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# SURFACE WATER SUPPLY AVAILABILITY FROM INTRASTATE STREAMS AND RIVERS IN ILLINOIS

*by*

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## INTRODUCTION

As part of an evaluation of Illinois surface water resources, the Illinois Department of Transportation, Division of Water Resources, sponsored a county-by-county assessment of the surface water supply potential of intrastate streams and rivers. Illinois has extensive surface water resources. The state is bordered by 880 miles of interstate rivers and 63 miles of Lake Michigan shoreline, and it contains approximately 13,200 miles of interior streams (Illinois Environmental Protection Agency, 1988). Surface water is used to meet the demands of more than 100 public water supply systems serving more than 360 communities. Demand for surface water is expected to increase with population growth. Further, declining water levels in major aquifer systems, as well as potential for pollution of these systems, has led many communities to turn to surface water for public supply. The availability of reliable water supplies from surface water sources was investigated to provide information for planning water resource development in Illinois to meet future needs.

Three major rivers border Illinois: the Wabash, the Ohio, and the Mississippi. These rivers have large sustained flows, which provide a consistent source of supply for neighboring communities. The Illinois River, which flows from east to west and then to the south in the northern half of the state, is a major navigable waterway and is tributary to the Mississippi River. The Illinois River and its major tributaries - the Kankakee River and Fox River - have high sustained flows. However, with the exception of the Illinois, Fox, Kankakee, and Rock Rivers, intrastate rivers in Illinois typically have very low flows during dry years. The reliability of a water supply from rivers and streams with great flow variability is dependent upon storing water available during high-flow periods for use during low-flow periods. The potential yield of reservoir-based water supply from intrastate rivers that exhibit periods of very low flow is examined in this report. The development of the Kankakee River as a source of water for locations removed from the immediate vicinity of the river, in order to meet domestic, irrigation, or other needs, is examined in terms of the costs of needed conveyance systems and of their operation.

## Scope of Report

This report quantitatively examines the supply of water from small to medium-sized intrastate streams and rivers that require reservoir storage to ensure such a supply. The Illinois, Fox, Rock, and Kankakee Rivers are not evaluated, nor are segments of other river systems with lock-and-dam operations for navigation purposes and/or for controlling flows. These rivers have sufficient flows even during dry periods to provide water for nearby communities. The provision of expanded service to communities far removed from these rivers is as much a question of economics as of water availability and is examined for the Kankakee River upstream of Kankakee in the appendix of this report.

Information derived from detailed hydrologic analyses of existing reservoir-based water supply systems was used to estimate the supply potential of surface water sources throughout the state. This report contains an inventory and evaluation of reservoirs currently being used for public water supply; an analysis of the yield of non-public water supply reservoirs for which sufficient documentation is available; a summary of the possible yield of potential reservoir sites that have been identified previously; and an overview of the water supply potential of intrastate streams and rivers on the basis of typical instream reservoir yields. The information is tabulated and summarized by county.

## Acknowledgments

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## YIELD OF RESERVOIR-BASED WATER SUPPLY SYSTEMS

River flows vary seasonally, with high flows typically occurring in the spring and low flows occurring in the late summer and fall. River flows fluctuate considerably from day to day. Public demand for water is less variable than river flows; however, historical data show that water use increases during hot dry weather when river flow is often very low. For a variable water supply source to be used as fully as possible, water must be stored during periods of high flow for later use. Thus to assess the reliability as well as the availability of water supply from intrastate streams and rivers, the sustained yields of reservoirs must be determined.

The approach taken in this study was to evaluate the yields of existing reservoirs in Illinois for a 40-year return-period drought (the drought that has, on the average, a 1-in-40 chance of occurring in any given year). This assessment of existing reservoirs provides information on the current availability of water from reservoir systems. The capacity/inflow ratios and the expected reliable yields during a 40-year drought (e.g., as a percent of mean inflow for typical reservoir systems) were determined. These descriptive, non-dimensional parameters provide information on the potential reliable yield of surface water sources on a county-by-county basis. In addition to this evaluation of existing reservoir systems, previous investigations of feasible reservoir locations throughout the state and their potential yield were reviewed. The information is summarized for each county.

The yield analysis was performed for in-channel or impounding reservoirs - those reservoirs created by a structure across the natural stream or river. In terms of water supply, the portion of the streamflow that is usable is a function of the capacity of the reservoir that can be constructed at a particular site. (This simplistic model does not address some environmental concerns and downstream water rights.) Numerous side-channel reservoir systems are currently used for public water supply.

Side-channel reservoirs are located adjacent to the stream (or river), and water is pumped from an intake structure in the stream (or river) to the reservoir. The yield from side-channel reservoirs is dependent upon both the reservoir capacity and the pumping system installed. As it is improbable that a pumping system can capture the total stream runoff, the anticipated yield from a side-channel reservoir is less than from an in-channel reservoir having the same capacity. Side-channel reservoir systems have some significant advantages in terms of operation and maintenance.

The design of optimal reservoirs unique to each situation is beyond the scope of this investigation. The intent of this report is to provide a broad quantitative picture of surface water supply potential. The yield analyses of in-channel reservoirs during a drought are very useful in serving this purpose.

Several aspects of reservoir-based water supply systems must be clarified to understand the implications of the results of the yield analyses presented in this report. Both physical and economic considerations influence the size of a reservoir constructed at any given location. Physical constraints such as topography and geology control the feasibility of constructing a dam and creating a reservoir. Within the bounds created by physical constraints, the size of a typical reservoir is more often a function of economics and water demand or required flood control than of yield maximization. Finally, because of continuing sedimentation, reservoir capacities change over time. Selection of a 40-year drought for the yield analysis partially addresses the economic aspect of reservoir sizing to meet demand. Having a sufficient water reserve to maintain an uninterrupted supply during a 40-year drought but risking the possibility that the supply will be inadequate for a more severe drought is a generally accepted economic design criterion. The fact that reservoir capacities change over time is a more complex issue, particularly when a complete history of the age and size of each reservoir is not available.

To provide a complete picture of the surface water supply potential of streams and rivers in Illinois, reservoir yield information is presented in terms of 1) the available supply from existing reservoirs in 1980, for which data were available for the most part, and an estimation of corresponding 1990 values (when sufficient information was available); 2) the maximum yields of identified potential reservoir sites; and 3) the maximum and practical developable yield of surface water sources in each county from reservoir-based supply systems over a 40-year design life. The 1980 net yield from existing reservoirs provides a perspective on what surface water supplies can currently be relied on. Yields of previously identified potential reservoir sites serve to illustrate the maximum supply that can probably be developed from the most promising sites, given the original capacities (before sediment accumulation). Maximum and practical developable yields given for each county are an estimate of reliable surface water supply potential made on the basis of historical reservoir design and yield during a 40-year drought, allowing for sedimentation.

## METHOD OF RESERVOIR YIELD ANALYSIS

The purpose of a water supply reservoir is to store watershed runoff for use when the stream inflow is less than water demand. Reservoir storage should be adequate to provide an uninterrupted supply of water sufficient to meet demand for the duration of an extended low-flow period or drought. Droughts are defined in terms of a designated length of time or drought duration, the average flow for the period, and the frequency at which these conditions are expected to occur. Assuming the annual streamflow is more than sufficient to meet the needs, a reservoir constructed to serve as a source of supply should have sufficient storage so that for the design life of the reservoir the supply would never be less than the demand, even in a year with the design drought.

Adequacy of a water reserve to provide a reliable supply during a drought having a 1-in-40 chance of occurrence is considered an acceptable criterion for reservoir design, given that the physical features of the site are acceptable. Because of the cost involved, water supply reservoirs are usually built to meet needs rather than to maximize yield. Thus for the assessment of water supply potential from intrastate rivers, the quantity of water (in terms of the portion of watershed runoff) that can be relied upon from existing reservoirs during a 40-year drought is an appropriate indicator of the water supply potential that is likely to be developed.

The reservoir yield analysis was performed following the methodology and using the data presented in Illinois State Water Survey Bulletin 67 (Terstriep et al., 1982). Bulletin 67 presents the results of a non-sequential mass analysis of low-flow series developed from gaging station data. The analysis provides a relationship between gross yield (or draft rate) in terms of percent of mean streamflow, reservoir capacity, drought duration, and drought recurrence interval in years. This multivariate relationship was determined for 160 gaging stations in Illinois. The information is regionalized and presented in a non-dimensional format for extrapolation to ungaged streams within the same hydrologic region. Draft-storage-recurrence relations are given in graphical and tabular formats where draft is the quantity of water withdrawn expressed as a percent of mean annual streamflow; storage is the quantity of water that must be stored to maintain a given draft rate, expressed in units of inches on drainage area; and drought recurrence interval is expressed in years. Capacity is considered synonymous with storage. A complete description of the analytical methods employed and the data used are provided in Bulletin 67. Only the application of the method is discussed herein.

The procedure followed in this investigation was to select a streamgage station with draft-storage-recurrence relation similar to that of the stream flowing into the study reservoir. The useful capacity of the reservoir was converted to units of inches on drainage area (i.e., the depth of water that would cover the entire watershed area to yield a volume equal to the useful storage in the reservoir). The entire volume of water stored in a reservoir may not be usable: inaccessibility and poor water quality of bottom waters are two problems that restrict the use of 100 percent of gross storage. The volume of non-usable storage will vary from reservoir to reservoir. For the purposes of this study, 90 percent of the capacity (or gross storage) was considered a reasonable and conservative estimate of the useful storage. Yield calculations were performed on the basis of 90 percent of reported capacities. With this value of storage, the percent of mean streamflow (at the reservoir location) that could be reliably supplied during a 40-year drought was determined graphically from the gaging station relationship in Bulletin 67. The percent of mean streamflow was converted to gross draft rate by using the mean annual inflow determined for the reservoir watershed. Losses due to evaporation were subtracted from the gross yield to determine the net yield from the reservoir, and this quantity is presented in units of millions of gallons per day (mgd). The net yield is valid for the given capacity of the reservoir. The yield will decrease over time as sediment accumulates and capacity is reduced.

The data needed to evaluate the yield of a reservoir for a given drought episode include location, drainage area of the stream, mean annual inflow (i.e., runoff from the watershed), capacity of the reservoir, and surface area. With this information, a gage located on a hydrologically similar stream may be selected from Bulletin 67. An evaporation data collection station, which best represents the local conditions, may be selected to calculate evaporation losses and, ultimately, the net reservoir yield. The drainage area, reservoir capacity, and in some cases the surface area were obtained from a variety of sources as described in this report under "Sources of Reservoir Data."

## Mean Annual Inflow

Mean annual inflow to a reservoir can be expressed in terms of depth of water, in inches, over the entire watershed during a year. Conversely, the quantity of runoff at a particular location in cubic feet per second (cfs) can be calculated by multiplying the mean annual inflow in inches by the drainage area of the watershed in square miles (sq mi), and dividing by 13.58. Runoff represents the flow collected from a drainage basin (or watershed) that appears at the outlet of the basin or a specific location along the stream (Chow, 1964).

Gaging station daily flow data are used to compute watershed runoff at specific locations. The streamflow data are converted to average annual runoff in inches by calculating the average annual discharge in cfs, dividing by the drainage area above the gage in sq mi, and multiplying by 13.58. Within Illinois, runoff tends to increase from north to south, as does precipitation. The statewide variation in runoff may be depicted by contour plots of equal runoff values. Depending on the specific selection of gaging stations and on the years of record used in developing a runoff database, somewhat different contour shapes may be drawn. Several sources were consulted to identify runoff or inflow values for the reservoirs studied. Average annual runoff values calculated for the 160 gages in Bulletin 67 were plotted on a map of Illinois. The period of record for these data varies in terms of length and years when the gages were active. These values were then compared to runoff contours generated from a subset of gaging station data with a 30-year concurrent period of record (Knapp, 1988). These contours were developed for the portion of Illinois north of the Shawnee Hill area in the southern part of the state. Runoff values for gaging stations active in 1987 with records of 25 or more years were obtained from USGS Water Resources Data for 1987 (Stahl et al., 1988; Fitzgerald et al., 1988), plotted on a map of Illinois, and compared to the values in the other two sources cited above.

On the basis of these sources of information, inflow values were determined for each reservoir. Runoff values for a gage on the same stream or in the same basin as a particular reservoir were considered most representative. When a particular gaging station was clearly not satisfactorily representative of the stream under study, data from the nearby streams as well as the runoff contour plots were considered in assigning a runoff value. An average runoff or inflow value for each county was also developed. This county-wide average value was used to estimate total potential runoff within the boundaries of a given county.

## Gaging Station Assignment

The assignment of a gaging station implies that the draft-storage-recurrence relations developed from the streamflow records at this gage were used to evaluate the reservoir yield. The general procedure described in Bulletin 67 is to select a gage that has a drainage area close to the drainage area above the site under consideration and within the same hydrologic region as defined in the Bulletin. On the basis of the homogeneity of streamflow records, 11 regions are delineated in Bulletin 67. The regional boundaries are boundaries of gradual transition and not absolute guides. A gage in a neighboring region may be selected for reservoirs located near the common boundary of the regions.

Several steps were taken to refine the process of gage selection. The variations in storage requirements (taken from the derived relations for a given draft rate and recurrence interval) at gage sites within each of the 11 regions were investigated. State maps were drawn showing the storage requirements at each of the 160 gages for several different combinations of draft rate and recurrence interval. Plots of storage requirements versus drainage area were developed for the same combinations of draft rate and recurrence interval for gages in each region, and composite plots of adjacent regions were also developed. Finally, the variation of storage requirements with drainage area for individual basins was explored. The results of this investigation suggested that storage requirements in inches (for a given draft rate and recurrence interval) usually decrease with increasing drainage area. Storage requirements vary regionally as indicated by the delineation of the various regions in Bulletin 67. In some regions, storage relations show much less variation with drainage area than in other regions. Within a single region, the differences between storage requirements at locations having similar drainage areas increase as drainage area decreases. In other words, when comparing sites having similar drainage areas, the smaller the drainage area, the greater were the differences observed in the draft-storage-recurrence relations. These differences can be attributed to local variations in baseflow, land use, and other basin factors. Over large areas, the influence of local features tends to average out. Typically, there is a fairly consistent trend in the draft-storage-recurrence relations for gages within a basin. Overall, drainage area appears to be a dominant factor influencing the amount of reservoir storage required to supply a designated percentage of the mean streamflow.

On the basis of the observed trends in storage requirements, and with emphasis given to the importance of similarity in drainage area, a gage was selected for each reservoir analyzed. Each case was considered individually. A gage within the same region and basin as the reservoir was selected if the drainage areas were more or less similar. In many cases, the drainage area of the reservoir was very different from that of any nearby gages in the same basin. In those cases, the assignment of a gage with a drainage area closer to that of the reservoir but in a different basin was considered. As part of the assignment procedure, the required storage values for a 40-year drought at four different draft rates were tabulated and compared for gages within adjacent basins. Values for gages with similar drainage areas but in different basins were compared. If storage requirements for these gages were found to be consistently similar, a gage from a basin different from that of the reservoir but with a drainage area closer to the drainage area of the reservoir watershed was selected. Otherwise a gage from the same basin was used. Other factors considered in selecting a gage were the length of record at the gage and the similarity between the gage and the reservoir outlet locations relative to the stream network of their respective basins. Generally, the geographically nearest gage having a drainage area close to that of the reservoir was selected.

## Evaporation

Maximum net evaporation series for six stations in Illinois were developed by Terstriep et al. (1982). Net lake evaporation is defined as the total gross lake evaporation over a specified duration, less the total concurrent precipitation for that duration. The six long-term evaporation stations in or near Illinois from which this information is available are located at Rockford, Moline, Peoria, Springfield, St. Louis, and Carbondale. The nearest evaporation station to the reservoir was used, with some consideration given to rainfall patterns, as recommended in Bulletin 67. Evaporation from a particular reservoir was calculated as a function of its surface area.

Evaporation losses from a reservoir may be significant, depending on the evaporation rate in the region in which it is located and the particular reservoir volume-to-surface-area ratio. Lake evaporation in Illinois is highest in the southern and west-central areas of the state.

## SOURCES OF RESERVOIR DATA

Several physical parameters must be known to calculate yield of a reservoir, such as drainage area, reservoir capacity, and surface area. The sources of data used to compile this information are the *National Dam Safety Program, State of Illinois Inventory of Dams* (U.S. Army Corps of Engineers, Chicago District, 1980); *Assessment and Classification of Illinois Lakes* (Illinois Environmental Protection Agency, 1978a and b); more than 200 National Dam Safety Program Inspection Reports published by the Chicago District of the U.S. Army Corps of Engineers; *An Improved Methodology for Estimating Future Reservoir Storage Capacities: Application to Surface Water Supply Reservoirs in Illinois* (Singh and Durgunoglu, 1988); *Potential Surface Water Reservoirs of Northern Illinois* (Dawes and Terstriep, 1967); *Potential Surface Water Reservoirs of North-Central Illinois* (Dawes and Terstriep, 1966a); *Potential Surface Water Reservoirs of South-Central Illinois* (Dawes and Terstriep, 1966b); *Potential Water Resources of Southern Illinois* (Roberts, et al., 1957); and Illinois State Water Survey files, sediment surveys, and miscellaneous reports.

The Illinois Inventory of Dams is the most comprehensive and current listing of in-channel reservoirs. The report identifies reservoirs that meet specific size criteria that, stated in brief, include all reservoirs with dams having a height of 25 feet or more and a storage capacity at maximum water storage elevation of at least 15 acre-feet, or having a storage capacity at maximum storage level of 50 acre-feet or more with a minimum dam height of 6 feet. Information provided in the dam inventory includes location, reservoir capacity at normal pool level, and year of construction. The drainage area of the inflowing stream is not reported. This inventory was used as a base list for existing reservoirs. However, as drainage areas were not included in the inventory, it was necessary to omit some reservoirs from the assessment if drainage area could not be determined from another source.

More than 200 in-channel dams have been inspected by the Corp of Engineers, and some inspections have been conducted by the Dam Safety Section of the Illinois Department of Transportation, Division of Water Resources. The reservoirs are all listed in the inventory and in general are the larger reservoirs in the state. Thus they represent a large percentage of developed surface water supplies. These inspections were conducted mostly during the late 1970s and early 1980s.

A comprehensive evaluation of public water supply reservoirs is currently being conducted by the Illinois State Water Survey (ISWS). Two reports have thus far been published. The physical data for public water supply in-channel reservoirs as well as numerous other in-channel reservoirs that have been surveyed are presented in a report by

Singh and Durgunoglu (1988). Reservoir surveys conducted by ISWS staff over the years provided a valuable source of information. The loss of reservoir capacity due to sedimentation over the years was investigated, and projections of future capacities of public water supply reservoirs were made and are presented in the report. Capacity projections for reservoirs (not used for public water supply) for which sediment survey data were on record were made but not published. An inventory of all surface water reservoirs currently used for public supply is presented in a report by Singh et al. (1988).

The yield of each reservoir documented in the public water supply report is included in the current assessment. Some drainage areas for reservoirs listed in the inventory were obtained from other sources of information. Some reservoirs not in the base list were identified from other sources. These reservoirs were included in the yield evaluations if sufficient data were available. In all, the basic data for 422 reservoirs were compiled and the yield of these reservoirs determined.

When several data sources contained information on the same reservoir, capacity estimates were quite often different. The quality of the data used to make the estimate, the method of estimating, and the age of the reservoir when the data were collected all contribute to inconsistencies. Actual reservoir surveys are the most reliable sources, and thus capacity estimates made on the basis of these data were used when available. The bulk of reservoir capacity data was available from the National Inventory of Dams and the detailed dam inspection reports. These two data sources gave the same capacity values for a given reservoir. The more detailed dam inspection reports were reviewed to determine data sources and methods of analysis. The capacities of reservoirs cited in both the inventory and the report by Singh and Durgunoglu (1988) were compared, including unpublished estimates of 1980 capacities. The capacities given in the National Inventory of Dams give an estimate for the inspection years, say 1978 to 1982.

Some reservoirs were excluded from the yield evaluation for reasons other than lack of data. At some sites, a very large reservoir has been created for a small watershed. It is apparent from the ratio between capacity and drainage area that this is not a typical design. These instances involve reservoirs that serve as cooling ponds in the process of power generation or other purposes. In addition, reservoirs created as a by-product of lock and dam structures were not included.

The name listed for a given reservoir occasionally varied from one data source to another. In these cases, locations of reservoirs as well as capacities were compared to identify those reservoirs with multiple names. A note is provided in the tables when a reservoir has more than one commonly used name. A few reservoirs apparently have no specific name and are listed in the dam inventory report and in this report as Ilnoname ###, where ### is an assigned number.

## Reservoir Age and Changes in Capacity

The yield of a reservoir is a function of reservoir capacity, which is not a static parameter but changes over time. Loss of capacity due to sedimentation, or the process of settling of suspended matter delivered by the inflowing stream, is a significant problem for most reservoirs in Illinois. The older the reservoir, the more the accumulated sediment unless some mitigating measures have been instituted such as dredging, sediment flushing, and/or installation of debris or check dams upstream to capture sediment before it reaches the main reservoir.

The original capacity of an existing reservoir is indicative of the potential of the surface water source. However, because a significant amount of the original capacity of a reservoir may be occupied by sediment after a number of years, the yield based on original capacity does not provide a realistic picture of the currently available or long-term water supply. The relationship between original capacity and inflow does provide information regarding the typical size of reservoir that is ultimately constructed at a site.

Because the bulk of available data for existing reservoirs provides capacity estimates for the conditions close to 1980, the analyses provided yields for the 1980 conditions. The unpublished 1980 capacity estimates made by Singh and Durgunoglu (1988) were used when possible, as they represent the results of a refined evaluation of capacity loss due to sedimentation. Yields were also calculated for about 157 reservoirs from available information on original capacities and 1990 capacity projections.

The information relating to original capacities provides a guide to typical attributes of newly constructed reservoirs. Original, as-built capacities were not evaluated if the structure had been modified significantly or if sediment had been dredged from the reservoir. The 1980 assessment gives the most complete quantitative evaluation of existing surface water supplies. The 1990 evaluation provides information on the reduction in yield that may result from unmitigated reservoir sedimentation for a large subset of the instream reservoirs in this study. A 1990 net yield estimate is provided for nearly all public water supply reservoirs. The year or estimated year of construction is provided for each reservoir as a guide to interpreting the implications of capacity-inflow ratios and yield quantities. In some cases, the "year built" date given in the table represents the date of the earliest available information.

## Reservoir Surface Area

The volume of water lost to evaporation is a function of the reservoir surface area. Surface area information was available from the various data sources for fewer than half of the reservoirs studied. Surface area data for operational public water supply reservoirs were collected from either the sources already noted, personal communications with operations personnel, or planimetering of the area from U.S. Geological Survey topographic maps. Surface area data are available for all reservoirs surveyed by ISWS personnel. It is generally accepted that reservoir surface area varies with the reservoir capacity. Data from reservoir surveys were used to define the relationship between surface area SA, in acres, and capacity CA, in acre-feet, for reservoirs in Illinois. A linear relationship can be identified between the log of surface area and log of capacity. The relation determined from a regression analysis of survey data is expressed as a power function:

$$SA = 0.4041(CAP)^{0.8336}$$

The simple correlation coefficient is 0.97. The data used to evaluate this expression were obtained from reservoirs throughout Illinois.

For many reservoirs, several surveys have been conducted and a decrease in surface area with capacity reduction due to sedimentation has been observed. Inspection of data for individual reservoirs revealed that the above equation overestimates the decrease in surface area due to sedimentation. The decrease in surface area as capacity is lost due to sedimentation should be taken into consideration when a detailed evaluation of a particular reservoir is being performed. This relationship was evaluated for reservoirs that are currently used for public water supply. However, the above expression provides a reasonable estimate of surface area for the purpose of this report in cases where surface area data could not be obtained.

# RESULTS

The results of the assessment of surface water supply potential for reservoir-based supply systems in Illinois are presented in tables 1 through 103. The first 102 tables include specific information regarding existing and potential reservoirs in each county. A statewide summary of pertinent information is provided in table 103. Preceding the tables is an index of terms, symbols, and notes used in the tables.

## County Information

The results of the reservoir yield analysis as well as other pertinent data are presented in tables 1 through 102. The data are compiled by county, and the tables are in alphabetical order by county name. Reservoirs are listed under the county in which the impounding structure is located. In the case of 10 counties, insufficient data were available to perform yield calculations for identified existing reservoirs. Four counties had no existing reservoirs listed in either the Inventory of Dams or other sources of data. Existing reservoirs in Cook, DuPage, and Lake Counties were not evaluated as these counties have access to Lake Michigan water. Thus there are 17 counties for which no yield analyses were performed for existing reservoirs. A summary of potential reservoir information is given for these counties.

