

# FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI).

Multiply inch-pound units	By	To obtain SI units
<i>Length</i>		
inches (in)	$2.54 \times 10^1$	millimeters (mm)
	$2.54 \times 10^{-2}$	meters (m)
feet (ft)	$3.048 \times 10^{-1}$	meters (m)
miles (mi)	$1.609 \times 10^0$	kilometers (km)
<i>Area</i>		
acres	$4.047 \times 10^3$	square meters (m <sup>2</sup> )
	$4.047 \times 10^{-1}$	square hectometers (hm <sup>2</sup> )
	$4.047 \times 10^{-3}$	square kilometers (km <sup>2</sup> )
square miles (mi <sup>2</sup> )	$2.590 \times 10^0$	square kilometers (km <sup>2</sup> )
<i>Volume</i>		
gallons (gal)	$3.785 \times 10^0$	liters (L)
	$3.785 \times 10^0$	cubic decimeters (dm <sup>3</sup> )
	$3.785 \times 10^{-3}$	cubic meters (m <sup>3</sup> )
million gallons	$3.785 \times 10^3$	cubic meters (m <sup>3</sup> )
	$3.785 \times 10^{-3}$	cubic hectometers (hm <sup>3</sup> )
cubic feet (ft <sup>3</sup> )	$2.832 \times 10^1$	cubic decimeters (dm <sup>3</sup> )
	$2.832 \times 10^{-2}$	cubic meters (m <sup>3</sup> )
cfs-days	$2.447 \times 10^3$	cubic meters (m <sup>3</sup> )
	$2.447 \times 10^{-3}$	cubic hectometers (hm <sup>3</sup> )
acre-feet (acre-ft)	$1.233 \times 10^3$	cubic meters (m <sup>3</sup> )
	$1.233 \times 10^{-3}$	cubic hectometers (hm <sup>3</sup> )
	$1.233 \times 10^{-6}$	cubic kilometers (km <sup>3</sup> )
<i>Flow</i>		
cubic feet per second (ft <sup>3</sup> /s)	$2.832 \times 10^1$	liters per second (L/s)
	$2.832 \times 10^1$	cubic decimeters per second (dm <sup>3</sup> /s)
	$2.832 \times 10^{-2}$	cubic meters per second (m <sup>3</sup> /s)
gallons per minute (gal/min)	$6.309 \times 10^{-2}$	liters per second (L/s)
	$6.309 \times 10^{-2}$	cubic decimeters per second (dm <sup>3</sup> /s)
	$6.309 \times 10^{-5}$	cubic meters per second (m <sup>3</sup> /s)
million gallons per day	$4.381 \times 10^1$	cubic decimeters per second (dm <sup>3</sup> /s)
	$4.381 \times 10^{-2}$	cubic meters per second (m <sup>3</sup> /s)
<i>Mass</i>		
tons (short)	$9.072 \times 10^{-1}$	megagrams (Mg) or metric tons



# Water Resources Data Indiana

## Water Year 1989

by Ronald E. Thompson, Jr., and Graham E. Nell



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT IN-89-1  
Prepared in cooperation with the State of Indiana  
and with other agencies



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## PREFACE

This volume of the annual hydrologic data report of Indiana is one of a series of annual reports that document hydrologic data gathered from the U.S. Geological Survey's surface- and ground-water data-collection networks in each State, Puerto Rico, and the Trust Territories. These records of streamflow, stage, lake levels, ground-water levels, and water quality provide the hydrologic information needed by State, local, and Federal agencies, and the private sector for developing and managing our Nation's land and water resources.

This report is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized the data, and who typed, edited, and assembled the report. In addition to the authors, who had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to Geological Survey policy and established guidelines, the following individuals contributed significantly to the collection, processing, and tabulation of the data:

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(d-discharge, e-gage heights, c-chemical, t-temperature, s-sediment,  
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FOR WHICH RECORDS ARE PUBLISHED

(e - gage heights, c - chemical, t - temperature)

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## INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with State and Federal agencies, obtains a large amount of data pertaining to the water resources of Indiana each water year. These data, accumulated during many water years, constitute a valuable data base for developing an improved understanding of the water resources of the State. To make these data readily available to interested parties outside the U.S. Geological Survey, the data are published annually in this report series entitled "Water Resources Data - Indiana."

Water-resources data for the 1989 water year for Indiana consist of record of discharge, stage, and water quality of streams, and water levels of lakes and ground-water wells. This volume contains records for water discharge at 176 gaging stations, stage at 6 gaging stations, stage and contents at 1 reservoir, water quality at 3 stream sites and 5 observation wells, water levels at 80 lakes, peak flows at 23 crest-stage partial-record sites, and water levels at 91 observation wells. Locations of the streamflow and water-quality sites, crest-stage partial-record sites, and ground-water observation wells are shown on figures 4, 5, and 7. The number of lakes by county having 1989 water-level records are shown on figure 6. Additional water data were collected at various sites not involved in the systematic data-collection program and are published as miscellaneous measurements. A systematic collection of stages on selected lakes was begun in 1943 in cooperation with the State of Indiana, Department of Natural Resources. The data collected since the beginning of record have not been published previously in the annual water data reports for Indiana. They are available in the Indiana District Office. A selected amount of lake data was published in Water-Supply Paper 1363, "Hydrology of Indiana Lakes," by J. I. Perrey and D. M. Corbett (1956). Additional lake data were published in Open-File Report 88-331, "Annual maximum and minimum lake levels for Indiana, water years 1942-85," by Kathleen K. Fowler (1988). These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Indiana.

This series of annual reports for Indiana began with the 1961 water year with a report that contained only data relating to the quantities of surface water. For the 1964 water year, a similar report was introduced that contained only data relating to water quality. Beginning with the 1975 water year, the report format was changed to present, in one volume, data on quantity and quality of surface and ground water.

Prior to introduction of this series and for several water years concurrent with it, water-resources data for Indiana were published in U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage and on lake or reservoir contents and stage, through September 1960, were published annually under the title "Surface-Water Supply of the United States." Stream discharge and stage data were published in four compilation reports



(through 1950, 1951-60, 1961-65, and 1966-70 water years). Data on chemical quality, temperature, and suspended sediment for the 1941 through 1970 water years were published annually under the title "Quality of Surface Waters of the United States," and water levels for the 1935 through 1974 water years were published under the title "Ground-Water Levels in the United States." The above-mentioned Water-Supply Papers may be consulted in the libraries of the principal cities of the United States and may be purchased from U.S. Geological Survey, Books and Open-File Reports, Federal Center, Building 41, Box 25425, Denver, CO 80225.

Publications similar to this report are published annually by the U.S. Geological Survey for all States. These official U.S. Geological Survey reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report IN-89-1." For archiving and general distribution, the reports for 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or in microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

Every five years since 1950 the Geological Survey has compiled data on water use in the United States. During 1987, this effort was completed again for 1985 use in Indiana primarily through the auspices of the Water Management Branch, Division of Water, Indiana Department of Natural Resources. The Water Management Branch found that in 1985 more than 8 billion gallons per day were withdrawn from the surface- and ground-water resources of Indiana to meet the needs of its citizens. Approximately 92 percent of this withdrawal was from surface-water sources. The largest single source was Lake Michigan, which accounted for about 40 percent of the water withdrawn.

Additional information, including current prices, for ordering specific reports may be obtained from the District Chief at the address given on the back of the title page or by telephone (317) 290-3333.

#### COOPERATION

The U.S. Geological Survey and organizations of the State of Indiana have had cooperative agreements for the systematic collection of streamflow records since 1930, for ground-water levels since 1940, for lake stages since 1943, and for water-quality records since 1951. Organizations that supplied data are acknowledged in station manuscripts. Organizations that assisted in collecting data in this report through cooperative agreement with the U.S. Geological Survey are:

State of Indiana, Department of Natural Resources, Patrick R. Ralston, Director, through the Bureau of Water and Mineral Resources, Gary N. Doxtater, Deputy Director

State of Indiana, Department of Environmental Management, Kathy Prosser, Commissioner, and Charles Bardonner, Assistant Commissioner

State of Indiana, Department of Highways, Christine W. Letts, Director

Assistance in the form of funds or services was given by the U.S. Army Corps of Engineers in collecting records for surface-water gaging stations published in this report.

The following organizations aided in collecting records: The cities of Carmel, Columbus, Elkhart, Fort Wayne, Indianapolis, and Syracuse; Hoosier Energy, Indianapolis Water Co.; Indianapolis Power and Light Co.; Public Service Company of Indiana; Container Corporation of America; Prudential Insurance Co.; Northern Indiana Public Service Co.; Sheller-Globe Corp.

#### SUMMARY OF HYDROLOGIC CONDITIONS

Precipitation patterns in Indiana differ seasonally and geographically. Although some precipitation falls each month, the greatest amounts usually fall during February, March, and April. Average annual amounts (fig. 1) range from about 34 inches in the northeastern part of the State to about 46 inches in the south-central part. Evapotranspiration consumption is relatively uniform and averages 26 inches per year (Clark, 1980).

Runoff generally follows the precipitation patterns. Average annual amounts (fig. 2) range from about 12 inches in northern and central parts of the State to about 18 inches in the extreme southern part.

Precipitation and runoff amounts in Indiana during the 1989 water year departed significantly from normal. Precipitation ranged from more than 3 inches above normal in the north-central part of the State to about 16 inches above normal in southwestern part. Runoff ranged from slightly greater than normal to more than 9 inches above normal except for two small areas in the north-central and northwestern parts of the State, where runoff ranged for about 1 inch below normal to almost 3 inches below normal.

The effects of greater-than-normal precipitation on discharges are shown on figure 3, which compares 1989 water year monthly and annual means at the three Indiana index stations to monthly and annual medians for the period 1951-80. Although some of the 1989 monthly means at the index stations were less than the 1951-80 medians, most of the monthly means and all of the annual means were significantly greater than the medians. The 1989 annual means at the index stations reflected the generally wet year and ranged from 114 to 135 percent of their respective medians.

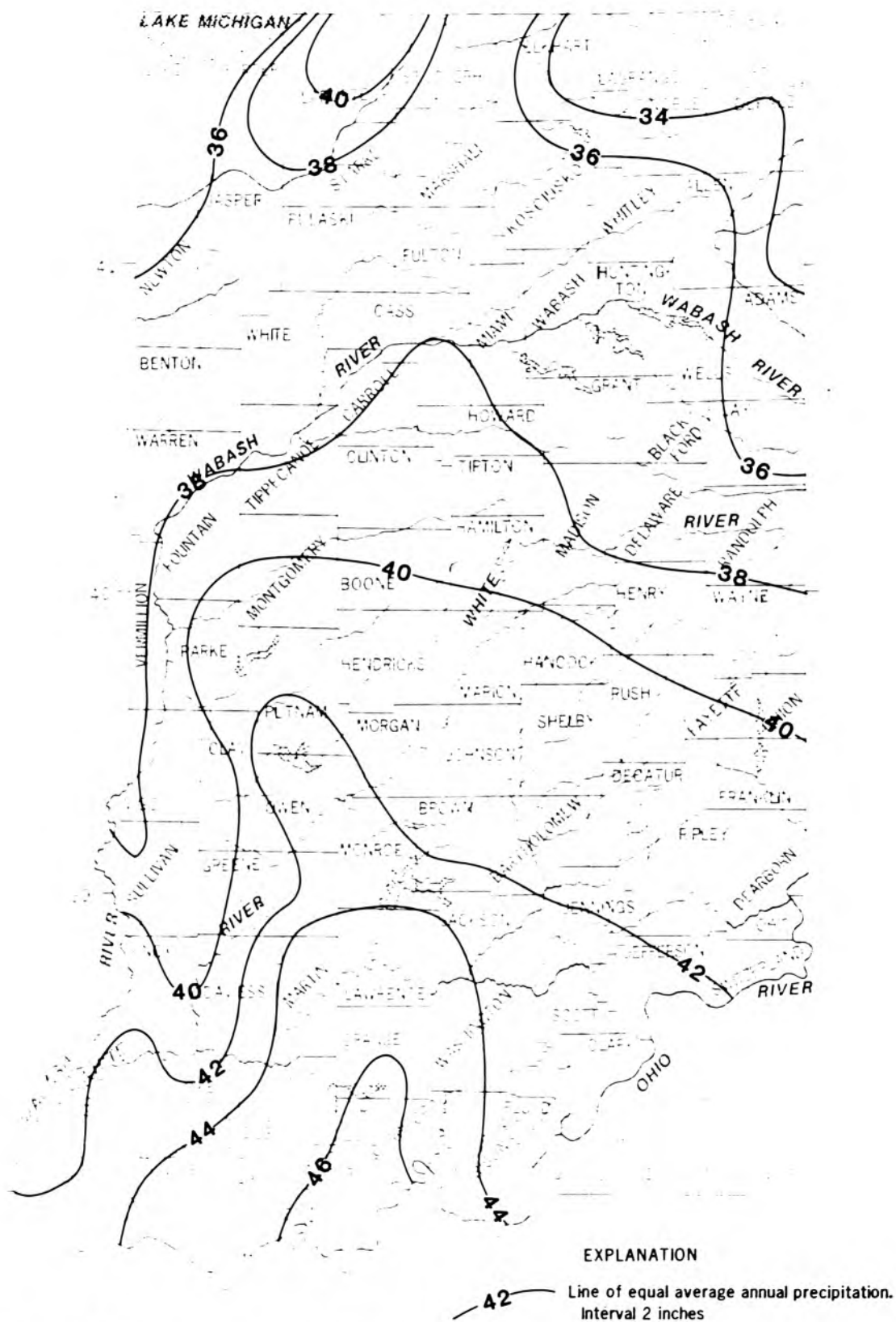


Figure 1.-- Average annual precipitation in Indiana, 1951-80.

(Data from National Oceanic and Atmospheric Administration, 1983.)

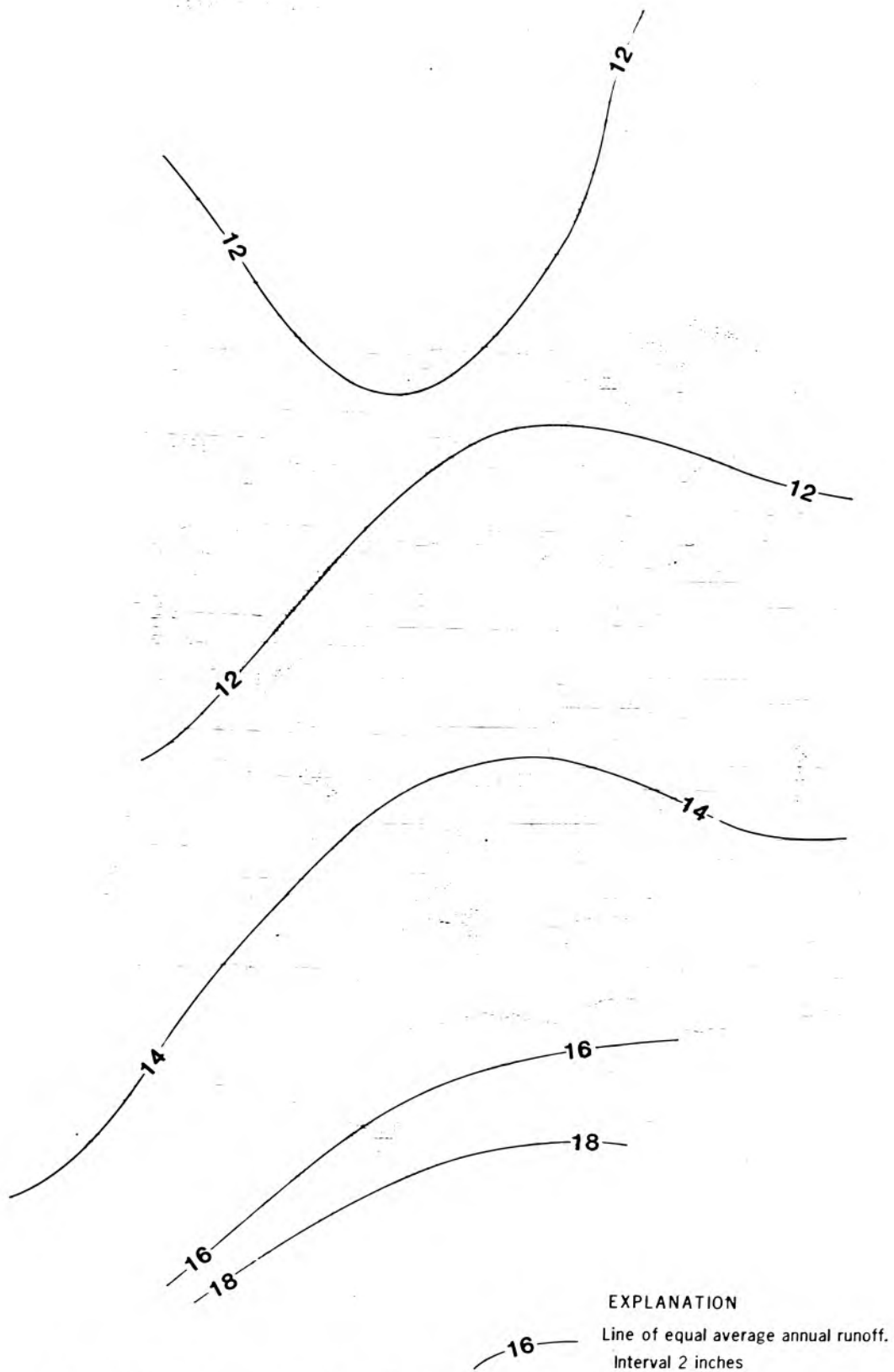


Figure 2.- Average annual runoff in Indiana, 1951-80.

