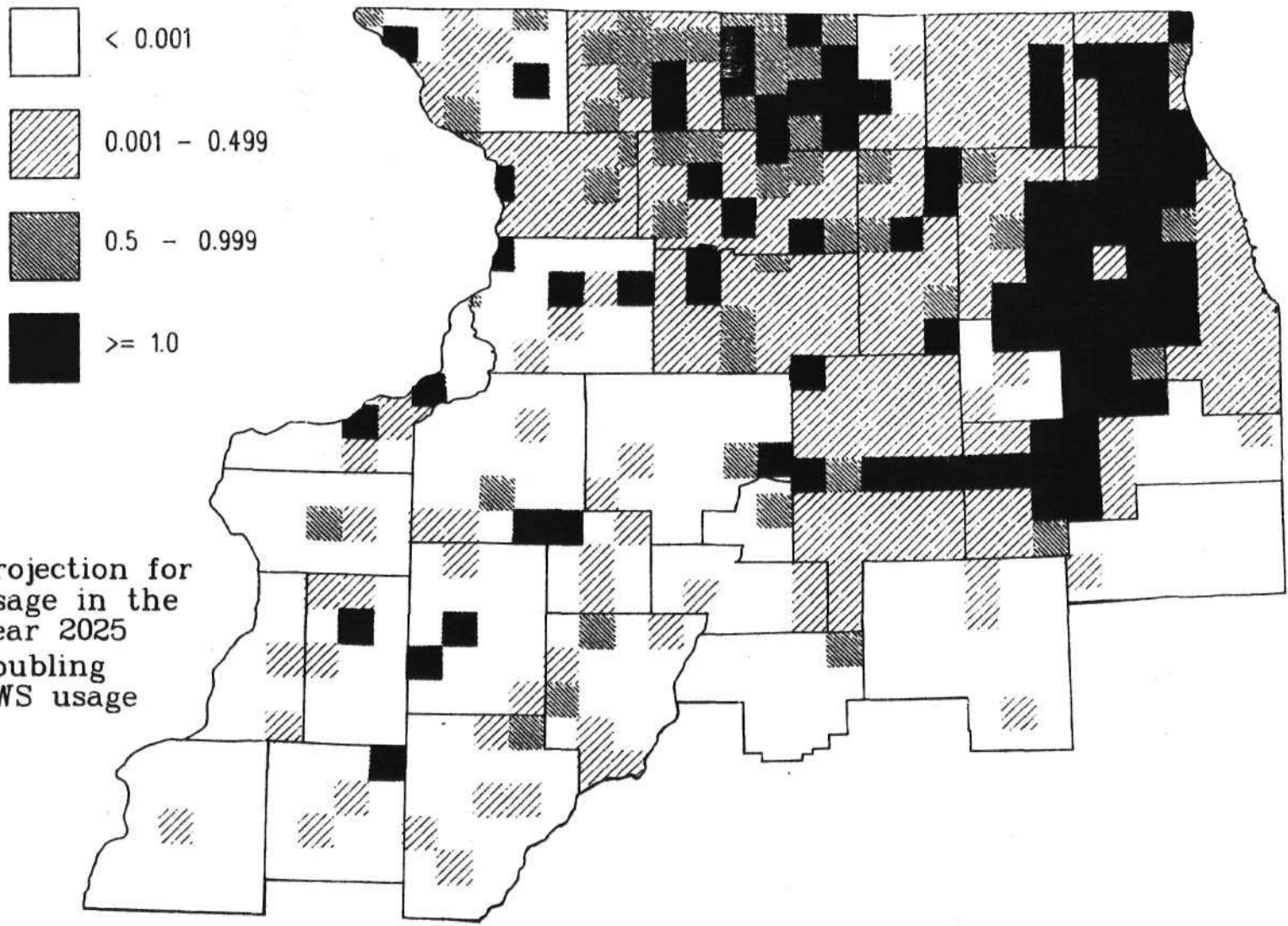
Use/yield ratio for All Aquifers



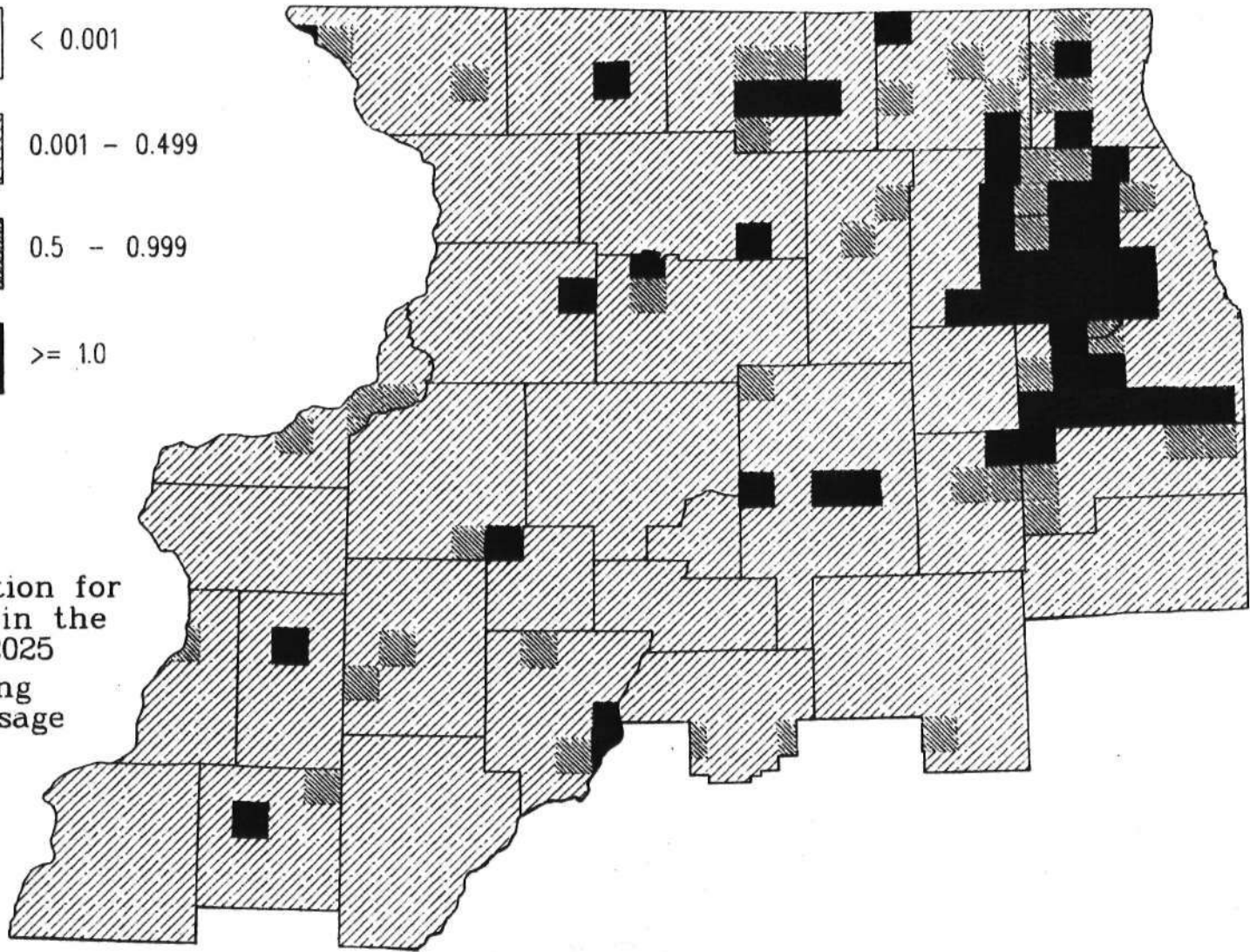
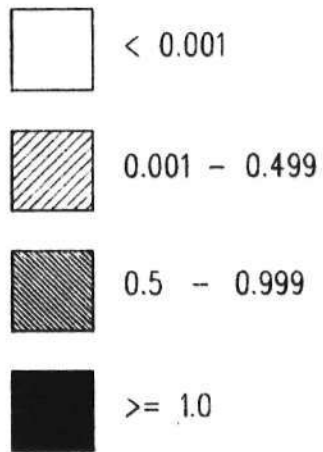
Use/yield ratio for Sand & Gravel Aquifers