The name, year of construction, watershed drainage area, and 1980 estimated capacity are listed for existing reservoirs. Capacity-inflow ratios, net yield for a 40-year design drought, and net yields as a percent of mean annual inflow (MAI) are also presented for each reservoir. A description of these parameters follows this discussion. The average age of the reservoirs, the sum of the drainage areas of the listed reservoirs, the percentage of county area of the summed drainage areas, the number of reservoirs in the assessment, and their average capacity-inflow ratios are presented under "Summary" in each table.

Concise information regarding potential reservoir sites is provided in the summary for each county. A detailed description of the potential reservoir sites is given by Roberts et al. (1957) and Dawes and Terstriep (1966a, 1966b, 1967). The sites in the above reports were identified by the authors on the basis of a preliminary study of the feasibility of constructing the reservoirs, as well as on the basis of site desirability. One factor considered in determining the desirability of a particular site was the availability of water from other sources, including other potential reservoir sites. Thus in areas with numerous sites that could be developed, only a sample of the most promising locations was listed in the final reports. In some counties with limited potential for developing surface water sources, the potential reservoir sites identified may be small when compared to sites in other areas. The sites identified as possible locations for reservoirs provide an opportunity to examine the likely potential of further surface water supply development.

In the previous assessments of potential reservoirs, each site was considered independent of its location relative to other designated potential sites. In this study, to eliminate duplication of estimated yields for a given stream system, only the reservoir farthest downstream in the system was included in the summary of potential reservoirs. In other words, information pertaining to a potential reservoir site upstream of another potential reservoir was omitted. Totals of net yields of potential reservoirs presented in this report are a summary of the detailed data in the four previous reports. One additional parameter was calculated from the basic data, the ratio of net yield to the mean annual inflow (%MAI). The section of each county table pertaining to potential reservoir sites includes the number of independent sites, the sum of their drainage areas, their average capacity-inflow ratio, the sum of their estimated potential yields, and their average %MAI.

**Capacity-Inflow Ratio**

The capacity-inflow ratio (C/I) is a non-dimensional ratio of the quantity of water that can be stored in the reservoir to the average annual inflow of water to the reservoir. This ratio is computed by dividing the reservoir capacity in acre-feet by the mean annual inflow in acre-feet of storage. The inverse of this value is the average number of times per year the reservoir is filled. The 1980 C/I is given for each existing reservoir. When data on original and/or 1990 capacity were available (this set primarily consists of reservoirs that have been surveyed), the corresponding capacity-inflow ratios are given. The average C/I ratios for potential reservoir sites identified in the county are also noted.

**Forty-Year Return Period Yield**

The calculated net yield of existing reservoirs is presented in millions of gallons per day (mgd) for 1980, and also for 1990 when needed information was available. This is the expected quantity of water that can be reliably supplied from the source during a 40-year drought The ratio of the net yield to the mean annual inflow is tabulated for each reservoir under the column heading %MAI (percent of mean annual inflow). This calculation was performed by first multiplying the mean annual inflow by the drainage area of the watershed, which yields the average annual volume of runoff from the watershed. The annual volume of water was then converted to an average daily volume in mgd, and the reservoir net yield in mgd was then divided by the average daily runoff in mgd. This item shows the percent of the average annual runoff from the watershed that is expected to be available for use under the stated conditions. It is analogous to the % draft rate used in the draft-storage-recurrence relations adjusted for evaporation. The total yield of existing reservoirs is given for each county. The county average %MAI is also provided.

**County-Wide Summary Data**

Several statistics were calculated to illustrate the relative level of current and potential development of surface water sources in each county on the basis of data for the county. The total area of each county is given in each county table. A calculation was made to determine the product of 1) the total county area, 2) an estimated county-wide average inflow, and 3) the 1980 %MAI of existing reservoirs, in order to provide a rough figure of the maximum total surface water potential in mgd for the county (during a 40-year drought). This represents the net water supply yield (during a 40-year drought) if all surface runoff from watersheds within the county were collected in in-channel reservoirs designed about the same as existing reservoirs in the county. This value is listed in the county tables as maximum potential yield. The ratio of the 1980 yield to the maximum yield was calculated for the county. This reflects the percent of the maximum total surface water potential that is currently developed for a particular county. A similar ratio was computed by using the 1980 existing reservoir yield plus the potential reservoir yield.

The reliability of the calculated maximum potential yield listed in the county tables is dependent upon the representativeness of the sample of existing reservoirs compiled for the county. Comparison of the county average %MAI, reservoir average age, and C/I ratios shows that for many counties the averages calculated on the basis of identified reservoirs may not be fully representative of yield for the 40-year design drought. County average %MAIs were adjusted to better estimate the design life yields for a 40-year drought and to calculate Maximum Developable Yield and Practical Developable Yield. These values are presented in table 103 with other statewide summary data.

Although reservoir drainage areas often extend beyond county boundaries, the entire drainage area of the reservoir is listed under the county in which the impoundment is located. Thus in some cases the sum of drainage areas includes regions outside the particular county. Consequently, the yield values given in the county tables for existing and potential reservoirs may appear as greater than the maximum county yield. When a significant portion of the given reservoir drainage areas are known to lie outside the county, a note to that effect is provided in the table. For some counties, the C/I values and %MAI values for potential reservoirs are considerably higher than those computed for existing reservoirs because the potential reservoir design capacity estimates are made on the basis of maximizing yield. This may result in potential yields nearly equal to or greater than the calculated maximum potential yield determined on the basis of actual reservoir design. The potential reservoir %MAI is used to calculate the maximum potential yield for those counties where no existing reservoirs are identified or for which sufficient data were not available to evaluate yield.

## Statewide Maximum and Practical Developable Design Yields

The maximum potential yield noted in the individual county tables reflects the 1980 characteristics of existing reservoirs identified in the county. Several factors must be considered in interpreting the given values. A limited sample of existing reservoirs reduces the reliability the value, particularly for counties where only one or two existing reservoirs are listed. The average age of existing reservoirs is another factor, in that reservoir capacities decline with age as a result of sedimentation. The reliability of the county yield projections was tested by examination of statewide variations in %MAI.

Reservoir capacity decreases with time as a result of sedimentation, and subsequently there is an accompanying decrease in reservoir yield. The selected design drought has a 1-in-40 chance of occurring in any given year, with the worst case being that it would occur in the 40th year of reservoir operation when sediment accumulation is greatest for the design life of the reservoir. The reliable yield from a reservoir over its design life must be determined for this limiting condition.

The trend of decreasing reservoir yield with time is illustrated in figure 1, which shows a plot of reservoir yield in terms of the county average 1980 %MAI versus the 1980 average age of reservoirs in the county (note that the 1990 average age is given in the county tables). Data from counties with three or more existing reservoirs are plotted in the figure for a total of 59 data points. The solid line shows the best-fit linear approximation of the data. The dashed lines indicate the boundaries of 1 standard error from the best-fit line.

The statewide average design-yield for reservoirs having an average age of 40 years, as computed from the best-fit line, is 22.94 percent of the mean annual inflow (MAI) to the reservoir. In other words, on the average the reliable yield from a reservoir, given a 40-year design life, is expected to be about 22.94 percent of the average annual runoff to the reservoir. The standard error of this estimation is 8.19 percent. The standard error bounds of %MAI at 40 years are 14.75 percent and 30.13 percent.

Adjusted county values of %MAI for a 40-year design life were determined on the basis of the trend indicated by the best-fit line. For counties where the average age of existing reservoirs as of 1980 is between 35 and 45 years, the computed value of %MAI is considered representative if it lies within the standard-error bounds given above. If the computed 1980 %MAI for those counties lies outside the error limits, the limit closest to the value was selected; for example, a computed value of 11 percent for existing reservoirs with an average

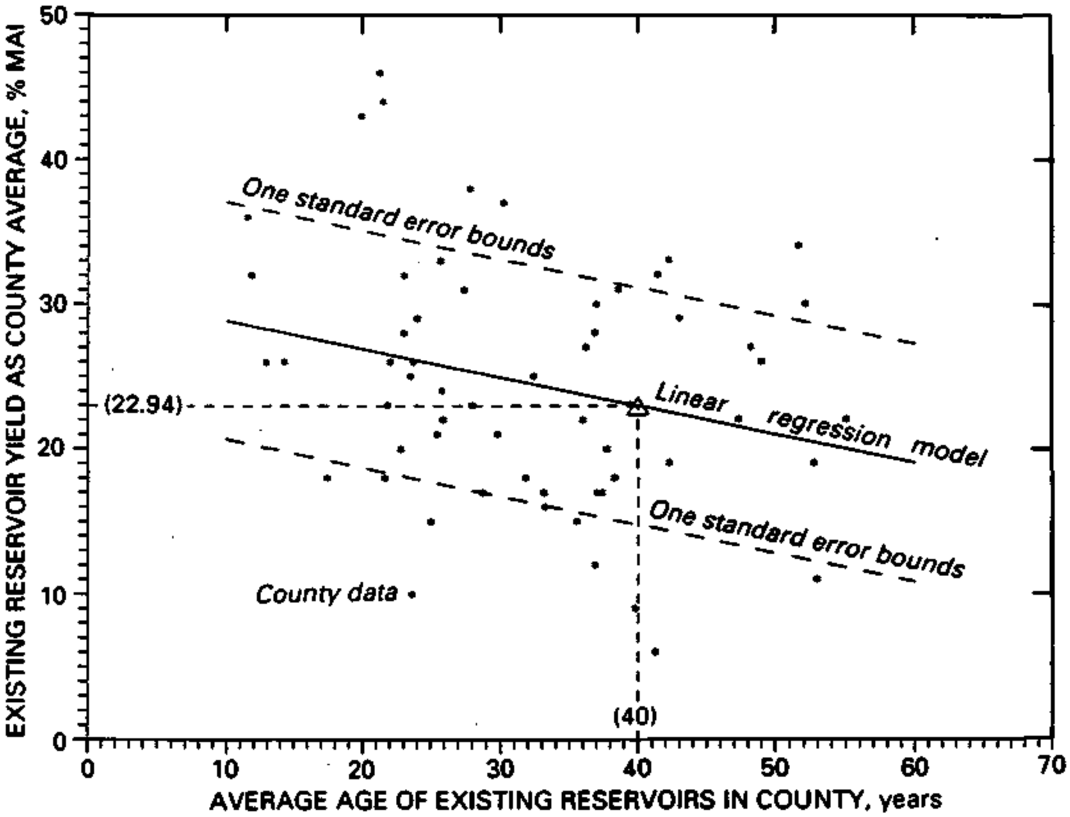


Figure 1. 1980 average %MAI versus average age of existing reservoirs in a county

**age of 38 years was adjusted to 14.75 percent. This value was used to compute the Maximum Developable Yield. When the average age of reservoirs was less than 35 years or greater than 45 years, an adjustment was made by projecting the calculated %MAI along a line parallel to the best-fit line to a 40-year average age. The expected value of %MAI was raised or lowered if the projected value was outside the standard error bounds, following the same guidelines as described above. When the average age of existing reservoirs was greater than 45 years, the percent of the county area within currently impounded watersheds was taken into consideration, as well as the individual values of %MAI for major reservoirs in the county that had been in operation more than 40 years in 1980.**

**The expected 40-year design %MAIs are given for each county in table 103. These values are also shown in figure 2. The Maximum Developable Yield was calculated as the product of the county area, a county average annual inflow, and the expected design %MAI with needed unit conversion, following the same procedure as for the calculation of the maximum potential yield (given in the county tables). The Practical Developable Yield given in table 103 is 50 percent of the Maximum Developable Yield. Runoff from significantly less than 100 percent of the watersheds in a county is likely to be impounded and used for water supply. The Practical Developable Yield was calculated by assuming that about one-half of the county area runoff will be impounded by reservoirs. The percent of county area covered by existing and potential reservoir watersheds is also given in table 103. Counties are listed alphabetically in table 103, along with the table number for each county, the number of existing reservoirs, their 1980 average age, and the 1980 existing reservoir %MAI.**

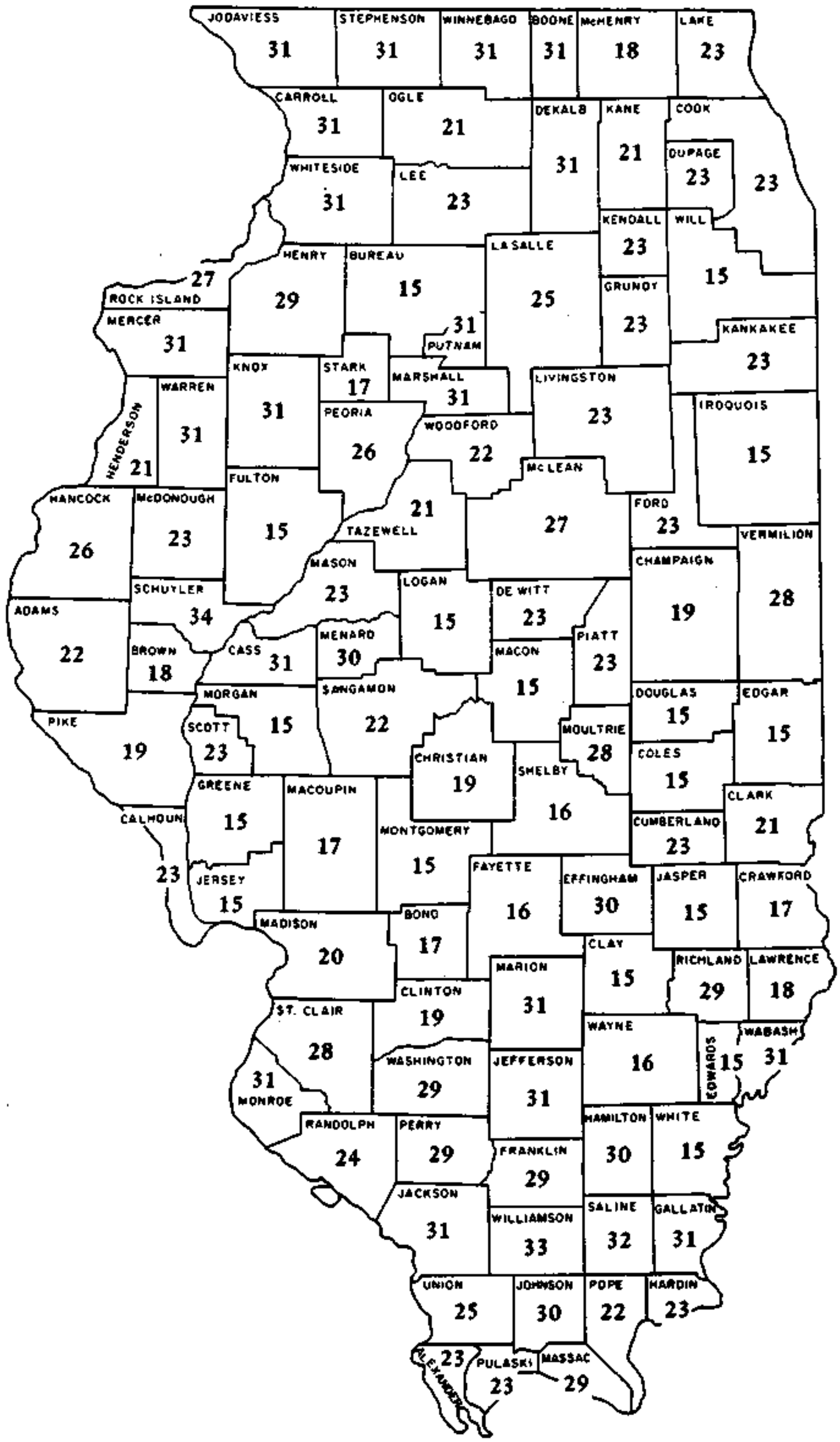


**Figure 2. 40-year design drought reservoir yields as percent of mean annual inflow (%MAI)**

## DISCUSSION

Several observations may be made regarding what has been the typical design and yield of reservoirs constructed in Illinois. Of the 422 existing reservoirs listed, 88 are currently used for public water supplies. More than half of the public water supply reservoirs have drainage areas less than 5 sq mi, only 21 have drainage areas greater than 25 sq mi, and 8 have drainage areas greater than 100 sq mi. Of the 422 existing reservoirs considered in this study, 14 have drainage areas greater than 50 sq mi.

Inspection of the individual reservoir data shows that public water supply reservoirs tend to have greater C/I ratios than most non-water-supply reservoirs. Reservoirs created by dams across relatively large rivers, for example those with drainage areas greater than 200 sq mi, often have low C/I values. This reflects the large volume of runoff from such a watershed and subsequently the large storage capacity that would be needed to store any significant portion of the runoff. This is also reflected in a low %MAI, even when the actual yield in mgd is comparable to that of other reservoirs.

In all but 15 counties, the average C/I ratio for potential reservoirs was greater than the average C/I ratio for existing reservoirs. In many cases, the average potential reservoir C/I ratio is as much as two or three times the comparable ratio for existing reservoirs. Reservoirs are built to serve a specified need, and the desired design yield may be considerably less than the maximum yield from the watershed. The cost of a reservoir increases with storage capacity; thus the capacity of the constructed reservoir will typically not exceed the requirements of the design demand. The estimated capacities of the potential reservoirs that have been identified reflect the largest feasible reservoir for the location. This leads to higher C/I ratios for the potential reservoirs than for existing reservoirs.

A number of the reservoirs in this study were constructed 40 or more years ago. As the age of reservoirs in a county becomes greater than the 40-year design life used in this study, the developable yield will decline. The decline in total surface water yield will be relative to the portion of the county area in the watersheds of older reservoirs. The watersheds of existing reservoirs in this study that are older than 40 years do not represent a significant percent of the area in any county.

# SUMMARY

Throughout most of Illinois, the reliable, uninterrupted supply of water from intrastate streams and rivers is dependent upon adequate reservoir storage of runoff to compensate for periods of low streamflow. Existing in-channel reservoirs were studied to determine yields typical of operational reservoirs in Illinois. The current availability of water from a large sample of developed surface water sources was determined. On the basis of this evaluation of existing reservoirs, estimates of the practical developable yield of surface water sources in each county were made. Economic and physical factors that influence the development of surface water sources were considered in evaluating the potential yields from surface water.

Available data for existing reservoirs throughout the state were compiled. Detailed information for existing reservoirs in each county is presented. Reservoir yields for a 40-year design drought were computed from available data for the base year of 1980 (without considering sedimentation). The computed yield is given in units of millions of gallons per day for each reservoir for which adequate data could be obtained to perform the analysis. This value, together with estimates of yields of selected reservoirs for 1990 conditions, provides specific information regarding the current availability of water from already developed surface water resources for each county. A total of 422 existing reservoirs were analyzed. Yield estimates made on the basis of original capacities of identified potential reservoir sites are also given for each county.

The 1980 yield figures were used to calculate the non-dimensional parameter %MAI (percent of mean annual inflow) for each reservoir analyzed, to provide a basis for comparing the expected yields of reservoirs during a 40-year design drought. The county average %MAI calculated by using data from existing reservoirs provides information on expected reliable yields from a reservoir, after evaporation losses, for a 40-year return period drought. The calculated yield, in terms of %MAI and the average age of the reservoirs, was used to develop an estimate of the likely reliable design yield of reservoirs consistent with historical reservoir design practice and storage loss due to sedimentation over a 40-year period. The %MAI determined for each county and presented in table 103 represents the expected reliable 40-year drought yield of reservoirs, allowing sedimentation over a 40-year design life. The Maximum Developable Yield and the Practical Developable Yield calculated for each county provide an overview of water supply potential from surface water sources consistent with typical development practice.

## TERMS AND SYMBOLS USED IN TABLES

**Definitions of Terms in Tables 1-102:**

**Existing Res. [Reservoirs]:** Surface water impoundments that have been created by a structure across a natural water course; list includes only those reservoirs for which sufficient physical data are available to perform yield analysis.

**Name:** Commonly used name of the reservoir or dam; listed under the county in which the dam is located, regardless of the drainage area distribution relative to county boundaries.

**Dr. Area:** Drainage area of the stream or river at the site or proposed site of a dam.

**1980 Est. Cap:** The most reliable estimate of reservoir capacity; capacity estimates from the various sources noted in the text of this report were made between approximately 1977 and 1983.

C/I: Capacity-inflow ratio calculated as the reservoir capacity (ac-ft) divided by the product of the mean annual watershed inflow (inches) and the reservoir drainage area (sq mi) with a unit conversion factor of 0.01875.

**40-Yr. Drought Net Yield:** Expected quantity of water that may be reliably supplied during a low-flow period that has a 1-in-40 chance of occurring in any given year; calculated assuming 90 percent of the reservoir capacity is useful storage, net yield equals the gross yield less evaporation losses. Storage loss due to sedimentation is not considered.

**Orig:** Data for original as-built conditions or the earliest available information.

**MAI:** Long-term, mean (average) annual inflow to the reservoir commonly expressed in inches; equal to expected annual average watershed runoff upstream of the dam or proposed dam.

**%MAI:** Ratio of the calculated net reservoir yield to the mean annual inflow from the watershed, expressed as a percentage.

**Potential Res. [Reservoirs]:** Sites that have been identified from previous studies as feasible for construction of reservoirs.

**1990 Ave. Age:** Arithmetic average age of the listed existing reservoirs as of 1990.

**Total Dr. Area:** Sum of reservoir drainage areas as listed.

% **County Area:** Ratio of summed reservoir drainage areas and total county area, expressed as a percentage.

**Average C/I:** Arithmetic average of C/I ratios listed.

**Total Yield:** Sum of net yields.

**Ave. %MAL** Arithmetic average of calculated %MAI using 1980 capacity values for existing reservoirs and estimated capacities given for potential reservoir sites.

**Max Potential Yield:** Maximum potential yield, in mgd, calculated as the product of the total county area (sq mi), a county-wide mean annual inflow (inches), and the Ave. %MAI calculated from 1980 values for existing reservoirs with a unit conversion factor of 0.00047635.

**Ex Res Yield/Max Yield:** The sum of 1980 calculated yields from existing reservoirs divided by the calculated maximum potential yield.

**Ex & Pot Res Yield/Max Yield:** The sum of 1980 calculated yields from existing and potential reservoirs divided by the maximum potential yield.

## Definitions of Terms in Table 103:

**1980 Ave. Age:** Arithmetic average age in years of listed existing reservoirs as of 1980.

**Existing Reservoirs 1980 Ave. %MAI:** Same as Ave. %MAI for existing reservoirs in county tables.

**Expected %MAI:** County average %MAI adjusted on the basis of the relationship shown in figure 1.

**Max Developable Yield:** Maximum Developable Yield, in mgd, calculated as the product of the total county area (sq mi), a county-wide mean annual inflow (inches), and the expected %MAI from table 103, with a unit conversion factor of 0.00047635.

**Practical Developable Yield:** 50% of the Maximum Developable Yield.

**% County Area in Existing and Potential Res. [Reservoir] Watersheds:** Sum of the drainage areas of existing and potential reservoirs divided by the total county area.

## Definitions of Symbols and Note Numbers in Tables 1-103:

- * Currently used for public water supply

- [1] Significant portion of the reservoir drainage area known to lie in other counties; existing and/or potential reservoir yields may therefore be close to or greater than potential yield calculated for the county.

- [2] Values of C/I and %MAI for potential reservoirs are greater than values for existing reservoirs, which results in relatively high estimates of potential reservoir yields compared to estimates of potential yield for the county made on the basis of existing reservoir parameters.

- [3] Potential reservoir average %MAI used to calculate maximum potential yield.

- [4] Effective drainage area; does not include drainage area above other upstream impoundments.