(Data from Gebert, Graczyk, and Krug, 1985)

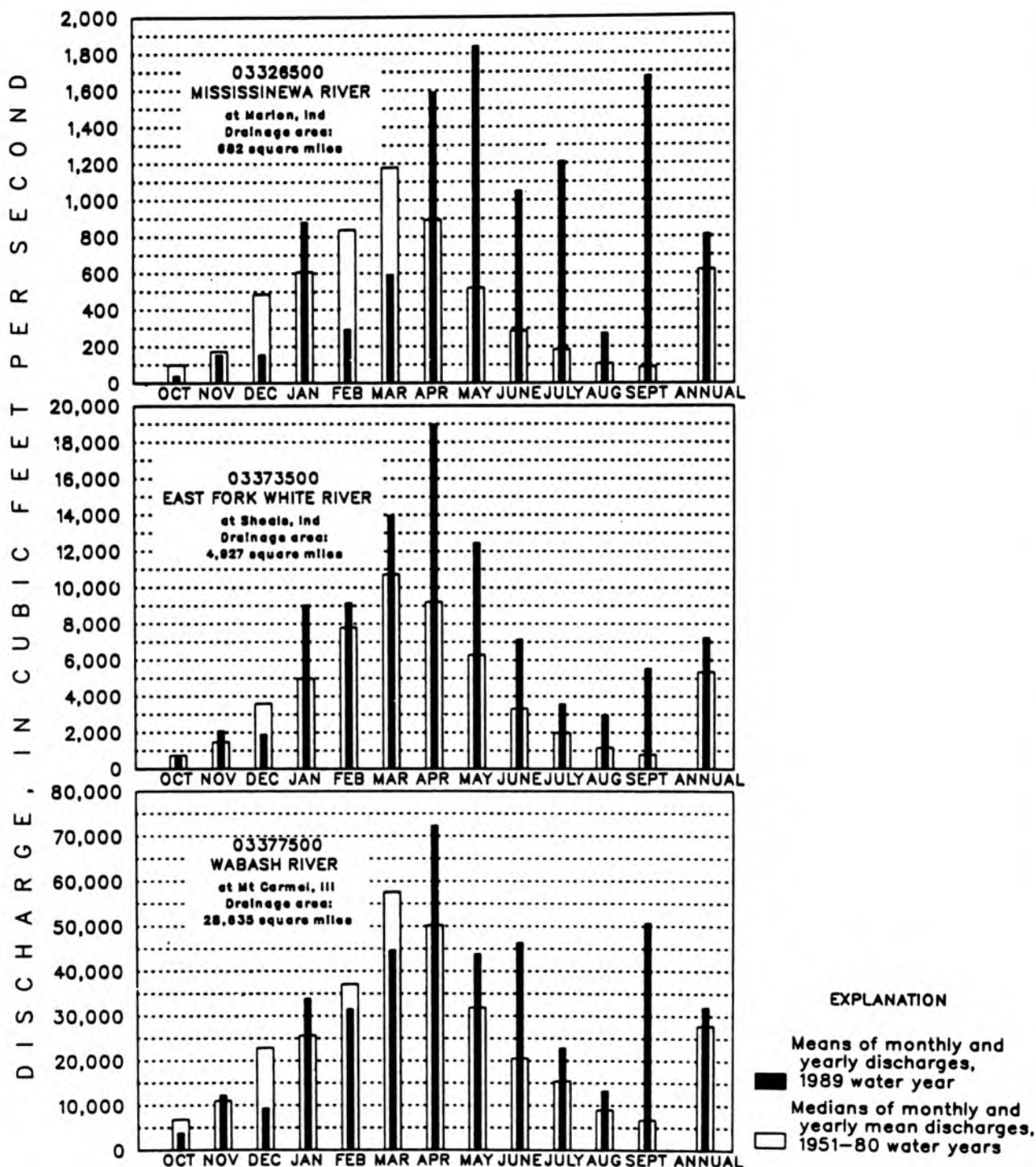


Figure 3. — Mean discharges at Indiana index stations during 1989 water year and median discharges for period 1951-80.



October 1988 precipitation amounts ranged from slightly less than normal in the east-central part of Indiana to more than 2 inches above normal in the north-central part. Monthly mean discharges at the three index stations ranged from 37 to 79 percent of the monthly medians.

During November, precipitation ranged from more than 1 inch above normal in northeastern Indiana to more than 3 inches above normal in the southwestern part. Monthly mean discharges at the index stations ranged from 88 to 140 percent of the monthly medians.

During December, precipitation amounts were all less than normal in Indiana for the northwestern part of the State, where precipitation was slightly greater than normal. Monthly mean discharges at the index stations ranged from 32 to 52 percent of the monthly medians.

January 1989 precipitation in Indiana ranged from slightly less than normal to slightly more than normal. Monthly mean discharges at the index stations ranged from 132 to 181 percent of the monthly medians.

During February, precipitation in the northern and central parts of Indiana ranged from almost 1 inch less than normal to near normal; however, precipitation in the southern part of the State was greater than 2 inches above normal. Monthly mean discharges at the index stations ranged from 35 to 117 percent of the monthly medians.

March precipitation amounts were about 1 inch less than normal in the northern part of Indiana and from near normal to almost 4 inches above normal in the remainder of the State. Monthly mean discharges at the index stations ranged from 50 to 130 percent of the monthly medians.

Although precipitation in the northern part of Indiana ranged from slightly less than normal to almost 2 inches less than normal during April, precipitation in the remainder of the State ranged up to almost 2 inches more than normal. The monthly mean discharges at the index stations ranged from 144 to 205 percent of normal.

May precipitation amounts in Indiana ranged from near normal in the south-western part of the State to almost 3 inches above normal in the west-central part. Monthly mean discharges at the index stations reflected the relatively high precipitation and range from 137 to 353 percent of the monthly medians.

During June, precipitation in the central part of Indiana was about 1 inch less than normal; however, in the remainder of the State precipitation was near normal. Monthly mean discharges at the index stations ranged from 214 to 365 percent of the monthly medians.

July precipitation in Indiana ranged from near normal in the northern part of the State to greater than 3 inches above normal in the southwestern part. The monthly mean discharges at the index stations ranged from 148 to 657 percent of the monthly medians.

During August, precipitation amounts ranged from near normal in the northern and east-central parts of Indiana to almost 3 inches above normal in the west-central part. Monthly mean discharges at the index stations continued above normal and ranged from 146 to 254 percent of the monthly medians.

September 1989 was a relatively wet month for most of Indiana; for example, Indianapolis had the fourth wettest September since 1871. Precipitation ranged from near normal in the southern part of the State to more than 3 inches above normal in the central part. Monthly mean discharges at the index stations ranged from about 700 to more than 1,800 percent of the monthly medians.

#### SPECIAL NETWORKS AND PROGRAMS

Hydrologic Bench-Mark Network is a nationwide network of 57 sites in small drainage basins around the country whose purposes are to provide consistent data on the hydrology, water quality, and related factors in undeveloped watersheds, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network of approximately 500 sites designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. NASQAN sites generally are located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are to: (1) Obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform

process of data collection, summarization, analysis, and reporting; (2) describe the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs; (3) detect changes or trends with time in the pattern of occurrence of water-quality characteristics; and (4) provide a nationally consistent data base useful for water-quality assessment and hydrologic research.

### EXPLANATION OF THE RECORDS

The surface-water and ground-water records published in this report are for the 1989 water year that began October 1, 1988, and ended September 30, 1989. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow and stage data, stage and content data for a reservoir, water-quality data for surface water, lake-level data, peak-flow data, and ground-water-level data. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

#### Station Identification Numbers

Each data station, whether streamsite or well, in this report is assigned a unique identification number. This number is unique in that it applies specifically to a given station and to no other. The number usually is assigned when a station is first established and is retained for that station indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic location. The "downstream order" system is used for regular surface-water stations and for surface-water stations where only miscellaneous measurements are made; the "latitude-longitude" system is used for wells.



### Downstream Order System

Since October 1, 1950, the order of listing hydrologic-station records in U.S. Geological Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a mainstream station are listed before that station. A station on a tributary that enters between two mainstream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary with respect to the stream to which it is immediately tributary is indicated by an indentation in the "List of Stations" in the front of this report. Each indentation represents one rank. This downstream order and system of indentation show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned according to downstream order. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete 8-digit number for each station, such as 03335500, which appears just to the left of the station name, includes the 2-digit Part number "03" plus the 6-digit downstream-order number "335500." The Part number designates the major river basin; for example, Part "03" is the Ohio River basin.

Records in this report are in Part 03 (Ohio River basin), Part 04 (St. Lawrence River basin), and Part 5 (Upper Mississippi River basin). All records for a drainage basin encompassing more than one State can be arranged in downstream order by assembling pages from the various State reports by station number to include all records in the basin.

### Latitude-Longitude System

The identification numbers for wells are assigned according to the grid system of latitude and longitude. The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude, the next seven digits denote degrees, minutes, and seconds of longitude, and the last two digits (assigned sequentially) identify the wells or other sites within a 1-second grid. This site-identification number, once assigned, is a pure number and has no locational significance. In the rare instance where the initial determination of latitude and longitude are found to be in error,

the station will retain its initial identification number; however, its true latitude and longitude will be listed in the LOCATION paragraph of the station description.

In addition, each well in Indiana carries dual-identification numbers. The second system is by county name with a sequential number of the well; that is, number one is the first well in that county for which records were obtained.

### Records of Stage and Water Discharge

~~Records of stage and water discharge may be complete or partial. Complete records of discharge~~ are those obtained using a continuous stage-recording device through which either instantaneous or mean daily discharges may be computed for any time, or any period of time, during the period of record.

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of the partial record is indicated by table titles such as "Crest-stage partial records" or "Low-flow partial records." Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered as partial records, but they are presented separately in this report.

### Data Collection and Computation

The data obtained at a complete-record gaging station on a stream or canal consist of a continuous record of stage, individual measurements of discharge throughout a range of stages, and notations regarding factors that may affect the relations between stage and discharge. These data, together with supplemental information, such as weather records, are used to compute daily discharges.

Continuous records of stage are obtained with analog recorders that trace continuous graphs of stage, with digital recorders that punch stage values on paper tapes at selected time intervals, or with data collection platforms that store stage data electronically. Measurements of discharge are made with current meters using methods adopted by the U.S. Geological Survey as a result of experience accumulated since 1880. These methods are described in standard textbooks, in Water-Supply Paper 2175, and in U.S. Geological Survey Techniques of Water-Resources Investigations (TWRI), Book 3, Chap. A6.

In computing discharge records, results of individual measurements are plotted against the corresponding stages, and stage-discharge relation curves are then constructed. From these curves, rating tables indicating the approximate discharge for any stage within the range of the measurements are prepared. If it is necessary to define extremes of discharge outside the range of the current-meter measurements, the curves are extended using: (1) Logarithmic plotting; (2) velocity-area studies; (3) results of indirect measurements of peak discharge, such as slope-area or contracted-opening measurements, and computations of flow over dams or weirs; or (4) step-backwater techniques.

Daily mean discharges are computed by applying the instantaneous stages (gage heights) to the stage-discharge curves or tables and then assigning the arithmetic mean. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is determined by the shifting-control method, in which correction factors based on the individual discharge measurements and notes of the personnel making the measurements are applied to the gage heights before the discharges are determined from the curves or tables. This shifting-control method also is used if the stage-discharge relation is changed temporarily because of aquatic growth or debris on the control. For some stations, formation of ice in the winter may so obscure the stage-discharge relations that daily mean discharges must be estimated from other information such as temperature and precipitation records, notes of observations, and records for other stations in the same or nearby basins for comparable periods.

At some stream-gaging stations, the stage-discharge relation is affected by the backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations, the stage-discharge relation is affected by changing stage; at these stations the rate of change in stage is used as a factor in computing discharge.

For some gaging stations, there are periods when no gage-height record is obtained, or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated from the recorded range in stage, previous or following record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Information explaining how estimated daily-discharge values are identified in station records is included in the next two sections, "Data Presentation" (REMARKS paragraph) and "Identifying Estimated Daily Discharge."

## Data Presentation

The records published for each gaging station consist of two parts, the manuscript or station description and the data table for the current water year. The manuscript provides, under various headings, descriptive information, such as station location, period of record, average discharge, historical extremes, record accuracy, and other remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge. Comments that follow clarify information presented under the various headings of the station description.

**LOCATION.**--Information on locations is obtained from the most accurate maps available. The location of the gage with respect to the cultural and physical features in the vicinity and with respect to the reference place mentioned in the station name is given. River mileages were determined by methods given in "River Mileage Measurement," Bulletin 14, revision of October 1968, prepared by the Water Resources Council or were provided by the U.S. Army Corps of Engineers.

**DRAINAGE AREA.**--Drainage areas are measured using the most accurate maps available.

**PERIOD OF RECORD.**--This indicates the period for which there are published records for the station or for an equivalent station. An equivalent station is one that was in operation at a time that the present station was not, and whose location was such that records from it can reasonably be considered equivalent with records from the present station.

**REVISED RECORDS.**--Published records, because of new information, occasionally are found to be incorrect, and revisions are printed in later reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years to which the revisions apply. If a revision did not include daily, monthly, or annual figures of discharge, that fact is noted after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the most recently revised figure was first published is given.

**GAGE.**--The type of gage in current use, the datum of the current gage referred to National Geodetic Vertical Datum of 1929 (see glossary), and a condensed history of the types, locations, and datums of previous gages are given under this heading.

**REMARKS.**--All periods of estimated daily-discharge record will either be identified by date in this paragraph of the station description for water-discharge stations or flagged in the daily-discharge table. (See next section, "Identifying Estimated Daily Discharge.") If a remarks statement is



used to identify estimated record, the paragraph will begin with this information presented as the first entry. The paragraph is also used to present information relative to the accuracy of the records, to special methods of computation, to conditions that affect natural flow at the station and, possibly, to other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir.

COOPERATION.--Records provided by a cooperating organization or obtained for the U.S. Geological Survey by a cooperating organization are identified here.

AVERAGE DISCHARGE.--The discharge value given is the arithmetic mean of the water-year mean discharges. It is computed only for stations having at least 5 water years of complete record, and only water years of complete record are included in the computation. It is not computed for stations where diversions, storage, or other water-use practices cause the value to be meaningless. If water developments significantly altering flow at a station are put into use after the station has been in operation for a period of years, a new average is computed as soon as 5 water years of record have accumulated following the development. The median of yearly mean discharges also is given under this heading for stations having 10 or more water years of record, if the median differs from the average given by more than 10 percent.

EXTREMES FOR PERIOD OF RECORD.--Extremes include maximum stages and maximum instantaneous discharges and minimum daily discharge. The maximum discharge is the instantaneous maximum corresponding to the highest stage that occurred. The higher stage may have been obtained from a graphic or digital recorder, a crest-stage gage, or by direct observation of a nonrecording gage. If the maximum stage did not occur on the same day as the maximum discharge or content, it is given separately.

EXTREMES OUTSIDE PERIOD OF RECORD.--Included here is information concerning major floods or unusually low flows that occurred outside the stated period of record. The information may or may not have been obtained by the U.S. Geological Survey.

EXTREMES FOR CURRENT YEAR.--Extremes given here are similar to those for the period of record, except the peak discharge listing may include secondary peaks. For stations meeting certain criteria, all peak discharges and stages occurring during the water year and greater than a selected base discharge are presented under this heading. The peaks greater than the base discharge, excluding the highest one, are referred to as secondary peaks. Peak discharges are not published for canals, ditches, drains, or streams for which the peaks are subject to substantial control by man. The time of occurrence for peaks is expressed in 24-hour local standard time. For example, 12:30 a.m. is 0030, and 1:30 p.m. is 1330. The minimum for the current water year appears below the table of peak data.

REVISIONS.--If a critical error in published records is discovered, a revision is included in the first report published following discovery of the error.

Although rare, occasionally the records of a discontinued gaging station may need revision. Because for these stations there would be no current or, possibly, future station manuscript published to document the revision in a "Revised Records" entry, users of data for these stations who obtained the record from previously published data reports may wish to contact the offices whose addresses are given on the back of the title page of this report to determine if the published records were ever revised after the station was discontinued. Of course, if the data were obtained by computer retrieval, the data would be current and there would be no need to check because any published revision of data is always accompanied by revision of the corresponding data in computer storage.

The daily table for stream-gaging stations gives mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also is usually expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN."). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion or if the drainage area includes large noncontributing areas. In the yearly summary below the monthly summary, the figures shown are the appropriate discharges for the calendar and water years.

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of annual maximum stage and discharge at crest-stage stations, and the second is a table of discharge measurements at miscellaneous sites. The measurements at miscellaneous sites are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

#### Identifying Estimated Daily Discharge

Estimated daily-discharge values published in the water-discharge tables of annual State data reports are identified either by flagging individual daily values with the letter symbol "e" and printing a table footnote, "Estimated," or by listing the dates of the estimated record in the "REMARKS" paragraph of the station description.

### Accuracy of the Records

The accuracy of streamflow records depends primarily on: (1) The stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements; and (2) the accuracy of measurements of stage, measurements of discharge, and interpretation of records.

The accuracy attributed to the records is indicated under "REMARKS." "Excellent" means that about 95 percent of the daily discharges are within 5 percent of their true values; "good," within 10 percent; and "fair," within 15 percent. Records that do not meet the criteria mentioned are rated "poor." Different accuracies may be attributed to different parts of a given record.

Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second for values less than 1 ft<sup>3</sup>/s; to the nearest tenth between 1.0 and 10 ft<sup>3</sup>/s; to whole numbers between 10 and 1,000 ft<sup>3</sup>/s; and to 3 significant figures for more than 1,000 ft<sup>3</sup>/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges listed for partial-record stations and miscellaneous sites.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, figures of cubic feet per second per square mile and of runoff, in inches, are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

### Other Records Available

Information used in the preparation of the records in this publication, such as discharge-measurement notes, gage-height records, temperature measurements, and rating tables is on file in the Indiana District Office. Also, most of the daily mean discharges are in computer-readable form and have been analyzed statistically. Information on the availability of the unpublished information or on the results of statistical analyses of the published records may be obtained from the Indiana District Office.

### Records of Surface-Water Quality

Records of surface-water quality ordinarily are obtained at or near stream-gaging stations because interpretation of records of surface-water quality nearly always requires corresponding discharge data.