Use/yield ratio for Upper Bedrock Aquifers

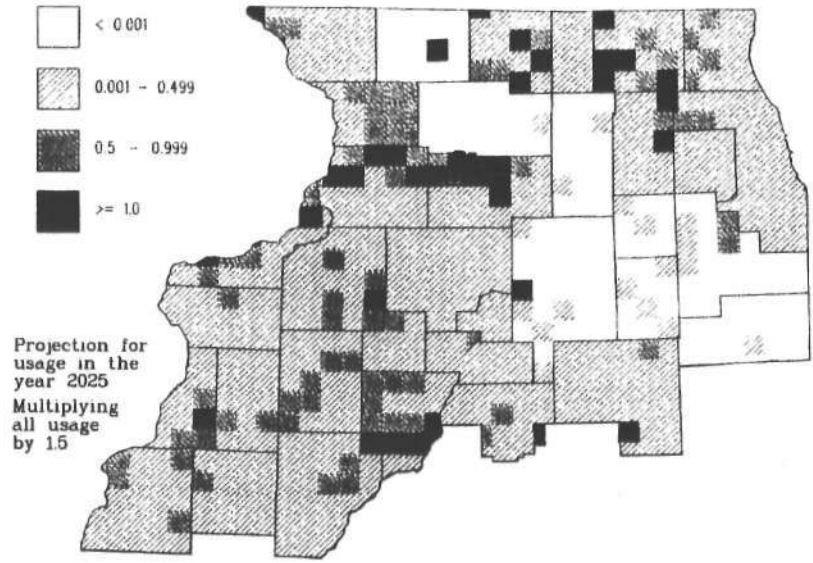


Use/yield ratio for Deep Sandstone Aquifers

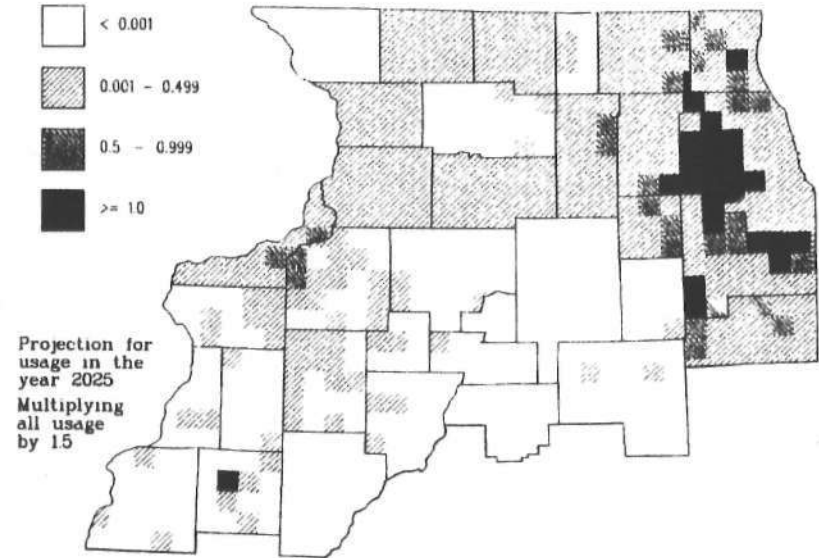


Projection for
 usage in the