## Table 1. Adams County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est. Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Camp Saukenauk Lk | 1953 | 1.54 | 358.4 | 0.69 | 0.55 | 0.50 | 0.24 | 41 | 0.22 | 37 | 0.22 | 37 |
| CBQ Reservoir | 1875 | 2.13 | 8.8 | 0.14 | 0.01 | | 0.12 | 14 | 0.01 | 1 | | |
| Clayton Reservoir | 1940 | 3.17 | 12.9 | 0.15 | 0.01 | 0.01 | 0.20 | 15 | 0.01 | 1 | 0.01 | 1 |
| Hadley Creek #2 Lk | 1959 | 3.1 | 256 | | 0.17 | | | | 0.22 | 17 | | |
| Lakeshore Hills Lk | 1960 | 1.01 | 374 | | 0.81 | | | | 0.16 | 39 | | |
| Meyer Pond | 1965 | 0.5 | 29 | | 0.13 | | | | 0.03 | 15 | | |
| Siloam Springs Lk | 1955 | 1.98 | 793 | | 0.84 | | | | 0.37 | 44 | | |



## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 46.0 | 13.43 | 2 | 7 | 0.36 | 1.02 | 22 |
| Potential Res. | | 344.1 | 40 | 14 | 1.35 | 75.80 | 55 |

## COUNTY WIDE

County Area = 866 sq mi

Max Potential Yield = 77.14 mgd

Ex Res Yield/Max Yield = 0.01

Ex & Pot Res Yield/Max Yield = 1.00 [2]

## Table 2. Alexander County

EXISTING RESERVOIRS none analyzed

### Summary

| | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|
| Potential Res. | 9.80 | 4 | 3 | 4.96 | 5.60 | 80 |

### COUNTY WIDE

County Area = 224 sq mi
Max Potential Yield = 128.04 mgd [3]

Ex Res Yield/Max Yield =
Ex & Pot Res Yield/Max Yield = 0.04 [3]

# Table 3. Bond County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est. Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ayers Reservoir | 1906 | 1.9 | 131.7 | 0.21 | 0.14 | 0.13 | 0.09 | 11 | 0.07 | 8 | 0.07 | 8 |
| Greenville New City L* | 1969 | 35.1 | 9626.5 | 0.57 | 0.55 | 0.54 | 3.59 | 23 | 3.57 | 23 | 3.50 | 22 |
| Greenville Old City Lk | 1936 | 1.37 | 353 | | 0.52 | | | | 0.12 | 20 | | |
| Sorento Reservoir* | 1961 | 0.55 | 101 | | 0.38 | 0.36 | | | 0.04 | 17 | 0.04 | 17 |

Note: Greenville New City Lake also known as Governor Bond Lake

## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 47.0 | 38.92 | 10 | 4 | 0.40 | 3.80 | 17 |
| Potential Res. | | 82 | 21 | 6 | 1.20 | 16.30 | 36 |

## COUNTY WIDE

County Area = 383 sq mi

Max Potential Yield = 29.15 mgd

Ex Res Yield/Max Yield = 0.13

Ex & Pot Res/Max Yield = 0.69

## Table 4. Boone County

EXISTING RESERVOIRS

| Reservoir name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I 1980 | 40-Yr Drought Net Yield 1980 (mgd) | 40-Yr Drought Net Yield %MAI |
|---|---|---|---|---|---|---|
| Candlewick Lake | 1972 | 3.28 | 2127 | 1.37 | 0.98 | 70 |

### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 18.0 | 3.28 | 1 | 1 | 1.37 | 0.98 | 70 |
| Potential Res. | | 14.4 | 5 | 2 | 0.66 | 3.50 | 62 |

### COUNTY WIDE

County Area = 283 sq mi
Max Potential Yield = 83.98 mgd

Ex Res Yield/Max Yield = .01
Ex & Pot Res Yield/Max Yield = .05

## Table 5. Brown County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est. Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hambaugh-Martin 1 | 1961 | 2.09 | 342.6 | 0.43 | 0.35 | 0.31 | 0.23 | 26 | 0.21 | 24 | 0.18 | 21 |
| Hambaugh-Martin 2 | 1959 | 0.22 | 42 | | 0.41 | | | | 0.02 | 22 | | |
| Hambaugh-Martin 3 | 1959 | 1.33 | 135 | | 0.22 | | | | 0.10 | 18 | | |
| Lake Mt. Sterling | 1935 | 1.8 | 189.3 | 0.38 | 0.23 | 0.18 | 0.18 | 25 | 0.13 | 18 | 0.11 | 15 |



### Summary

| | Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 36.5 | 5.44 | 2 | 4 | 0.30 | 0.46 | 21 |
| Potential Res. | | 382.9 [1] | [1] | 8 | 1.65 | 85.5 [1] | 66 |

### COUNTY WIDE

County Area = 307 sq mi
Max Potential Yield = 26.10 mgd

Ex Res Yield/ Max Yield = 0.02
Ex & Pot Res Yield/Max Yield = 3.29 [1], [2]

## Table 6. Bureau County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | Est. 1980 Capacity (ac-ft) | C/I 1980 | 40-Yr Drought Net Yield 1980 (mgd) | %MAI |
|---|---|---|---|---|---|---|
| Beaver Glenn Lake | 1973 | 3 | 110 | 0.08 | 0.15 | 12 |
| Tiskilwa Watershed 2 | 1960 | 2.07 [4] | 95 | 0.10 | 0.12 | 14 |
| Tiskilwa Watershed 1 | 1960 | 1.25 | 99 | 0.17 | 0.10 | 19 |
| Tiskilwa Watershed 4 | 1960 | 0.59 | 30 | 0.11 | 0.04 | 16 |
| Tiskilwa Watershed 5 | 1960 | 0.59 | 99 | 0.36 | 0.07 | 29 |



### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 27.4 | 7.5 | 1 | 5 | 0.16 | 0.48 | 18 |
| Potential Res. | | 498.1 [1] | 57 [1] | 7 | 0.93 | 101 [1] | 62 |

### COUNTY WIDE

County Area = 868 sq mi

Max Potential Yield = 65.49 mgd

Ex Res Yield/Max Yield = 0.01

Ex & Pot Res Yield/Max Yield = 1.55 [1], [2]

## Table 7. Calhoun County

**EXISTING RESEVOIRS** none analyzed

### Summary

| | Total Dr. Area | % County Area | No. of reservoirs | Average C /I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|
| Potential Res. | 5.20 | < 1 | 2 | 4.98 | 1.00 | 50 |

### COUNTY WIDE

**County Area = 259 sq mi**
**Max Potential Yield = 53.05 mgd [3]**

**Ex Res Yield/Max Yield =**
**Ex & Pot Res Yield/Max Yield = 0.02 [3]**

## Table 8. Carroll County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est. Cap. (ac-ft) | C/I 1980 | 40-Yr. Drought Net Yield 1980 (mgd) | %MAI |
|---|---|---|---|---|---|---|
| Lake Carroll | 1974 | 21.9 | 14711 | 1.40 | 6.83 | 73 |
| Timber Lake | 1960 | 0.3 | 87 | 0.60 | 0.06 | 47 |



## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 23.0 | 22.2 | 5 | 2 | 1.00 | 6.89 | 60 |
| Potential Res. | | 138 | 29 | 4 | 1.51 | 43.30 | 69 |

## COUNTY WIDE

**County Area = 468 sq mi**

**Max Potential Yield = 121.72 mgd**

**Ex Res Yield/Max Yield = 0.06**

**Ex & Pot Res Yield/Max Yield = 0.41**

## Table 9. Cass County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Longs Lake | 1960 | 0.09 | 85 | | 2.08 | | | | 0.01 | 27 | | |
| Virginia Lake* | 1933 | 0.83 | 179 | | 0.48 | 0.43 | | | 0.14 | 42 | 0.14 | 42 |



## Summary

| | 1990 Ave. age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 43.5 | 0.92 | <1 | 2 | 1.28 | 0.15 | 35 |
| Potential Res. | | 111.6 | 30 | 13 | 1.16 | 22.20 | 47 |

## COUNTY WIDE

**County Area = 370 sq mi**
**Max Potential Yield = 52.43 mgd**

**Ex Res Yield/Max Yield = < .01**
**Ex & Pot Res Yield/Max Yield = 0.43**

## Table 10. Champaign County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 EsL Cap. (ac-ft) | C/I 1980 | 40-Yr Drought; Net Yield 1980 (mgd) | %MAI |
|---|---|---|---|---|---|---|
| Greenwood Lake | 1960 | 0.07 | 65 | 1.81 | 0.01 | 31 |
| Homer Lake | 1969 | 14.5 | 666 | 0.09 | 1.22 | 18 |
| Lake of the Woods | 1940 | 1 | 232 | 0.45 | 0.13 | 28 |
| Spring Lake | 1964 | 3.25 | 233 | 0.14 | 0.23 | 15 |



### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 31.8 | 18.82 | 2 | 4 | 0.62 | 1.59 | 23 |
| Potential Res. | | 33.5 | 3 | 5 | 0.28 | 3.20 | 23 |

### COUNTY WIDE

County Area = 1000 sq mi

Max Potential Yield = 108.46 mgd

Ex Res Yield/Max Yield = .01

Ex & Pot Res Yield/Max Yield = .04

## Table 11. Christian County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bertinetti's Lake | 1956 | 3.1 | 402 | | 0.27 | | | | 0.24 | 18 | | |
| Boyd Lake | 1952 | 0.57 | 34 | | 0.12 | | | | 0.03 | 12 | | |
| Kincaid City Lake* | 1940 | 2.5 | 264 | | 0.22 | 0.21 | | | 0.18 | 17 | 0.17 | 16 |
| Lake Taylorville* | 1961 | 131.3 | 7655.4 | 0.15 | 0.12 | 0.11 | 7.53 | 13 | 7.05 | 13 | 6.21 | 11 |
| Luster's Lake | 1960 | 0.27 | 34 | | 0.26 | | | | 0.02 | 17 | | |
| Pana Lake* | 1948 | 8.5 | 3297 | | 0.77 | 0.75 | | | 1.47 | 39 | 1.46 | 38 |
| Paragon Lake | 1949 | 2.8 | 320 | | 0.23 | | | | 0.20 | 16 | | |
| Sangchris Lake* | 1967 | 73 | 34628 | 1.01 | 1.00 | 0.99 | 13.03 | 42 | 12.96 | 42 | 12.90 | 42 |

### Summary

| | 1990 Ave. Age | Total Dr. area | % County Area | No. of reservoirs | Average C /1 | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 35.9 | 222.04 | 31 | 8 | 0.37 | 22.15 | 22 |
| Potential Res. | | 88.8 | 13 | 8 | 0.79 | 12.40 | 34 |

### COUNTY WIDE

County Area = 709 sq mi
Max Potential Yield = 66.87 mgd

Ex Res Yield/Max Yield = 0.33
Ex & Pot Res Yield/Max Yield= 0.52

## Table 12. Clark County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Craig Lake | 1956 | 0.67 | 155.2 | 0.49 | 0.40 | 0.38 | 0.08 | 23 | 0.07 | 20 | 0.06 | 17 |
| Ilnoname 2043 | 1960 | 0.08 | 56 | | 1.23 | | | | 0.01 | 25 | | |
| Lincoln Trail St. Pk. Lake | 1956 | 3.28 | 1805 | | 0.96 | | | | 0.65 | 39 | | |
| Mill Creek Structure No. 1 | | 20.62 | 17549 | - | 1.49 | | | | 5.51 | 52 | | |
| Mill Creek Structure No. 3 | | 11.36 | 363 | | 0.06 | | | | 0.34 | 6 | | |
| Newman's Lake | 1954 | 0.27 | 42 | | 0.28 | | | | 0.02 | 15 | | |
| Round Grove Spt. Lake | 1947 | 0.1 | 81 | | 1.43 | | | | 0.02 | 40 | | |
| Sherwood Forest Lake | 1954 | 1.52 | 53 | | 0.06 | | | | 0.04 | 5 | | |
| Snake Trail Camp. Lake | 1957 | 0.6 | 166 | | 0.49 | | | | 0.07 | 23 | | |
| Stevenson's Lake | 1950 | 0.37 | 34.9 | 0.24 | 0.16 | 0.14 | 0.02 | 11 | 0.02 | 11 | 0.02 | 11 |

### Summary

| | 1990 Ave. Age | Total Dr. area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 35.8 | 38.87 | 8 | 10 | 0.66 | 6.75 | 24 |
| Potential Res. | | 305.7 [1] | 61 [1] | 12 | 1.02 | 55.2 [1] | 42 |

### COUNTY WIDE

County Area = 505 sq mi

Max Potential Yield = 61.77 mgd

Ex Res Yield/Max Yield = 0.11

Ex & Pot Res Yield/Max Yield = 1.00 [1], [2]

# Table 13. Clay County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est. Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Charley Brown Pk. Lk | 1936 | 1.47 | 28.2 | 0.06 | 0.03 | 0.03 | 0.03 | 4 | 0.02 | 3 | 0.02 | 3 |
| Gaskin Lake | 1957 | 1.5 | 141 | | 0.16 | | | | 0.08 | 10 | | |
| Greendale Lake | 1926 | 9.5 | 147.8 | 0.06 | 0.03 | 0.02 | 0.21 | 4 | 0.11 | 2 | 0.10 | 2 |
| Patterson Lake | 1926 | 1.27 | 260.8 | 0.45 | 0.37 | 0.36 | 0.12 | 19 | 0.10 | 16 | 0.10 | 16 |
| Trago Lake | 1956 | 0.5 | 68 | | 0.24 | | | | 0.03 | 12 | | |



## Summary

| | 1990 Ave. Age | Total Dr. area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 49.8 | 14.24 | 3 | 5 | 0.17 | 0.34 | 9 |
| Potential Res. | | 746.1 [1] | [1] | 9 | 0.94 | 129.9 [1] | 39 [1] |

## COUNTY WIDE

County Area = 464 sq mi

Max Potential Yield = 21.09 mgd

Ex Res Yield/Max Yield = 0.02

Ex & Pot Res Yield/Max Yield = 6.18 [1], [2]

# Table 14. Clinton County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est. Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carlyle Lake* @445 | 1967 | 2719 [1] | 214710 | 0.16 | 0.15 | 0.15 | 187.98 | 15 | 185.74 | 15 | 182.25 | 15 |
| CBQ Railroad Res | 1900 | 0.63 | 133 | | 0.41 | | | | 0.07 | 24 | | |
| Lake Joy | 1946 | 0.45 | 62 | | 0.26 | | | | 0.04 | 19 | | |

## Summary

| | **1990** Ave. Age | Total Dr. area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 52.3 | 2720.08[1] | [1] | 3 | 0.27 | 185.85[1] | 19 |
| Potential Res. | | 14.5 | 3 | 1 | 1.18 | 2.70 | 45 |

## COUNTY WIDE

County Area = 498 sq mi
Max Potential Yield = 43.27 mgd

Ex Res Yield/Max Yield = 4.30 [1]
Ex & Pot Res Yield/Max Yield = 4.36 [1]

## Table 15. Coles County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Fox Ridge Lake | 1941 | 1.41 | 99 | 0.24 | 0.13 | 0.10 | 0.10 | 14 | 0.06 | 9 | 0.05 | 7 |
| Lake Charleston* | 1947 | 811 [1] | 864.6 | | <.01 | <.01 | | | 3.84 | 1 | 3.83 [+] | 1 |
| Oakland Lake* | 1938 | 14.31 | 104.7 | 0.01 | 0.01 | 0.01 | 0.14 | 2 | 0.11 | 2 | 0.10 | 1 |
| Paradise Lake* | 1929 | 18.1[4] | 1399 | 0.21 | 0.14 | 0.14 | 1.23 | 14 | 0.91 | 10 | 0.87 | 10 |

[+] dam breach repaired 1988, 1990 values reflect small increase in capacity due to scour; capacity does not include that of side-channel reservoir

## Summary

| | 1990 Ave. Age | Total Dr. area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 51.2 | 844.82 [1] | 167 | 4 | 0.07 | 4.92 [1] | 6 |
| Potential Res. | | 590.9 [1] | [1] | 9 | 0.42 | 94.5 [1] | 37 |

## COUNTY WIDE

County Area = 507 sq mi

Max Potential Yield = 14.93 mgd

Ex Res Yield/Max Yield = 0.33 [1]

Ex & Pot Res Yield/Max Yield = 6.66 [1], [2]

## Table 16. Cook County

EXISTING RESERVOIRS none analyzed



### Summary

| | Total Dr. Area | % County Area | No. of reservoirs | Average C /I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|
| Potential Res. | 3.60 | < 1 | 2 | 0.60 | 1.00 | 58 |

### COUNTY WIDE

County Area = 954 sq mi

Max Potential Yield = 250.40 mgd [3]

Ex Res Yield/Max Yield =

Ex & Pot Res Yield/Max Yield = < .01 [3]

## Table 17. Crawford County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I 1980 | 40-Yr Drought Net Yield 1980 (mgd) | 40-Yr Drought Net Yield %MAI |
|---|---|---|---|---|---|---|
| Allen Lake | 1966 | 0.28 | 98 | 0.60 | 0.04 | 27 |
| Athey Lake | 1952 | 1.88 | 118 | 0.11 | 0.08 | 8 |
| Brooks Lake | 1950 | 0.5 | 485 | 1.64 | 0.11 | 42 |
| Burcham Pond | 1961 | 0.28 | 41 | 0.25 | 0.02 | 14 |
| Newlin Lake | 1966 | 0.28 | 28 | 0.17 | 0.02 | 14 |
| West Lake | 1948 | 0.47 | 83 | 0.30 | 0.04 | 16 |

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### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 32.8 | 3.69 | 1 | 6 | 0.51 | 0.31 | 20 |
| Potential Res. | | 105.81 | 24 | 8 | 0.92 | 21.90 | 43 |

### COUNTY WIDE

County Area = 442 sq mi

Max Potential Yield = 46.32 mgd

Ex Res Yield/Max Yield = 0.01

Ex & Pot Res Yield/Max Yield = 0.48

# Table 18. Cumberland County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | % MAI | 1980 (mgd) | % MAI | 1990 (mgd) | % MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ettlebrick Lake | 1900 | 0.25 | 49.7 | 0.48 | 0.36 | 0.34 | 0.02 | 16 | 0.02 | 16 | 0.02 | 16 |
| Lake Louise | 1944 | 0.25 | 117 | | 0.86 | | | | 0.04 | 33 | | |
| Montrose City Lake | 1954 | 0.25 | 36 | | 0.26 | | | | 0.02 | 16 | | |



## Summary

| | 1990 Ave. Age | Total Dr. area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 57.3 | 0.75 | <1 | 3 | 0.49 | 0.08 | 22 |
| Potential Res. | | 308.3 [1] | 89 [1] | 12 | 0.99 | 61.4 [1] | 44 |

## COUNTY WIDE

County Area = 346 sq mi

Max Potential Yield = 38.07 mgd

Ex Res Yield/Max Yield = 0.002

Ex & Pot Res Yield/Max Yield = 1.61 [1], [2]

# Table 19. De Kalb County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I 1980 | 40-Yr Drought Net Yield 1980 (mgd) | %MAI |
|---|---|---|---|---|---|---|
| Shabbona Lake | 1974 | 20.14 | 4275 | 0.42 | 4.05 | 44 |



## Summary

| | 1990 Ave. Age | Total Dr. area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 16.0 | 20.14 | 3 | 1 | 0.42 | 4.05 | 44 |
| Potential Res. | | 18.6 | 3 | 1 | 1.65 | 3.20 | 77 |

## COUNTY WIDE

County Area = 636 sq mi

Max Potential Yield = 126.64 mgd

Ex Res Yield/Max Yield = 0.03

Ex & Pot Res Yield/Max Yield = 0.06

## Table 20. De Witt County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est. Cap. (ac-ft) | C/I 1980 | 40-Yr Drought Net Yield 1980 (mgd) | 40-Yr Drought Net Yield % MAI |
|---|---|---|---|---|---|---|
| Clinton Lake | 1977 | 291.5 [1] | 74200 | 0.53 | 52.05 | 42 |
| Clyde Vance Lake | 1955 | 3.5 | 134 | 0.08 | 0.12 | 8 |
| Weldon Springs Lk | 1937 | 1.4 | 303 | 0.45 | 0.17 | 28 |

## Summary

| | 1990 Ave. Age | Total Dr. area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. % MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 33.7 | 296.4 [1] | 74 [1] | 3 | 0.35 | 52.34 [1] | 26 |
| Potential Res. | | 234 [1] | 59 [1] | 6 | 0.56 | 46.6 [1] | 42 |

## COUNTY WIDE

County Area = 399 sq mi

Max Potential Yield = 44.47

Ex Res Yield/Max Yield = 1.18 [1]

Ex & Pot Res Yield/Max Yield = 2.22 [1]

## Table 21. Douglas County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I 1980 | 40-Yr Drought Net Yield 1980 (mgd) | %MAI |
|---|---|---|---|---|---|---|
| Patterson Springs Lk. | 1945 | 2.5 | 22 | 0.02 | 0.03 | 2 |
| Walnut Point St Pk Lk | 1961 | 4 | 673 | 0.31 | 0.39 | 20 |



## Summary

| | 1990 Ave. Age | Total Dr. area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 37.0 | 6.5 | 2 | 2 | 0.16 | 0.42 | 11 |
| Potential Res. | | 4 | 1 | 1 | 0.30 | 0.40 | 20 |

## COUNTY WIDE

County Area = 420 sq mi
Max Potential Yield = 22.23 mgd

Ex Res Yield/Max Yield = 0.02
Ex & Pot Res Yield/Max Yield = 0.04

## Table 22. Du Page County

EXISTING RESERVOIRS none analyzed

### Summary

| | Total Dr. Area | % County Area | No. of reservoirs | Average C /I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|
| Potential Res. | 28.50 | 26 | 2 | 0.98 | 8.00 | 76 |

### COUNTY WIDE

County Area = 331 sq mi
Max Potential Yield =111.44 mgd [3]

Ex Res Yield/Max Yield =
Ex & Pot Res Yield/Max Yield = 0.07 [3]

# Table 23. Edgar County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|
| Eads Lake | 1956 | 0.2 | 54 | 0.48 | | 0.02 | 20 | | |
| Paris Twin Lk* | | 21.7 [4] | 1550 | 0.12 | 0.12 | 1.08 | 10 | 1.03 | 9 |



**Summary**

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C /I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 34.0 | 21.9 | 3 | 2 | 0.30 | 1.10 | 15 |
| Potential Res | | 160.8 | 26 | 3 | 1.11 | 35.40 | 55 |

**COUNTY WIDE**

County Area = 628 sq mi

Max Potential Yield = 47.12 mgd

Ex Res Yield/Max Yield = 0.02

Ex & Pot Res Yield/Max Yield = 0.77

## Table 24. Edwards County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I Orig | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Albion Moose Lake | 1940 | 0.3 | 153 | | 0.78 | | | | 0.05 | 29 | | |
| Bonpas Creek Res. | | 1.56 | 57 | | 0.05 | | | | 0.03 | 3 | | |
| Harrison Lake | 1956 | 1.2 | 39 | | 0.05 | | | | 0.02 | 3 | | |
| Krajec Lake | 1950 | 0.25 | 34 | | 0.21 | | | | 0.01 | 7 | | |
| W. Salem New Res* | 1968 | 0.74 | 129.2 | 0.29. | 0.27 | 0.26 | 0.06 | 14 | 0.06 | 14 | 0.06 | 14 |
| West Salem Old Res* | 1968 | 1.2 | 26.3 | 0.05 | 0.03 | 0.02 | 0.03 | 4 | 0.02 | 3 | 0.01 | 1 |

### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 33.6 | 5.25 | 2 | 6 | 0.23 | 0.19 | 10 |
| Potential Res. | | 4.5 | 2 | 3 | 1.09 | 1.10 | 45 |

### COUNTY WIDE

County Area = 225 sq mi
Max Potential Yield = 13.08 mgd

Ex Res Yield/Max Yield = 0.01
Ex & Pot ResYield/Max Yield = 0.10

# Table 25. Effingham County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Altamont Res.* | 1972 | 1.07 | | | 1.66 | 1.65 | | | 0.29 | 57 | 0.29 | 57 |
| CIPS Lk* | 1930 | 0.84 | 252.7 | 0.63 | 0.56 | 0.55 | 0.15 | 37 | 0.13 | 32 | 0.13 | 32 |
| Lake Sara* | 1957 | 11.8 | 13552 | 2.19 | 2.15 | 2.14 | 3.66 | 65 | 3.62 | 64 | 3.61 | 64 |
| Little Wabash Res. | 1900 | 240 | 36 | | <.01 | | | | 1.14 | 1 | | |
| Old Altamont Res | 1934 | 2.73 | 95 | | 0.07 | | | | 0.08 | 6 | | |
| Roberts Lake | 1965 | 0.23 | 48 | | 0.39 | | | | 0.02 | 18 | | |

## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 47.0 | 256.67 | 53 | 6 | 0.81 | 5.28 | 30 |
| Potential Res. | | 67.7 | 14 | 8 | 0.83 | 15.00 | 39 |

## COUNTY WIDE

County Area = 482 sq mi

Max Potential Yield = 70.26 mgd

Ex Res Yield/Max Yield = 0.08

Ex & Pot Res Yield/Max Yield = 0.29

# Table 26. Fayette County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Etcheson's Lake | 1943 | 0.17 | 11.5 | 0.23 | 0.13 | 0.11 | 0.01 | 13 | 0.01 | 13 | <.01 | <1 |
| Farina Lake | 1928 | 0.35 | 11.3 | 0.09 | 0.06 | 0.06 | 0.01 | 6 | 0.01 | 6 | 0.01 | 6 |
| Ill. Dept. Cons. Pond | 1973 | 1 | 50 | | 0.10 | | | | 0.03 | 6 | | |
| Lake Nellie* | 1964 | 2.45 | 792.5 | 0.65 | 0.62 | 0.61 | 0.38 | 33 | 0.37 | 33 | 0.36 | 32 |
| Ramsey Lake | 1948 | 2.34 | 592 | | 0.51 | | | | 0.24 | 23 | | |
| St. Elmo Old City Res | 1903 | 3.02 | 75 | | 0.05 | | | | 0.06 | 4 | | |
| St. Peter Spts Lk | 1951 | 0.22 | 90 | | 0.78 | | | | 0.03 | 29 | | |
| Vandalia Lake* | 1965 | 26 | 6478.1 | 0.51 | 0.49 | 0.48 | 3.05 | 26 | 2.91 | 25 | 2.84 | 24 |



## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 43.1 | 35.55 | 5 | 8 | 0.34 | 3.66 | 17 |
| Potential Res. | | 80.6 | 11 | 6 | 1.16 | 17.90 | 50 |

## COUNTY WIDE

County Area = 718 sq mi

Max Potential Yield = 56.40 mgd

Ex Res Yield/Max Yield = 0.06

Ex & Pot Res Yield/Max Yield = 0.38

## Table 27. Ford County

**EXISTING RESERVOIRS** none analyzed

### Summary

| | Total Dr. Area | % County Area | No. of reservoirs | Average C /I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|
| Potential Res. | 17.80 | 28 | 3 | 0.35 | 2.20 | 29 |

### COUNTY WIDE

County Area = 488 sq mi

Max Potential Yield = 64.72 mgd [3]

Ex Res Yield/Max Yield =

Ex & Pot Res Yield/Max Yield = 0.03 [3]

## Table 28. Franklin County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq. mi.) | 1980 Est Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Christopher New Res | 1923 | 0.93 | 337.9 | 0.68 | 0.60 | 0.58 | 0.20 | 40 | 0.19 | 38 | 0.19 | 38 |
| Christopher Old Res | 1900 | 0.6 | 112 | | 0.30 | | | | 0.07 | 21 | | |
| City of Sesser Res | 1914 | 1.2 | 182 | | 0.25 | | | | 0.14 | 22 | | |
| ICRR Reservoir | 1926 | 1.8 | 272.5 | 0.30 | 0.23 | 0.22 | 0.25 | 24 | 0.22 | 21 | 0.21 | 20 |
| Lake Benton | 1939 | 2.66 | 371 | | 0.22 | | | | 0.30 | 20 | | |
| Lake Hamilton | 1912 | 2.7 | 117 | | 0.07 | | | | 0.12 | 8 | | |
| Lake Moses | 1918 | 3.1 | 370 | | 0.19 | | | | 0.33 | 19 | | |
| Rend Lake* @ 405 ft | 1971 | 488 | 177000 | 0.61 | 0.59 | 0.56 | 107.36 | 40 | 104.81 | 39 | 101.46 | 38 |
| Valier Lake | 1960 | 2.47 | 291.2 | 0.24 | 0.19 | 0.18 | 0.29 | 21 | 0.25 | 18 | 0.24 | 18 |
| W. Frankfort New City | 1945 | 7.62 | 2071 | 0.53 | 0.41 | 0.38 | 1.71 | 38 | 1.42 | 32 | 1.35 | 30 |
| W.Frankfort Old City | 1926 | 4.03 | 1156.2 | 0.60 | 0.43 | 0.40 | 0.94 | 39 | 0.80 | 34 | 0.73 | 31 |
| Zeigler City Lake | 1948 | 0.31 | 290 | | 1.46 | | | | 0.09 | 51 | | |

### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. % MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 58.2 | 515.42[1] | [1] | 12 | 0.40 | 108.74 [1] | 27 |
| Potential Res. | | 28.8 | 7 | 3 | 0.79 | 7.70 | 47 |

### COUNTY WIDE

County Area = 434 sq mi

Max Potential Yield = 66.98 mgd

Ex Res Yield/Max Yield = 1.62 [1]

Ex & Pot Res Yield/Max Yield = 1.74 [1]

# Table 29. Fulton County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Astoria Reservoir | 1924 | 0.42 | 19.3 | 0.35 | 0.10 | 0.06 | 0.04 | 24 | 0.02 | 12 | 0.01 | 6 |
| Avondale C.C. Lake | | 2.58 | 178 | | 0.15 | | | | 0.15 | 14 | | |
| Canton City Lk* | 1939 | 14.4 | 3120 | 0.62 | 0.48 | 0.45 | 1.98 | 34 | 1.67 | 29 | 1.53 | 26 |
| Freshwater Lake | 1962 | 1.25 | 71 | | 0.13 | | | | 0.06 | 12 | | |
| Lake Avon C.C. Res | 1957 | 3.09 | 86.4 | 0.14 | 0.06 | 0.05 | 0.17 | 14 | 0.09 | 7 | 0.09 | 7 |
| Lake Roberts | 1963 | 1.14 | 139 | | 0.27 | | | | 0.09 | 19 | | |
| Sweeneys Pond | 1952 | 0.34 | 114 | | 0.74 | | | | 0.04 | 29 | | |
| Van Winkle Lake | 1900 | 4.97 | 98 | | 0.04 | | | | 0.07 | 3 | | |
| Wee Ma Tuk Lake | 1959 | 19.38 | 1558 | | 0.18 | | | | 1.02 | 13 | | |

## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 45.5 | 47.57 | 5 | 9 | 0.24 | 3.21 | 15 |
| Potential Res. | | 319.6 [1] | 37 [1] | 20 | 1.28 | 82.1 [1] | 69 |

## COUNTY WIDE

County Area = 874 sq mi

Max Potential Yield = 53.08 mgd

Ex Res Yield/Max Yield = 0.06

Ex & Pot Res Yield/Max Yield = 1.61 [1], [2]

# Table 30. Gallatin County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | % MAI | 1980 (mgd) | % MAI | 1990 (mgd) | % MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Omaha City Res* | 1965 | 0.24 | 149.8 | 0.93 | 0.90 | 0.88 | 0.06 | 40 | 0.06 | 40 | 0.06 | 40 |
| Pounds Lake | 1939 | 1.6 | 717 | | 0.49 | | | | 0.41 | 32 | | |



## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 38.0 | 1.84 | 1 | 2 | 0.70 | 0.47 | 36 |
| Potential Res. | | 463.7 | [1] | 9 | 1.90 | 51.50 | 50 |

## COUNTY WIDE

County Area =328 sq mi

Max Potential Yield = 84.37 mgd

Ex Res Yield/ Max Yield = 0 . 0 1

Ex & Pot Res Yield/Max Yield = 0.62

## Table 31. Greene County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Coles Lake | 1923 | 0.23 | 47.6 | 0.63 | 0.45 | 0.42 | 0.02 | 21 | 0.01 | 11 | 0.01 | 11 |
| Greenfield City Lk* | 1959 | 1.11 | 564 | | 1.10 | 1.07 | | | 0.12 | 26 | 0.12 | 26 |
| Roodhouse Lake | 1974 | 0.45 | 48.5 | 0.30 | 0.24 | 0.23 | 0.02 | 11 | 0.02 | 11 | 0.02 | 11 |
| White Hall Res* | 1952 | 0.97 | 384.4 | 1.04 | 0.87 | 0.86 | 0.11 | 28 | 0.10 | 25 | 0.10 | 25 |
| Woodbine C.C. Lake | 1926 | 0.33 | 29.5 | 0.39 | 0.19 | 0.16 | 0.02 | 15 | 0.01 | 7 | 0.01 | 7 |

### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 43.2 | 3.09 | 1 | 5 | 0.57 | 0.26 | 16 |
| Potential Res. | | 183.4 | 34 | 9 | 0.72 | 20.90 | 28 |

### COUNTY WIDE

County Area = 543 sq mi
Max Potential Yield = 35.59 mgd

Ex Res Yield/Max Yield = 0.01
Ex & Pot Res Yield/Max Yield = 0.59

## Table 32. Grundy County

EXISTING RESERVOIRS none analyzed

### Summary

| | Total Dr. Area | % County Area | No. of reservoirs | Average C /I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|
| Potential Res. | 22.70 | 13 | 2 | 0.32 | 4.30 | 30 |

### COUNTY WIDE

County Area = 432 sq mi
Max Potential Yield = 58.03 mgd [3]

Ex Res Yield/Max Yield =
Ex & Pot Res Yield/Max Yield = 0.07 [3]

## Table 33. Hamilton County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | 40-Yr Drought Net Yield: C/I 1980 | 40-Yr Drought Net Yield: 1980 (mgd) | 40-Yr Drought Net Yield: %MAI |
|---|---|---|---|---|---|---|
| Dolan Lake | 1963 | 1.66 | 627 | 0.57 | 0.31 | 31 |
| Lake Helen | 1958 | 0.11 | 60 | 0.86 | 0.02 | 32 |
| Mc Leansboro Lake | 1942 | 1.3 | 604 | 0.71 | 0.28 | 37 |



### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 35.7 | 3.07 | 1 | 3 | 0.71 | 0.61 | 33 |
| Potential Res. | | 18.6 | 4 | 3 | 1.33 | 6.60 | 58 |

### COUNTY WIDE

County Area = 435 sq mi

Max Potential Yield = 83.42 mgd

Ex Res Yield/Max Yield = 0.01

Ex & Pot ResYield/Max Yield = 0.09

## Table 34. Hancock County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est. Cap. (ac-ft) | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield 1980 (mgd) | %MAI | 1990 (mgd) | % MAI |
|---|---|---|---|---|---|---|---|---|---|
| Augusta Lake | 1945 | 3.4 | 287 | 0.19 | | 0.22 | 16 | | |
| Carthage Res* | 1924 | 3.07 | 487.1 | 0.35 | 0.26 | 0.33 | 27 | 0.26 | 21 |
| Horton Lake | 1967 | 0.33 | 146 | 0.98 | | 0.04 | 30 | | |
| La Harpe Reservoir* | 1949 | 0.1 | 90 | 1.99 | | 0.02 | 49 | | |
| Little Rocky Run Lk | 1971 | 3.3 | 1640 | 1.10 | | 0.50 | 37 | | |
| Musick Pond | 1965 | 0.4 | 39 | 0.22 | | 0.03 | 19 | | |
| Rocky Run Lake | 1971 | 7.3 | 1640 | 0.50 | | 0.83 | 28 | | |



### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 34.0 | 17.9 | 2 | 7 | 0.76 | 1.97 | 29 |
| Potential Res. | | 478.6 [2] | 60 [2] | 16 | 1.29 | 109.1 [2] | 59 |

### COUNTY WIDE

County Area = 797 sq mi
Max Potential Yield = 93.58 mgd

Ex Res Yield/Max Yield = 0.02
Ex & Pot Res Yield/Max Yield = 1.19 [2]

## Table 35. Hardin County

EXISTING RESERVOIRS none analyzed

### Summary

| | Total Dr. Area | % County Area | No. of reservoirs | Average C /I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|
| Potential Res. | 65.75 | 72 | 4 | 1.43 | 27.50 | 58 |

### COUNTY WIDE

County Area = 183 sq mi

Max Potential Yield = 91.01 mgd [3]

Ex Res Yield/Max Yield =

Ex & Pot Res Yield/Max Yield = 0.30 [3]

# Table 36. Henderson County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | 40-Yr Drought Net Yield: C/I 1980 | 40-Yr Drought Net Yield: 1980 (mgd) | 40-Yr Drought Net Yield: %MAI |
|---|---|---|---|---|---|---|
| Dowell Lake | 1954 | 0.39 | 43 | 0.24 | 0.04 | 25 |
| Kissinger Lake | 1954 | 0.55 | 30 | 0.12 | 0.05 | 22 |
| Norris Lake | 1948 | 0.35 | 28 | 0.18 | 0.03 | 21 |



## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 38 | 1.29 | < 1 | 3 | 0.18 | 0.12 | 23 |
| Potential Res. | | 122 | 32 | 9 | 1.52 | 35.80 | 74 |

## COUNTY WIDE

County Area = 381 sq mi

Max Potential Yield = 18.51 mgd

Ex Res Yield/Max Yield = 0.01

Ex & Pot Res Yield/Max Yield = 1.94

## Table 37. Henry County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est. Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | % MAI | 1980 (mgd) | % MAI | 1990 (mgd) | % MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Crescent Lake | 1900 | 1.56 | 186 | | 0.26 | | | | 0.14 | 22 | | |
| Johnson Sauk TrLk | 1956 | 1.37 | 471.5 | 0.85 | 0.74 | 0.62 | 0.18 | 32 | 0.18 | 32 | 0.17 | 30 |



## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. % MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 62.0 | 2.93 | < 1 | 2 | 0.50 | 0.32 | 27 |
| Potential Res. | | 151.9 | 18 | 13 | 1.13 | 41.50 | 67 |

## COUNTY WIDE

County Area = 826 sq mi
Max Potential Yield = 92.96 mgd

Ex Res Yield/Max Yield = < .01
Ex & Pot Res Yield/Max Yield = 0.45

# Table 38. Iroquois County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I 1980 | 40-Yr Drought Net Yield 1980 (mgd) | 40-Yr Drought Net Yield %MAI |
|---|---|---|---|---|---|---|
| Bayles Lake | 1951 | 4.69 | 379 | 0.16 | 0.27 | 13 |



## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 39.0 | 4.69 | <1 | 1 | 0.16 | 0.27 | 13 |
| Potential Res. | | 63.0 | 6 | 8 | 0.29 | 7.80 | 45 |

## COUNTY WIDE

County Area = 1122 sq mi
Max Potential Yield = 70.87 mgd

Ex Res Yield/Max Yield = < .01
Ex & Pot Res Yield/Max Yield = 0.11

# Table 39. Jackson County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. , (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MA1 | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Campus Lake | 1960 | 0.47 | 158 | | 0.52 | | | | 0.09 | 33 | | |
| Carbondale Res.* | 1926 | 3.3 | 939.2 | 0.65 | 0.44 | 0.40 | 0.78 | 41 | 0.63 | 33 | 0.56 | 29 |
| Cedar Lake* | 1974 | 23.1 [4] | 41500 | | 2.76 | | | | 12.07 | 90 | | |
| Chatauqua Lake | 1967 | 1.91 | 2242 | | 1.85 | | | | 0.62 | 57 | | |
| Elkville C.C. Res. | 1947 | 1.4 | 158 | | 0.18 | | | | 0.13 | 17 | | |
| Kinkaid Lk* | 1972 | 62.3 | 78498 | 2.09 | 2.07 | 2.04 | 25.97 | 77 | 25.88 | 76 | 25.70 | 76 |
| Little Cedar Lk* | 1969 | 6.53 [4] | 602.8 | 0.18 | 0.14 | 0.11 | 0.70 | 19 | 0.62 | 17 | 0.52 | 14 |
| Lk Murphysboro | 1947 | 3 | 2375 | | 1.29 | | | | 0.86 | 52 | | |
| Snyder's Hunt. CI. L. | | 5.62 | 800 | | 0.23 | | | | 0.62 | 20 | | |
| Spring Lake | 1965 | 0.68 | 1638 | | 3.61 | | | | 0.19 | 47 | | |

## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 31.4 | 108.31 | 18 | 10 | 1.31 | 41.71 | 44 |
| Potential Res. | | 119.2 | 20 | 8 | 0.92 | 36.80 | 44 |

## COUNTY WIDE

County Area = 603sq mi

Max Potential Yield = 145.34 mgd

Ex Res Yield/Max Yield = 0.29

Ex & Pot Res Yield/Max Yield = 0.54

## Table 40. Jasper County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est. Cap. (ac-ft) | C/I 1980 | 40- Yr Drought Net Yield 1980 (mgd) | %MAI |
|---|---|---|---|---|---|---|
| Burgett Lake | 1950 | 0.14 | 36 | 0.46 | 0.01 | 14 |
| Lake Jasper | 1945 | 3.32 | 106 | 0.06 | 0.09 | 5 |
| Sam Parr Lake | 1970 | 6.17 | 1819 | 0.52 | 0.82 | 26 |



## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 35.0 | 9.63 | 2 | 3 | 0.34 | 0.92 | 15 |
| Potential Res. | | 212.3 [1] | 43 [1] | 10 | 1.24 | 52.4 [1] | 54 |

## COUNTY WIDE

County Area = 495 sq mi

Max Potential Yield = 37.84 mgd

Ex Res Yield/Max Yield = 0.02

Ex & Pot Res Yield/Max Yield = 1.41 [1], [2]

## Table 41. Jefferson County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Freeman CC Aux Res | 1952 | 0.18 | 83 | | 0.79 | | | | 0.04 | 42 | | |
| Il Central Res. | 1926 | 3.35 | 577.6 | 0.33 | 0.29 | 0.28 | 0.34 | 19 | 0.31 | 17 | 0.30 | 17 |
| L and N Res.* | 1910 | 0.55 | 180.5 | 0.56 | 0.56 | 0.54 | 0.12 | 42 | 0.12 | 42 | 0.11 | 38 |
| Lake Jaycee* | 1905 | 2.61 | 1018.4 | 0.80 | 0.68 | 0.66 | 0.67 | 50 | 0.57 | 42 | 0.56 | 42 |
| Miller Lake* | 1947 | 4.65 | 1434.3 | 0.66 | 0.54 | 0.51 | 1.05 | 44 | 0.91 | 38 | 0.87 | 37 |
| Mt. Vernon Sports.Cl. | | 4.69 | 1310 | | 0.48 | | | | 0.84 | 34 | | |
| Packerwood Lk | 1945 | 0.52 | 18.3 | 0.12 | 0.06 | 0.05 | 0.03 | 11 | 0.02 | 7 | 0.01 | 4 |
| Waltonville Lk | 1910 | 0.53 | 75 | | 0.24 | | | | 0.05 | 18 | | |

## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 62.1 | 17.08 | 3 | 8 | 0.45 | 2.86 | 30 |
| Potential Res. | | 176.9 | 31 | 7 | 1.40 | 64.20 | 57 |

## COUNTY WIDE

County Area = 574 sq mi
Max Potential Yield = 90.23 mgd

Ex Res Yield/Max Yield = 0.03
Ex & Pot Res Yield/Max Yield = 0.74

## Table 42. Jersey County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I 1980 | 40-Yr Drought Net Yield 1980 (mgd) | 40-Yr Drought Net Yield %MAI |
|---|---|---|---|---|---|---|
| Air Strip Reservoir | 1957 | 0.07 | 102 | 3.12 | 0.01 | 34 |
| Crystal Lake | 1954 | 0.04 | 53 | 2.84 | <.01 | <1 |
| Feyerabend Pond | 1970 | 0.09 | 87 | 2.07 | 0.01 | 27 |
| Hooper Lake | 1954 | 0.08 | 30 | 0.80 | 0.01 | 30 |
| Lake Piasa | 1963 | 0.08 | 235 | 6.26 | <.01 | <1 |
| Nugent - Schpanski 6 | 1956 | 0.07 | 66 | 2.02 | 0.01 | 34 |
| West Lake C.C. Lk | 1955 | 0.04 | 38 | 2.04 | <.01 | <1 |



## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C /I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 31.6 | 0.47 | < 1 | 7 | 2.74 | 0.04 | 18 |
| Potential Res. | | 125.8 | 34 | 7 | 1.36 | 27.90 | 43 |

## COUNTY WIDE

County Area = 374 sq mi
Max Potential Yield = 27.90 mgd

Ex Res Yield/Max Yield = < .01
Ex &Pot Res Yield/Max Yield = 1.00

## Table 43. Jo Daviess

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I 1980 | 40-Yr Drought Net Yield 1980 (mgd) | % MAI |
|---|---|---|---|---|---|---|
| Apple Canyon Lk | 1969 | 15.2 | 11440 | 1.55 | 5.16 | 78 |
| Galena Lake | 1975 | 18.0 | 4208 | 0.48 | 4.24 | 58 |



### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 18.0 | 33.2 | 5 | 2 | 1.02 | 9.40 | 66 |
| Potential Res. | | 114 | 19 | 7 | 1.80 | 39.90 | 85 |

### COUNTY WIDE

County Area = 614 sq mi
Max Potential Yield = 175.66 mgd

Ex Res Yield/Max Yield = 0.05
Ex & Pot Res Yield/Max Yield = 0.28

# Table 44. Johnson County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est. Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | % MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bloomfield Lk* | 1966 | 1.16 | 1470.3 | | 1.49 | 1.46 | | | 0.62 | 70 | 0.62 | 70 |
| Dutchman Lake | | 1.69 | 915 | | 0.73 | | | | 0.39 | 35 | | |
| Little Cache Str. 1 | 1974 | 10.9 | 188 | | 0.04 | | | | 0.22 | 5 | | |
| Little Cache Str. 8 | 1970 | 0.84 | 122 | | 0.31 | | | | 0.09 | 26 | | |
| Vienna Correct. C Lk | 1964 | 0.78 | 558 | | 0.81 | | | | 0.26 | 42 | | |

Note: Bloomfield Lake also known as Vienna City Lake



## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 21.5 | 15.37 | 4 | 5 | 0.67 | 1.58 | 36 |
| Potential Res. | | 146.7 | 43 | 10 | 0.91 | 42.40 | 44 |

## COUNTY WIDE

County Area = 345 sq mi
Max Potential Yield = 88.74 mgd

Ex Res Yield/Max Yield = 0.02
Ex & Pot Res Yield/Max Yield = 0.50

## Table 45. Kane County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | 40-Yr Drought Net Yield: C/I 1980 | 40-Yr Drought Net Yield: 1980 (mgd) | 40-Yr Drought Net Yield: %MAI |
|---|---|---|---|---|---|---|
| Lake Marian | 1949 | 1.13 | 151 | 0.28 | 0.14 | 29 |
| Tara Lake | 1964 | 1.1 | 57 | 0.11 | 0.09 | 19 |



### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 33.5 | 2.23 | <1 | 2 | 0.19 | 0.23 | 24 |
| Potential Res. | | 27.7 | 5 | 2 | 0.84 | 4.00 | 64 |

### COUNTY WIDE

County Area = 516 sq mi
Max Potential Yield = 54.86 mgd

Ex Res Yield/Max Yield = 0.00
Ex & Pot Res Yield/Max Yield = 0.08

## Table 46. Kankakee County

EXISTING RESERVOIRS none analyzed

### Summary

| | Total Dr. Area | % County Area | No. of reservoirs | Average C /I | Total Yield | Ave. % MAI |
|---|---|---|---|---|---|---|
| Potential Res. | 33.20 | 16 | 2 | 0.66 | 10.00 | 64 |

### COUNTY WIDE

County Area = 680 sq mi
Max Potential Yield = 207.31 mgd [3]

Ex Res Yield/Max Yield =
Ex & Pot Res Yield/Max Yield = 0.05 [3]

## Table 47. Kendall County

**EXISTING RESERVOIRS** none analyzed

## Summary

| | Total Dr. Area | % County Area | No. of reservoirs | Average C /I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|
| **Potential Res.** | 35.80 | 11 | 2 | 0.74 | 8.70 | 71 |

## COUNTY WIDE

**County Area = 320 sq mi**

**Max Potential Yield = 103.90 mgd [3]**

**Ex Res Yield/Max Yield =**

**Ex & Pot Res Yield/Max Yield = 0.08 [3]**

## Table 48. Knox County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Calhoun Lake | 1923 | 13.1 | 11.3 | 0.05 | <.01 | <.01 | 0.64 | 12 | 0.13 | 2 | 0.13 | 2 |
| CBQ Reservoir | 1888 | 0.4 | 5.8 | 0.12 | 0.03 | 0.03 | 0.03 | 18 | 0.01 | 6 | 0.01 | 6 |
| Knox Co.Cons. CI. | 1958 | 0.4 | 109 | | 0.60 | | | | 0.06 | 37 | | |
| Lake Bracken | 1922 | 8.91 | 2016.1 | 0.71 | 0.50 | 0.46 | 1.80 | 50 | 1.44 | 40 | 1.39 | 38 |
| Lake Rice | 1895 | 2.65 | 878 | | 0.72 | | | | 0.52 | 48 | | |
| Lake Storey | 1942 | 7.07 | 1840.5 | 0.64 | 0.57 | 0.55 | 1.23 | 42 | 1.18 | 41 | 1.17 | 40 |
| Spoon Lake | 1971 | 17.35 | 13250 | | 1.67 | | | | 4.66 | 66 | | |



### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 61.6 | 49.88 | 7 | 7 | 0.59 | 8.00 | 34 |
| Potential Res. | | 133.7 | 18 | 13 | 1.22 | 36.30 | 72 |

### COUNTY WIDE

County Area = 728 sq mi
Max Potential Yield = 101.40 mgd

Ex Res Yield/Max Yield = 0.08
Ex & Pot Res Yield/Max Yield = 0.44

# Table 49. Lake County

**EXISTING RESERVOIRS** none analyzed

## Summary

| | Total Dr. Area | % County Area | No. of reservoirs | Average C | /I | Total Yield | Ave. % MAI |
|---|---|---|---|---|---|---|---|
| **Potential Res.** | 29.70 | 6 | 3 | 1.18 | | 6.10 | 59 |