#### Classification of Records

Water-quality data for surface-water sites are grouped into one of three classifications. A continuing-record station is a site where data are collected on a regularly scheduled basis. Frequency may be one or more times daily, weekly, monthly, or quarterly. A partial-record station is a site where limited water-quality data are collected systematically over a period of years. Frequency of sampling usually is less than quarterly. A miscellaneous sampling site is a location other than a continuing or partial-record station where random samples are collected to give better areal coverage to define water-quality conditions in the river basin.

A careful distinction needs to be made between "continuing records," as used in this report, and "continuous recordings," which refers to a continuous graph or a series of discrete values punched at short intervals on a paper tape. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of cost, most data are obtained monthly or less frequently.

Records of surface-water quality in this report are for continuing-record stations only. These stations are part of the Hydrologic Bench-Mark Network or the National Stream Quality Accounting Network (NASQAN). Locations of stations for which records on the quality of surface water appear in this report are shown on figure 4.

#### Arrangement of Records

Water-quality records collected at a surface-water daily record station are published immediately following that record, regardless of the frequency of sample collection. Station number and name are the same for both records.



### Onsite Measurements and Sample Collection

The major concern in obtaining water-quality data is assuring that the data represent the in situ quality of the water. To assure this, certain measurements, such as water temperature, pH, specific conductance, alkalinity, and dissolved oxygen, are made onsite when the samples are taken. To assure that measurements made in the laboratory also represent the in situ water, carefully prescribed procedures need to be followed in collecting the samples, in treating the samples to prevent changes in quality pending analysis, and in shipping the samples to the laboratory. Procedures for onsite measurements and for collecting, treating, and shipping samples are given in publications on "Techniques of Water-Resources Investigations," Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4. All of these references are listed under "PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS" which appears at the end of the introductory text. Detailed information on collecting, treating, and shipping samples also may be obtained from the U.S. Geological Survey, Indiana District Office.

One sample can define adequately the water quality at a given time only if the mixture of solutes and sediment throughout the stream cross section is homogeneous. However, the concentration of solutes and sediment at different locations in the cross section can vary widely with different rates of water discharge, depending on the sources of the solutes and sediment, the turbulence and mixing of the stream, and other factors. Most streams must be sampled through several vertical sections using a depth-integrating sampler to obtain a representative sample. All samples obtained for the National Stream Quality Accounting Network and the Hydrologic Bench-Mark Network are obtained from at least several verticals.

### Laboratory Measurements

Specific conductance, pH, air and water temperatures, dissolved oxygen, barometric pressure, and alkalinity are measured onsite. Fecal coliform and fecal streptococci bacteria are analyzed in the Indiana District laboratory. Suspended sediment and particle-size distribution are analyzed in the U.S. Geological Survey laboratory in Iowa City, Iowa. All other samples are analyzed in the U.S. Geological Survey National Water-Quality Laboratory in Arvada, Colorado. Methods used in analyzing sediment samples are given in TWRI, Book 5, Chap. C1. Methods used by the National Water-Quality Laboratory are given in TWRI, Book 5, Chap. A1, A4, and A5.

### Data Presentation

For continuing-record stations, information pertinent to the history of station operation is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, drainage area, period of record, and type of data available.

In the descriptive headings, if the location is identical to that of the discharge gaging station, neither the LOCATION nor the DRAINAGE AREA statements are repeated. The following information, as appropriate, is provided with each continuous-record station. Comments that follow clarify information presented under the various headings of the station description.

LOCATION.--See "Data Presentation" under "Records of Stage and Water Discharge."

DRAINAGE AREA.--See "Data Presentation" under "Records of Stage and Water Discharge."

PERIOD OF RECORD.--This indicates the periods for which there are published water-quality records for the station.

REMARKS.--Remarks provide added information pertinent to the collection, analysis, or computation of the records.

REVISIONS.--If errors in published water-quality records are discovered after publication, appropriate updates are made to the Water-Quality File in the U.S. Geological Survey's computerized data system, WATSTORE, and subsequently by monthly transfer of update transactions to the U.S. Environmental Protection Agency's STORET system. Because the usual volume of updates makes it impractical to document individual changes in the State data-report series or elsewhere, potential users of U.S. Geological Survey water-quality data are encouraged to obtain all required data from the appropriate computer file to ensure the most recent updates.

## Remark Codes

The following remark codes may appear with the water-quality data in this report:

PRINTED OUTPUT	REMARK
E	Estimated value
>	Actual value is known to be greater than the value shown
<	Actual value is known to be less than the value shown
K	Results based on colony count outside the acceptance range (nonideal colony count)

Records of Lake Levels

Water-level data from a network of lake gaging stations are given in this report. These data are intended to provide a historical record of water-level changes in lakes where established average legal levels have been designated by the State. Numbers of lakes by county having current water-level records are shown on figure 6.

## Data Collection and Computation

Measurements of water levels are made under varying conditions, but the methods are standardized to the extent possible. The equipment and measuring techniques used at each lake gage will ensure that the measurements are of consistent accuracy and reliability.

Tables of water-level data are presented by lake names arranged in alphabetical order. The prime identification number for a given lake is the "downstream-order" number previously discussed in this report and appears to the left of the lake name.

Lake-level records are obtained from direct measurement with a steel tape, from observation of steel staff gages, or from punched tape in a water-stage recorder. The water-level measurements in this report are given in feet above gage datum. Gage datum is a datum plane above the National Geodetic Vertical Datum of 1929. Water levels are reported to one-hundredth of a foot.

## Data Presentation

Each lake record consists of two parts, the station description, and the data table of water levels observed during the year. The description of the lake gage is presented first through use of descriptive headings preceding the tabular data which precedes the hydrograph. Comments that follow clarify information presented under the various headings.

LOCATION.--See "Data Presentation" under "Records of Stage and Water Discharge."

SURFACE AREA.--This entry specifies the surface area of the lake at its established legal level.

DRAINAGE AREA.--See "Data Presentation" under "Records of Stage and Water Discharge."

PERIOD OF RECORD.--This entry indicates the periods for which lake-level records at the site have been collected.

DATUM OF GAGE.--This entry indicates the datum of the current gage referred to the National Geodetic Vertical Datum of 1929 (see glossary).

GAGE.--The type of gage in current use and a condensed history of the types, locations, and datums of previous gages are given under this heading.

ESTABLISHED LEGAL LEVEL.--This entry indicates the average level in feet above gage datum and National Geodetic Vertical Datum of 1929 at which the lake is to be maintained, the date of decree, and court specifying the decreed level.

LAKE-LEVEL CONTROL.--This entry indicates the type of structure used to maintain the lake level.

INLET AND OUTLET.--This entry, if appropriate, describes where surface inflow comes into the lake and where outflow departs. Some lakes may have neither inlets, outlets, nor both; in such cases parts or all of this heading may not appear.

EXTREMES FOR PERIOD OF RECORD.--Extremes include maximum and minimum levels and the dates of occurrence.

REVISIONS.--If a critical error in published records is discovered, a revision is included in the first report published following discovery of the error.

A table of water levels follows the station description for each lake gage. Water levels are reported in feet above gage datum. Only abbreviated tables are published; water-levels at midnight (2400) are listed for every fifth day and at the end of the month (EOM). The highest and lowest 2400 levels with dates of occurrence and mean of the water year are shown on a line below the abbreviated table. Because all values are not published, the extremes may be values not listed in the table. Missing records are indicated by dashes in place of the water level.

### Records of Ground-Water Levels

Only water-level data from a representative network of observation wells are given in this report. These data are intended to provide a sampling and historical record of water-level changes in the State's most important aquifers. Locations of the observation wells in this network in Indiana are shown on figure 7.

### Data Collection and Computation

Measurements of water levels are made in many types of wells under varying conditions, but the methods of measurement are standardized to the extent possible. The equipment and measuring techniques used at each observation well ensure that measurements at each well are of consistent accuracy and reliability.

Tables of water-level data are presented by counties arranged in alphabetical order. The prime identification number for a given well is the 15-digit number that appears in the upper left corner of the table. The secondary identification number is the local well number.

Water-level records are obtained from direct measurements with a steel tape or punched tape of a water-stage recorder. The water-level measurements in this report are given in feet with reference to land-surface datum (lsd). Land-surface datum is a datum plane that is approximately at land surface at each well. If known, the elevation of the land-surface datum is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description.

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error of determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in



determining the net change of water level between successive measurements may be only one-hundredth or a few hundredths of a foot. For lesser depths to water, the accuracy is greater. Accordingly, most measurements are reported to one-hundredth of a foot, but some are given to one-tenth of a foot or a larger unit.

### Data Presentation

Each well record consists of two parts, the station description and the data table of water levels observed during the water year. The description of the well is presented first through use of descriptive headings preceding the tabular data. The comments that follow clarify information presented under the various headings.

LOCATION.--This paragraph follows the well-identification number and reports the latitude and longitude (given in degrees, minutes, and seconds), a landline location designation, the hydrologic-unit number, the distance and direction from a geographic point of reference, and the owner's name.

AQUIFER.--This entry designates by name (if a name exists) and geologic age the aquifer(s) open to the well.

WELL CHARACTERISTICS.--This entry describes the well in terms of depth, diameter, casing depth and/or screened interval, method of construction, use, and additional information such as casing breaks, collapsed screen, and other changes since construction.

INSTRUMENTATION.--This paragraph provides information on both the frequency of measurement and the collection method used, allowing the user to better evaluate the reported water-level extremes by knowing whether they are based on weekly, monthly, or some other frequency of measurement.

DATUM.--This entry describes both the measuring point and the land-surface elevation at the well. The measuring point is described physically (such as top of collar, notch in top of casing, plug in pump base and so forth), and in relation to land surface (such as 1.3 ft above land-surface datum). The elevation of the land-surface datum is described in feet above (or below) National Geodetic Vertical Datum of 1929 (NGVD of 1929); it is reported with a precision depending on the method of determination.

REMARKS.--This entry describes factors that may influence the water level in a well or the measurement of the water level. It should identify wells that also are water-quality observation wells and may be used to acknowledge the assistance of local (non-U.S. Geological Survey) observers.

PERIOD OF RECORD.--This entry indicates the period for which there are published records for the well. It reports the month and year of the start of publication of water-level records by the U.S. Geological Survey and the words "to current year" if the records are to be continued into the following year. Periods for which water-level records are available but are not published by the U.S. Geological Survey may be noted.

EXTREMES FOR PERIOD OF RECORD.--This entry contains the highest and lowest water levels of the period of published record, with respect to land-surface datum, and the dates of their occurrence.

Tables of water levels follow the station description for each well. Water levels are reported in feet below land-surface datum. Only abbreviated tables are published; water-level highs and lows are listed for every fifth day and at the end of the month (EOM). The highest and lowest water levels of the water year and their dates of occurrence are shown on a line below the abbreviated tables. Because all values are not published, the extremes may be values that are not listed in the tables. Missing records are indicated by dashes in place of the water level.

#### Records of Ground-Water Quality

Records of ground-water quality in this report differ from other types of records in that they consist of only one set of measurements for the water year. Ground-water quality is sampled immediately after installation and development of a new observation well. As new observation wells are usually installed late in the water year, records of ground-water quality are typically published in the first water year with complete records for ground-water levels.

#### Sample Collection and Analysis

Measurements of specific conductance, pH, water temperature, dissolved oxygen, and alkalinity are measured onsite. Other constituents and properties are analyzed in the U.S. Geological Survey National Water-Quality Laboratory in Arvada, Colorado. Methods used in collecting and analyzing ground-water-quality samples are given in TWRI, Book 1, Chap. D2, and Book 5, Chap. A1.

### Data Presentation

Records of ground-water quality immediately follow records of ground-water levels.

### ACCESS TO WATSTORE DATA

The National WATER Data STORAGE and RETRIEVAL System (WATSTORE) was established for handling water data collected through the activities of the U.S. Geological Survey and to provide for more effective and efficient means of releasing the data to the public. The system is operated and maintained on the central computer facilities of the U.S. Geological Survey at its National Center in Reston, Virginia.

WATSTORE can provide a variety of useful products ranging from simple data tables to complex statistical analyses. A minimal fee, plus the actual computer cost incurred in producing a desired product, is charged to the requester. Information about the availability of specific types of data, the acquisition of data or products, and user charges can be obtained locally from the offices whose addresses are given on the back of the title page.

General inquiries about WATSTORE may be directed to:

Chief Hydrologist  
U.S. Geological Survey  
437 National Center  
Reston, Virginia 22092

### DEFINITION OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. Also, see table for converting English units to International System (SI) units on the inside of the back cover.

Acre-foot (AC-FT, ac-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equal to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Artesian means confined and is used to describe a well in which the water level stands above the top of the aquifer tapped by the well. A flowing artesian well is one in which the water level is above the land surface.

Bacteria are microscopic unicellular organisms, typically spherical, rod-like, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, while others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Fecal coliform bacteria are bacteria that are present in the intestine or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory, they are defined as all organisms that produce blue colonies within 24 hours when incubated at  $44.5^{\circ}\text{C} \pm 0.2^{\circ}\text{C}$  on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found also in the intestine of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as Gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory, they are defined as all the organisms which produce red or pink colonies within 48 hours at  $35^{\circ}\text{C} \pm 1.0^{\circ}\text{C}$  on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Bed material is the sediment mixture of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

Bottom material: See Bed material.

Color unit is produced by 1 milligram per liter of platinum in the form of the chloro-platinate ion. Color is expressed in units of the platinum-cobalt scale.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

Control structure as used in this report is a structure on a stream, canal, or lake that is used to regulate the flow or stage or to prevent the intrusion of salt water.

Cubic foot per second ( $\text{ft}^3/\text{s}$ ) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

Cubic foot per second-day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons, or 2,445 cubic meters.

Cubic feet per second per square mile [ $(\text{ft}^3/\text{s})/\text{mi}^2$ ] is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment) that passes a given point within a given period of time.

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period.

Instantaneous discharge is the discharge at a particular instant of time.

Dissolved refers to that material in a representative water sample which passes through a 0.45-micron (m) membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

Dissolved-solids concentration of water is determined either analytically by the "residue-on-evaporation" method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination of dissolved solids, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. Therefore, in the mathematical calculation of dissolved-solids concentration, the bicarbonate value, in milligrams per liter, is multiplied by 0.492 to reflect the change.

Drainage area of a stream at a specified location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the stream above the specified point. Figures of drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise specified.

Drainage basin is a part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or a body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.



Gage height (G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the more general term "stage," although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained.

Hardness of water is a physical-chemical characteristic that commonly is recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations and is expressed as the equivalent concentration of calcium carbonate ( $\text{CaCO}_3$ ).

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an 8-digit number.

Land-surface datum (lsd) is a datum plane that is approximately at land surface at each ground-water observation well.

Measuring point (MP) is an arbitrary permanent reference point from which the distance to the water surface in a well is measured to obtain the water level.

Micrograms per gram ( $\mu\text{g/g}$ ) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

Micrograms per liter ( $\mu\text{g/L}$ ,  $\mu\text{g/L}$ ) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

Milligrams per liter ( $\text{MG/L}$ ,  $\text{mg/L}$ ) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represents the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in  $\text{mg/L}$  and is based on the mass of dry sediment per liter of water-sediment mixture.

National Geodetic Vertical Datum of 1929 (NGVD of 1929) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called "Sea Level Datum of 1929" or "mean sea level" in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific coasts, it does not necessarily represent local mean sea level at any particular place.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliter (mL) or liter (L). Numbers of planktonic organisms can be expressed in these terms.

Total organism count is the total number of organisms collected and enumerated in any particular sample.

Parameter code is a 5-digit number used in the U.S. Geological Survey computerized data system, WATSTORE, to uniquely identify a specific constituent. The codes used in WATSTORE are the same as those used in the U.S. Environmental Protection Agency data system, STORET. The U.S. Environmental Protection Agency assigns and approves all requests for new codes.

Partial-record station is a particular site where limited streamflow and/or water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle size is the diameter, in millimeters (mm), of a particle determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification used in this report agrees with the recommendation made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

<u>Classification</u>	<u>Size (mm)</u>	<u>Method of analysis</u>
Clay.....	0.00024 - 0.004	Sedimentation
Silt.....	.004 - .062	Sedimentation
Sand.....	.062 - 2.0	Sedimentation or sieve
Gravel.....	2.0 - 64.0	Sieve

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic matter is removed, and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native-water analysis.

Picocurie (PC, pCi) is one-trillionth ( $1 \times 10^{-12}$ ) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields  $3.7 \times 10^{10}$  radioactive disintegrations per second (dpm). A picocurie yields 2.22 dpm.

Return period is the average time interval between occurrences of a hydrological event of a given or greater magnitude, usually expressed in years. May also be called recurrence interval.

Runoff in inches (IN., in) shows the depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Bed load is the sediment that is transported in a stream by rolling, sliding, or skipping along the bed and very close to it. In this report, bed load is considered to consist of particles in transit within 0.25 ft of the streambed.

Bed load discharge (tons per day) is the quantity of bed load measured by dry weight that moves past a section as bed load in a given time.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Suspended-sediment discharge (tons/day) is the rate at which dry mass of sediment passes a section of a stream or is the quantity of sediment, as measured by dry mass or volume, that passes a section in a given time. It is calculated in units of tons per day as follows: Concentration (mg/L) x discharge ( $\text{ft}^3/\text{s}$ ) x 0.0027.

Suspended-sediment load is a general term that refers to material in suspension. It is not synonymous with either discharge or concentration.

Total-sediment discharge (tons/day) is the sum of the suspended-sediment discharge and the bed-load discharge. It is the total quantity of sediment, as measured by dry mass or volume, that passes a section during a given time.

Total-sediment load or total load is a term which refers to the total sediment (bed load plus suspended-sediment load) that is in transport. It is not synonymous with total-sediment discharge.

7-day 10-year low flow ( $7 Q_{10}$ ) is the discharge at the 10-year recurrence interval taken from a frequency curve of annual values of the lowest mean discharge for 7 consecutive days (the 7-day low flow).

Sodium-adsorption-ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the soil. Waters range in respect to sodium hazard from those which can be used for irrigation on almost all soils to those which are generally unsatisfactory for irrigation.