 year 2025
 Doubling
 PWS usage

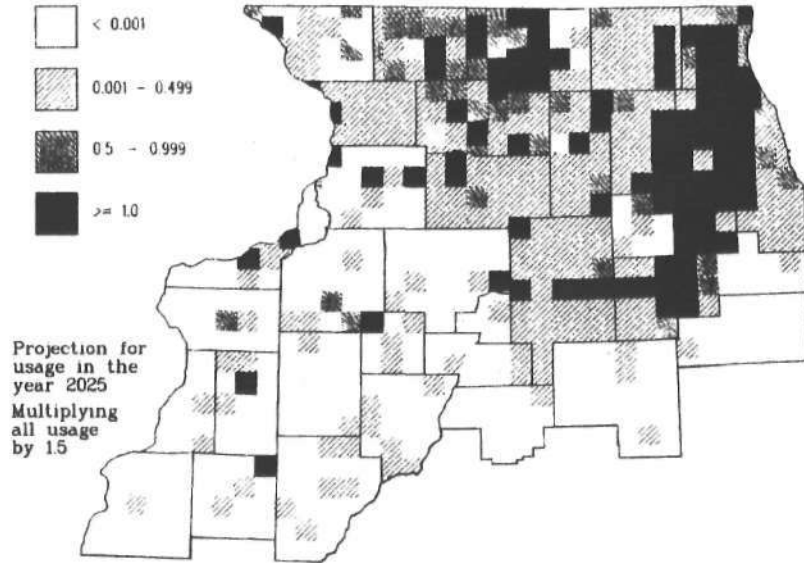
Use/yield ratio for All Aquifers



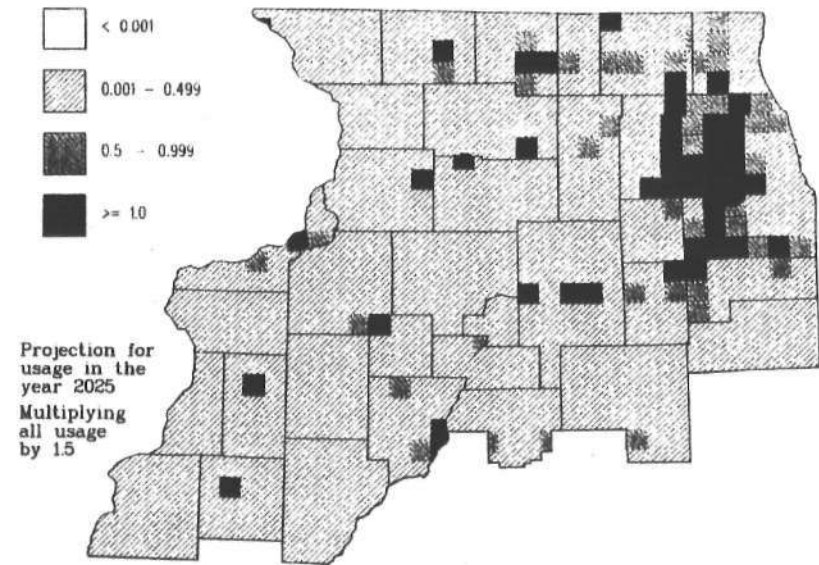
Use/yield ratio for Sand & Gravel Aquifers