## COUNTY WIDE

| | | | |
|---|---|---|---|
| County Area = 457 sq mi | Ex Res Yield/Max Yield = | | |
| Max Potential Yield = 109.17 mgd [3] | Ex & Pot Res Yield/Max Yield = | 0.06 | [3] |

# Table 50. La Salle County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I 1980 | 40-Yr Drought Net Yield 1980 (mgd) | %MAI |
|---|---|---|---|---|---|---|
| Deer Park Lake | 1920 | 1.23 | 110 | 0.19 | 0.07 | 14 |
| Lake Holiday | 1965 | 64.6 | 2223 | 0.07 | 6.93 | 24 |
| Lake Mendota | 1890 | 2.21 | 163 | 0.16 | 0.28 | 30 |

## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 65.0 | 68.04 | 6 | 3 | 0.14 | 7.28 | 22 |
| Potential Res. | | 283.9 | 25 | 9 | 1.19 | 38.70 | 60 |

## COUNTY WIDE

County Area = 1153 sq mi

Max Potential Yield = 108.75 mgd

Ex Res Yield/Max Yield = .07

Ex & Pot Res Yield/Max Yield = .42

## Table 51. Lawrence County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | 40-Yr Drought Net Yield: C/I 1980 | 40-Yr Drought Net Yield: 1980 (mgd) | 40-Yr Drought Net Yield: %MAI |
|---|---|---|---|---|---|---|
| Red Hills St. Pk. | 1954 | 1.5 | 428 | 0.47 | 0.17 | 21 |



## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 36.0 | 1.5 | <1 | 1 | 0.47 | 0.17 | 21 |
| Potential Res. | | 4.7 | 1 | 1 | 0.44 | 0.70 | 25 |

## COUNTY WIDE

County Area = 374 sq mi
Max Potential Yield = 44.15 mgd

Ex Res Yield/Max Yield = <.01
Ex & Pot Res Yield/Max Yield = 0.02

## Table 52. Lee County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | 40-Yr Net Yield: C/I 1980 | 40-Yr Net Yield: 1980 (mgd) | 40-Yr Net Yield: % MAI |
|---|---|---|---|---|---|---|
| Rock River Dam | | 8614 | 2576 | <.01 | 766.80 | 21 |

### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | | 8614 [1] | 1182 [1] | 1 | <.01 | 766.8 [1] | 21 |
| Potential Res. | | 34.6 | 5 | 2 | 1.16 | 8.30 | 60 |

### COUNTY WIDE

County Area = 729 sq mi
Max Potential Yield = 65.63 mgd

Ex Res Yield/Max Yield = 11.68 [1]
Ex & Pot Res Yield/Max Yield = 11.81 [1]

## Table 53. Livingston County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I 1980 | 40-Yr Drought Net Yield 1980 (mgd) | 40-Yr Drought Net Yield % MAI |
|---|---|---|---|---|---|---|
| Vermilion R. Dam* | 1925 | 1084 | 74 | <.01 | | <2% |

Note: Vermilion R. Dam is a low channel dam used in conjunction with side channel reservoir for public water supply

### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 65.0 | 1084 [1] | [1] | 1 | <-01 | | <2 |
| Potential Res. | | 69.4 | 7 | 4 | 0.66 | 7.20 | 42 |

### COUNTY WIDE

County Area = 1043 sq mi

Max Potential Yield =194.1 mgd [3]

Ex Res Yield/Max Yield = < .01 [1]

Ex & Pot Res Yield/Max Yield = 0.04 [1], [3]

## Table 54. Logan County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est. Cap. (ac-ft) | C/I 1980 | 40-Yr Drought Net Yield 1980 (mgd) | 40-Yr Drought Net Yield %MAI |
|---|---|---|---|---|---|---|
| Hickory Lake | 1972 | 126 | 228 | <.01 | 2.60 | 5 |

## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 18.0 | 126 | 20 | 1 | < .01 | 2.60 | 5 |
| Potential Res. | | 27.4 | 4 | 5 | 0.58 | 3.90 | 37 |

## COUNTY WIDE

County Area = 622 sq mi

Max Potential Yield = 13.04 mgd

Ex Res Yield/Max Yield = 0.20

Ex & Pot Res Yield/Max Yield = 0.50

# Table 55. Mc Donough County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Argyle Lake | 1949 | 6.56 | 1639.1 | 0.67 | 0.55 | 0.52 | 0.94 | 35 | 0.84 | 32 | 0.81 | 30 |
| Patrick Lake | 1946 | 0.4 | 70 | | 0.39 | | | | 0.03 | 19 | | |
| Spring Lake* | 1927 | 20.2 | 2693.8 | 0.31 | 0.29 | 0.28 | 2.09 | 26 | 1.86 | 23 | 1.78 | 22 |
| Vermont City Res.* | 1940 | 2.3 | 223 | 0.35 | 0.21 | 0.18 | 0.24 | 26 | 0.17 | 18 | 0.15 | 16 |



## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 49.5 | 29.46 | 5 | 4 | 0.36 | 2.90 | 23 |
| Potential Res. | | 128.2 | 22 | 7 | 1.35 | 27.30 | 64 |

## COUNTY WIDE

County Area = 582 sq mi

Max Potential Yield = 54.20 mgd

Ex Res Yield/Max Yield = 0.05

Ex & Pot Res Yield/Max Yield = 0.56

## Table 56. Mc Henry County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | 40-Yr Drought Net Yield: C/I 1980 | 40-Yr Drought Net Yield: 1980 (mgd) | 40-Yr Drought Net Yield: %MAI |
|---|---|---|---|---|---|---|
| Kazimier Lake | 1965 | 0.57 | 37 | 0.14 | 0.05 | 22 |
| Lake in the Hills Res. | 1926 | 8.52 | 598 | 0.15 | 0.84 | 23 |
| Lk in the Hills Dam 2 | 1947 | 11.7 | 80 | 0.01 | 0.35 | 7 |
| Wonder Lake | 1929 | 97.15 | 4877 | 0.11 | 8.29 | 21 |

### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 48.3 | 117.94 | 19 | 4 | 0.10 | 9.53 | 18 |
| Potential Res. | | 31.1 | 5 | 5 | 1.11 | 12.20 | 84 |

### COUNTY WIDE

County Area = 611 sq mi

Max Potential Yield = 45.58 mgd

Ex Res Yield/Max Yield = 6.21

Ex & Pot Res Yield/Max Yield = 0.48

## Table 57. Mc Lean County

### EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Brian Lake | 1954 | 0.19 | 63 | | 0.69 | | | | 0.02 | 25 | | |
| Dawson Lake | 1963 | 4.5 | 1475 | 0.75 | 0.68 | 0.67 | 0.62 | 32 | 0.59 | 31 | 0.58 | 30 |
| Lk Bloomington* | 1930 | 69.1 | 7677.6 | | 0.24 | 0.23 | | | 5.31 | 18 | 5.20 | 18 |
| Miller Park Lake | 1928 | 0.2 | 117 | | 1.24 | | | | 0.03 | 36 | | |

### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C /I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 46.3 | 73.99 | 6 | 4 | 0.71 | 5.95 | 27 |
| Potential Res. | | 167.4 | 14 | 8 | 1.11 | 30.30 | 48 |

### COUNTY WIDE

County Area = 1173 sq mi — Ex Res Yield/Max Yield = 0.04

Max Potential Yield = 135.78 mgd — Ex & Pot Res Yield/Max Yield = 0.27

## Table 58. Macon County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | % MAI | 1980 (mgd) | % MAI | 1990 (mgd) | % MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lake Decatur* | 1922 | 925 [1] | 18800 | 0.04 | 0.04 | 0.04 | 30.11 | 8 | 29.02 | 7 | 28.32 | 7 |



### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 68.0 | 925 [1] | [1] | 1 | 0.04 | 29.02 | 7 |
| Potential Res. | | 156 | 27 | 10 | 0.40 | 18.50 | 30 |

### COUNTY WIDE

| | | | |
|---|---|---|---|
| County Area = 576 sq mi | Ex ResYield/Max Yield = | 1.66 | [1] |
| Max Potential Yield = 17.48 mgd | Ex & Pot Res Yield/Max Yield = | 2.72 | [1] |

## Table 59. Macoupin County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Arctic Lake | 1922 | 0.53 | 135.7 | 0.71 | 0.55 | 0.52 | 0.04 | 18 | 0.03 | 14 | 0.03 | 14 |
| Beaver Dam Lake | 1912 | 0.47 | 119 | | 0.54 | | | | 0.03 | 15 | | |
| Bunker Hill Old Lk | 1936 | 7.19 | 7.3 | 0.04 | <.01 | <.01 | 0.11 | 4 | 0.06 | 2 | 0.06 | 2 |
| Bunker Hill Res. 2 | 1962 | 0.67 | 31 | | 0.10 | | | | 0.02 | 7 | | |
| Fresson Lake* | 1985 | 4.23 | 697.2 | | 0.35 | | | | 0.26 | 14 | | |
| Girard Sunset Lake | 1955 | 3.28 | 1812 | | 1.19 | | | | 0.31 | 23 | | |
| King's Lake | 1921 | 0.38 | 129.6 | 0.87 | 0.71 | 0.69 | 0.04 | 25 | 0.04 | 25 | 0.04 | 25 |
| Lake Carlinville* | 1938 | 25.4 | 1650 | 0.20 | 0.14 | 0.13 | 1.12 | 11 | 0.89 | 8 | 0.87 | 8 |
| Lake Edwards | 1949 | 0.7 | 55.7 | 0.22 | 0.17 | 0.15 | 0.04 | 13 | 0.03 | 10 | 0.03 | 10 |
| Lake Williamson | 1974 | 0.53 | 903 | | 3.63 | | | | 0.07 | 32 | | |
| ML Olive City Lake* | 1938 | 5.21 | 282.4 | 0.19 | 0.11 | 0.10 | 0.31 | 14 | 0.20 | 9 | 0.18 | 8 |
| New Gillespie Lake* | 1956 | 12.25 | 2324.9 | | 0.40 | 0.39 | | | 0.79 | 15 | 0.79 | 15 |
| Old Gillespie Lake* | 1923 | 5.73 | 623.5 | 0.30 | 0.23 | 0.22 | 0.33 | 14 | 0.29 | 12 | 0.29 | 12 |
| Old Mt. Olive Lk* | 1900 | 0.7 | 382 | 1.35 | 1.14 | 1.12 | 0.11 | 37 | 0.10 | 34 | 0.10 | 34 |
| Otter Lake* | 1969 | 20.2 | 16334 | 1.76 | 1.74 | 1.73 | 3.08 | 37 | 3.04 | 36 | 3.02 | 36 |
| Palmyra-Modesto Res* | 1965 | 1.7 | 510.3 | 0.68 | 0.65 | 0.63 | 0.14 | 20 | 0.14 | 20 | 0.13 | 19 |
| Rinaker Lake | 1904 | 0.38 | 126.9 | 0.90 | 0.71 | 0.69 | 0.03 | 19 | 0.02 | 13 | 0.02 | 13 |
| Shad Lake | 1950 | 4.25 | 100 | | 0.05 | | | | 0.06 | 3 | | |
| Shipman Reservoir* | 1968 | 0.46 | 114 | | 0.53 | 0.51 | | | 0.03 | 16 | 0.03 | 16 |
| Smith Reservoir | 1969 | 0.8 | 1288 | | 3.43 | | | | 0.11 | 33 | | |
| Staunton Reservoir* | 1926 | 3.68 | 1042.1 | 0.71 | 0.59 | 0.57 | 0.46 | 29 | 0.42 | 27 | 0.41 | 26 |
| Wilsonville Mine P 4 | 1916 | 5.29 | 78.8 | 0.12 | 0.03 | 0.02 | 0.22 | 10 | 0.07 | 3 | 0.05 | 2 |

## Table 59. Macoupin County (continued)

### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C /I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 47.4 | 104.03 | 12 | 22 | 0.77 | 7.01 | 17 |
| Potential Res. | | 491.7 | 56 | 21 | 1.08 | 53.60 | 36 |



### COUNTY WIDE

County Area =872 sq mi — Ex Res Yield/Max Yield = 0.11

Max Potential Yield = 62.14 mgd — Ex & Pot Res Yield/Max Yield = 0.98

## Table 60. Madison County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est. Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | % MAI | 1980 (mgd) | % MAI | 1990 (mgd) | % MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Alton-Woodriver Spt | 1948 | 0.11 | 61 | | 1.17 | | | | 0.01 | 22 | | |
| Dunlap Lake | 1941 | 4.3 | 3010 | | 1.46 | | | | 0.66 | 36 | | |
| Godfrey Pond | 1900 | 0.05 | 65 | | 2.75 | | | | < .01 | <1 | | |
| Grigsby Lake | 1954 | 0.78 | 71 | | 0.19 | | | | 0.04 | 12 | | |
| Highland Silver Lk* | 1962 | 49.3 | 6220 | 0.30 | 0.26 | 0.25 | 4.61 | 21 | 3.96 | 18 | 3.88 | 18 |
| Highland Spts. Cl. | 1952 | 0.11 | 36 | | 0.67 | | | | 0.01 | 21 | | |
| Holiday Shores Lk* | 1965 | 6.33 | 4583.5 | 1.52 | 1.52 | 1.49 | 1.05 | 39 | 1.05 | 39 | 1.04 | 39 |
| Lake Hillcrest | 1956 | 0.26 | 189 | | 1.51 | | | | 0.03 | 27 | | |
| Magin Lake | 1968 | 0.1 | 144 | | 2.97 | | | | 0.01 | 23 | | |
| Marysville Fish.Cl. | 1900 | 0.22 | 47 | | 0.44 | | | | 0.02 | 21 | | |
| ML Olive Staunton C | 1904 | 0.98 | 117 | | 0.25 | | | | 0.06 | 14 | | |
| Paradise Lake | 1966 | 0.35 | 25 | | 0.15 | | | | 0.01 | 7 | | |
| Pine Lake | 1908 | 0.11 | 39 | | 0.73 | | | | 0.01 | 21 | | |
| Schaefer Lake | 1937 | 0.09 | 12.1 | 0.47 | 0.28 | 0.24 | 0.01 | 26 | < .01 | <1 | < .01 | <1 |
| Tower Lake | 1941 | 0.89 | 1138 | | 2.68 | | | | 0.15 | 40 | | |
| Weiss Lake | 1974 | 0.56 | 51 | | 0.18 | | | | 0.03 | 12 | | |

### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C /I | Total Yield | Ave. % MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 47.8 | 64.54 | 9 | 16 | 1.08 | 6.05 | 20 |
| Potential Res. | | 111.6 | 15 | 11 | 0.98 | 19.80 | 43 |

### COUNTY WIDE

County Area = 731 sq mi

Max Potential Yield = 62.68 mgd

Ex Res Yield/Max Yield = 0.10

Ex & Pot Res Yield/Max Yield = 0.41

# Table 61. Marion County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C and E Illinois Res. | 1910 | 4.75 | 440 | | 0.17 | | | | 0.35 | 15 | | |
| Forbes Lake | 1962 | 21.56 | 6793 | | 0.57 | | | | 3.71 | 35 | | |
| Frosty Acres Lake | 1964 | 0.1 | 23 | | 0.43 | | | | 0.01 | 21 | | |
| Heck's Lake | 1959 | 0.22 | 146 | | 1.22 | | | | 0.05 | 47 | | |
| ICRR Res, Kinmundy* | 1902 | 0.55 | 140.8 | 0.59 | 0.48 | 0.47 | 0.10 | 38 | 0.08 | 30 | 0.08 | 30 |
| Kings Lake | 1930 | 0.22 | 59 | | 0.50 | | | | 0.03 | 29 | | |
| Lake Centralia* | 1911 | 7.0 | 2752 | 0.74 | 0.73 | 0.72 | 1.51 | 45 | 1.50 | 45 | 1.49 | 44 |
| Neffs Lake | 1963 | 0.11 | 34 | | 0.57 | | | | 0.01 | 19 | | |
| Patoka Club Lake | 1953 | 0.66 | 279 | | 0.80 | | | | 0.13 | 42 | | |
| Patoka-Vernon Res. | | 0.03 | 47 | | 3.00 | | | | 0.01 | 71 | | |
| Raccoon Lake* | 1943 | 48.4 | 4757.4 | 0.22 | 0.19 | 0.18 | 4.15 | 18 | 3.63 | 16 | 3.51 | 15 |
| Rochester-Goodell R | 1959 | 0.94 | 130 | | 0.24 | | | | 0.09 | 18 | | |
| Rose Lake | 1954 | 2.15 | 58 | | 0.05 | | | | 0.05 | 5 | | |
| Salem Reservoir* | 1912 | 4.02 | 506 | 0.28 | 0.23 | 0.23 | 0.41 | 21 | 0.36 | 19 | 0.36 | 19 |
| Sportsman Lake | 1957 | 0.09 | 48 | | 0.98 | | | | 0.02 | 46 | | |

## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 48.6 | 90.8 | 16 | 15 | 0.68 | 10.03 | 31 |
| Potential Res | | 245.9 | 42 | 9 | 0.99 | 54.60 | 44 |

## COUNTY WIDE

County Area =580 sq mi

Max Potential Yield = 86.50 mgd

Ex Res Yield/Max Yield = 0.12

Ex & Pot Res Yield/Max Yield = 0.75

## Table 62. Marshall County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est. Cap. (ac-ft) | C/I 1980 | 40-Yr Drought Net Yield 1980 (mgd) | %MAI |
|---|---|---|---|---|---|---|
| WildwoodLk | 1969 | 12.4 | 6496 | 1.13 | 2.45 | 48 |



## Summary

| | 1990 Ave. Age | Total Dr. Area | %County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 21.0 | 12.4 | 3 | 1 | 1.13 | 2.45 | 48 |
| Potential Res. | | 95.1 | 24 | 9 | 1.00 | 14.30 | 52 |

## COUNTY WIDE

County Area = 395 sq mi
Max Potential Yield = 78.57 mgd

Ex Res Yield/Max Yield = 0.03
Ex & Pot Res Yield/Max Yield = 0.21

## Table 63. Mason County

EXISTING RESERVOIRS none analyzed



### Summary

| | Total Dr. Area | % County Area | No. of reservoirs | Average C /I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|
| Potential Res. | 6.70 | 7 | 2 | 0.82 | 1.10 | 46 |

### COUNTY WIDE

County Area = 541 sq mi

Max Potential Yield = 100.76 mgd [3]

Ex Res Yield/Max Yield =

Ex & Pot Res Yield/Max Yield = 0.01 [3]

## Table 64. Massac County

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I 1980 | 40-Yr Drought Net Yield 1980 (mgd) | %MAI |
|---|---|---|---|---|---|---|
| Mermet Lake | | 2.34 | 904 | 0.44 | 0.54 | 29 |



### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | | 2.34 | 1 | 1 | 0.44 | 0.54 | 29 |
| Potential Res. | | 30.5 | 12 | 2 | 1.05 | 10.20 | 49 |

### COUNTY WIDE

County Area = 246 sq mi
Max Potential Yield = 57.77 mgd

Ex Res Yield/Max Yield = 0.01
Ex & Pot Res Yield/Max Yield = 0.19

## Table 65. Menard County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GM and O Lake | 1902 | 0.85 | 8.5 | 0.08 | 0.02 | 0.02 | 0.03 | 9 | 0.01 | 3 | 0.01 | 3 |
| Lake Petersburg | 1961 | 2.28 | 4303 | | 4.16 | | | | 0.49 | 53 | | |

### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 58.5 | 3.13 | 1 | 2 | 2.09 | 0.50 | 28 |
| Potential Res. | | 105.9 | 34 | 9 | 1.03 | 21.80 | 46 |

### COUNTY WIDE

County Area = 312 sq mi
Max Potential Yield = 35.37 mgd

Ex Res Yield/Max Yield = 0.01
Ex & Pot Res Yield/Max Yield = 0.63

# Table 66. Mercer County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI, | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Fyre Lake | 1972 | 1.69 | 2870 | | 3.60 | | | | 0.39 | 55 | | |
| Karl Lake | 1974 | 0.26 | 426 | | 3.47 | | | | 0.04 | 36 | | |
| Lake Matherville | 1926 | 0.33 | 101.5 | 0.88 | 0.65 | 0.61 | 0.06 | 43 | 0.05 | 36 | 0.05 | 36 |
| Lake Nelson | 1937 | 0.5 | 41.2 | 0.28 | 0.18 | 0.15 | 0.06 | 29 | 0.05 | 24 | 0.04 | 19 |



## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 37.8 | 2.78 | 1 | 4 | 1.97 | 0.53 | 38 |
| Potential Res. | | 228.9 | 41 | 8 | 0.98 | 79.60 | 75 |

## COUNTY WIDE

County Area = 556 sq mi
Max Potential Yield = 88.57 mgd

Ex Res Yield/Max Yield = 0.01
Ex & Pot Res Yield/Max Yield = 0.90

## Table 67. Monroe County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I 1980 | 40-Yr Drought Net Yield 1980 (mgd) | 40-Yr Drought Net Yield %MAI |
|---|---|---|---|---|---|---|
| Columbia Spts. Cl. Lk. | 1958 | 0.12 | 58 | 1.00 | 0.02 | 38 |
| Fisher Lake | 1952 | 0.12 | 154 | 2.56 | 0.02 | 37 |
| Lake Loudel | 1928 | 0.1 | 144 | 2.90 | 0.01 | 23 |
| Waterloo New Res.* | 1961 | 0.53 | 586 | 2.23 | 0.11 | 47 |
| Waterloo Res. No. 2* | 1950 | 0.17 | 58 | 0.68 | 0.03 | 39 |

Note:
Waterloo New Res. also known as Korte Lake.
Waterloo Res. No. 2 also known as Schorr Lake.



### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 40.2 | 1.04 | <1 | 5 | 1.87 | 0.19 | 37 |
| Potential Res. | | 76.8 | 20 | 6 | 1.00 | 19.80 | 48 |

### COUNTY WIDE

County Area = 380 sq mi
Max Potential Yield = 63.63 mgd

Ex Res Yield/Max Yield = < .01
Ex & Pot Res Yield/Max Yield = 0.31

## Table 68. Montgomery County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | % MAI | 1980 (mgd) | % MAI | 1990 (mgd) | % MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Coffeen Lake | 1964 | 19.12 | 22000 | | 2.32 | | | | 3.28 | 39 | | |
| Five Mile Lake | | 39.24 | 269 | | 0.01 | | | | 0.22 | 1 | | |
| Lake Glen Shoals* | 1978 | 80 | 13119 | 0.34 | 0.34 | 0.32 | 6.01 | 18 | 5.98 | 17 | 5.86 | 17 |
| Lake Hillsboro* | 1918 | 7.44 | 1017.8 | | 0.29 | 0.27 | | | 0.39 | 12 | 0.38 | 12 |
| Lake Lou Yaeger* | 1966 | 115 | 13485 | 0.29 | 0.25 | 0.22 | 7.96 | 16 | 6.91 | 14 | 6.21 | 13 |
| Litchfield City Lk | 1925 | 1.25 | 303 | | 0.51 | | | | 0.07 | 13 | | |
| Panama Lake | 1928 | 0.85 | 135.5 | 0.43 | 0.32 | 0.31 | 0.05 | 13 | 0.04 | 11 | 0.04 | 11 |
| Shoal Creek St. 2 | 1966 | 37 | 446 | | 0.03 | | | | 0.28 | 2 | | |
| Shoal Creek St. 5 | 1973 | 2.07 | 109 | | 0.11 | | | | 0.05 | 6 | | |
| Walton Park Lk | 1870 | 2.04 | 151.7 | 0.39 | 0.16 | 0.14 | 0.11 | 13 | 0.06 | 7 | 0.06 | 7 |



### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C /I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 46.9 | 304.01[1] | 43 [1] | 10 | 0.43 | 17.28 [1] | 12 |
| Potential Res. | | 365.3 [1] | 52 [1] | 6 | 1.47 | 101.2 [1] | 46 |

### COUNTY WIDE

County Area = 706 sq mi
Max Potential Yield = 36.32 mgd

Ex Res Yield/Max Yield = 0.48 [1]
Ex & Pot Res Yield/Max Yield = 3.26 [1], [2]

# Table 69. Morgan County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I Orig | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ashland No. 2* | 1978 | 0.26 | 158.6 | | 1.33 | | | | 0.01 | 9 | | |
| Concord Res. | 1910 | 0.63 | 214.6 | 0.88 | 0.71 | 0.69 | 0.05 | 19 | 0.05 | 19 | 0.05 | 19 |
| Conlee Pond | 1944 | 0.39 | 3.8 | 0.05 | 0.02 | 0.02 | 0.01 | 6 | <.01 | < 1 | <.01 | < 1 |
| Elliot State Bank Pd | 1900 | 0.31 | 30.1 | 0.32 | 0.21 | 0.19 | 0.01 | 8 | 0.01 | 8 | 0.01 | 8 |
| Franklin Waverly OC | 1900 | 0.45 | 213 | | 1.04 | | | | 0.03 | 16 | | |
| Lake Jacksonville* | 1940 | .10.8 | 6510.3 | 1.18 | 1.03 | 1.02 | 1.56 | 31 | 1.42 | 28 | 1.41 | 28 |
| Langdon Pond | 1907 | 0.36 | 38.2 | 0.34 | 0.23 | 0.22 | 0.02 | 14 | 0.01 | 7 | 0.01 | 7 |
| Mauvaise Terre Lk* | 1923 | 32.6 | 627.9 | 0.10 | 0.04 | 0.03 | 0.93 | 7 | 0.45 | 3 | 0.31 | 2 |
| Morgan Lake | 1900 | 2.75 | 49.6 | 0.10 | 0.04 | 0.03 | 0.07 | 6 | 0.04 | 3 | 0.04 | 3 |
| Murryville Woodson L | 1963 | 0.32 | 99 | | 0.67 | | | | 0.02 | 15 | | |
| Waverly City Lake* | 1939 | 9.24 | 792 | | 0.19 | 0.18 | | | 0.31 | 8 | 0.30 | 8 |

## Summary

| | 1990 Ave. Age | Total Dr. Area (sq mi) | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 62.4 | 58.11 | 10 | 11 | 0.50 | 2.35 | 11 |
| Potential Res. | | 291.7 [1] | 52 [1] | 16 | 1.08 | 45.9 [1] | 35 |

## COUNTY WIDE

County Area = 565 sq mi
Max Potential Yield = 26.64 mgd

Ex Res Yield/Max Yield = 0.09
Ex & Pot Res Yield/Max Yield = 1.82 [1], [2]

## Table 70. Moultrie County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I 1980 | 40-Yr Drought Net Yield 1980 (mgd) | %MAI |
|---|---|---|---|---|---|---|
| Elm Springs Pk Lk 4 | 1964 | 0.27 | 130 | 0.95 | 0.04 | 33 |



### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 26.0 | 0.27 | < 1 | 1 | 0.95 | 0.04 | 33 |
| Potential Res. | | 114.3 | 33 | 5 | 0.73 | 9.50 | ' 32 |

### COUNTY WIDE

County Area = 345 sq mi
Max Potential Yield = 53.15 mgd

Ex Res Yield/Max Yield = < .01
Ex & Pot Res Yield/Max Yield = 0.18

# Table 71. Ogle County

## EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est. Cap (ac-ft) | C /I 1980 | 40-Yr Drought Net Yield 1980 (mgd) | % MAI |
|---|---|---|---|---|---|---|
| **Hidden Valley Lake** | **1968** | **2.5** | **154** | **0.12** | **0.24** | **22** |
| **Lost Nation C.C. Lake** | **1963** | **13** | **501** | **0.08** | **1.02** | **18** |
| **Olsen'sLake** | **1966** | **1.6** | **108** | **0.14** | **0.28** | **40** |

## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C /I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 24.3 | 17.1 | 2 | 3 | 0.11 | 1.54 | 26 |
| Potential Res. | | 170.5 | 23 | 11 | 0.84 | 42.60 | 68 |

## COUNTY WIDE

County Area = 757 sq mi

Max Potential Yield = 87.19 mgd

Ex Res Yield/Max Yield = 0.02

Ex & Pot Res Yield/Max Yield = 0.51

# Table 72. Peoria County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield 1980 (mgd) | %MAI | 1990 (mgd) | % MAI |
|---|---|---|---|---|---|---|---|---|---|
| Arrowhead C.C. Lake | 1959 | 0.53 | 69 | 0.29 | | 0.04 | 19 | | |
| Charter Oaks North L | 1978 | 0.55 | 112 | 0.45 | | 0.05 | 22 | | |
| Grahams Lake | 1950 | 0.15 | 60 | 0.88 | | 0.02 | 33 | | |
| Hollis Park Dam | 1974 | 0.82 | 533 | 1.43 | | 0.16 | 48 | | |
| Lake Camelot* | 1970 | 1.5 | 466.7 | 0.69 | 0.65 | 0.23 | 38 | 0.22 | 36 |
| Lake Holiday | 1953 | 0.12 | 106 | 1.95 | | 0.02 | 41 | | |
| Lake Lancelot | 1971 | 2.83 | 654 | 0.51 | | 0.33 | 29 | | |
| Lake Lynhurst | 1940 | 0.24 | 110 | 1.01 | | 0.04 | 41 | | |

## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. % MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 21.8 | 6.74 | 1 | 8 | 0.90 | 0.89 | 34 |
| Potential Res. | | 200.7 | 32 | 13 | 1.50 | 61.80 | 71 |

## COUNTY WIDE

County Area = 624 sq mi
Max Potential Yield = 85.90 mgd

Ex Res Yield/Max Yield = 0.01
Ex & Pot Res Yield/Max Yield = 0.73

## Table 73. Perry County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est. Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Elks Reservoir | 1930 | 0.5 | 42 | | 0.15 | | | | 0.04 | 16 | | |
| Lake Du Quoin | 1937 | 10.73 | 1721 | 0.32 | 0.27 | 0.26 | 1.51 | 27 | 1.36 | 24 | 1.32 | 23 |
| Pickneyville Res.* | 1944 | 6.51 | 2849.7 | | 0.78 | 0.76 | | | 1.53 | 47 | 1.51 | 46 |



## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 53.0 | 17.74 | 4 | 3 | 0.40 | 2.93 | 29 |
| Potential Res. | | 283 | 64 | 5 | 0.51 | 38.20 | 31 |

## COUNTY WIDE

County Area = 443 sq mi

Max Potential Yield = 64.26 mgd

Ex Res Yield/Max Yield = 0.05

Ex & Pot Res Yield/Max Yield = 0.64

# Table 74. Piatt County

| Name | Year Built | Dr. Area (sq mi) | 1980 Est. Cap. (ac-ft) | C/I 1980 | 40-Yr Drought Net Yield 1980 (mgd) | 40-Yr Drought Net Yield %MAI |
|---|---|---|---|---|---|---|
| Four H Memorial Lk | 1950 | 0.62 | 117 | 0.38 | 0.07 | 25 |

## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C /I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 40.0 | 0.62 | < 1 | 1 | 0.38 | 0.07 | 25 |
| Potential Res. | | 79.8 | 18 | 5 | 0.71 | 9.50 | 37 |

## COUNTY WIDE

County Area = 437 sq mi

Max Potential Yield = 49.44 mgd

Ex Res Yield/Max Yield = < .01

Ex & Pot Res Yield/Max Yield = 0.19

## Table 75. Pike County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| New Pittsfield Lk. 2 | 1960 | 4.2 | 89 | | 0.04 | | | | 0.09 | 5 | | |
| New Pittsfield Lk. 1* | 1961 | 11.1 | 2760 | 0.67 | 0.52 | 0.49 | 1.86 | 39 | 1.56 | 33 | 1.51 | 32 |
| Pine Lake | 1924 | 1.64 | 219.9 | 0.42 | 0.28 | 0.26 | 0.19 | 27 | 0.14 | 20 | 0.14 | 20 |
| Rising Spring Orch. L | 1956 | 0.19 | 52 | | 0.57 | | | | 0.02 | 25 | | |

Note: New Pittsfield Lk. 1 also known as New Big Blue.



## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 39.8 | 17.13 | 2 | 4 | 0.35 | 1.81 | 21 |
| Potential Res. | | 246.3 | 30 | 16 | 2.00 | 74.70 | 64 |

## COUNTY WIDE

County Area = 829 sq mi
Max Potential Yield = 74.63 mgd

Ex Res Yield/Max Yield = 0.02
Ex & Pot Res Yield/Max Yield = 1.03 [2]

## Table 76. Pope County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I 1980 | 40-Yr Drought Net Yield 1980 (mgd) | 40-Yr Drought Net Yield %MAI |
|---|---|---|---|---|---|---|
| Bay Creek Str. 8 | 1975 | 12.95 | 1564 | 0.13 | 0.51 | 5 |
| Lake Glendale | 1938 | 2.2 | 806 | 0.40 | 0.51 | 29 |
| One Horse Gap Lk | | 0.44 | 336 | 0.80 | 0.16 | 42 |



### Summary

| | 1990 Ave. Age | Total Dr. Area (sq mi) | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 33.5 | 15.59 | 4 | 3 | 0.44 | 1.18 | 25 |
| Potential Res. | | 168.5 | 44 | 5 | 1.32 | 73.90 | 53 |

### COUNTY WIDE

County Area = 381 sq mi

Max Potential Yield = 81.67 mgd

Ex Res Yield/Max Yield = 0.01

Ex & Pot Res Yield/Max Yield = 0.92

## Table 77. Pulaski County

EXISTING RESERVOIRS none analyzed



### Summary

| | Total Dr. Area | % County Area | No. of reservoirs | Average C /I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|
| Potential Res. | 11.20 | 5 | 2 | 1.30 | 3.00 | 48 |

### COUNTY WIDE

County Area = 204 sq mi
Max Potential Yield = 74.63 mgd [3]

Ex Res Yield/Max Yield = -
Ex & Pot Res Yield/Max Yield = 0.04 [3]

## Table 78. Putnam County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | 40-Yr Drought Net Yield C/I 1980 | 40-Yr Drought Net Yield 1980 (mgd) | 40-Yr Drought Net Yield %MAI |
|---|---|---|---|---|---|---|
| Lake Thunderbird | 1970 | 2.94 | 2938 | 2.15 | 0.70 | 57 |



### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 20.0 | 2.94 | 2 | 1 | 2.15 | 0.70 | 57 |
| Potential Res. | | 152.9 [1] | 92 [1] | 4 | 0.98 | 40.50 | 66 |

### COUNTY WIDE

County Area = 166 sq mi — Ex Res Yield/Max Yield = 0.02

Max Potential Yield = 39.44 mgd — Ex & Pot Res Yield/Max Yield = 1.04 [1]

# Table 79. Randolph County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est. Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig, (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Coulterville City Res* | 1939 | 1.22 | 169.9 | 0.31 | 0.27 | 0.26 | 0.11 | 19 | 0.10 | 18 | 0.09 | 16 |
| Randolph Co. Lk. | 1960 | 3.12 | 946 | | 0.57 | | | | 0.50 | 34 | | |
| Sparta New City Res* | 1952 | 3.6 | 124.6 | 0.10 | 0.07 | 0.06 | 0.15 | 9 | 0.10 | 6 | 0.08 | 5 |
| Sparta Old City Res* | 1917 | 1.2 | 255.7 | 0.51 | 0.41 | 0.39 | 0.19 | 34 | 0.14 | 25 | 0.14 | 25 |
| Warden's Pond | 1970 | 0.5 | 41 | | 0.16 | | | | 0.10 | 42 | | |

## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 42.4 | 9.64 | 2 | 5 | 0.29 | 0.94 | 25 |
| Potential Res. | | 368.5 | 62 | 10 | 0.78 | 63.10 | 34 |

## COUNTY WIDE

County Area = 594 sq mi
Max Potential Yield = 68.62 mgd

Ex Res Yield/Max Yield = 0.01
Ex & Pot Res Yield = 0.93

## Table 80. Richland County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Coen's Pond | 1974 | 0.16 | 34 | | 0.36 | | | | 0.01 | 12 | | |
| East Fork Lake* | 1972 | 10.4 | 12441 | | 2.02 | 2.01 | | | 3.01 | 55 | 3.00 | 55 |
| Hahn Lake | 1953 | 0.2 | 129 | | 1.06 | | | | 0.03 | 28 | | |
| Jordan Lake | 1950 | 0.23 | 78 | | 0.55 | | | | 0.03 | 24 | | |
| M. D. Borah Lake* | 1953 | 3.36 | 1405.1 | 0.78 | 0.71 | 0.68 | 0.63 | 35 | 0.58 | 33 | 0.56 | 32 |
| Miller's Lake | 1952 | 1.56 | 171 | | 0.18 | | | | 0.10 | 12 | | |
| Vernor Lake* | 1924 | 0.47 | 743.6 | 2.76 | 2.67 | 2.66 | 0.16 | 64 | 0.15 | 60 | 0.15 | 60 |
| Webber Lake | 1943 | 0.08 | 45 | | 0.95 | | | | 0.01 | 24 | | |

### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 37.4 | 16.46 | 5 | 8 | 1.06 | 3.92 | 31 |
| Potential Res. | | 113.3 | 31 | 7 | 0.71 | 26.70 | 39 |

### COUNTY WIDE

County Area = 364 sq mi
Max Potential Yield = 60.20 mgd

Ex Res Yield/Max Yield = 0.07
Ex & Pot Res Yield/Max Yield = 0.51

## Table 81. Rock Island County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I 1980 | 40-Yr Drought Net Yield 1980 (mgd) | %MAI |
|---|---|---|---|---|---|---|
| Hidden Lake | 1960 | 0.52 | 58 | 0.23 | 0.05 | 23 |
| Lake George | 1962 | 7.4 | 3991 | 1.14 | 1.23 | 39 |



## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 29.0 | 7.92 | 2 | 2 | 0.68 | 1.28 | 31 |
| Potential Res. | | 155.4 | 37 | 8 | 1.08 | 33.00 | 62 |

## COUNTY WIDE

County Area = 420 sq mi

Max Potential Yield = 55.20 mgd

Ex Res Yield/Max Yield = 0.02

Ex & Pot Res Yield/Max Yield = 0.62

## Table 82. St. Clair County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est. Cap. (ac-ft) | C/I 1980 | 40-Yr Drought Net Yield 1980 (mgd) | 40-Yr Drought Net Yield %MAI |
|---|---|---|---|---|---|---|
| Bauer's Lake | 1901 | 0.13 | 270 | 4.26 | 0.01 | 18 |
| Biebell Lake | 1968 | 0.26 | 56 | 0.43 | 0.03 | 25 |
| Heitman's Pond | 1974 | 0.58 | 121 | 0.43 | 0.06 | 24 |
| Lake Christine | 1894 | 0.33 | 67 | 0.41 | 0.03 | 21 |
| Lake Stolberg | 1904 | 0.16 | 50 | 0.64 | 0.02 | 29 |
| Marissa R. A. Lk | 1955 | 0.33 | 97 | 0.57 | 0.05 | 33 |
| Marissa R. A. South | 1954 | 0.2 | 187 | 1.81 | 0.04 | 43 |
| Marissa Reservoir | 1938 | 0.24 | 90 | 0.72 | 0.04 | 36 |
| Roachtown Lake | 1963 | 0.23 | 98 | 0.87 | 0.03 | 30 |
| Scott A F B Pond | 1961 | 0.23 | 33 | 0.29 | 0.01 | 10 |
| Weslake | 1962 | 0.225 | 224 | 2.04 | 0.04 | 41 |

### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 46.9 | 2.92 | <1 | 11 | 1.13 | 0.36 | 28 |
| Potential Res. | | 52.2 | 8 | 9 | 1.46 | 12.70 | 53 |

### COUNTY WIDE

County Area = 670 sq mi

Max Potential Yield = 84.90 mgd

Ex Res Yield/Max Yield = < .01

Ex & Pot Res Yield/Max Yield = 0.15

## Table 83. Saline County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est. Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dering Coal Co. Pit | 1919 | 0.22 | 57.5 | 0.59 | 0.38 | 0.34 | 0.04 | 29 | 0.03 | 22 | 0.03 | 22 |
| Doc Mac Strip Pit* | | 0.52 | 144.2 | | 0.40 | 0.39 | | | 0.09 | 28 | 0.09 | 28 |
| Eldorado Res.* | 1920 | 2.23 | 609.3 | 0.55 | 0.39 | 0.37 | 0.45 | 33 | 0.35 | 25 | 0.33 | 24 |
| Glen O. Jones Lk | 1963 | 1.51 | 1433 | | 1.21 | | | | 0.54 | 51 | | |
| Harrisburg City Res. | 1937 | 87.6 | 798 | | 0.01 | | | | 0.87 | 2 | | |
| Harrisburg Res. | 1954 | 5.4 | 2050 | | 0.56 | | | | 1.07 | 33 | | |
| Peabody Strip Pit* | | 1.09 | 889.8 | | 1.18 | 1.17 | | | 0.41 | 61 | 0.41 | 61 |



## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 51.4 | 98.57 | 26 | 7 | 0.59 | 3.36 | 32 |
| Potential Res. | | 207.6 [1] | 54 [1] | 10 | 1.79 | 47.2 [1] | 55 [1] |

## COUNTY WIDE

County Area = 384 sq mi
Max Potential Yield = 76.09 mgd

Ex Res Yield/Max Yield = 0.04
Ex & Pot Res Yield/Max Yield = 0.66 [1]

## Table 84. Sangamon County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est. Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Davis, Hose, Davis F | 1942 | 0.21 | 25.6 | 0.38 | 0.27 | 0.24 | 0.02 | 24 | 0.01 | 12 | 0.01 | 12 |
| Lake Springfield"' | 1933 | 265 | 52200 | 0.49 | 0.43 | 0.42 | 32.42 | 30 | 28.70 | 26 | 28.40 | 26 |
| Loami City Lake* | | 0.08 | 71.1 | | 1.87 | 1.82 | | | 0.01 | 29 | 0.01 | 29 |
| Sudduth Lake | 1907 | 3.49 | 120 | | 0.08 | | | | 0.11 | 8 | | |

### Summary

| | 1990 Ave. Age | Total Dr. Area (sq mi) | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 62.7 | 268.78 | 31 | 4 | 0.66 | 28.83 | 19 |
| Potential Res. | | 186.1 | 21 | 15 | 1.04 | 21.30 | 34 |

### COUNTY WIDE

County Area = 880 sq mi
Max Potential Yield = 69.29mgd

Ex Res Yield/Max Yield = 0.42
Ex & Pot Res Yield/Max Yield = 0.72

## Table 85. Schuyler County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | 40-Yr Drought Net Yield: C/I 1980 | 40-Yr Drought Net Yield: 1980 (mgd) | 40-Yr Drought Net Yield: %MAI |
|---|---|---|---|---|---|---|
| Briney Lake Dam 1 | 1972 | 0.36 | 221 | 1.35 | 0.07 | 48 |
| Camp Immanuel Lk | 1906 | 1.09 | 152 | 0.31 | 0.09 | 20 |



### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C /I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 51.0 | 1.45 | <1 | 2 | 0.83 | 0.16 | 34 |
| Potential Res. | | 265.5 [1] | 61 [1] | 18 | 1.63 | 71.8 [1] | 74 |

### COUNTY WIDE

County Area = 434 sq mi

Max Potential Yield = 59.75 mgd

Ex Res Yield/Max Yield = < .01

Ex & Pot Res Yield/Max Yield = 1.20 [1], [2]

## Table 86. Scott County

**EXISTING RESERVOIRS** none analyzed

## Summary

| | Total Dr. Area | % County Area | No. of reservoirs | Average C /I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|
| **Potential Res.** | 165.70 | 66 | 10 | 1.19 | 34.10 | 40 |

## COUNTY WIDE

**County Area = 251 sq mi**

**Max Potential Yield = 43.52 mgd [3]**

**Ex Res Yield/Max Yield =**

**Ex & Pot Res Yield/Max Yield = 0.78 [3]**

## Table 87. Shelby County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | % MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lake Mattoon* | 1957 | 56.0 | 11660 | 0.44 | 0.39 | 0.37 | 4.42 | 17 | 3.94 | 15 | 3.72 | 14 |
| Lk Shelbyville @ 599.7 | 1970 | 1054 | 200000 | | 0.37 | 0.36 | | | 130.06 | 27 | 126.71 | 27 |

### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C /I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 26.5 | 1110 [1] | [1] | 2 | 0.38 | 134 [1] | 21 |
| Potential Res. | | 88.1 | 11 | 6 | 0.83 | 15.70 | 39 |

### COUNTY WIDE

County Area = 772 sq mi

Max Potential Yield = 73.36 mgd

Ex Res Yield/Max Yield = 1.83 [1]

Ex & Pot Res Yield/Max Yield = 2.04 [1]

# Table 88. Stark County

## EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Armstrong Pond | 1950 | 0.45 | 35.3 | 0.20 | 0.17 | 0.16 | 0.04 | 22 | 0.04 | 22 | 0.04 | 22 |
| Ewan Pond | 1935 | 1.25 | 28.8 | 0.11 | 0.05 | 0.04 | 0.09 | 18 | 0.06 | 12 | 0.05 | 10 |



## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C /I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 47.5 | 1.7 | 1 | 2 | 0.11 | 0.10 | 17 |
| Potential Res. | | 87.3 | 30 | 4 | 1.21 | 27.80 | 69 |

## COUNTY WIDE

County Area = 291 sq mi

Max Potential Yield = 20.27 mgd

Ex Res Yield/Max Yield = < .01

Ex & Pot Res Yield/Max Yield = 1.37 [2]

# Table 89. Stephenson County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | % MAI | 1980 (mgd) | % MAI | 1990 (mgd) | % MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lake Le-Aqua-Na | 1955 | 3.67 | 487.2 | 0.32 | 0.27 | 0.26 | 0.74 | 47 | 0.70 | 44 | 0.69 | 43 |
| Willow Lake | 1974 | 0.93 | 165 | | 0.37 | | | | 0.19 | 47 | | |

## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C /I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 25.5 | 4.6 | 1 | 2 | 0.32 | 0.89 | 46 |
| Potential Res. | | 79.8 | 14 | 3 | 0.84 | 23.40 | 67 |

## COUNTY WIDE

County Area = 568 sq mi

Max Potential Yield = 113.26 mgd

Ex Res Yield/Max Yield = 0.01

Ex & Pot Res Yield/Max Yield = 0.21

## Table 90. Tazewell County

EXISTING RESEROIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I 1980 | 40-Yr Drought Net Yield 1980 (mgd) | 40-Yr Drought Net Yield %MAI |
|---|---|---|---|---|---|---|
| Grand Oaks Lake | | 0.5 | 32 | 0.14 | 0.02 | 10 |
| Heritage Lake | 1968 | 1.92 | 1703 | 1.93 | 0.42 | 53 |
| Lake Wildwood | 1972 | 0.26 | 61 | 0.52 | 0.02 | 19 |
| Lk of Whispering Oaks | 1973 | 0.18 | 40 | 0.49 | 0.01 | 14 |
| Lutticken Lake | 1961 | 2.5 | 867 | 0.77 | 0.33 | 33 |
| Northern Oaks Lk | 1969 | 1.21 | 460 | 0.84 | 0.16 | 33 |
| Sunset Hills Dam 1 | 1963 | 0.1 | 72 | 1.59 | 0.01 | 25 |
| Sunset Hills Dam 2 | 1964 | 0.7 | 195 | 0.61 | 0.07 | 25 |

### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 22.9 | 7.37 | 1 | 8 | 0.86 | 1.04 | 26 |
| Potential Res. | | 80.1 | 12 | 7 | 0.99 | 14.70 | 54 |

### COUNTY WIDE

County Area = 653 sq mi
Max Potential Yield = 69.55 mgd

Ex Res Yield/Max Yield = 0.01
Ex & Pot Res Yield/Max Yield = 0.23

## Table 91. Union County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est. Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Alto Pass Res.* | 1964 | 0.62 | 99.8 | 0.32 | 0.25 | 0.20 | 0.10 | 28 | 0.08 | 23 | 0.07 | 20 |
| Anna St. Hosp. Res. | 1936 | 0.97 | 257.1 | | 0.38 | 0.37 | | | 0.17 | 28 | 0.17 | 28 |
| Dongola Lake* | 1971 | 3.55 | 558 | 0.22 | 0.18 | 0.16 | 0.79 | 29 | 0.69 | 26 | 0.62 | 23 |
| Grassy Lake | | 2.34 | 620 | | 0.38 | | | | 0.43 | 30 | | |
| Lyerla Lake | | 2.34 | 780 | | 0.48 | | | | 0.52 | 36 | | |

## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C /I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 33.0 | 9.82 | 2 | 5 | 0.34 | 1.89 | 28 |
| Potential Res. | | 171.5 | 41 | 14 | 1.24 | 68.90 | 52 |

## COUNTY WIDE

County Area = 414 sq mi

Max Potential Yield = 71.78 mgd

Ex Res Yield/Max Yield = 0.03

Ex & Pot Res Yield/Max Yield = 0.99 [2]

## Table 92. Vermilion County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Georgetown Res. | 1937 | 27 | 126 | | 0.01 | | | | 0.13 | 1 | | |
| Lake Vermilion* | 1925 | 298 | 8470 | | 0.05 | 0.05 | | | 19.45 | 13 | 19.04 | 13 |
| Vermilion Fish. CI. | | 1.3 | 2100 | | 2.93 | | | | 0.41 | 64 | | |



### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C /I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 59.0 | 326.3 | 36 | 3 | 1.00 | 19.99 | 26 |
| Potential Res. | | 524.2 [1] | 58 [1] | 7 | 0.54 | 53.2 [1] | 36 |