Solute is any substance that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25 °C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in microsiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stage-discharge relation is the relation between gage height (stage) and volume of water, per unit of time, flowing in a channel.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff," as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Surface area of a lake is that area outlined on the latest U.S. Geological Survey topographic map as the boundary of the lake and measured by a planimeter in acres. In localities not covered by topographic maps, the areas are computed from the best maps available at the time planimetered. All areas shown are those for the stage when the planimetered map was made.

Surficial bed material is the part (0.1 to 0.2 ft) of the bed material that is sampled using U.S. Series Bed-Material Samplers.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of undissolved material in a water-sediment mixture. It is associated with the material retained on a 0.45- $\mu$ m filter.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45- $\mu$ m membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount (that is, less than



95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Determinations of "suspended, recoverable" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of: (1) Dissolved; and (2) total recoverable concentrations of the constituent.

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45- $\mu$ m membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of: (1) Dissolved; and (2) total concentrations of the constituent.

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the year.

Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration of the constituent, in milligrams per liter, by 0.00136.

Tons per day (T/DAY) is the quantity of a substance in solution or suspension that passes a stream section during a 24-hour period.

Total is the total amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total." (Note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determined all of the constituent in the sample.)



Total discharge is the total quantity of any individual constituent, as measured by dry mass or volume, that passes through a stream cross section per unit of time. This term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

Total, recoverable is the amount of a given constituent that is in solution after a representative water-suspended sediment sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Water year in U.S. Geological Survey reports dealing with surface-water supply is the 12-month period October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1985, is called the "1985 water year."

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to State annual hydrologic-data reports (WRD was used as an abbreviation for "Water-Resources Data" in reports published prior to 1976).

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

WSP is used as an abbreviation for "Water-Supply Paper" in reference to previously published reports.

Table 1.--Factors for conversion of chemical constituents in milligrams or micrograms per liter to milliequivalents per liter

Ion	Multiply by	Ion	Multiply by
Aluminum ( $\text{Al}^{+3}$ )	0.11119	Iodide ( $\text{I}^{-1}$ )	0.00788
Ammonia as $\text{NH}_4^{+1}$	.05544	Iron ( $\text{Fe}^{+3}$ )*	.05372
Barium ( $\text{Ba}^{+2}$ )	.01456	Lead ( $\text{Pb}^{+2}$ )*	.00965
Bicarbonate ( $\text{HCO}_3^{-1}$ )	.01639	Lithium ( $\text{Li}^{+1}$ )*	.14411
Bromide ( $\text{Br}^{-1}$ )	.01251	Magnesium ( $\text{Mg}^{+2}$ )	.08226
Calcium ( $\text{Ca}^{+2}$ )	.04990	Manganese ( $\text{Mn}^{+2}$ )*	.03640
Carbonate ( $\text{CO}_3^{-2}$ )	.03333	Nickel ( $\text{Ni}^{+2}$ )*	.03406
Chloride ( $\text{Cl}^{-1}$ )	.02821	Nitrate ( $\text{NO}_3^{-1}$ )	.01613
Chromium ( $\text{Cr}^{+6}$ )*	.11539	Nitrite ( $\text{NO}_2^{-1}$ )	.02174
Cobalt ( $\text{Co}^{+2}$ )*	.03394	Phosphate ( $\text{PO}_4^{-3}$ )	.03159
Copper ( $\text{Cu}^{+2}$ )*	.03148	Potassium ( $\text{K}^{+1}$ )	.02557
Cyanide ( $\text{CN}^{-1}$ )	.03844	Sodium ( $\text{Na}^{+1}$ )	.04350
Fluoride ( $\text{F}^{-1}$ )	.05264	Strontium ( $\text{Sr}^{+2}$ )*	.02283
Hydrogen ( $\text{H}^{+1}$ )	.99209	Sulfate ( $\text{SO}_4^{-2}$ )	.02082
Hydroxide ( $\text{OH}^{-1}$ )	.05880	Zinc ( $\text{Zn}^{+2}$ )*	.03060

\*Constituent reported in micrograms per liter; multiply by factor and divide results by 1,000.

Table 2.--Factors for conversion of sediment concentrations in milligrams per liter to parts per million\*  
(All values calculated to three significant figures)

Range of concentration in 1,000 mg/L	Divide by	Range of concentration in 1,000 mg/L	Divide by	Range of concentration in 1,000 mg/L	Divide by	Range of concentration in 1,000 mg/L	Divide by
0 - 8	1.00	201-217	1.13	411-424	1.26	619-634	1.39
8.05- 24	1.01	218-232	1.14	427-440	1.27	636-650	1.40
24.2 - 40	1.02	234-248	1.15	443-457	1.28	652-666	1.41
40.5 - 56	1.03	250-264	1.16	460-473	1.29	668-682	1.42
56.5 - 72	1.04	266-280	1.17	476-489	1.30	684-698	1.43
72.5 - 88	1.05	282-297	1.18	492-508	1.31	700-715	1.44
88.5 -104	1.06	299-313	1.19	508-522	1.32	717-730	1.45
105 -120	1.07	315-329	1.20	524-538	1.33	732-747	1.46
121 -136	1.08	331-345	1.21	540-554	1.34	749-762	1.47
137 -152	1.09	347-361	1.22	556-570	1.35	765-780	1.48
153 -169	1.10	363-378	1.23	572-585	1.36	782-796	1.49
170 -185	1.11	380-393	1.24	587-602	1.37	798-810	1.50
186 -200	1.12	395-409	1.25	604-617	1.38		

\*Based on water density of 1.000 mg/L and a specific gravity of sediment of 2.65.

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The U.S. Geological Survey publishes a series of manuals describing procedures for planning and conducting specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) pertains to surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises.

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- 1-D1. *Water temperature--influential factors, field measurement, and data presentation*, by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.
- 1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.
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- 3-A13. *Computation of continuous records of streamflow*, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A13. 1983. 53 pages.
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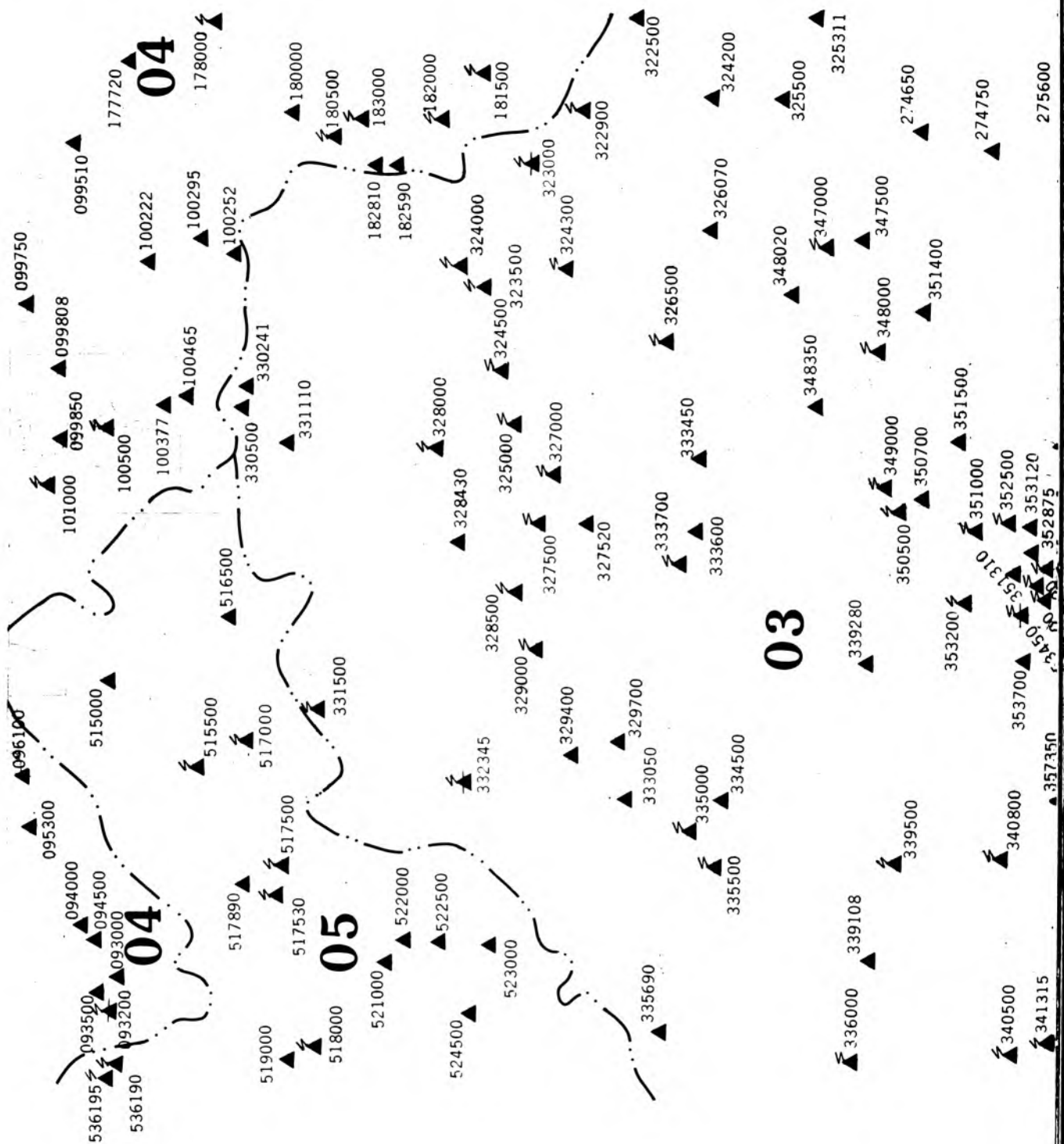
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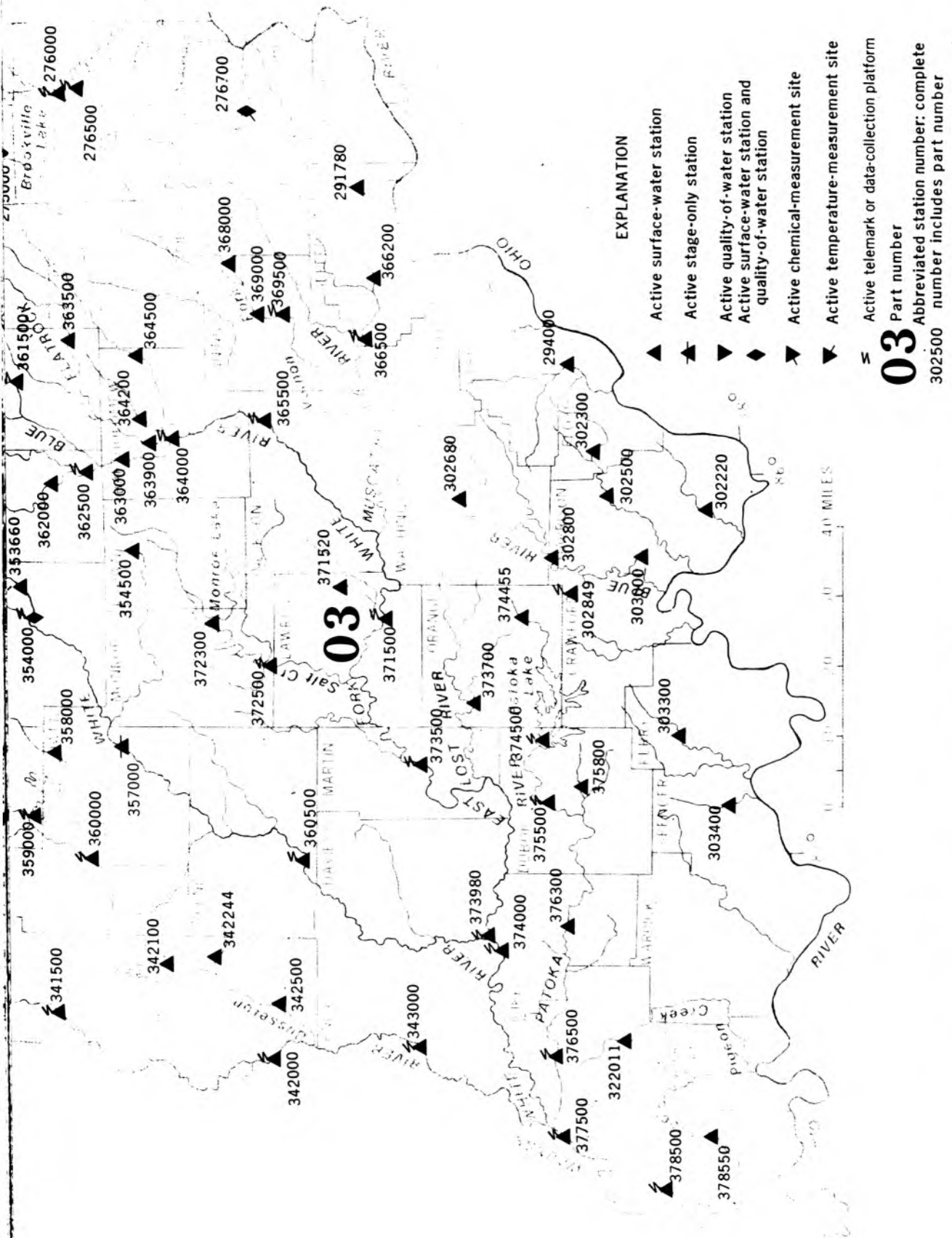


Figure 4.- Locations of stream flow and water-quality gaging stations in Indiana.

## 03274650 WHITEWATER RIVER NEAR ECONOMY, IN

LOCATION.--Lat 40°00'05", long 85°06'56", in NW¼ sec.19, T.18 N., R.13 E., Wayne County, Hydrologic Unit 05080003, on right bank 6 ft downstream from bridge on Wayne County Line Road, 1.7 mi upstream from Little Creek, 2.4 mi northwest of Economy, and at mile 91.9.

DRAINAGE AREA.--10.4 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1970 to current year.

REVISED RECORDS.--WRD IN 83-1: 1982.

GAGE.--Water-stage recorder. Datum of gage is 1,066.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Feb. 4-11, 23, 24, and Mar. 7. Records fair.

AVERAGE DISCHARGE.--19 years, 11.2 ft<sup>3</sup>/s, 14.62 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,100 ft<sup>3</sup>/s Aug. 20, 1979, gage height, 8.85 ft; minimum daily, 0.22 ft<sup>3</sup>/s Sept. 1, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 7	2400	462	6.55	May 26	0200	*946	*8.36
Mar.30	0900	701	7.52	Sept. 1	1100	409	6.30
Apr. 4	0100	729	7.62	Sept. 14	1400	746	7.68
May 23	0600	487	6.66				

Minimum daily discharge, 0.33 ft<sup>3</sup>/s Oct. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.37	.66	9.4	8.7	8.3	4.7	63	26	20	2.4	1.6	148
2	.36	.62	7.2	6.8	6.8	4.4	51	16	16	2.3	1.4	76
3	.36	.54	6.7	5.9	6.9	4.5	100	12	21	8.7	1.4	40
4	.33	4.0	5.3	4.1	5.4	6.8	260	11	30	5.6	1.4	26
5	.34	21	5.0	4.4	4.7	37	68	28	38	3.8	1.5	13
6	.34	11	4.7	78	4.0	26	48	21	25	2.9	1.6	6.3
7	.35	4.2	4.2	92	3.5	11	39	13	15	2.6	1.3	3.4
8	.37	1.9	2.8	152	3.0	7.6	34	11	12	2.3	1.2	2.2
9	.42	1.1	2.1	47	2.6	8.1	30	27	11	2.1	1.3	2.7
10	.56	51	2.0	34	2.7	22	22	27	8.9	2.0	1.3	76
11	.64	29	1.5	27	2.8	32	17	15	8.2	1.9	1.2	42
12	.80	9.0	1.1	41	2.9	27	14	12	9.7	2.9	1.2	17
13	.89	10	1.4	29	4.4	16	12	11	8.9	5.3	1.2	7.0
14	.88	6.9	1.6	18	7.1	14	11	9.6	7.9	2.9	1.1	209
15	.98	3.4	1.2	15	8.6	11	9.9	8.6	7.2	2.1	1.1	111
16	1.1	3.9	.65	13	12	7.9	9.1	7.7	6.9	2.0	1.1	55
17	1.5	6.3	.70	12	8.9	7.5	8.8	6.8	5.9	1.9	1.1	40
18	1.9	2.3	.61	12	7.4	6.9	29	6.1	5.7	1.7	1.1	27
19	2.0	1.4	.76	13	6.7	5.1	49	6.2	5.5	6.7	1.1	15
20	1.6	51	.90	12	6.9	10	25	10	5.2	15	1.4	9.3
21	1.4	55	.78	9.0	38	30	16	6.8	4.8	9.4	1.3	7.1
22	1.3	20	.57	8.4	21	15	12	6.5	4.6	4.6	2.1	6.3
23	1.2	8.3	2.7	7.7	11	11	10	223	4.2	17	2.0	5.1
24	1.1	4.6	9.3	7.0	9.0	8.7	8.9	58	3.8	25	3.2	4.0
25	1.0	2.8	8.6	6.5	7.4	7.4	8.3	74	3.5	8.7	1.8	3.6
26	.91	3.2	5.1	18	8.3	6.3	7.7	431	2.9	5.2	1.4	3.1
27	.88	50	5.5	20	7.5	5.7	15	84	3.5	3.7	1.3	2.7
28	.82	27	84	13	6.1	5.5	33	52	3.4	2.7	1.3	2.5
29	.78	16	35	11	---	29	88	42	2.7	2.1	1.6	2.5
30	.77	13	18	10	---	270	42	34	2.5	2.0	4.9	2.3
31	.68	---	12	9.0	---	106	---	25	---	1.9	1.9	---
TOTAL	26.93	419.12	241.37	744.5	223.9	764.1	1140.7	1321.3	303.9	159.4	48.4	965.1
MEAN	.87	14.0	7.79	24.0	8.00	24.6	38.0	42.6	10.1	5.14	1.56	32.2
MAX	2.0	55	84	152	38	270	260	431	38	25	4.9	209
MIN	.33	.54	.57	4.1	2.6	4.4	7.7	6.1	2.5	1.7	1.1	2.2
CFSM	.08	1.34	.75	2.31	.77	2.37	3.66	4.10	.97	.49	.15	3.09
IN.	.10	1.50	.86	2.66	.80	2.73	4.08	4.73	1.09	.57	.17	3.45

CAL YR 1988 TOTAL 2183.84 MEAN 5.97 MAX 113 MIN .22 CFSM .57 IN. 7.81  
WTR YR 1989 TOTAL 6358.72 MEAN 17.4 MAX 431 MIN .33 CFSM 1.68 IN. 22.74



## 03274750 WHITEWATER RIVER NEAR HAGERSTOWN, IN

LOCATION.--Lat 39°52'25", long 85°09'47", in NE¼ sec. 3, T.16 N., R.12 E., Wayne County, Hydrologic Unit 05080003, on left bank at downstream side of bridge on Jerry Meyers Road, 1.0 mi upstream from Pronghorn Run, 1.5 mi north of Interstate 70, 2.0 mi downstream from Nettle Creek, 2.6 mi south of Hagerstown, and at mile 84.9.