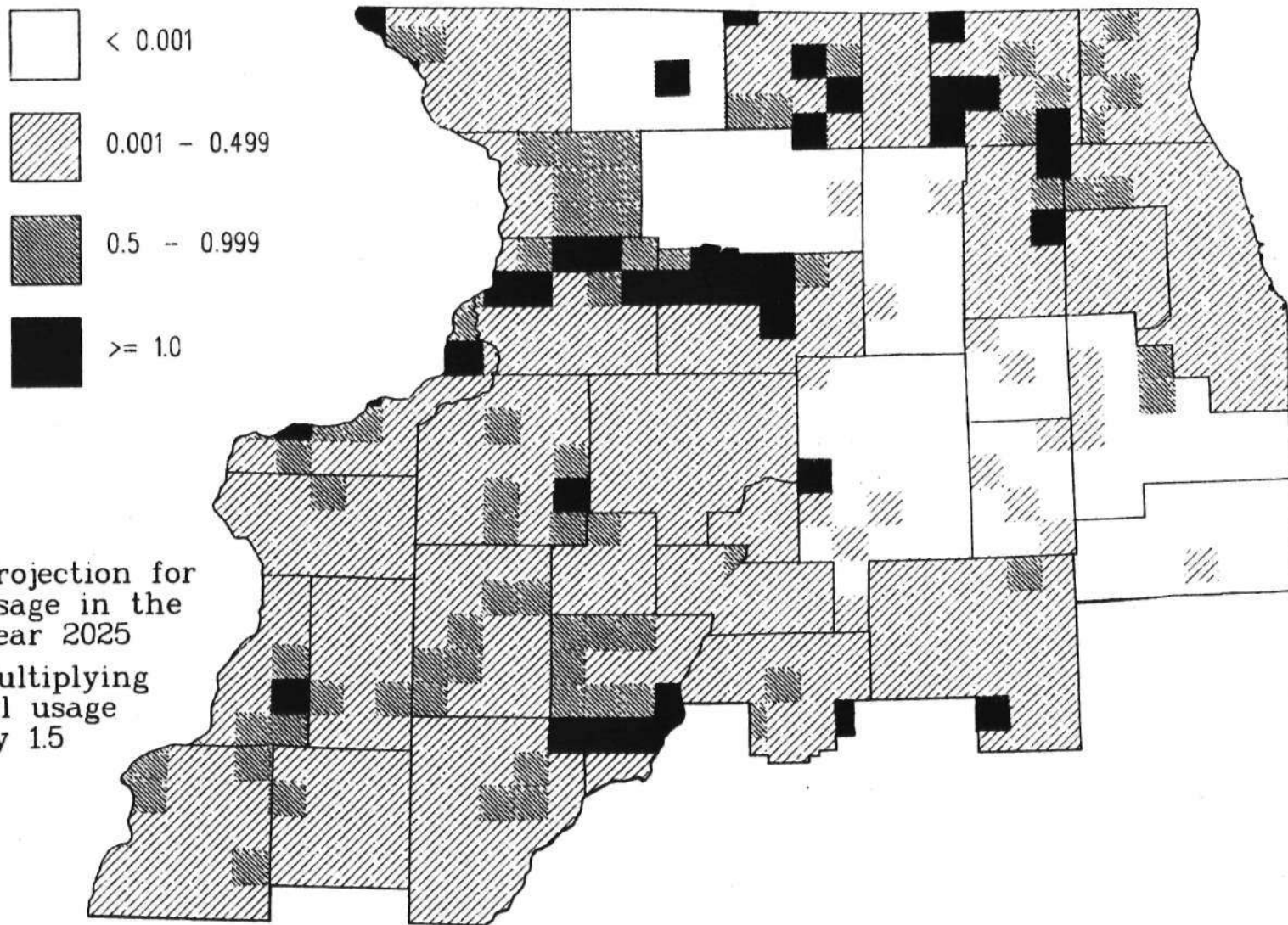
Use/yield ratio for Upper Bedrock Aquifers