### COUNTY WIDE

County Area =898 sq mi

Max Potential Yield =115.67 mgd

Ex Res Yield/Max Yield = 6.17

Ex & Pot Res Yield/Max Yield = 0.63 [1]

## Table 93. Wabash County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est. Cap. (ac-ft) | 40-Yr Drought Net Yield C/I 1980 | 40-Yr Drought Net Yield 1980 (mgd) | 40-Yr Drought Net Yield %MAI |
|---|---|---|---|---|---|---|
| Mesa Lake | 1968 | 0.91 | 748 | 1.26 | 0.22 | 42 |

### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. % MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 22.0 | 0.91 | <1 | 1 | 1.26 | 0.22 | 42 |
| Potential Res. | topography not suited to reservoir development; no sites identified | | | | | | |

### COUNTY WIDE

County Area = 221 sq mi

Max Potential Yield = 54.38 mgd

Ex Res Yield/Max Yield = < .01

# Table 94. Warren County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est. Cap. (ac-ft) | 40-Yr Drought Net Yield C/I 1980 | 1980 (mgd) | %MAI |
|---|---|---|---|---|---|---|
| Clyde Young Lake | 1956 | 1 | 181 | 0.39 | 0.13 | 32 |
| Lake Warren | 1952 | 0.62 | 656 | 2.28 | 0.15 | 58 |
| Litte Swan Lake | 1968 | 8.75 | 3172 | 0.80 | 1.46 | 41 |
| Paul Lake | 1965 | 0.12 | 50 | 0.91 | 0.02 | 41 |



## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 29.8 | 10.49 | 2 | 4 | 1.10 | 1.76 | 43 |
| Potential Res. | | 183.6 | 34 | 8 | 1.06 | 35.90 | 64 |

## COUNTY WIDE

County Area = 542 sq mi
Max Potential Yield = 95.48 mgd

Ex Res Yield/Max Yield = 0.02
Ex & Pot Res Yield/Max Yield = 0.39

## Table 95. Washington County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ashley Reservoir* | 1941 | 1.21 | 123 | 0.25 | 0.18 | 0.17 | 0.13 | 21 | 0.10 | 16 | 0.09 | 15 |
| Habbe's Lake | 1974 | 0.25 | 25 | | 0.19 | | | | 0.02 | 17 | | |
| Huegely's Lake | 1965 | 0.1 | 44 | | 0.83 | | | | 0.02 | 42 | | |
| ICRRReservoir | 1965 | 0.28 | 121 | | 0.78 | | | | 0.06 | 43 | | |
| Nashville City Res.* | 1935 | 1.39 | 400 | | 0.55 | | | | 0.23 | 35 | | |
| Washington Co. Lk.* | 1962 | 9.5 | 2850 | | 0.56 | | | | 1.70 | 38 | | |



### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 33.0 | 12.73 | 2 | 6 | 0.52 | 2.13 | 32 |
| Potential Res. | | 115.6 | 20 | 8 | 0.69 | 20.30 | 36 |

### COUNTY WIDE

County Area = 565 sq mi

Max Potential Yield = 83.54 mgd

Ex Res Yield/Max Yield = 0.03

Ex & Pot Res Yield/Max Yield = 0.27

## Table 96. Wayne County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est. Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drouoght Net Yield Orig (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Briar Patch Club Lk | 1955 | 0.19 | 102 | | 0.83 | | | | 0.04 | 36 | | |
| Cox Lake | 1959 | 0.5 | 80 | | 0.25 | | | | 0.04 | 14 | | |
| Old Fairfield Res. | 1900 | 0.53 | 37 | | 0.11 | | | | 0.02 | 7 | | |
| Robinson Lake | 1970 | 0.34 | 107 | | 0.52 | | | | 0.04 | 22 | | |
| Sam Dale Lake | 1960 | 7.15 | 999 | | 0.24 | | | | 0.56 | 15 | | |
| Steiner Lake | 1945 | 0.31 | 42.4 | 0.27 | 0.21 | 0.20 | 0.03 | 17 | 0.02 | 11 | 0.02 | 11 |

### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 41.8 | 9.02 | 1 | 6 | 0.36 | 0.72 | 18 |
| Potential Res. | | 26.3 | 4 | 4 | 1.18 | 7.20 | 48 |

### COUNTY WIDE

County Area = 715 sq mi    Ex Res Yield/Max Yield = 0.01

Max Potential Res Yield = 66.59 mgd    Ex & Pot Res Yield/Max Yield = 0.12

# Table 97. White County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Absher Lake | 1968 | 0.48 | 59 | | 0.18 | | | | 0.04 | 14 | | |
| Norris City Res. | 1937 | 0.83 | 109.8 | 0.25 | 0.19 | 0.18 | 0.08 | 16 | 0.07 | 14 | 0.07 | 14 |
| Pont-Ca Lake | 1949 | 0.74 | 200 | | 0.36 | | | | 0.1 | 22 | | |

## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 38.7 | 2.05 | <1 | 3 | 0.24 | 0.21 | 17 |
| Potential Res. | | 4.6 | 1 | 2 | 1.55 | 2.10 | 64 |

## COUNTY WIDE

County Area = 501 sq mi

Max Potential Yield = 51.12 mgd

Ex Res Yield/Max Yield = < 1

Ex & Pot Res Yield/Max Yield = 0.05

## Table 98. Whiteside County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | % MAI | 1980 (mgd) | % MAI | 1990 (mgd) | % MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lake Carlton | 1969 | 2.31 | 804.7 | 0.77 | 0.73 | 0.70 | 0.54 | 55 | 0.54 | 55 | 0.53 | 54 |



### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C /I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 21.0 | 2.31 | < 1 | 1 | 0.73 | 0.54 | 55 |
| Potential Res. | | 35.9 | 5 | 3 | 1.44 | 12.50 | 89 |

### COUNTY WIDE

County Area = 690 sq mi
Max Potential Yield = 160.89 mgd

Ex Res Yield/Max Yield = < .01
Ex & Pot Res Yield/Max Yield = 0.08

## Table 99. Will County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | 40-Yr Drought Net Yield: C/I 1980 | 1980 (mgd) | %MAI |
|---|---|---|---|---|---|---|
| Joliet Jr. College Lk | 1940 | 2.66 | 37 | 0.03 | 0.10 | 8 |
| Sauk Trail | | 9.13 | 58 | 0.01 | 0.25 | 6 |



## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C /I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 50.0 | 11.79 | 1 | 2 | 0.02 | 0.35 | 7 |
| Potential Res. | | 114.5 | 14 | 5 | 0.33 | 25.70 | 53 |

## COUNTY WIDE

County Area = 845 sq mi
Max Potential Yield = 28.18 mgd

Ex Res Yield/Max Yield = 0.01
Ex & Pot Res Yield/Max Yield = 0.92 [2]

## Table 100. Williamson County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | 40-Yr Drought Net Yield Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Baker's Lake | 1937 | 0.26 | 17.5 | 0.14 | 0.10 | 0.09 | 0.02 | 13 | 0.02 | 13 | 0.02 | 13 |
| Carterville Res. | | 2.2 | 155 | | 0.11 | | | | 0.17 | 13 | | |
| Crab Orchard Lk | 1940 | 196 | 59296 | 0.58 | 0.46 | 0.44 | 47.63 | 41 | 42.53 | 37 | 41.31 | 36 |
| Devils Kitchen Lk | 1960 | 18.28 | 29000 | | 2.37 | | | | 7.75 | 71 | | |
| Fluck's Lake | 1919 | 0.34 | 37.5 | 0.26 | 0.17 | 0.15 | 0.04 | 20 | 0.03 | 15 | 0.03 | 15 |
| Herrin Res. 1 | 1915 | 1.78 | 163.4 | 0.17 | 0.14 | 0.13 | 0.18 | 17 | 0.17 | 16 | 0.16 | 15 |
| Herrin Res. 2 | 1936 | 3.13 | 283 | 0.38 | 0.13 | 0.09 | 0.56 | 30 | 0.30 | 16 | 0.24 | 13 |
| Johnston City Res. | 1921 | 3.85 | 347.7 | 0.18 | 0.14 | 0.13 | 0.43 | 19 | 0.36 | 16 | 0.34 | 15 |
| Knights of Pythias Lk | 1928 | 0.26 | 54.6 | 0.42 | 0.31 | 0.29 | 0.05 | 32 | 0.04 | 25 | 0.04 | 25 |
| Lake of Egypt* | 1962 | 33.34 | 40038 | 1.80 | 1.74 | 1.71 | 14.11 | 69 | 13.88 | 67 | 13.76 | 67 |
| Little Grassy Lk | 1950 | 15.1 | 24656 | 2.59 | 2.45 | 2.41 | 6.55 | 73 | 6.40 | 71 | 6.36 | 71 |
| Marion C. C. Lake | 1914 | 0.4 | 277 | | 1.01 | | | | 0.11 | 45 | | |
| Marion Reservoir* | 1971 | 6.48 | 966 | | 0.22 | | | | 0.74 | 19 | | |

### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 52.2 | 281.42 [1] | 66 [1] | 13 | 0.72 | 72.5 [1] | 33 |
| Potential Res. | | 140.8 [1] | 33 [1] | 11 | 1.15 | 34.1 [1] | 70 |

### COUNTY WIDE

County Area = 427 sq mi

Max Potential Yield = 83.90 mgd

Ex Res Yield/Max Yield = 0.86 [1]

Ex & Pot Res Yield/Max Yield = 1.27 [1]

# Table 101. Winnebago County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est. Cap. (ac-ft) | C/I 1980 | 40-Yr Drought Net Yield 1980 (mgd) | %MAI |
|---|---|---|---|---|---|---|
| Lake Summerset | 1969 | 7.03 | 4985 | 1.46 | 2.07 | 68 |
| Levings Lake | 1935 | 8.59 | 90 | 0.02 | 0.91 | 24 |
| Pierce Lake | 1960 | 12.73 | 2660 | 0.44 | 2.77 | 51 |
| Rueben Aldeen Pk Lk | 1965 | 7.1 | 804 | 0.23 | 1.37 | 45 |
| Spring Lake | 1965 | 0.4 | 42 | 0.22 | 0.07 | 41 |



## Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 31.2 | 35.85 | 7 | 5 | 0.47 | 7.19 | 46 |
| Potential Res. | | 43.1 | 8 | 5 | 0.91 | 12.60 | 71 |

## COUNTY WIDE

| | |
|---|---|
| County Area = 520 sq mi | Ex Res Yield/Max Yield = 0.07 |
| Max Potential Yield = 103.69 mgd | Ex & Pot Res Yield/Max Yield = 0.19 |

## Table 102. Woodford County

EXISTING RESERVOIRS

| Name | Year Built | Dr. Area (sq mi) | 1980 Est Cap. (ac-ft) | C/I Orig. | C/I 1980 | C/I 1990 | Orig. (mgd) | %MAI | 1980 (mgd) | %MAI | 1990 (mgd) | %MAI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Barwell Lake | 1956 | 0.17 | 49 | | 0.62 | | | | 0.02 | 28 | | |
| Eureka Lake* | 1941 | 2.7 | 291.5 | | 0.24 | 0.23 | | | 0.18 | 16 | 0.18 | 16 |
| Evergreen Lake* | 1970 | 40.2 | 11941 | 0.65 | 0.64 | 0.62 | 6.40 | 38 | 6.28 | 37 | 6.15 | 37 |
| Izaak Walton Lake | 1971 | 0.26 | 100 | | 0.85 | | | | 0.03 | 28 | | |
| Rich Lake | 1952 | 0.13 | 41 | | 0.69 | | | | 0.01 | 19 | | |



### Summary

| | 1990 Ave. Age | Total Dr. Area | % County Area | No. of reservoirs | Average C/I | Total Yield | Ave. %MAI |
|---|---|---|---|---|---|---|---|
| Existing Res. | 32.0 | 43.46 | 8 | 5 | 0.61 | 6.52 | 26 |
| Potential Res. | | 811.3 [1] | [1] | 4 | 1.05 | 103.2 [1] | 52 |

### COUNTY WIDE

County Area = 537 sq mi

Max Potential Yield = 57.86 mgd

Ex Res Yield/Max Yield = 0.11

Ex & Pot Res Yield/Max Yield = 1.90 [1]

## Table 103. Statewide Summary

| | | | | | 40-Yr Design Drought | | | |
|---|---|---|---|---|---|---|---|---|
| Table # | County | Existing Reservoirs in Study | 1980 Ave. Age | Existing Reservoirs 1980 Ave. %MAI | Expected %MAI | Max. Developable Yield (mgd) | Practical Developable Yield (mgd) | % County Area in Ex & Pot Watersheds |
| 1 | Adams | 7 | 36.0 | 22 | 22 | 77.14 | 3837 | 42 |
| 2 | Alexander | 0 | | | 22.94 | 36.72 | 18.36 | 4 |
| 3 | Bond | 4 | 37.0 | 17 | 17 | 29.15 | 1438 | 31 |
| 4 | Boone | 1 | 8.0 | 70 | 31.13 | 37.35 | 18.67 | 6 |
| 5 | Brown | 4 | 26.5 | 21 | 18.34 | 22.80 | 11.40 | [1] |
| 6 | Bureau | 5 | 17.4 | 18 | 14.75 | 53.67 | 26.83 | [1] |
| 7 | Calhoun | 0 | | | 22.94 | 24.34 | 12.17 | < 1 |
| 8 | Carroll | 2 | 13.0 | 60 | 31.13 | 63.15 | 31.58 | 34 |
| 9 | Cass | 2 | 333 | 35 | 31.13 | 46.64 | 23.32 | 30 |
| 10 | Champaign | 4 | 21.8 | 23 | 19.41 | 91.53 | 45.77 | 5 |
| 11 | Christian | 8 | 25.9 | 22 | 19.22 | 58.42 | 29.21 | 44 |
| 12 | Clark | 10 | 25.8 | 24 | 21.2 | 54.57 | 27.28 | [1] |
| 13 | Clay | 5 | 39.8 | 9 | 14.75 | 34.56 | 17.28 | [1] |
| 14 | Clinton | 3 | 42.3 | 19 | 19 | 43.27 | 21.63 | [1] |
| 15 | Coles | 4 | 41.2 | 6 | 14.75 | 36.69 | 18.35 | [1] |
| 16 | Cook | | | | 22.94 | 99.04 | 4932 | |
| 17 | Crawford | 6 | 22.8 | 20 | 16.61 | 38.47 | 19.23 | 25 |
| 18 | Cumberland | 3 | 47.3 | 22 | 23.44 | 4036 | 20.28 | [1] |
| 19 | De Kalb | 1 | 6.0 | 44 | 31.13 | 89.60 | 44.80 | 6 |
| 20 | De Witt | 3 | 23.7 | 26 | 22.79 | 38.98 | 19.49 | [1] |
| 21 | Douglas | 2 | 27.0 | 11 | 14.75 | 2931 | 14.75 | 3 |
| 22 | Du Page | | | | 22.94 | 33.64 | 16.82 | |
| 23 | Edgar | 2 | 24.0 | 15 | 14.75 | 46.33 | 23.17 | 29 |
| 24 | Edwards | 6 | 23.6 | 10 | 14.75 | 19.29 | 9.64 | 4 |
| 25 | Effingham | 6 | 37.0 | 30 | 30 | 70.26 | 35.13 | 67 |
| 26 | Fayette | 8 | 33.1 | 17 | 15.64 | 51.89 | 25.94 | 16 |
| 27 | Ford | 0 | | | 22.94 | 51.19 | 25.60 | 28 |
| 28 | Franklin | 12 | 48.2 | 27 | 28.62 | 71.00 | 35.50 | [1] |
| 29 | Fulton | 9 | 35.5 | 15 | 15 | 53.08 | 2634 | [1] |
| 30 | Gallatin | 2 | 28.0 | 36 | 31.13 | 72.96 | 36.48 | [1] |
| 31 | Greene | 5 | 33.2 | 16 | 14.75 | 32.81 | 16.41 | 35 |
| 32 | Grundy | 0 | | | 22.94 | 44.37 | 22.19 | 13 |
| 33 | Hamilton | 3 | 25.7 | 33 | 30.18 | 76.29 | 38.15 | 5 |
| 34 | Hancock | 7 | 24.0 | 29 | 25.84 | 83.39 | 41.69 | 62[2] |
| 35 | Hardin | 0 | | | 22.94 | 36.00 | 18.00 | 72 |
| 36 | Henderson | 3 | 28.0 | 23 | 20.63 | 31.83 | 15.91 | 32 |
| 37 | Henry | 2 | 52.0 | 27 | 29.37 | 101.12 | 5036 | 18 |
| 38 | Iroquois | 1 | 29.0 | 13 | 14.75 | 80.41 | 40.21 | 6 |
| 39 | Jackson | 10 | 21.4 | 44 | 31.13 | 102.83 | 51.42 | 38 |
| 40 | Jasper | 3 | 25.0 | 15 | 14.75 | 37.21 | 18.61 | 45[2] |
| 41 | Jefferson | 8 | 52.1 | 30 | 31.13 | 93.63 | 46.81 | 34 |

## Table 103. Statewide Summary (continued)

| Table # | County | Existing Reservoirs in Study | 1980 Ave. Age | Existing Reservoirs 1980 Ave. %MAI | 40-Yr Design Drought: Expected %MAI | 40-Yr Design Drought: Max. Developable Yield (mgd) | 40-Yr Design Drought: Practical Developable Yield (mgd) | % County Area in Ex & Pot Watersheds |
|---|---|---|---|---|---|---|---|---|
| 42 | Jersey | 7 | 21.6 | 18 | 14.75 | 22.86 | 11.43 | 34 |
| 43 | Jo Daviess | 2 | 8.0 | 66 | 31.13 | 82.85 | 41.43 | 24 |
| 44 | Johnson | 5 | 11.5 | 36 | 30.38 | 74.89 | 37.45 | 47 |
| 45 | Kane | 2 | 233 | 24 | 20.75 | 47.43 | 23.72 | 5 |
| 46 | Kankakee | 0 | | | 22.94 | 74.31 | 37.15 | 16 |
| 47 | Kendall | 0 | | | 22.94 | 3357 | 16.78 | 11 |
| 48 | Knox | 7 | 51.6 | 34 | 31.13 | 92.84 , | 46.42 | 25 |
| 49 | Lake | | | | 22.94 | 42.45 | 21.22 | |
| 50 | La Salle | 3 | 55.0 | 22 | 24.96 | 123.38 | 61.69 | 31 |
| 51 | Lawrence | 1 | 26.0 | 21 | 18.24 | 38.34 | 19.17 | 1 |
| 52 | Lee | 1 | ND | 21 | 22.94 | 71.70 | 35.85 | [1] |
| 53 | Livingston | 1 | 55.0 | <2 | 22.94 | 106.00 | 53.00 | [1] |
| 54 | Logan | 1 | 8.0 | 5 | 14.75 | 38.46 | 19.23 | 24 |
| 55 | McDonough | 4 | 395 | 23 | 23 | 54.20 | 27.10 | 27 |
| 56 | Mc Henry | 4 | 38.3 | 18 | 18 | 4558 | 22.79 | 24 |
| 57 | McLean | 4 | 36.3 | 27 | 27 | 135.78 | 67.89 | 20 |
| 58 | Macon | 1 | 58.0 | 7 | 14.75 | 36.83 | 18.41 | [1] |
| 59 | Macoupin | 22 | 37.4 | 17 | 17 | 62.14 | 31.07 | 68 |
| 60 | Madison | 16 | 37.8 | 20 | 20 | 62.68 | 31.34 | 24 |
| 61 | Marion | 15 | 38.6 | 31 | 31 | 8650 | 43.25 | 58 |
| 62 | Marshall | 1 | 11.0 | 48 | 31.13 | 50.96 | 25.48 | 27 |
| 63 | Mason | 0 | | | 22.94 | 50.25 | 25.12 | 7 |
| 64 | Massac | 1 | ND | 29 | 29 | 57.77 | 28.89 | 13 |
| 65 | Menard | 2 | 485 | 28 | 29.68 | 37.49 | 18.75 | 35 |
| 66 | Mercer | 4 | 27.8 | 38 | 31.13 | 7255 | 36.28 | 42 |
| 67. | Monroe | 5 | 30.2 | 37 | 31.13 | 5353 | 26.77 | 20 |
| 68 | Montgomery | 10 | 36.9 | 12 | 14.75 | 44.64 | 22.32 | [1] |
| 69 | Morgan | 11 | 52.9 | 11 | 14.75 | 35.73 | 17.86 | [1] |
| 70 | Moultrie | 1 | 16.0 | 33 | 28.27 | 4553 | 22.76 | 33 |
| 71 | Ogle | 3 | 14.3 | 26 | 20.93 | 70.19 | 35.09 | 25 |
| 72 | Peoria | 8 | 11.8 | 34 | 26.44 | 66.80 | 33.40 | 33 |
| 73 | Perry | 3 | 43.0 | 29 | 29 | 64.26 | 32.13 | 68 |
| 74 | Piatt | 1 | 30.0 | 25 | 23.03 | 4554 | 22.77 | 18 |
| 75 | Pike | 4 | 29.8 | 21 | 18.99 | 67.49 | 33.75 | 32 |
| 76 | Pope | 3 | 23.5 | 25 | 21.75 | 71.05 | 3553 | 48 |
| 77 | Pulaski | 0 | | | 22.94 | 35.67 | 17.83 | 5 |
| 78 | Putnam | 1 | 10.0 | 57 | 31.13 | 21.54 | 10.77 | [1] |
| 79 | Randolph | 5 | 32.4 | 25 | 235 | 6450 | 32.25 | 64 |
| 80 | Richland | 8 | 27.4 | 31 | 28.51 | 55.37 | 27.68 | 36 |
| 81 | Rock Island | 2 | 19.0 | 31 | 26.86 | 47.83 | 23.91 | 39 |
| 82 | St. Clair | 11 | 36.9 | 28 | 28 | 84.90 | 42.45 | 8 |

## Table 103. Statewide Summary (continued)

| Table # | County | Existing Reservoirs in Study | 1980 Ave. Age | Existing Reservoirs 1980 Ave. %MA1 | 40-Yr Design Drought: Expected %MAI | 40-Yr Design Drought: Max. Developable Yield (mgd) | 40-Yr Design Drought: Practical Developable Yield (mgd) | % County Area in Ex & Pot Watersheds |
|---|---|---|---|---|---|---|---|---|
| 83 | Saline | 7 | 41.4 | 32 | 32 | 76.09 | 38.05 | [1] |
| 84 | Sangamon | 4 | 52.7 | 19 | 21.5 | 78.41 | 39.20 | 52 |
| 85 | Schuyler | 2 | 41.0 | 34 | 34 | 59.75 | 29.87 | [1] |
| 86 | Scott | 0 | | | 22.94 | 24.96 | 12.48 | 66 |
| 87 | Shelby | 2 | 16.5 | 21 | 16.37 | 57.19 | 28.59 | [1] |
| 88 | Stark | 2 | 37.5 | 17 | 17 | 20.27 | 10.13 | 31 |
| 89 | Stephenson | 2 | 15.5 | 46 | 31.13 | 76.65 | 38.32 | 15 |
| 90 | Tazewell | 8 | 12.9 | 26 | 20.66 | 55.27 | 27.63 | 13 |
| 91 | Union | 5 | 23.0 | 28 | 24.65 | 63.20 | 31.60 | 43 |
| 92 | Vermilion | 3 | 49.0 | 26 | 27.78 | 123.59 | 61.79 | [1] |
| 93 | Wabash | 1 | 12.0 | 42 | 31.13 | 40.31 | 20.15 | <1 |
| 94 | Warren | 4 | 19.8 | 43 | 31.13 | 69.12 | 34.56 | 36 |
| 95 | Washington | 6 | 23.0 | 32 | 28.65 | 74.79 | 37.40 | 22 |
| 96 | Wayne | 6 | 31.8 | 18 | 16.38 | 64.16 | 32.08 | 5 |
| 97 | White | 3 | 28.7 | 17 | 14.77 | 44.41 | 22.21 | 1 |
| 98 | Whiteside | 1 | 11.0 | 55 | 31.13 | 91.06 | 45.53 | 5 |
| 99 | Will | 2 | 40.0 | 7 | 14.75 | 59.37 | 29.69 | 15 |
| 100 | Williamson | 13 | 42.2 | 33 | 33 | 83.90 | 41.95 | [1] |
| 101 | Winnebago | 5 | 21.2 | 46 | 31.13 | 70.17 | 35.08 | 15 |
| 102 | Woodford | 5 | 22.0 | 26 | 22.45 | 49.96 | 24.98 | [1] |

total #res. 422

Practical Developable Yield for 102 Counties = 2997.34 mgd

for 96 Counties = 2833.58 mgd
(excluding Cook, Du Page, Kane, Lake, Mc Henry, and Will counties)

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## APPENDIX.