DRAINAGE AREA.--58.7 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder. Datum of gage is 950.00 ft above National Geodetic Vertical Datum of 1929 (Indiana Flood Control and Water Resources Commission bench mark).

REMARKS.--Estimated daily discharges: Feb. 5-10. Records good.

AVERAGE DISCHARGE.--19 years, 66.9 ft<sup>3</sup>/s, 15.48 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,300 ft<sup>3</sup>/s Jan. 26, 1976, gage height, 10.89 ft; maximum gage height, 11.48 ft May 26, 1989; minimum daily discharge, 5.3 ft<sup>3</sup>/s Aug. 5, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 30	1600	1,400	9.20	May 26	0800	*2,250	*11.48
Apr. 4	0800	1,590	9.70	Sept. 14	2100	1,890	10.50
May 23	1400	1,590	9.69				

Minimum daily discharge, 8.4 ft<sup>3</sup>/s Oct. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.3	11	28	40	44	39	226	120	123	41	29	343
2	9.0	11	25	36	41	38	179	97	111	41	28	156
3	9.1	10	24	34	42	38	390	85	114	65	27	88
4	9.0	25	23	31	38	42	967	78	125	49	27	66
5	8.9	44	21	30	35	172	241	135	149	44	33	55
6	8.9	33	21	180	31	111	172	111	121	41	37	47
7	9.1	24	20	202	28	69	146	89	100	39	28	41
8	8.9	21	19	489	26	59	136	78	91	38	27	38
9	8.4	19	18	136	24	62	123	151	85	37	26	45
10	9.3	88	17	97	25	107	105	140	77	36	25	200
11	9.6	59	16	83	27	135	95	96	71	35	25	105
12	10	35	15	118	28	111	89	82	81	43	27	67
13	12	34	16	100	30	83	84	78	75	43	25	53
14	12	32	16	80	38	75	78	71	70	37	24	836
15	12	26	16	72	42	80	73	66	68	34	23	546
16	13	25	14	66	52	64	68	63	66	33	24	145
17	18	26	14	63	45	60	68	58	62	32	24	110
18	23	21	13	60	41	57	86	55	59	31	24	91
19	16	18	14	60	39	52	154	55	58	42	23	74
20	14	60	15	57	41	84	95	65	56	48	29	65
21	15	96	14	50	123	123	81	54	55	40	27	59
22	15	50	14	48	86	79	72	54	53	36	100	56
23	15	36	17	46	58	68	66	971	50	43	69	51
24	15	30	21	44	48	63	62	221	47	62	44	47
25	14	26	25	43	46	58	60	205	46	42	37	46
26	13	26	20	56	50	54	58	1420	44	36	32	44
27	13	66	21	69	47	52	76	338	47	34	29	42
28	13	52	166	56	44	52	103	215	55	32	29	41
29	11	37	100	51	---	86	379	186	44	30	31	39
30	11	33	60	49	---	887	203	161	42	30	31	38
31	11	---	47	46	---	401	---	139	---	30	28	---
TOTAL	375.5	1074	870	2592	1219	3461	4735	5737	2245	1224	992	3634
MEAN	12.1	35.8	28.1	83.6	43.5	112	158	185	74.8	39.5	32.0	121
MAX	23	96	166	489	123	887	967	1420	149	65	100	836
MIN	8.4	10	13	30	24	38	58	54	42	30	23	38
CFSM	.21	.61	.48	1.42	.74	1.90	2.69	3.15	1.27	.67	.55	2.06
IN.	.24	.68	.55	1.64	.77	2.19	3.00	3.64	1.42	.78	.63	2.30

CAL YR 1988 TOTAL 12065.2 MEAN 33.0 MAX 492 MIN 6.4 CFSM .56 IN. 7.65  
WTR YR 1989 TOTAL 28158.5 MEAN 77.1 MAX 1420 MIN 8.4 CFSM 1.31 IN. 17.84

## 03274950 LITTLE WILLIAMS CREEK AT CONNERSVILLE, IN

LOCATION.--Lat 39°38'16", long 85°10'20", in SW¼NE¼ sec.27, T.14 N., R.12 E., Fayette County, Hydrologic Unit 05080003, on downstream left bank wingwall of bridge on State Highway 44, 1 mi west of Connerville, and 2.6 mi upstream from mouth.

DRAINAGE AREA.--9.16 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 842.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 5, 6, and Feb. 4-11. Records fair except for estimated daily discharges, which are poor. Peak flows affected by ponding at abandoned railroad culvert 0.5 mi upstream.

AVERAGE DISCHARGE.--21 years, 9.77 ft<sup>3</sup>/s, 14.48 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,560 ft<sup>3</sup>/s June 22, 1974, gage height, 10.13 ft; minimum daily, no flow on many days in 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
May 23	0400	537	5.43	May 26	0430	*1,920	*9.38

Minimum daily discharge, 0.01 Oct. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.87	1.7	3.0	4.5	5.5	35	21	12	2.5	1.5	13
2	.15	.90	1.5	2.6	4.5	5.4	30	17	11	2.6	1.5	3.0
3	.14	.87	1.5	2.5	5.2	5.5	77	15	10	3.9	1.5	1.5
4	.12	1.4	1.4	2.2	4.0	5.6	100	16	9.4	3.2	1.5	1.4
5	.10	2.0	1.4	2.9	3.6	33	30	25	12	2.8	1.5	1.4
6	.08	1.2	1.4	13	3.2	19	23	21	9.3	2.4	1.6	1.3
7	.09	.84	1.4	12	3.0	11	19	17	7.8	2.2	1.5	1.1
8	.14	.77	1.3	20	2.7	9.4	21	15	6.9	2.0	1.4	1.1
9	.15	.66	1.3	8.1	2.5	12	20	39	6.7	1.9	1.5	1.4
10	.19	8.0	1.2	5.9	2.7	22	17	26	6.1	1.9	1.5	2.4
11	.20	2.4	1.1	5.1	3.0	23	15	18	5.9	1.8	1.5	1.5
12	.16	1.7	.99	11	3.3	17	14	16	8.5	3.3	1.4	1.3
13	.23	2.6	1.1	8.7	3.8	14	12	14	6.7	2.5	1.4	1.2
14	.27	2.1	1.3	7.9	4.5	13	11	13	8.5	2.0	1.4	23
15	.28	1.6	1.3	9.2	6.3	16	11	13	6.7	1.8	1.4	6.8
16	.35	1.6	1.0	7.7	8.3	11	9.8	12	6.4	1.7	1.4	4.1
17	.69	1.5	1.0	7.1	6.0	10	9.8	11	5.5	1.7	1.4	2.8
18	2.9	1.4	.94	6.6	5.4	9.2	13	9.7	5.0	1.6	1.4	1.9
19	.63	1.3	.86	6.3	5.0	8.1	16	9.8	4.9	1.8	1.4	1.6
20	.41	4.1	1.0	5.7	5.8	25	12	11	4.8	1.8	1.7	1.5
21	.45	3.8	1.5	4.9	18	28	11	8.8	4.3	1.7	1.6	1.4
22	.49	2.3	1.3	4.7	13	16	9.9	11	4.3	1.7	1.5	1.6
23	.64	1.9	1.8	4.5	8.4	13	9.2	207	3.8	1.9	1.7	1.4
24	.80	1.7	2.8	4.4	7.2	11	8.7	33	3.6	1.9	2.1	1.3
25	.85	1.6	2.4	4.8	7.1	9.9	8.4	25	3.4	2.9	1.8	1.3
26	.81	1.7	1.9	5.7	7.7	8.9	8.0	455	3.2	1.7	1.5	1.3
27	.81	3.1	2.1	5.6	6.6	8.5	66	40	3.1	1.7	1.5	1.2
28	.90	2.3	19	5.2	6.1	8.2	44	24	3.2	1.6	1.5	1.1
29	.90	1.9	5.6	5.0	---	11	90	22	2.8	1.5	1.5	1.1
30	.88	1.8	4.0	4.9	---	133	29	17	2.6	1.5	1.5	1.1
31	.85	---	3.3	4.6	---	107	---	14	---	1.5	1.5	---
TOTAL	15.67	59.91	70.39	201.8	161.4	629.2	779.8	1196.3	188.4	65.0	47.1	86.1
MEAN	.51	2.00	2.27	6.51	5.76	20.3	26.0	38.6	6.28	2.10	1.52	2.87
MAX	2.9	8.0	19	20	18	133	100	455	12	3.9	2.1	23
MIN	.01	.66	.86	2.2	2.5	5.4	8.0	8.8	2.6	1.5	1.4	1.1
CFSM	.06	.22	.25	.71	.63	2.22	2.84	4.21	.69	.23	.17	.31
IN.	.06	.24	.29	.82	.66	2.56	3.17	4.86	.77	.26	.19	.35

CAL YR 1988 TOTAL 1561.90 MEAN 4.27 MAX 170 MIN .00 CFSM .47 IN. 6.34  
WTR YR 1989 TOTAL 3501.07 MEAN 9.59 MAX 455 MIN .01 CFSM 1.05 IN. 14.22

## 03275000 WHITEWATER RIVER NEAR ALPINE, IN

(National stream-quality accounting network station)

LOCATION.--Lat 39°34'46", long 85°09'29", in SE¼NW¼ sec.14, T.13 N., R.12 E., Fayette County, Hydrologic Unit 05080003, on right bank at Nulltown, 400 ft upstream from Wilson Creek, 0.4 mi upstream from bridge on County Road 480 South, 2.0 mi northeast of Alpine, 5.1 mi upstream from Bear Creek, and at mile 54.8.

DRAINAGE AREA.--522 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1928 to current year. Prior to October 1936, published as West Fork Whitewater River near Alpine.

REVISED RECORDS.--WSP 1143: 1943-44(M), 1947 (M). WSP 1335: 1929-30, 1932(M), 1938, 1946-47(m), 1949-50. WSP 1505: 1942(P). WSP 1908: 1937(M), 1944, 1949(M), drainage area. WDR IN-79-1: 1975 (P).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 750.19 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 9, 1928, nonrecording gage and Nov. 10, 1928, to Sept. 30, 1982, at site 0.5 mi downstream at same datum.

REMARKS.--Estimated daily discharges: Nov. 4-7, 10, 11, Dec. 28-31, Feb. 6-10, July 6-14, 19-21, 23, Aug. 5, 6, 13-19 and 22-24. Records good except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--61 years, 553 ft<sup>3</sup>/s, 14.20 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,100 ft<sup>3</sup>/s Jan. 14, 1937, gage height, 16.61 ft (at site then in use); maximum gage height 19.01 ft, May 26, 1989; minimum daily discharge, 3.0 ft<sup>3</sup>/s Aug. 6, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 31	0800	8,890	15.20	May 26	0700	*20,000	*19.01
Apr. 4	2000	7,980	14.81	Sept. 15	1700	10,600	15.90
May 24	0700	8,630	15.09				

Minimum daily discharge, 53 ft<sup>3</sup>/s Oct. 1-3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53	68	240	415	361	384	4020	1370	1100	282	173	506
2	53	67	211	344	336	352	2170	1040	1070	273	162	2400
3	53	67	197	306	341	348	4180	839	914	353	151	896
4	55	100	183	272	316	349	6650	738	1090	439	146	538
5	55	200	174	247	303	1070	3640	1070	1090	377	150	387
6	54	140	164	595	270	1680	1860	1220	1290	330	170	299
7	54	130	157	1530	250	855	1460	1000	964	300	157	251
8	56	121	153	2820	230	691	1300	819	808	280	133	216
9	56	111	144	1570	200	620	1240	1240	732	275	128	206
10	56	300	135	873	220	912	1050	1990	651	270	117	519
11	56	270	129	648	233	1510	910	1250	598	260	107	1270
12	55	215	121	804	226	1360	823	957	613	300	117	614
13	54	209	130	1130	236	1030	754	813	625	310	114	413
14	55	193	129	772	283	868	685	715	662	297	114	1220
15	56	186	128	721	338	886	640	645	596	243	109	8120
16	60	174	120	630	474	776	598	596	574	220	104	2480
17	66	157	118	586	450	669	576	548	540	203	100	1410
18	132	151	107	561	396	613	625	515	493	188	104	966
19	87	145	116	544	369	555	1060	496	473	220	102	726
20	77	182	116	535	365	749	957	533	451	320	137	591
21	76	391	116	469	768	1440	760	486	428	280	138	516
22	71	434	112	420	1000	1060	647	468	417	249	150	468
23	69	321	125	398	641	829	583	4570	391	220	400	431
24	69	262	147	374	520	720	545	5570	368	788	360	382
25	69	226	161	372	496	649	516	2070	341	575	306	347
26	69	214	181	385	481	596	502	13800	324	373	251	325
27	68	249	179	474	460	568	1230	11800	312	287	207	300
28	70	379	600	482	419	554	1200	3090	328	242	192	279
29	70	329	1000	436	---	623	2240	2010	317	209	192	264
30	69	272	650	409	---	3870	2630	1610	294	195	189	248
31	69	---	500	386	---	7330	---	1280	---	186	181	---
TOTAL	2012	6263	6743	20508	10982	34516	46051	65148	18854	9344	5161	27588
MEAN	64.9	209	218	662	392	1113	1535	2102	628	301	166	920
MAX	132	434	1000	2820	1000	7330	6650	13800	1290	788	400	8120
MIN	53	67	107	247	200	348	502	468	294	186	100	206
CFSM	.12	.40	.42	1.27	.75	2.13	2.94	4.03	1.20	.58	.32	1.76
IN.	.14	.45	.48	1.46	.78	2.46	3.28	4.64	1.34	.67	.37	1.97

CAL YR 1988 TOTAL 100482 MEAN 275 MAX 6360 MIN 51 CFSM .53 IN. 7.16  
WTR YR 1989 TOTAL 253170 MEAN 694 MAX 13800 MIN 53 CFSM 1.33 IN. 18.04

## GREAT MIAMI RIVER BASIN

03275000 WHITEWATER RIVER NEAR ALPINE, IN  
(National stream-quality accounting network station)

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL ANALYSIS: October 1986 to current year.

SEDIMENT DISCHARGE: July 1968 to September 1976, October 1986 to current year (partial-record station).

## WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BARO- METRIC PRES- SURE (MM OF HG) (00025)
NOV 09...	1230	115	--	700	8.3	8.2	16.0	9.5	1.0	12.3	754
JAN 18...	1230	551	667	684	8.1	8.1	12.5	4.5	2.2	12.0	746
FEB 22...	1330	1060	552	556	8.4	8.0	4.0	3.0	24	12.8	750
APR 25...	1300	540	614	639	8.0	8.2	--	15.5	1.0	10.8	744
JUN 28...	1200	326	685	672	8.2	8.3	28.0	21.0	3.3	8.5	745
AUG 24...	1600	353	587	591	7.9	8.0	24.0	20.5	45	7.2	774

DATE	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL AS CAC03 (00900)	HARD- NESS NONCARB DISSOLV FLO. AS CAC03 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY WAT DIS FIX END FIELD CAC03 (MG/L) (39036)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CAC03 (39086)
NOV 09...	140	110	350	72	87	33	18	2.8	280	282
JAN 18...	430	140	370	110	92	33	11	2.1	250	252
FEB 22...	1200	5500	280	58	70	25	8.8	2.3	210	220
APR 25...	120	K25	340	33	82	32	10	1.8	300	304
JUN 28...	290	66	330	48	82	31	12	1.9	280	284
AUG 24...	K68000	96000	270	52	69	24	18	4.3	220	220

DATE	ALKA- LITY LAB (MG/L AS CAC03) (90410)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)*	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)
NOV 09...	275	344	0	56	29	0.3	7.0	393	122	0.04
JAN 18...	253	308	0	58	26	0.2	8.5	400	594	0.02
FEB 22...	185	268	0	46	23	0.2	6.1	301	860	0.03
APR 25...	252	371	0	49	22	0.2	3.7	368	536	0.03
JUN 28...	246	347	0	46	21	0.2	4.9	397	349	0.05
AUG 24...	220	268	0	38	26	0.3	10	341	325	0.08

## GREAT MIAMI RIVER BASIN

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03275000 WHITEWATER RIVER NEAR ALPINE, IN --Continued  
(National stream-quality accounting network station)

## WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)
NOV 09...	2.8	0.12	0.12	0.4	0.18	0.18	0.15	<10	<1	82
JAN 18...	5.7	0.16	0.15	0.6	0.09	0.08	0.06	<10	<1	78
FEB 22...	6.6	0.15	0.11	1.4	0.18	0.09	0.05	<10	<1	53
APR 25...	4.7	0.13	0.14	1.1	0.08	0.07	0.05	--	--	--
JUN 28...	4.0	0.06	0.06	0.5	0.07	0.06	0.06	--	--	--
AUG 24...	2.8	0.34	0.35	1.6	0.37	0.18	0.14	360	1	73

DATE	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)
NOV 09...	<0.5	3	<1	<3	2	10	<5	8	11	<0.1
JAN 18...	<0.5	<1	<1	<3	3	9	<5	9	11	<0.1
FEB 22...	<0.5	<1	<1	<3	3	11	<5	7	6	<0.1
APR 25...	--	--	--	--	--	--	--	--	--	--
JUN 28...	--	--	--	--	--	--	--	--	--	--
AUG 24...	<0.5	<1	1	<3	3	320	2	6	26	0.1

DATE	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	SEDI- MENT, DIS- SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 09...	10	16	<1	1	370	<6	9	18	5.6	49
JAN 18...	<10	5	1	<1	410	<6	12	22	33	79
FEB 22...	<10	3	<1	<1	250	<6	5	50	143	92
APR 25...	--	--	--	--	--	--	--	23	33	63
JUN 28...	--	--	--	--	--	--	--	25	22	64
AUG 24...	<10	8	<1	<1	310	<6	22	110	105	100

\*In March 1989, the National Water-Quality Laboratory discovered a bias in the turbidimetric method for sulfate analysis, indicating that concentrations below 75 mg/L have a median positive bias of 2 mg/L above the true concentration for the period between 1982 and 1989. Sulfate concentrations in this report have not been corrected for this bias.