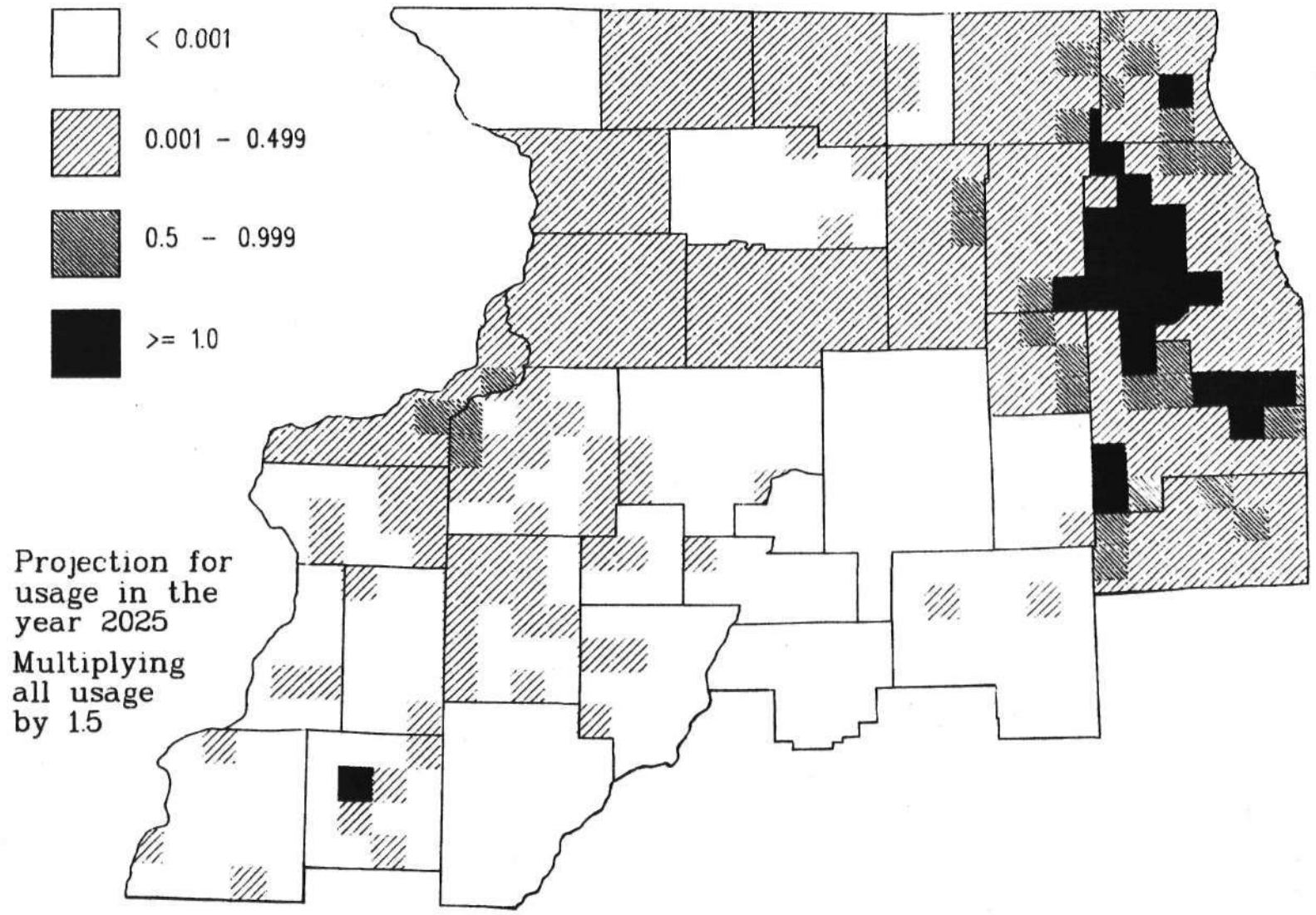
Use/yield ratio for Deep Sandstone Aquifers