## WATER SUPPLY FROM THE KANKAKEE RIVER

Water can be pumped from rivers with high sustained flows for domestic and industrial water supply and/or irrigation. Examples of such rivers in Illinois are the Kankakee, Rock, and Illinois Rivers, as well as interstate rivers such as the Mississippi, Ohio, and Wabash. The costs of pumping raw water from the Kankakee River at 39.5, 44.5, 49.5, and 54.5 river miles above its confluence with the DesPlaines River were calculated for pumping rates of 1, 3, 5, and 10 mgd and delivery to points 1, 3, 6, and 10 miles from the intakes at the river.

Costs were based on conveyance of water by a pipeline from the intake at the Kankakee River to the use point 1, 3, 6, or 10 miles away. A pumping station would be used to keep a minimum pressure of 25 feet of water anywhere in the pipeline and a residual minimum pressure of 25 feet of water at the use or delivery point. The pipeline would be designed to minimize the unit cost of conveyance, considering both capital investment and operation, and maintenance and repair (OM&R) costs.

### Conveyance Cost Components

Various components of the conveyance costs are described below.

*Pipeline Construction Cost, $C_1$.* The investment cost $C_1$ in dollars is obtained from:

$$C_1 = 7750\, D^{1.2}\, L$$

in which D is the inside pipe diameter in inches, and L is the length of pipeline in miles.

*Pipeline OM&R Cost,* $C_2$. Annual pipeline operation, maintenance, and repair cost $C_2$ in dollars is given by:

$$C_2 = 36\, D\, L$$

*Easement Cost,* $C_3$. The capital easement cost $C_3$ in dollars for pipeline construction and maintenance is obtained from:

$$C_3 = 6900L$$

*Pumping Station Cost,* $C_4$. The pumping station cost $C_4$ in dollars is calculated from:

$$C_4 = 27000 + 640\, HP$$

in which HP is the maximum horsepower needed for pumping the water to the desired location, with a residual head of 25 feet and an adjustment factor (firming factor or standby factor) AJ, which is 2.08 - 0.18Q for pumpage $Q \leq 2$ mgd, 1.967 - 0.123Q for $Q > 2$ mgd but $\leq 5$ mgd, and 1.42 - 0.014Q for $Q > 5$ but $\leq 10$ mgd.

*Annual Energy Cost,* $C_5$. This cost is obtained by multiplying the annual kilowatt hours (kwh) consumed in pumping by $ 0.08/kwh:

$C_5 = 0.08$ kwh

in which kwh = 741.6 x $H_t$ x 1.547 Q/0.7

where $H_t$ is the total head, which includes static head, friction head, and residual head of 25 feet; and 0.7 denotes the overall efficiency.

*Pumping Station OM&R Cost,* $C_6$. This annual cost includes oiling, painting, routine checking, servicing, and repairs to or renewal of worn-out parts. This annual cost in dollars is approximated by:

$C_6 = 3520 + 26\ HP^{1\ 0\ 5}$

*River Intake Cost,* $C_7$. The capital cost in dollars of the intake in the river is obtained from:

$C_7 = 50{,}000 + 5{,}000\ Q$

The cost components $C_1$, $C_3$, $C_4$, and $C_7$ involve capital investments, and their annual values are obtained by multiplying them by relevant cost recovery factors, CRF, for two rates of interest 0.08 and 0.10 (or 8 and 10%), and life n of 50 years for $C_1$, $C_3$, and $C_7$ and 25 years for $C_4$.

| | Values of CRF | |
|---|---|---|
| *i* | *n = 25 years* | *n = 50 years* |
| 0.08 | 0.0937 | 0.0817 |
| 0.10 | 0.1102 | 0.1009 |

Annual delivery cost of raw water pumped year-round for municipal and industrial water supply equals:

Annual Cost = (C1 + C3 + C7) CRF (i,50) + $C_4$ CRF (i,25) + $C_2$ + ($C_5$ + $C_6$)

The cost in cents per 1,000 gallons is obtained from

¢ /1000 gallons = Annual cost in dollars x 100 / (Q x 365.2 x 1000)

Annual delivery cost of raw water pumped 3 months of the year or l/4th of the year (say, mid-June to mid-September) for irrigation equals:

Annual Cost = ($C_1$ + $C_3$ + $C_7$) CRF (i,50) + $C_4$ CRF (i,25) + $C_2$ + ($C_5$ + $C_6$)/4

The cost in cents per 1,000 gallons is calculated from:

¢ /1000 gallons = Annual cost in dollars x 100 / (Q x 365.2 x 1000/4)

**Unit Water Costs**

The unit water costs in cents/1000 gallons for pumping 1, 3, 5, or 10 mgd to 1, 3, 6, and 10 miles from water intakes in the Kankakee River at each of the four locations, at interest rates of 8 and 10 percent, are given in tables A-1 through A-4. Variable cost V equals the ratio of $C_5$ plus $C_6$ (or one-fourth of $C_5$ + $C_6$ in the case of 3-month pumping) to the total annual cost, expressed as a percentage. Sites 1, 2, 3, and 4 correspond to 54.5, 49.5, 44.5, and 39.5 river miles along the Kankakee River upstream of its confluence with the DesPlaines River, respectively. The following inferences can be drawn from these tables.

1. Pipe diameter is somewhat higher for year-round pumping than for 3-month pumping because annual capital cost (mostly $C_1$) forms a much greater portion of the total cost with 3-month pumping than with year-round pumping.

2. The unit cost decreases with increase in Q. This reflects economies of scale.

3. With increasing distance of delivery, the unit cost increases, though at a lesser rate.

4. The unit costs for 3-month operation are about 2.4 to 3.3 times the unit costs for 12-month or year-round operation because the capital costs form a large portion of the total costs.

5. Water can be pumped from a river at reasonable costs within a corridor of up to 3 to 5 miles on either side of the river; the corridor width increases with the pumping rate.

Table A-1. Cost of Water Delivery from the Kankakee River (Site 1)

| | | | 3-Month Operation | | | | 12-Month Operation | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Q | L | S | H | D | C | V | H | D | C | V |
| Interest Rate = 8.0 % per annum | | | | | | | | | | |
| 1. | 1. | 34. | 83. | 8. | 23.9 | 17.9 | 50. | 10. | 8.3 | 35.7 |
| 1. | 3. | 44. | 191. | 8. | 50.4 | 17.2 | 92. | 10. | 16.3 | 28.5 |
| 1. | 6. | 76. | 371. | 8. | 91.3 | 17.4 | 171. | 10. | 29.1 | 26.9 |
| 1. | 10. | 66. | 557. | 8. | 142.1 | 16.5 | 225. | 10. | 43.7 | 22.9 |
| 3. | 1. | 34. | 58. | 14. | 12.9 | 20.2 | 46. | 16. | 4.9 | 43.9 |
| 3. | 3. | 44. | 115. | 14. | 28.4 | 17.2 | 80. | 16. | 9.9 | 35.4 |
| 3. | 6. | 76. | 219. | 14. | 52.9 | 17.0 | 149. | 16. | 18.2 | 34.1 |
| 3. | 10. | 66. | 304. | 14. | 82.0 | 15.1 | 187. | 16. | 26.8 | 28.8 |
| 5. | 1. | 34. | 52. | 18. | 10.0 | 22.1 | 44. | 20. | 4.0 | 48.3 |
| 5. | 3. | 44. | 97. | 18. | 22.2 | 18.0 | 75. | 20. | 8.0 | 39.0 |
| 5. | 6. | 76. | 183. | 18. | 41.6 | 17.6 | 139. | 20. | 14.9 | 37.8 |
| 5. | 10. | 66. | 244. | 18. | 64.3 | 15.2 | 171. | 20. | 21.6 | 31.7 |
| 10. | 1. | 34. | 50. | 24. | 7.6 | 26.9 | 39. | 30. | 3.2 | 50.7 |
| 10. | 3. | 44. | 91. | 24. | 16.6 | 21.9 | 59. | 30. | 6.2 | 38.6 |
| 10. | 6. | 76. | 171. | 24. | 31.3 | 21.6 | 107. | 30. | 11.5 | 36.8 |
| 10. | 10. | 66. | 224. | 24. | 47.7 | 18.5 | 117. | 30. | 16.3 | 28.6 |
| Interest Rate = 10.0 % per annum | | | | | | | | | | |
| 1. | 1. | 34. | 83. | 8. | 28.1 | 15.2 | 50. | 10. | 9.4 | 31.3 |
| 1. | 3. | 44. | 191. | 8. | 59.4 | 14.6 | 92. | 10. | 18.9 | 24.6 |
| 1. | 6. | 76. | 371. | 8. | 107.6 | 14.8 | 171. | 10. | 33.8 | 23.2 |
| 1. | 10. | 66. | 557. | 8. | 167.9 | 14.0 | 225. | 10. | 51.2 | 19.5 |
| 3. | 1. | 34. | 58. | 14. | 15.1 | 17.2 | 46. | 16. | 5.5 | 39.1 |
| 3. | 3. | 44. | 115. | 14. | 33.6 | 14.5 | 80. | 16. | 11.3 | 30.9 |
| 3. | 6. | 76. | 219. | 14. | 62.5 | 14.4 | 149. | 16. | 20.9 | 29.8 |
| 3. | 10. | 66. | 304. | 14. | 97.4 | 12.7 | 187. | 16. | 31.1 | 24.9 |
| 5. | 1. | 34. | 52. | 18. | 11.7 | 18.9 | 44. | 20. | 4.4 | 43.4 |
| 5. | 3. | 44. | 97. | 18. | 26.2 | 15.2 | 75. | 20. | 9.1 | 34.4 |
| 5. | 6. | 76. | 183. | 18. | 49.2 | 14.9 | 139. | 20. | 16.9 | 33.2 |
| 5. | 10. | 66. | 244. | 18. | 76.3 | 12.8 | 171. | 20. | 24.9 | 27.5 |
| 10. | 1. | 34. | 50. | 24. | 8.7 | 23.2 | 39. | 30. | 3.5 | 45.7 |
| 10. | 3. | 44. | 91. | 24. | 19.5 | 18.7 | 59. | 30. | 7.1 | 34.0 |
| 10. | 6. | 76. | 171. | 24. | 36.7 | 18.4 | 107. | 30. | 13.2 | 32.3 |
| 10. | 10. | 66. | 224. | 24. | 56.3 | 15.7 | 117. | 30. | 18.9 | 24.7 |

Note: Q = water pumped in mgd
L = length of pipeline in miles
S = static head in feet
H = total head in feet
D = diameter of pipe in inches
C = cost of delivery in cents/1000 gallons
V = variable cost as percent of total

Table A-2. Cost of Water Delivery from the Kankakee River (Site 2)

| | | | 3-Month Operation | | | | 12-Month Operation | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Q** | **L** | **S** | **H** | **D** | **C** | **V** | **H** | **D** | **C** | **V** |
| Interest Rate = 8.0 % per annum | | | | | | | | | | |
| 1. | 1. | 38. | 87. | 8. | 24.2 | 18.4 | 54. | 10. | 8.5 | 36.8 |
| 1. | 3. | 51. | 198. | 8. | 50.9 | 17.6 | 99. | 10. | 16.6 | 29.6 |
| 1. | 6. | 73. | 368. | 8. | 91.1 | 17.3 | 168. | 10. | 29.0 | 26.7 |
| 1. | 10. | 53. | 544. | 8. | 141.1 | 16.2 | 212. | 10. | 43.1 | 22.0 |
| 3. | 1. | 38. | 62. | 14. | 13.1 | 21.0 | 50. | 16. | 5.1 | 45.4 |
| 3. | 3. | 51. | 122. | 14. | 28.9 | 17.9 | 87. | 16. | 10.2 | 37.0 |
| 3. | 6. | 73. | 216. | 14. | 52.7 | 16.8 | 146. | 16. | 18.1 | 33.7 |
| 3. | 10. | 53. | 291. | 14. | 81.2 | 14.6 | 174. | 16. | 26.2 | 27.5 |
| 5. | 1. | 38. | 56. | 18. | 10.2 | 23.1 | 48. | 20. | 4.2 | 50.0 |
| 5. | 3. | 51. | 104. | 18. | 22.6 | 18.8 | 82. | 20. | 8.3 | 40.8 |
| 5. | 6. | 73. | 180. | 18. | 41.4 | 17.4 | 136. | 20. | 14.7 | 37.3 |
| 5. | 10. | 53. | 231. | 18. | 63.5 | 14.6 | 158. | 20. | 21.0 | 30.2 |
| 10. | 1. | 38. | 54. | 24. | 7.8 | 28.0 | 43. | 30. | 3.4 | 52.6 |
| 10. | 3. | 51. | 98. | 24. | 17.1 | 23.0 | 66. | 30. | 6.5 | 40.9 |
| 10. | 6. | 73. | 168. | 24. | 31.1 | 21.3 | 104. | 30. | 11.4 | 36.3 |
| 10. | 10. | 53. | 211. | 24. | 46.9 | 17.7 | 104. | 30. | 15.7 | 26.4 |
| Interest Rate = 10.0 % per annum | | | | | | | | | | |
| 1. | 1. | 38. | 87. | 8. | 28.4 | 15.6 | 54. | 10. | 9.6 | 32.4 |
| 1. | 3. | 51. | 198. | 8. | 59.9 | 14.9 | 99. | 10. | 19.2 | 25.6 |
| 1. | 6. | 73. | 368. | 8. | 107.4 | 14.7 | 168. | 10. | 33.7 | 22.9 |
| 1. | 10. | 53. | 544. | 8. | 166.9 | 13.7 | 212. | 10. | 50.6 | 18.8 |
| 3. | 1. | 38. | 62. | 14. | 15.4 | 18.0 | 50. | 16. | 5.7 | 40.6 |
| 3. | 3. | 51. | 122. | 14. | 34.1 | 15.2 | 87. | 16. | 11.6 | 32.4 |
| 3. | 6. | 73. | 216. | 14. | 62.3 | 14.2 | 146. | 16. | 20.7 | 29.4 |
| 3. | 10. | 53. | 291. | 14. | 96.5 | 12.3 | 174. | 16. | 30.5 | 23.7 |
| 5. | 1. | 38. | 56. | 18. | 11.9 | 19.8 | 48. | 20. | 4.6 | 45.1 |
| 5. | 3. | 51. | 104. | 18. | 26.7 | 16.0 | 82. | 20. | 9.4 | 36.1 |
| 5. | 6. | 73. | 180. | 18. | 49.0 | 14.8 | 136. | 20. | 16.8 | 32.8 |
| 5. | 10. | 53. | 231. | 18. | 75.5 | 12.2 | 158. | 20. | 24.3 | 26.1 |
| 10. | 1. | 38. | 54. | 24. | 9.0 | 24.3 | 43. | 30. | 3.7 | 47.7 |
| 10. | 3. | 51. | 98. | 24. | 19.9 | 19.7 | 66. | 30. | 7.4 | 36.2 |
| 10. | 6. | 73. | 168. | 24. | 36.5 | 18.2 | 104. | 30. | 13.0 | 31.7 |
| 10. | 10. | 53. | 211. | 24. | 55.5 | 15.0 | 104. | 30. | 18.3 | 22.7 |

Note: Q = water pumped in mgd
L = length of pipeline in miles
S = static head in feet
H = total head in feet
D = diameter of pipe in inches
C = cost of delivery in cents/1000 gallons
V = variable cost as percent of total

**Table A-3. Cost of Water Delivery from the Kankakee River (Site 3)**

| | | | 3-Month Operation | | | | 12-Month Operation | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Q | L | S | H | D | C | V | H | D | C | V |
| **Interest Rate = 8.0 % per annum** | | | | | | | | | | |
| 1. | 1. | 42. | 91. | 8. | 24.5 | 18.8 | 58. | 10. | 8.7 | 37.8 |
| 1. | 3. | 44. | 191. | 8. | 50.4 | 17.2 | 92. | 10. | 16.3 | 28.5 |
| 1. | 6. | 56. | 351. | 8. | 89.8 | 16.8 | 151. | 10. | 28.2 | 25.0 |
| 1. | 10. | 44. | 535. | 8. | 140.5 | 16.1 | 203. | 10. | 42.7 | 21.4 |
| 3. | 1. | 42. | 66. | 14. | 13.4 | 21.8 | 54. | 16. | 5.2 | 46.8 |
| 3. | 3. | 44. | 115. | 14. | 28.4 | 17.2 | 80. | 16. | 9.9 | 35.4 |
| 3. | 6. | 56. | 199. | 14. | 51.6 | 15.9 | 129. | 16. | 17.3 | 31.4 |
| 3. | 10. | 44. | 282. | 14. | 80.6 | 14.3 | 165. | 16. | 25.8 | 26.6 |
| 5. | 1. | 42. | 60. | 18. | 10.5 | 24.1 | 52. | 20. | 4.3 | 51.6 |
| 5. | 3. | 44. | 97. | 18. | 22.2 | 18.0 | 75. | 20. | 8.0 | 39.0 |
| 5. | 6. | 56. | 163. | 18. | 40.4 | 16.2 | 119. | 20. | 14.0 | 34.6 |
| 5. | 10. | 44. | 222. | 18. | 62.9 | 14.1 | 149. | 20. | 20.6 | 29.1 |
| 10. | 1. | 42. | 58. | 24. | 8.0 | 29.2 | 47. | 30. | 3.5 | 54.4 |
| 10. | 3. | 44. | 91. | 24. | 16.6 | 21.9 | 59. | 30. | 6.2 | 38.6 |
| 10. | 6. | 56. | 151. | 24. | 30.1 | 19.8 | 87. | 30. | 10.7 | 32.6 |
| 10. | 10. | 44. | 202. | 24. | 46.4 | 17.2 | 95. | 30. | 15.3 | 24.8 |
| **Interest Rate = 10.0 % per annum** | | | | | | | | | | |
| 1. | 1. | 42. | 91. | 8. | 28.8 | 16.0 | 58. | 10. | 9.8 | 33.3 |
| 1. | 3. | 44. | 191. | 8. | 59.4 | 14.6 | 92. | 10. | 18.9 | 24.6 |
| 1. | 6. | 56. | 351. | 8. | 106.1 | 14.2 | 151. | 10. | 32.9 | 21.4 |
| 1. | 10. | 44. | 535. | 8. | 166.2 | 13.6 | 203. | 10. | 50.1 | 18.2 |
| 3. | 1. | 42. | 66. | 14. | 15.6 | 18.6 | 54. | 16. | 5.8 | 42.0 |
| 3. | 3. | 44. | 115. | 14. | 33.6 | 14.5 | 80. | 16. | 11.3 | 30.9 |
| 3. | 6. | 56. | 199. | 14. | 61.1 | 13.4 | 129. | 16. | 19.9 | 27.2 |
| 3. | 10. | 44. | 282. | 14. | 95.8 | 12.0 | 165. | 16. | 30.0 | 22.8 |
| 5. | 1. | 42. | 60. | 18. | 12.2 | 20.7 | 52. | 20. | 4.8 | 46.6 |
| 5. | 3. | 44. | 97. | 18. | 26.2 | 15.2 | 75. | 20. | 9.1 | 34.4 |
| 5. | 6. | 56. | 163. | 18. | 47.9 | 13.7 | 119. | 20. | 16.0 | 30.2 |
| 5. | 10. | 44. | 222. | 18. | 74.9 | 11.9 | 149. | 20. | 23.9 | 25.1 |
| 10. | 1. | 42. | 58. | 24. | 9.3 | 25.3 | 47. | 30. | 3.9 | 49.5 |
| 10. | 3. | 44. | 91. | 24. | 19.5 | 18.7 | 59. | 30. | 7.1 | 34.0 |
| 10. | 6. | 56. | 151. | 24. | 35.4 | 16.8 | 87. | 30. | 12.3 | 28.3 |
| 10. | 10. | 44. | 202. | 24. | 54.9 | 14.5 | 95. | 30. | 17.9 | 21.2 |

**Note:** Q = water pumped in mgd
L = length of pipeline in miles
S = static head in feet
H = total head in feet
D = diameter of pipe in inches
C = cost of delivery in cents/1000 gallons
V = variable cost as percent of total

Table A-4. Cost of Water Delivery from the Kankakee River (Site 4)

| | | | 3-Month Operation | | | | 12-Month Operation | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Q | L | S | H | D | C | V | H | D | C | V |
| Interest Rate = 8.0 % per annum | | | | | | | | | | |
| 1. | 1. | 45. | 94. | 8. | 24.7 | 19.1 | 61. | 10. | 8.8 | 38.6 |
| 1. | 3. | 75. | 222. | 8. | 52.6 | 18.8 | 123. | 10. | 17.8 | 33.1 |
| 1. | 6. | 60. | 355. | 8. | 90.1 | 16.9 | 155. | 10. | 28.4 | 25.4 |
| 1. | 10. | 51. | 542. | 8. | 141.0 | 16.2 | 210. | 10. | 43.0 | 21.9 |
| 3. | 1. | 45. | 69. | 14. | 13.6 | 22.3 | 57. | 16. | 5.4 | 47.8 |
| 3. | 3. | 75. | 146. | 14. | 30.5 | 20.1 | 111. | 16. | 11.3 | 41.7 |
| 3. | 6. | 60. | 203. | 14. | 51.8 | 16.1 | 133. | 16. | 17.5 | 31.9 |
| 3. | 10. | 51. | 289. | 14. | 81.0 | 14.5 | 172. | 16. | 26.1 | 27.3 |
| 5. | 1. | 45. | 63. | 18. | 10.7 | 24.8 | 55. | 20. | 4.5 | 52.6 |
| 5. | 3. | 75. | 128. | 18. | 24.1 | 21.6 | 106. | 20. | 9.4 | 46.2 |
| 5. | 6. | 60. | 167. | 18. | 40.6 | 16.5 | 123. | 20. | 14.1 | 35.2 |
| 5. | 10. | 51. | 229. | 18. | 63.3 | 14.5 | 156. | 20. | 20.9 | 29.9 |
| 10. | 1. | 45. | 61. | 24. | 8.2 | 29.9 | 50. | 30. | 3.7 | 55.6 |
| 10. | 3. | 75. | 122. | 24. | 18.5 | 26.3 | 90. | 30. | 7.6 | 47.6 |
| 10. | 6. | 60. | 155. | 24. | 30.4 | 20.2 | 91. | 30. | 10.8 | 33.5 |
| 10. | 10. | 51. | 209. | 24. | 46.8 | 17.6 | 102. | 30. | 15.6 | 26.1 |
| Interest Rate = 10.0 % per annum | | | | | | | | | | |
| 1. | 1. | 45. | 94. | 8. | 29.0 | 16.3 | 61. | 10. | 10.0 | 34.1 |
| 1. | 3. | 75. | 222. | 8. | 61.8 | 16.0 | 123. | 10. | 20.4 | 28.8 |
| 1. | 6. | 60. | 355. | 8. | 106.4 | 14.3 | 155. | 10. | 33.1 | 21.8 |
| 1. | 10. | 51. | 542. | 8. | 166.7 | 13.7 | 210. | 10. | 50.5 | 18.6 |
| 3. | 1. | 45. | 69. | 14. | 15.9 | 19.1 | 57. | 16. | 6.0 | 43.0 |
| 3. | 3. | 75. | 146. | 14. | 35.8 | 17.1 | 111. | 16. | 12.8 | 37.0 |
| 3. | 6. | 60. | 203. | 14. | 61.4 | 13.6 | 133. | 16. | 20.1 | 27.7 |
| 3. | 10. | 51. | 289. | 14. | 96.3 | 12.2 | 172. | 16. | 30.4 | 23.5 |
| 5. | 1. | 45. | 63. | 18. | 12.4 | 21.3 | 55. | 20. | 4.9 | 47.7 |
| 5. | 3. | 75. | 128. | 18. | 28.2 | 18.4 | 106. | 20. | 10.5 | 41.3 |
| 5. | 6. | 60. | 167. | 18. | 48.1 | 14.0 | 123. | 20. | 16.2 | 30.8 |
| 5. | 10. | 51. | 229. | 18. | 75.3 | 12.2 | 156. | 20. | 24.2 | 25.9 |
| 10. | 1. | 45. | 61. | 24. | 9.4 | 26.0 | 50. | 30. | 4.0 | 50.7 |
| 10. | 3. | 75. | 122. | 24. | 21.5 | 22.6 | 90. | 30. | 8.5 | 42.6 |
| 10. | 6. | 60. | 155. | 24. | 35.7 | 17.2 | 91. | 30. | 12.4 | 29.2 |
| 10. | 10. | 51. | 209. | 24. | 55.4 | 14.9 | 102. | 30. | 18.2 | 22.4 |

Note: Q = water pumped in mgd
L = length of pipeline in miles
S = static head in feet
H = total head in feet
D = diameter of pipe in inches
C = cost of delivery in cents/1000 gallons
V = variable cost as percent of total