## 03275600 EAST FORK WHITEWATER RIVER AT ABINGTON, IN

LOCATION.--Lat 39°43'57", long 84°57'35", in NE¼SW¼ sec.2, T.12 N., R.2 W., Wayne County, Hydrologic Unit 05080003, at downstream side of center pier of bridge on county road at Abington, 3 mi downstream from Elkhorn Creek, 8 mi southwest of Richmond, and at mile 26.7.

DRAINAGE AREA.--200 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1965 to current year.

REVISED RECORDS.--WSP 2108: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 791.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 11, 16, 17, 28-31, and Feb. 5-11. Records good except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--24 years, 224 ft<sup>3</sup>/s, 15.21 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,400 ft<sup>3</sup>/s July 20, 1969, gage height, 16.18 ft; minimum daily, 11 ft<sup>3</sup>/s Aug. 18, 19, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
May 23	1600	5,660	11.93	Sept. 15	0100	3,040	9.37
May 26	0900	*9,120	*14.45				

Minimum daily discharge, 13 ft<sup>3</sup>/s Oct. 5, 6, 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	19	60	113	118	135	1020	360	244	89	46	154
2	18	20	55	96	111	127	557	299	243	88	44	216
3	14	20	52	86	131	125	1290	264	218	140	43	111
4	14	65	49	73	105	129	1940	251	208	121	42	78
5	13	116	47	68	90	482	697	351	238	107	50	63
6	13	65	46	320	80	488	445	446	216	96	58	53
7	14	48	45	458	75	273	381	346	187	89	43	46
8	14	45	44	905	66	216	370	290	172	83	40	43
9	14	39	42	364	62	209	360	696	167	78	38	45
10	14	194	41	236	63	316	318	855	155	75	37	105
11	14	106	35	181	65	545	291	397	144	71	33	131
12	13	70	33	282	70	446	272	313	167	103	41	90
13	14	112	39	319	77	311	265	287	163	130	39	66
14	14	84	40	247	107	273	245	261	215	97	34	950
15	15	65	40	258	145	280	237	242	188	82	33	1380
16	20	61	33	229	229	229	223	226	166	74	32	307
17	28	54	30	214	184	206	219	208	147	69	33	192
18	120	48	30	195	152	195	281	196	137	66	33	139
19	38	45	36	192	137	169	371	192	133	76	33	112
20	27	107	39	176	140	268	304	221	129	73	46	97
21	25	114	41	142	391	490	266	190	126	68	42	85
22	28	87	38	125	359	312	241	192	126	64	39	79
23	24	72	56	116	242	255	219	3770	117	67	52	74
24	26	63	83	109	186	225	206	1050	110	70	46	64
25	22	57	76	112	173	203	198	729	105	63	45	59
26	21	55	62	127	187	183	194	6720	100	58	39	58
27	20	109	60	139	168	178	253	1220	106	55	37	54
28	26	87	270	128	151	173	326	569	138	51	36	53
29	22	73	190	120	---	201	639	406	100	48	51	55
30	20	65	150	116	---	1710	709	325	92	47	42	53
31	20	---	130	117	---	2040	---	271	---	48	34	---
TOTAL	699	2165	1992	6363	4064	11392	13337	22143	4757	2446	1261	5012
MEAN	22.5	72.2	64.3	205	145	367	445	714	159	78.9	40.7	167
MAX	120	194	270	905	391	2040	1940	6720	244	140	58	1380
MIN	13	19	30	68	62	125	194	190	92	47	32	43
CFSM	.11	.36	.32	1.03	.73	1.84	2.22	3.57	.79	.39	.20	.84
IN.	.13	.40	.37	1.18	.76	2.12	2.48	4.12	.88	.45	.23	.93

CAL YR 1988 TOTAL 34480 MEAN 94.2 MAX 2810 MIN 11 CFSM .47 IN. 6.41  
WTR YR 1989 TOTAL 75631 MEAN 207 MAX 6720 MIN 13 CFSM 1.04 IN. 14.07

## 03276000 EAST FORK WHITEWATER RIVER AT BROOKVILLE, IN

LOCATION.--Lat 39°26'02", long 85°00'12", in NE¼NE¼ sec.20, T.9 N., R.2 W., Franklin County, Hydrologic Unit 05080003, on right bank 100 ft upstream from bridge on State Highway 101, at Brookville, 0.4 mi downstream from Brookville Lake, and 1.8 mi upstream from mouth.

DRAINAGE AREA.--380 mi<sup>2</sup>.

PERIOD OF RECORD.--March 1954 to current year.

REVISED RECORDS.--WSP 1555: 1954(M), 1955(P). WSP 1908: 1955, drainage area.

GAGE.--Water-stage recorder. Datum of gage is 621.76 ft above National Geodetic Vertical Datum of 1929. Prior to May 22, 1954, nonrecording gage at site 100 ft downstream at datum 2.00 ft higher. May 22, 1954 to Aug. 20, 1965, water-stage recorder at site 165 ft downstream at datum 2.00 ft higher. Aug. 21, 1965 to Sept. 30, 1981, water-stage recorder at same site and datum. Oct. 1, 1981 to Sept. 30, 1986, daily discharge provided by U.S. Army Corps of Engineers.

REMARKS.--No estimated daily discharges. Records good. Water temperature probe connected to a Data Collection Platform since Nov. 5, 1986. Flow regulated by Brookville Lake since January 1974.

AVERAGE DISCHARGE.--35 years, 397 ft<sup>3</sup>/s, 14.19 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,100 ft<sup>3</sup>/s Jan. 21, 1959; maximum gage height, 17.35 ft May 24, 1968; no flow, July 27, 1982.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 4,800 ft<sup>3</sup>/s May 31; minimum daily, 6.1 ft<sup>3</sup>/s Feb. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	160	526	492	179	197	917	368	4750	75	119	33
2	74	158	526	490	6.1	89	1690	799	4700	76	120	31
3	73	148	526	486	188	89	1870	964	4670	77	119	31
4	73	208	525	987	467	89	1450	965	3070	75	118	31
5	74	236	524	1480	467	105	2170	966	1150	74	118	150
6	74	235	523	1470	323	93	3800	964	349	74	117	219
7	74	233	523	1480	162	91	3330	792	89	74	80	219
8	74	232	523	1480	118	91	2670	968	91	74	47	153
9	74	232	522	1750	106	93	2660	974	93	74	47	117
10	74	234	521	1240	107	94	1570	970	94	74	40	183
11	73	232	521	635	107	94	481	967	96	74	32	219
12	72	232	521	475	107	92	457	936	97	74	32	219
13	72	232	521	628	108	93	456	916	460	74	32	218
14	72	384	408	863	112	94	455	915	663	74	32	447
15	72	555	303	865	120	97	249	1190	654	74	32	1070
16	72	531	303	611	112	94	153	1670	651	74	32	1230
17	47	534	304	447	109	94	153	2960	650	74	32	1260
18	33	532	304	447	109	94	168	2440	358	74	32	808
19	32	532	220	447	109	94	175	808	139	74	32	140
20	32	532	132	457	112	116	174	483	207	74	32	138
21	59	532	104	389	118	186	175	236	201	74	32	137
22	72	532	104	271	112	440	128	117	209	74	32	137
23	72	531	105	271	230	504	161	429	209	76	32	136
24	72	529	110	226	337	504	163	1080	211	74	36	135
25	72	529	107	191	337	434	165	2450	212	71	30	112
26	91	529	107	193	338	246	145	935	135	70	31	94
27	104	530	266	193	336	143	159	647	74	102	31	94
28	103	528	484	193	336	6.2	160	1690	74	120	31	94
29	103	527	482	193	---	20	233	1760	74	120	31	94
30	104	526	490	192	---	30	233	3940	74	120	31	96
31	124	---	488	199	---	188	---	4800	---	120	31	---
TOTAL	2291	11665	11623	19741	5372.1	4694.2	26770	40099	24504	2508	1593	8045
MEAN	73.9	389	375	637	192	151	892	1294	817	80.9	51.4	268
MAX	124	555	526	1750	467	504	3800	4800	4750	120	120	1260
MIN	32	148	104	191	6.1	6.2	128	117	74	70	30	31

CAL YR 1988 TOTAL 62085 MEAN 170 MAX 2140 MIN 11  
WTR YR 1989 TOTAL 158905.3 MEAN 435 MAX 4800 MIN 6.1

## GREAT MIAMI RIVER BASIN

## 03276500 WHITEWATER RIVER AT BROOKVILLE, IN

(Former National stream-quality accounting network station)

LOCATION.--Lat 39°24'24", long 85°00'46", in NE¼NW¼ sec.32, T.9 N., R.2 W., Franklin County, Hydrologic Unit 05080003, on right bank at downstream side of highway bridge, 0.3 mi downstream from East Fork Whitewater River, 1.1 mi south of Brookville, and at mile 29.3.

DRAINAGE AREA.--1,224 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1915 to September 1917, October 1917 to May 1920 (gage heights only), and July 1923 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 1335: 1915-17, 1929, 1930(M), 1933(M), 1934, 1935(M), 1936. WSP 1505: 1916(M). WSP 1908: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 595.71 ft above National Geodetic Vertical Datum of 1929. Prior to July 1923, nonrecording gage at same site at datum 1.5 ft higher. July 1923 to Sept. 27, 1928, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Brookville Lake since January 1974.

AVERAGE DISCHARGE.--68 years (water years 1916-17, 1924 to current year), 1,272 ft<sup>3</sup>/s, 14.11 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 81,800 ft<sup>3</sup>/s Jan. 21, 1959, gage height, 27.78 ft, from rating curve extended above 45,000 ft<sup>3</sup>/s on basis of contracted-opening measurement of peak flow; minimum daily, 60 ft<sup>3</sup>/s July 27, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 25, 1913, reached a stage of 39.0 ft, at present datum, from floodmarks (discharge not determined).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 27,900 ft<sup>3</sup>/s May 26, gage height, 15.98 ft; minimum daily, 135 ft<sup>3</sup>/s Oct. 3, 11, 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	139	255	898	1290	682	794	7180	3280	6200	501	440	423
2	138	256	860	1190	420	598	5450	2990	6130	492	431	2040
3	135	250	824	1030	853	577	7370	2790	5890	522	418	1310
4	136	338	797	1470	1170	575	13200	2530	4770	601	407	768
5	137	591	780	2000	1060	3170	8410	3120	3080	585	406	691
6	141	518	769	3590	805	3430	7090	3370	2240	530	493	683
7	137	443	758	3800	534	1850	6050	2820	1520	498	434	583
8	140	423	747	7660	467	1340	5270	2660	1290	473	329	476
9	137	414	735	4590	380	1310	5230	3440	1200	454	305	414
10	136	1010	722	2980	372	1940	3770	4260	1090	442	287	776
11	135	694	713	1860	389	2520	2280	3390	998	423	264	1580
12	144	575	700	2600	375	2230	2060	2820	980	421	265	1150
13	139	589	701	2690	392	1720	1920	2560	1480	479	254	849
14	139	728	609	2530	1470	1440	1800	2400	3020	526	251	1300
15	138	850	504	3070	1900	1900	1460	2560	2160	477	245	5600
16	142	819	494	2170	2400	1440	1250	2850	1890	438	239	4950
17	135	808	489	1650	1220	1200	1170	4100	1760	413	235	3250
18	220	778	478	1490	945	1070	1280	3550	1300	403	234	2210
19	181	766	404	1400	826	931	2500	1840	917	397	233	1110
20	153	965	317	1340	779	3620	1940	1500	985	397	237	909
21	165	1180	290	1160	2730	4640	1570	1110	932	425	256	778
22	174	1170	286	929	2070	2640	1310	907	920	449	253	685
23	172	1030	300	897	1490	2070	1230	13100	888	528	449	644
24	171	937	622	795	1290	1790	1130	7700	857	691	778	581
25	169	881	554	719	1210	1530	1060	5690	817	881	622	507
26	185	859	430	779	1240	1220	986	18200	683	635	420	461
27	200	1270	564	876	1170	986	2160	16300	558	570	350	439
28	202	1120	2340	889	1070	805	2610	6700	551	534	312	421
29	197	1050	1940	821	---	3580	7420	5080	554	493	298	409
30	196	961	1490	775	---	9910	6100	6160	520	475	295	397
31	213	---	1270	736	---	10700	---	6480	---	457	285	---
TOTAL	4946	22528	23385	59776	29709	73526	112256	146257	56180	15610	10725	36394
MEAN	160	751	754	1928	1061	2372	3742	4718	1873	504	346	1213
MAX	220	1270	2340	7660	2730	10700	13200	18200	6200	881	778	5600
MIN	135	250	286	719	372	575	986	907	520	397	233	397
CFSM	.13	.61	.62	1.58	.87	1.94	3.06	3.85	1.53	.41	.28	.99
IN.	.15	.68	.71	1.82	.90	2.23	3.41	4.45	1.71	.47	.33	1.11

CAL YR 1988 TOTAL 237352 MEAN 649 MAX 13600 MIN 76 CFSM .53 IN. 7.21  
WTR YR 1989 TOTAL 591292 MEAN 1620 MAX 18200 MIN 135 CFSM 1.32 IN. 17.97

## 03276700 SOUTH HOGAN CREEK NEAR DILLSBORO, IN

(Hydrologic bench-mark station)

LOCATION.--Lat 39°01'47", long 85°02'17", in SW¼NW¼ sec.7, T.4 N., R.2 W., Dearborn County, Hydrologic Unit 05090203, on left downstream abutment of bridge on county road at Dillsboro Station, 1.2 mi northeast of Dillsboro, and 1.5 mi downstream from Whitaker Creek.

DRAINAGE AREA.--38.1 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1961 to current year. Occasional low-flow measurements, water year 1960.

REVISED RECORDS.--WDR IN-72-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 571.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 12, 14-18, Feb. 7, 8, 10, and 11. Records poor.

AVERAGE DISCHARGE.--28 years, 42.6 ft<sup>3</sup>/s, 15.18 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,000 ft<sup>3</sup>/s Apr. 29, 1970, maximum gage height, 12.7 ft, from floodmarks Apr. 29, 1970 and from crest-stage gage June 10, 1981; no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 21, 1959, reached a stage of 14.00 ft, discharge, 16,300 ft<sup>3</sup>/s on basis of contracted-opening measurement.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 20	1600	2,960	6.90a	Apr. 04	0230	4,000	7.90a
Mar. 29	1915	*4,280	*8.13a				

a - Crest-stage readings.

Minimum daily discharge, 0.04 ft<sup>3</sup>/s Oct. 16, 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.22	.86	7.4	50	9.5	19	156	63	16	1.3	.59	300
2	.37	.74	5.9	43	8.7	18	84	39	13	1.5	.41	102
3	.30	.63	5.0	20	151	19	273	29	12	4.7	.31	27
4	.35	4.5	4.6	14	41	19	1180	24	12	5.7	.26	12
5	.29	33	3.7	23	27	307	109	35	47	4.5	.33	7.8
6	.19	21	3.7	272	13	230	64	37	32	2.8	67	5.4
7	.13	11	3.7	66	9.8	57	49	27	14	2.0	10	4.0
8	.11	7.1	3.2	419	8.5	46	73	22	9.0	1.4	3.1	3.1
9	.09	4.7	2.8	38	7.3	103	72	322	11	1.0	1.6	2.9
10	.09	50	2.1	19	6.8	113	45	101	7.6	.83	1.1	65
11	.06	18	3.2	31	6.5	72	36	42	5.5	.57	.73	17
12	.06	7.7	2.9	484	7.9	48	31	27	11	.49	.54	7.8
13	.05	9.3	2.4	86	61	37	27	27	13	.65	.35	4.6
14	.05	13	2.0	213	548	32	24	25	145	1.2	.27	66
15	.05	7.7	1.8	270	764	54	21	82	52	1.1	.19	70
16	.04	5.9	1.6	96	351	31	19	54	29	.73	.14	26
17	.04	4.5	1.5	48	69	27	16	33	17	.51	.11	15
18	.42	3.2	1.5	34	40	23	30	26	11	.37	.14	9.9
19	1.0	5.3	1.6	30	29	20	119	24	8.5	.70	.19	6.8
20	1.2	117	2.0	29	40	997	38	31	8.7	.78	40	4.9
21	.90	30	2.3	22	541	405	27	24	10	.62	29	3.8
22	1.5	14	2.3	25	125	76	22	20	5.3	.59	4.5	3.2
23	1.3	9.6	6.7	24	50	47	18	764	3.6	4.4	20	4.2
24	1.4	7.4	193	19	28	37	15	84	3.0	2.8	71	3.0
25	1.4	5.9	40	18	30	30	14	48	2.7	1.4	32	2.3
26	1.2	8.4	16	18	32	25	13	449	1.9	1.4	6.5	2.1
27	.99	79	10	19	30	22	14	71	5.8	1.0	2.7	1.8
28	.90	22	632	11	21	21	74	42	18	.74	1.5	1.6
29	.96	13	63	11	---	1150	1090	34	3.4	.72	255	1.4
30	.87	9.5	14	12	---	813	253	27	1.8	.74	171	1.3
31	.83	---	13	10	---	844	---	21	---	.82	27	---
TOTAL	17.36	523.93	1054.9	2474	3056.0	5742	4006	2654	529.8	48.06	747.56	781.9
MEAN	.56	17.5	34.0	79.8	109	185	134	85.6	17.7	1.55	24.1	26.1
MAX	1.5	117	632	484	764	1150	1180	764	145	5.7	255	300
MIN	.04	.63	1.5	10	6.5	18	13	20	1.8	.37	.11	1.3
CFSM	.01	.46	.89	2.09	2.86	4.86	3.50	2.25	.46	.04	.63	.68
IN.	.02	.51	1.03	2.42	2.98	5.61	3.91	2.59	.52	.05	.73	.76

CAL YR 1988 TOTAL 10274.18 MEAN 28.1 MAX 1530 MIN .00 CFSM .74 IN. 10.03  
WTR YR 1989 TOTAL 21635.51 MEAN 59.3 MAX 1180 MIN .04 CFSM 1.56 IN. 21.12

## HOGAN CREEK BASIN

03276700 SOUTH HOGAN CREEK NEAR DILLSBORO, IN  
(Hydrologic bench-mark station)

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL ANALYSES: October 1968 to current year.