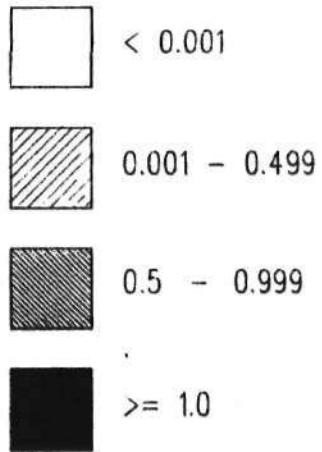
Use/yield ratio for All Aquifers



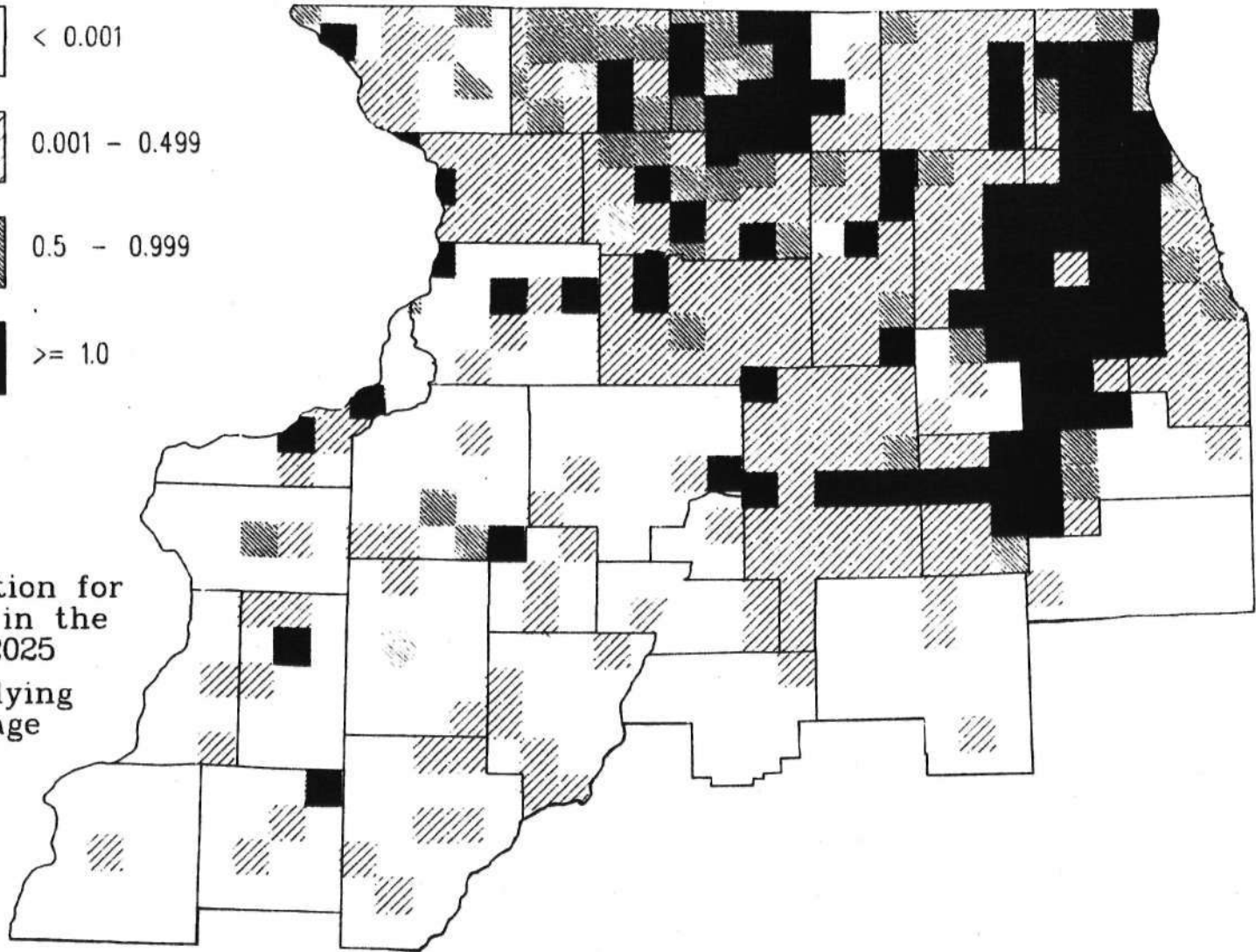
Use/yield ratio for Sand & Gravel Aquifers