SEDIMENT DISCHARGE: August 1969 to current year (partial-record station).

## WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)
JAN												
19...	1300	25	454	437	8.1	8.2	22.0	3.0	8.4	13.7	755	K65
FEB												
23...	1230	51	368	371	8.4	8.1	-3.0	1.0	16	14.5	763	K33
APR												
26...	1300	13	413	430	8.3	8.3	--	20.0	14	10.5	749	2300
JUN												
29...	1030	3.8	454	447	7.9	8.2	22.0	23.0	13	7.2	754	780

DATE	STREP- TOCOC FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY WAT DIS FIX END FIELD CACO3 (MG/L) (39036)	ALKA- LITY WAT DIS TOT IT FIELD CACO3 (MG/L AS CACO3) (39086)	ALKA- LITY LAB (MG/L AS CACO3) (90410)	BICAR- BONATE WATER DIS IT FIELD HCO3 (MG/L AS HCO3) (00453)	CAR- BONATE WATER DIS IT FIELD CO3 (MG/L AS CO3) (00452)
JAN												
19...	K13	220	33	68	11	7.5	3.1	180	182	151	222	0
FEB												
23...	140	190	--	59	9.2	6.0	2.6	--	--	132	--	--
APR												
26...	--	220	65	66	13	8.3	2.1	150	154	158	139	24
JUN												
29...	830	210	37	66	10	8.3	2.8	170	169	170	206	0

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)*	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)
JAN												
19...	47	12	0.1	6.7	261	17.4	0.01	2.3	0.03	0.02	0.4	0.05
FEB												
23...	46	10	0.2	7.1	237	32.8	<0.01	1.7	0.05	0.02	0.8	0.09
APR												
26...	57	9.4	0.2	0.79	254	9.12	<0.01	<0.10	0.02	0.02	0.3	0.03
JUN												
29...	45	10	0.2	4.1	246	2.51	0.01	0.20	0.02	0.03	0.4	0.07

DATE	PHOS- PHOROUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHOROUS ORTHOPHOS- PHATE DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
JAN											
19...	0.04	0.03	<10	<1	34	<0.5	1	<1	<3	1	13
FEB											
23...	0.05	0.02	190	<1	31	<0.5	<1	<1	<3	3	200
APR											
26...	0.03	0.03	<10	<1	36	<0.5	<1	<1	<3	3	7
JUN											
29...	0.05	0.04	30	<1	35	<0.5	<1	<1	<3	4	18



## HOGAN CREEK BASIN

53

03276700 SOUTH HOGAN CREEK NEAR DILLSBORO, IN --Continued  
(Hydrologic bench-mark station)

## WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
JAN 19...	<5	8	14	<0.1	<10	<1	<1	1	170	<6	8
FEB 23...	<5	6	18	<0.1	<10	1	<1	<1	140	<6	5
APR 26...	<5	5	12	0.6	<10	3	<1	<1	210	<6	8
JUN 29...	<1	7	23	0.1	<10	<1	<1	<1	210	<6	14

DATE	GROSS ALPHA, DIS- SOLVED (UG/L AS U-MAT) (80030)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-MAT) (80040)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137) (03515)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137) (03516)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90) (80050)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90) (80060)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L) (09511)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
JAN 19...	<0.4	<0.4	4.1	0.9	3.1	0.9	0.06	0.03	9	0.60	99
FEB 23...	--	--	--	--	--	--	--	--	11	1.5	98
APR 26...	--	--	--	--	--	--	--	--	5	0.18	94
JUN 29...	--	--	--	--	--	--	--	--	22	0.22	100

\*In March 1989, the National Water-Quality Laboratory discovered a bias in the turbidimetric method for sulfate analysis, indicating that concentrations below 75 mg/L have a median positive bias of 2 mg/L above the true concentration for the period between 1982 and 1989. Sulfate concentrations in this report have not been corrected for this bias.

## 03291780 INDIAN-KENTUCK CREEK NEAR CANAAN, IN

LOCATION.--Lat 38°52'41", long 85°15'26", in SW1/4 sec.13, T.5 N., R.11 E., Jefferson County, Hydrologic Unit 05140101, on downstream end of left pier of bridge on State Highway 62, 1,500 ft upstream from Wilson Fork, 2.0 mi northeast of Canaan, and at mile 16.7.

DRAINAGE AREA.--27.5 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1969 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 590 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 10-13, 16-19, 29-31, Jan. 22, 23, Feb. 6-13, and Feb. 23 to Mar. 1. Record good.

AVERAGE DISCHARGE.--20 years, 33.8 ft<sup>3</sup>/s, 16.69 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,240 ft<sup>3</sup>/s June 10, 1981, maximum gage height, 11.27 ft Aug. 1, 1979; no flow for many days in many years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,800 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 29	1915	*3,380	*8.56	Aug. 29	2215	2,310	7.62
Apr. 4	0230	2,510	7.81				

Minimum daily discharge, 0.04 ft<sup>3</sup>/s Oct. 12, 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.09	.53	14	120	19	21	115	32	11	.83	8.5	123
2	.12	.47	11	68	18	21	64	24	8.2	1.8	3.6	52
3	.10	.41	10	43	138	21	153	19	9.2	16	1.7	23
4	.08	16	9.1	33	63	20	617	17	12	11	1.0	14
5	.08	33	8.0	34	43	211	92	25	119	8.6	112	10
6	.09	13	7.6	220	32	193	56	21	41	4.7	115	7.5
7	.07	7.8	7.4	81	28	69	44	18	21	2.8	15	5.6
8	.07	5.7	6.8	379	25	57	90	15	15	1.6	6.7	4.2
9	.06	4.3	6.1	72	23	73	64	305	14	1.0	3.8	43
10	.05	11	5.4	46	21	64	42	102	10	.73	2.2	172
11	.05	10	5.3	42	19	49	33	48	7.7	.53	1.5	28
12	.04	6.2	5.2	264	18	39	28	33	11	1.5	1.0	14
13	.04	11	5.2	86	130	34	23	25	9.1	2.3	.73	9.4
14	.05	9.8	5.7	203	465	31	20	20	64	.97	.57	26
15	.05	6.6	6.1	205	542	73	17	19	30	.55	.44	26
16	.06	5.5	5.5	92	297	37	15	17	22	.38	.32	24
17	.08	4.3	5.2	56	101	32	13	13	14	.23	.27	18
18	.21	3.4	5.0	42	63	29	24	11	11	.16	.26	12
19	.15	13	4.8	33	48	24	68	11	8.9	.51	.30	8.6
20	.12	166	4.8	28	60	528	28	12	13	.71	15	6.7
21	.21	45	5.7	23	338	285	22	8.6	8.3	.46	8.8	5.3
22	.43	25	4.7	21	101	91	19	7.7	6.3	.46	5.8	4.8
23	.84	18	9.2	19	50	58	16	117	4.8	3.6	2.5	4.8
24	1.3	15	37	19	40	45	14	27	3.8	1.3	203	3.2
25	1.2	12	25	18	34	36	13	17	2.9	.57	30	2.7
26	.86	18	16	24	29	31	12	250	2.1	.29	15	2.4
27	.69	89	14	27	25	27	12	53	1.6	.16	9.0	2.0
28	.75	33	344	22	22	25	17	30	2.1	.09	6.1	1.7
29	.65	21	60	21	---	735	175	23	2.3	.05	272	1.6
30	.61	17	35	21	---	413	58	18	1.2	.63	152	1.6
31	.59	---	28	20	---	543	---	13	---	137	28	---
TOTAL	9.79	621.01	716.8	2382	2792	3915	1964	1351.3	486.5	263.88	1022.09	657.1
MEAN	.32	20.7	23.1	76.8	99.7	126	65.5	43.6	16.2	8.51	33.0	21.9
MAX	1.3	166	344	379	542	735	617	305	119	137	272	172
MIN	.04	.41	4.7	18	18	20	12	7.7	1.2	.05	.26	1.6
CFSM	.01	.75	.84	2.79	3.63	4.59	2.38	1.59	.59	.31	1.20	.80
IN.	.01	.84	.97	3.22	3.78	5.30	2.66	1.83	.66	.36	1.38	.89

CAL YR 1988 TOTAL 7235.16 MEAN 19.8 MAX 930 MIN .00 CFSM .72 IN. 9.79  
WTR YR 1989 TOTAL 16181.47 MEAN 44.3 MAX 735 MIN .04 CFSM 1.61 IN. 21.89

## SILVER CREEK BASIN

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03294000 SILVER CREEK NEAR SELLERSBURG, IN

LOCATION.--Lat 38°22'15", long 85°43'35", in lot 68, Clark Military Grant, Clark County, Hydrologic Unit 05140101, on downstream side of Straws Mill bridge on Watson Road, 0.3 mi downstream from Pleasant Run, 2.4 mi southeast of Sellersburg, and 12.2 mi upstream from mouth.

DRAINAGE AREA.--189 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1954 to current year.

REVISED RECORDS.--WSP 1705: 1955-58. WDR IN-72-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 429.78 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana, Department of Natural Resources). Prior to Oct. 6, 1976, and Feb. 15 to Sept. 20, 1984 nonrecording gage and crest-stage gage at same site and datum.

REMARKS.--Estimated daily discharges: Oct. 1-13, Oct. 29 to Nov. 3, and Feb. 6-12, 24-26. Records good, except those for Oct. 1-13, and Oct. 29 to Nov. 3, which are poor. Some regulation by Deam Lake.

AVERAGE DISCHARGE.--35 years, 217 ft<sup>3</sup>/s, 15.59 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,600 ft<sup>3</sup>/s Jan. 22, 1959, gage height, 30.89 ft, from floodmarks, from rating curve extended above 6,300 ft<sup>3</sup>/s on basis of contracted-opening measurements of peak flow, at site 5.2 mi upstream, drainage area, 165 mi<sup>2</sup>, adjusted to gage site; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Feb. 14	2200	*4,390	*19.32	Apr. 4	1900	4,180	18.97
Mar. 21	1000	3,110	16.43	Apr. 29	1900	3,060	16.29
Mar. 31	2000	3,110	16.44				

Minimum daily discharge, 1.0 ft<sup>3</sup>/s Oct. 14-16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	2.6	64	511	77	159	1570	419	42	18	57	15
2	17	2.5	53	433	72	140	643	303	40	15	60	34
3	8.0	2.2	46	271	1560	134	754	228	42	80	45	43
4	5.5	19	44	186	1030	121	3780	181	253	160	35	19
5	4.0	189	34	142	494	676	2260	235	600	146	29	13
6	3.3	121	30	636	300	1940	651	354	402	89	42	12
7	2.6	61	28	512	170	760	525	211	185	60	44	10
8	2.3	36	26	797	130	471	632	157	114	46	27	8.4
9	1.8	24	23	450	115	377	663	556	124	39	20	6.9
10	1.6	23	20	286	105	313	448	853	97	43	16	1530
11	1.4	46	19	212	98	271	358	382	73	30	14	291
12	1.3	44	16	654	94	223	303	266	64	177	10	117
13	1.2	38	15	529	430	192	256	200	90	155	8.1	76
14	1.0	29	15	517	3900	212	212	165	323	81	6.6	61
15	1.0	25	15	1310	4280	205	192	209	212	56	5.9	65
16	1.0	21	14	563	3920	168	168	172	148	44	5.1	60
17	1.1	19	12	375	1300	147	145	128	101	35	6.0	54
18	1.4	16	10	282	631	136	182	104	77	26	6.2	45
19	1.5	188	9.6	212	483	124	411	95	67	113	5.8	32
20	1.7	1120	11	171	418	659	255	127	60	425	13	25
21	2.3	503	12	139	1720	2630	184	112	55	149	88	22
22	3.6	190	14	116	988	794	155	84	49	100	79	19
23	3.8	122	19	105	535	494	135	170	43	107	43	18
24	5.3	95	101	96	350	361	136	145	35	77	99	28
25	5.4	77	98	90	290	303	125	96	30	88	79	20
26	3.8	59	62	92	240	235	111	86	26	66	56	15
27	3.0	274	51	118	236	189	190	95	23	54	38	14
28	3.8	171	1220	102	191	176	198	68	35	46	24	13
29	3.6	100	789	91	---	706	2390	57	48	38	19	11
30	3.4	78	316	87	---	2480	1170	52	28	33	15	9.6
31	3.1	---	230	82	---	2410	---	48	---	30	13	---
TOTAL	109.8	3695.3	3416.6	10167	24157	18226	19202	6358	3486	2626	1008.7	2686.9
MEAN	3.54	123	110	328	863	588	640	205	116	84.7	32.5	89.6
MAX	17	1120	1220	1310	4280	2630	3780	853	600	425	99	1530
MIN	1.0	2.2	9.6	82	72	121	111	48	23	15	5.1	6.9
CFSM	.02	.65	.58	1.74	4.56	3.11	3.39	1.09	.61	.45	.17	.47
IN.	.02	.73	.67	2.00	4.75	3.59	3.78	1.25	.69	.52	.20	.53

CAL YR 1988 TOTAL 42580.02 MEAN 116 MAX 3090 MIN .40 CFSM .62 IN. 8.38  
WTR YR 1989 TOTAL 95139.3 MEAN 261 MAX 4280 MIN 1.0 CFSM 1.38 IN. 18.73

## 03302220 BUCK CREEK NEAR NEW MIDDLETOWN, IN

LOCATION.--Lat 38°07'13", long 86°05'16", in SE¼NE¼ sec.32, T.4 S., R.4 E., Harrison County, Hydrologic Unit 05140104, at downstream end of pier of bridge on State Highway 337, 0.6 mi downstream from South Fork Buck Creek, 3.6 mi southwest of New Middletown, and 14.4 mi upstream from mouth.

DRAINAGE AREA.--65.2 mi<sup>2</sup>, of which 28.1 mi<sup>2</sup> does not contribute directly to surface runoff.

PERIOD OF RECORD.--October 1969 to current year.

REVISED RECORDS.--WDR IN-72-1: 1971(P).

GAGE.--Water-stage recorder. Datum of gage is 501.63 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana, Department of Natural Resources).

REMARKS.--Estimated daily discharges: Jan. 22-31, Feb. 5-12, 18, Feb. 23 to Mar. 1, Aug. 13-20, and Sept. 24-30. Records good except for estimated daily discharges which are poor.

AVERAGE DISCHARGE.--20 years, 76.6 ft<sup>3</sup>/s, 15.95 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,700 ft<sup>3</sup>/s Apr. 2, 1970, gage height, 14.40 ft; minimum daily, 0.52 ft<sup>3</sup>/s July 10, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,600 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Feb. 14	0245	3,590	8.75	Apr. 4	0415	*10,200	*13.19
Feb. 15	0515	2,500	7.52				

Minimum daily discharge, 1.3 ft<sup>3</sup>/s Oct. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	4.5	61	140	37	63	329	27	19	13	84	9.2
2	8.0	4.4	52	126	53	59	217	23	18	16	36	13
3	5.4	4.3	42	108	896	58	272	20	53	155	23	8.6
4	3.9	33	38	81	407	56	3010	20	120	155	16	7.2
5	2.9	102	33	75	200	261	568	27	116	76	13	6.6
6	2.3	44	31	262	120	386	338	35	74	51	59	6.6
7	2.1	31	30	194	90	227	270	25	50	35	21	6.3
8	1.9	24	29	491	70	164	277	22	43	26	14	6.1
9	1.8	19	26	218	56	133	238	101	201	25	11	6.7
10	1.6	39	25	151	49	115	182	90	106	20	9.7	12
11	1.6	41	24	121	46	106	134	55	63	16	9.0	9.9
12	1.5	30	24	215	44	83	94	45	75	14	8.6	9.2
13	1.4	28	24	185	770	77	79	38	75	13	8.3	8.5
14	1.3	22	22	394	1700	76	65	34	95	13	8.0	17
15	1.4	20	21	389	1810	70	61	40	75	11	7.8	17
16	1.6	21	21	220	1030	60	53	32	63	10	7.5	11
17	1.8	19	20	159	507	59	51	28	50	9.6	7.3	10
18	1.7	16	21	126	300	59	45	25	45	9.2	7.1	7.6
19	1.8	199	20	96	224	55	42	25	40	234	6.9	6.2
20	1.8	564	20	79	231	130	36	73	40	170	8.0	6.1
21	2.8	184	26	65	648	389	34	44	30	42	107	6.0
22	3.7	120	29	52	342	215	35	44	26	33	39	6.1
23	4.4	86	40	47	180	159	32	41	22	23	23	7.4
24	11	70	225	43	120	126	29	33	19	19	25	6.7
25	10	57	153	39	110	100	28	29	17	15	13	6.4
26	7.4	58	98	41	95	81	31	38	22	13	10	5.9
27	5.4	173	77	50	85	70	34	40	19	12	8.4	5.7
28	5.7	107	674	44	72	65	28	31	17	11	7.3	5.6
29	5.8	79	294	41	---	73	25	27	15	11	6.9	6.0
30	5.2	72	177	40	---	282	21	23	13	12	6.1	5.7
31	4.7	---	130	38	---	588	---	20	---	91	5.8	---
TOTAL	115.2	2271.2	2507	4330	10292	4445	6658	1155	1621	1353.8	616.7	246.3
MEAN	3.72	75.7	80.9	140	368	143	222	37.3	54.0	43.7	19.9	8.21
MAX	11	564	674	491	1810	588	3010	101	201	234	107	17
MIN	1.3	4.3	20	38	37	55	21	20	13	9.2	5.8	5.6
CFSM	.10	2.04	2.18	3.76	9.91	3.86	5.98	1.00	1.46	1.18	.54	.22
IN.	.12	2.28	2.51	4.34	10.32	4.46	6.68	1.16	1.63	1.36	.62	.25

CAL YR 1988 TOTAL 16689.83 MEAN 45.6 MAX 948 MIN .52 CFSM 1.23 IN. 16.73  
WTR YR 1989 TOTAL 35611.2 MEAN 97.6 MAX 3010 MIN 1.3 CFSM 2.63 IN. 35.71

## 03302300 LITTLE INDIAN CREEK NEAR GALENA, IN

LOCATION.--Lat 38°19'19", long 85°55'53", in NE¼SW¼ sec.23, T.2 S., R.5 E., Floyd County, Hydrologic Unit 05140104, on right bank at downstream side of county road bridge, 2 mi south of Galena, 3.6 mi upstream from mouth, and 7.0 mi northwest of New Albany.