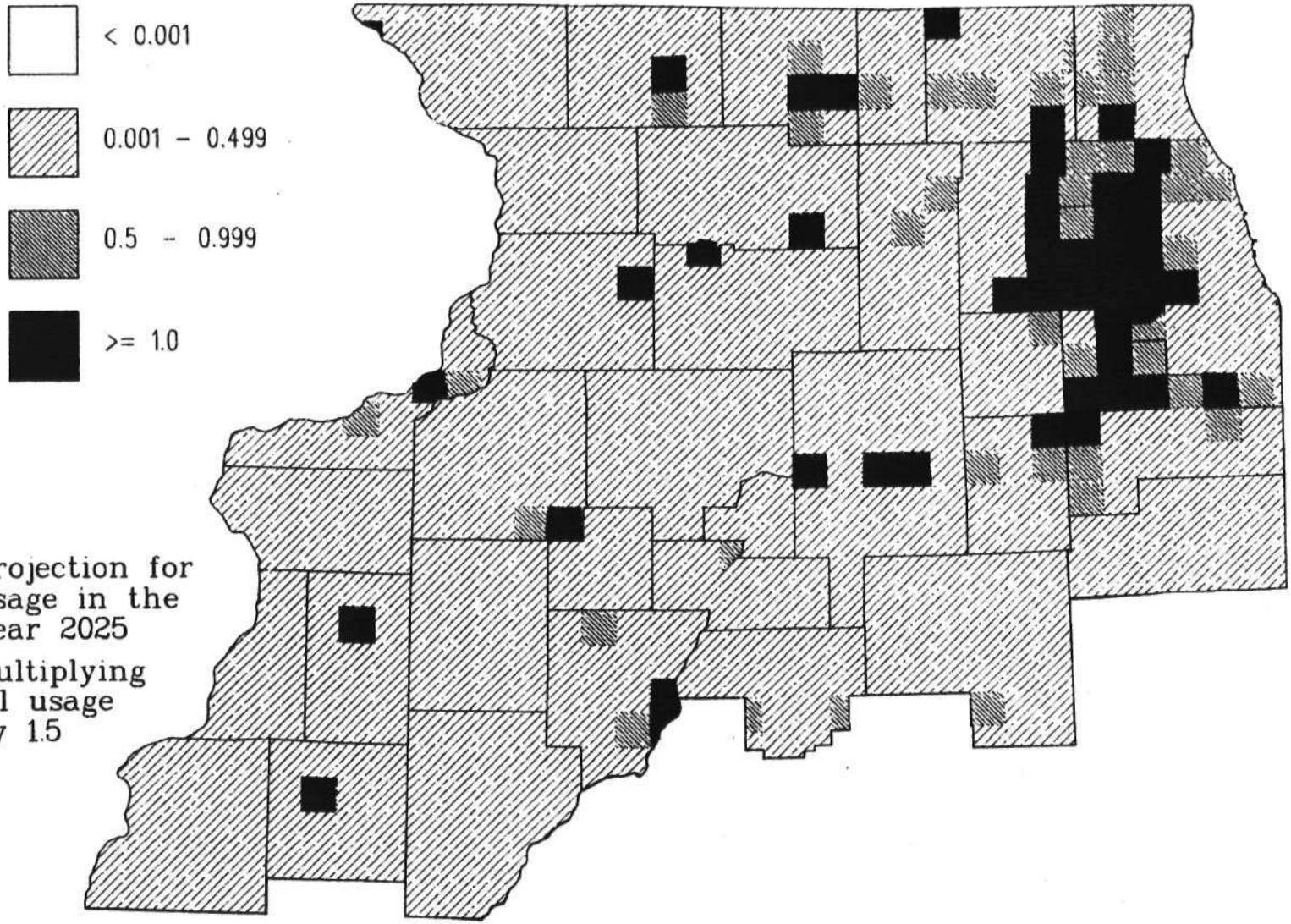
Use/yield ratio for Upper Bedrock Aquifers



Projection for
 usage in the
 year 2025
 Multiplying
 all usage
 by 1.5



Use/yield ratio for Deep Sandstone Aquifers



Use/yield ratio for All Aquifers