DRAINAGE AREA.--16.1 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 703.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 8-22, Jan. 11-13, Jan. 16 to Mar. 27, May 27 to June 4, June 11 to July 2, July 8-11, 14-18, July 28 to Aug. 10, and Aug. 16-20. Records poor.

AVERAGE DISCHARGE.--21 years, 22.8 ft<sup>3</sup>/s, 19.23 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,500 ft<sup>3</sup>/s July 21, 1973, gage height, 9.30 ft; from rating curve extended above 3,100 ft<sup>3</sup>/s on basis of contracted-opening measurement at 7.34 ft; no flow for many days in 1969, 1975, 1976, 1983, 1984, 1985, 1987, and 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Feb. 14	----	2,160	6.59	Aug. 23	1830	2,580	6.96
Apr. 3	2330	*4,920	*8.54				

Minimum daily discharge, 0.12 ft<sup>3</sup>/s Oct. 14, 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	.60	6.4	53	12	22	40	16	4.1	1.2	2.1	8.9
2	2.4	.58	5.6	34	12	19	28	13	3.4	3.0	2.7	6.3
3	1.1	.50	5.1	26	210	18	343	11	3.5	54	2.0	4.5
4	.77	9.7	4.6	21	110	17	732	10	5.0	23	1.5	3.7
5	.56	14	4.2	25	70	60	52	26	28	14	1.3	3.2
6	.47	5.0	4.0	89	43	170	33	22	12	8.8	3.3	3.2
7	.39	3.1	3.8	48	30	90	28	15	8.4	6.5	2.6	2.8
8	.33	2.6	3.5	144	23	52	43	13	7.4	5.0	2.0	2.3
9	.28	2.0	3.3	46	19	43	32	76	13	4.0	1.4	2.5
10	.24	4.8	3.1	31	16	37	25	40	8.3	3.1	.90	16
11	.20	3.5	2.8	29	15	32	22	23	7.0	11	.79	5.0
12	.18	2.6	2.8	72	15	28	19	18	5.2	8.4	.64	4.2
13	.13	2.9	2.9	72	80	25	18	14	5.5	5.2	.56	3.6
14	.12	2.3	2.9	122	670	26	17	12	7.6	4.0	.50	3.7
15	.12	1.9	2.7	100	500	25	15	13	7.4	3.0	.39	4.2
16	.20	2.0	2.4	70	340	22	13	11	6.6	2.0	.36	4.3
17	.25	1.8	2.3	45	150	20	12	10	6.0	1.5	.35	4.1
18	.15	1.6	2.3	36	80	19	15	8.5	5.4	1.2	.33	3.4
19	.14	43	2.4	29	60	17	18	7.9	4.8	28	.31	2.9
20	.14	101	2.5	23	50	30	14	11	4.2	15	.29	2.4
21	.50	19	3.0	20	180	230	12	8.2	3.6	8.0	43	2.1
22	1.0	12	2.7	17	110	150	11	8.8	3.2	6.6	4.7	2.6
23	2.1	8.7	5.6	15	70	70	11	15	2.9	10	180	2.6
24	1.8	7.2	55	14	45	45	11	9.8	2.5	17	41	2.3
25	1.2	6.1	20	13	37	35	11	8.5	2.2	6.6	20	2.0
26	.91	9.5	13	13	33	27	9.4	8.5	1.9	4.8	14	1.9
27	.73	22	10	17	29	21	27	7.5	1.6	3.3	10	1.5
28	.84	12	230	15	25	20	34	6.8	1.4	2.8	7.9	1.3
29	.85	8.8	51	14	---	115	64	5.8	1.3	2.3	6.0	1.3
30	.79	7.5	31	13	---	147	22	5.2	1.2	1.9	5.2	1.3
31	.71	---	25	13	---	163	---	4.7	---	1.9	4.1	---
TOTAL	21.00	318.28	515.9	1279	3034	1795	1731.4	459.2	174.6	267.1	360.22	110.1
MEAN	.68	10.6	16.6	41.3	108	57.9	57.7	14.8	5.82	8.62	11.6	3.67
MAX	2.4	101	230	144	670	230	732	76	28	54	180	16
MIN	.12	.50	2.3	13	12	17	9.4	4.7	1.2	1.2	.29	1.3
CFSM	.04	.66	1.03	2.56	6.73	3.60	3.58	.92	.36	.54	.72	.23
IN.	.05	.74	1.19	2.96	7.01	4.15	4.00	1.06	.40	.62	.83	.25

CAL YR 1988 TOTAL 4249.83 MEAN 11.6 MAX 445 MIN .00 CFSM .72 IN. 9.82  
WTR YR 1989 TOTAL 10065.80 MEAN 27.6 MAX 732 MIN .12 CFSM 1.71 IN. 23.26



## 03302500 INDIAN CREEK NEAR CORYDON, IN

LOCATION.--Lat 38°16'35", long 86°06'35", in SW¼SE¼ sec.6, T.3 S., R.4 E., Harrison County, Hydrologic Unit 05140104, on upstream side of bridge on State Highway 335, 0.6 mi upstream from Raccoon Branch, 4.5 mi north of Corydon, and at mile 33.7.

DRAINAGE AREA.--129 mi<sup>2</sup>, of which 10.6 mi<sup>2</sup> does not contribute directly to surface runoff.

PERIOD OF RECORD.--October 1943 to current year. Prior to October 1961, published as Big Indian Creek near Corydon.

REVISED RECORDS.--WSP 1275: Drainage area. WSP 1385: 1951(M).

GAGE.--Water-stage recorder. Datum of gage is 577.12 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 9, 1948, nonrecording gage, and Dec. 9, 1948, to June 12, 1952, recorder records for stages above 6.3 ft at same site and datum.

REMARKS.--Estimated daily discharges: Oct. 5-11, Oct. 24 to Nov. 4, Nov. 6-19, Feb. 6-12, 24-26, and Aug. 11-21. Records good except those for estimate daily discharges for Oct. 5-11, Oct. 24 to Nov. 4, Nov. 6-19, and Aug. 11-21 which are poor.

AVERAGE DISCHARGE.--46 years, 167 ft<sup>3</sup>/s, 17.58 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,700 ft<sup>3</sup>/s Mar. 5, 1964, gage height, 22.64 ft; no flow at times during 1943-44, 1951-54, 1959, 1965, 1972-73, 1976, 1987, and 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Feb. 14	1000	6,180	15.24	Apr. 4	1300	*9,390	*17.57
Feb. 15	1500	4,650	13.73				

Minimum daily discharge, 0.71 ft<sup>3</sup>/s Oct. 13, 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	3.6	67	276	77	135	809	76	27	7.5	17	33
2	6.3	3.3	57	280	75	119	463	62	23	7.7	21	83
3	7.6	3.0	50	211	1360	112	604	56	25	42	14	54
4	5.4	20	47	161	834	104	6430	51	47	196	11	36
5	3.3	195	42	131	432	415	963	61	186	77	9.1	29
6	2.6	90	39	498	270	1080	520	135	150	49	18	26
7	2.2	40	38	411	190	525	396	71	84	35	24	26
8	1.8	27	35	674	140	344	438	58	60	26	18	25
9	1.5	21	33	361	115	272	444	171	62	20	11	65
10	1.3	41	31	251	100	226	326	282	65	16	8.2	681
11	1.1	45	30	193	92	197	254	138	51	13	6.2	121
12	.91	36	28	456	90	172	200	97	43	49	5.4	65
13	.71	31	27	461	448	155	159	78	44	39	4.5	45
14	.82	25	28	440	4360	162	131	67	72	23	3.8	36
15	.71	21	31	1070	3060	158	117	71	69	17	3.4	34
16	1.1	19	30	451	2250	135	100	66	56	12	2.8	45
17	1.5	17	28	305	839	122	86	57	47	9.4	2.6	38
18	.91	16	27	236	501	118	85	53	39	8.0	2.4	30
19	.86	200	26	186	366	108	109	50	34	42	2.3	25
20	.80	852	26	154	302	297	87	60	29	217	2.2	21
21	2.7	310	27	126	1120	1500	77	60	25	64	55	18
22	4.1	155	27	109	732	581	70	51	21	46	123	17
23	9.0	105	32	100	418	370	65	67	19	41	31	17
24	8.4	79	90	91	260	282	68	69	18	37	595	16
25	7.2	66	144	83	230	227	62	57	14	81	137	16
26	6.0	64	81	84	200	185	58	55	12	38	79	14
27	4.2	212	65	110	187	158	91	51	10	29	58	12
28	4.8	153	1120	94	159	148	81	43	9.2	22	46	11
29	4.9	103	534	88	---	223	182	38	8.4	17	39	10
30	4.8	81	282	86	---	1080	117	35	8.0	14	34	9.6
31	4.4	---	203	82	---	1590	---	31	---	15	29	---
TOTAL	105.92	3033.9	3325	8259	19207	11300	13592	2317	1357.6	1309.6	1412.9	1658.6
MEAN	3.42	101	107	266	686	365	453	74.7	45.3	42.2	45.6	55.3
MAX	9.0	852	1120	1070	4360	1590	6430	282	186	217	595	681
MIN	.71	3.0	26	82	75	104	58	31	8.0	7.5	2.2	9.6
CFSM	.03	.78	.83	2.07	5.32	2.83	3.51	.58	.35	.33	.35	.43
IN.	.03	.87	.96	2.38	5.54	3.26	3.92	.67	.39	.38	.41	.48

CAL YR 1988 TOTAL 32925.16 MEAN 90.0 MAX 2590 MIN .00 CFSM .70 IN. 9.49  
WTR YR 1989 TOTAL 66878.52 MEAN 183 MAX 6430 MIN .71 CFSM 1.42 IN. 19.29

## 03302680 WEST FORK BLUE RIVER AT SALEM, IN

LOCATION.--Lat 38°36'19", long 86°05'40", in SW¼SE¼ sec.17, T.2 N., R.4 E., Washington County, Hydrologic Unit 05140104, on left bank at downstream side of bridge on East Market Street, 0.35 mi east of County Court House in Salem, 6.0 mi upstream from Hoggatt Branch, and 6.9 mi upstream from mouth.

DRAINAGE AREA.--19.0 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1970 to current year. Prior to December 10, 1970, nonrecording gage at site 0.55 mi downstream at datum 5.04 ft lower. Low-flow records not equivalent due to effluent from factory entering stream from right bank between sites.

GAGE.--Water-stage recorder. Datum of gage is 713.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Feb. 7-12. Records good.

AVERAGE DISCHARGE.--19 years, 24.9 ft<sup>3</sup>/s, 17.80 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,880 ft<sup>3</sup>/s July 20, 1988, gage height, 14.24 ft from rating curve extended above 900 ft<sup>3</sup>/s by a step-backwater analysis; minimum daily, 0.02 ft<sup>3</sup>/s Sept. 24, 1970, and July 9, 10, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 900 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 20	0400	1,200	7.30	Mar. 31	0430	1,120	7.15
Feb. 14	0115	2,070	9.18	Apr. 4	0145	1,760	8.55
Feb. 15	1815	904	6.55	Apr. 29	0115	1,520	8.03
Mar. 20	1500	1,440	7.87	July 12	2000	*2,950	*10.54
Mar. 29	2400	1,450	7.88	July 31	1445	2,530	9.94

Minimum daily discharge, 0.51 ft<sup>3</sup>/s Oct. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	2.2	24	156	15	20	129	37	7.7	5.8	67	36
2	2.6	2.0	20	88	17	18	81	28	6.8	25	29	19
3	1.7	1.9	18	61	148	18	119	22	7.5	33	17	11
4	1.2	44	16	42	91	17	458	19	8.4	20	12	7.7
5	.95	113	14	38	62	132	101	18	105	16	19	6.1
6	.75	55	14	108	44	306	67	16	38	12	19	4.9
7	.65	36	13	88	28	99	55	13	23	10	9.9	3.8
8	.52	29	11	234	23	65	79	12	18	8.4	7.8	3.1
9	.51	23	10	80	21	55	61	36	54	7.2	6.6	6.2
10	.56	34	9.2	54	18	52	45	25	24	6.0	5.4	18
11	.60	29	8.4	44	17	46	37	18	18	42	4.7	7.2
12	.66	26	7.4	91	16	37	31	16	49	402	4.2	5.0
13	.61	29	8.3	68	288	36	26	14	37	113	3.8	3.9
14	.66	25	8.2	153	577	32	23	12	94	53	3.3	4.7
15	.91	23	7.1	146	554	34	20	12	54	33	2.9	4.8
16	1.3	28	5.9	83	301	25	17	11	37	23	2.8	5.5
17	1.7	27	5.9	57	119	23	15	9.5	27	18	3.4	4.1
18	4.5	25	5.4	45	78	22	28	9.1	22	14	2.6	3.2
19	2.0	75	6.0	35	56	18	29	10	19	71	2.3	2.8
20	1.1	403	6.0	30	55	428	20	18	16	38	36	2.5
21	1.7	104	6.3	25	141	260	17	11	14	24	30	2.4
22	2.4	61	5.4	22	85	105	16	11	12	22	15	2.6
23	6.6	44	7.9	20	54	68	15	20	11	16	8.9	2.7
24	10	34	29	18	41	49	13	15	9.4	15	7.2	2.3
25	6.6	28	25	17	37	39	12	14	8.2	12	7.0	2.1
26	4.1	43	19	19	34	31	13	25	7.2	10	6.0	2.1
27	2.8	77	19	18	29	26	32	16	16	8.4	4.7	1.8
28	4.1	45	325	16	25	23	24	13	21	7.3	4.0	1.8
29	3.1	34	110	16	---	332	288	12	8.9	6.2	7.4	1.6
30	2.5	29	68	17	---	336	54	10	6.6	7.2	4.1	1.7
31	2.3	---	49	16	---	479	---	8.8	---	314	3.2	---
TOTAL	72.08	1529.1	881.4	1905	2974	3231	1925	511.4	779.7	1392.5	356.2	180.6
MEAN	2.33	51.0	28.4	61.5	106	104	64.2	16.5	26.0	44.9	11.5	6.02
MAX	10	403	325	234	577	479	458	37	105	402	67	36
MIN	.51	1.9	5.4	16	15	17	12	8.8	6.6	5.8	2.3	1.6
CFSM	.12	2.68	1.50	3.23	5.59	5.49	3.38	.87	1.37	2.36	.60	.32
IN.	.14	2.99	1.73	3.73	5.82	6.33	3.77	1.00	1.53	2.73	.70	.35

CAL YR 1988 TOTAL 9679.11 MEAN 26.4 MAX 1730 MIN .02 CFSM 1.39 IN. 18.95  
WTR YR 1989 TOTAL 15737.98 MEAN 43.1 MAX 577 MIN .51 CFSM 2.27 IN. 30.81

## 03302800 BLUE RIVER AT FREDERICKSBURG, IN

LOCATION.--Lat 38°26'02", long 86°11'31", in NE1/4 sec.16, T.1 S., R.3 E., Washington County, Hydrologic Unit 05140104, on downstream side of bridge on U.S. Highway 150 at Fredericksburg, 0.5 mi downstream from South Fork Blue River, and at mile 57.1.

DRAINAGE AREA.--283 mi<sup>2</sup>, of which 76.9 mi<sup>2</sup> does not contribute directly to surface runoff.

PERIOD OF RECORD.--June 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 590.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 16-18, and Feb. 6-12, 24-27. Records good.

AVERAGE DISCHARGE.--21 years, 326 ft<sup>3</sup>/s, 15.64 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,500 ft<sup>3</sup>/s May 2, 1983, gage height, 24.37 ft; minimum daily, 2.9 ft<sup>3</sup>/s Oct. 6, 1987.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 21, 1959, reached a stage of 29.20 ft, from floodmark, on left upstream wingwall.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Feb. 14	1400	*8,890	*19.53	Mar. 30	1200	6,460	16.22
Feb. 16	0600	5,900	15.34	Mar. 31	1700	5,500	15.62
Mar. 21	0500	5,850	15.25	Apr. 4	1500	8,450	19.02

Minimum daily discharge, 6.7 ft<sup>3</sup>/s Oct. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	31	236	1030	153	299	2400	606	97	59	956	54
2	19	31	194	1080	143	264	1280	453	87	66	422	156
3	18	32	168	705	1170	245	1290	351	93	290	229	104
4	16	74	151	516	1380	228	5950	290	566	311	170	69
5	15	733	131	385	779	695	2270	280	1080	311	134	58
6	14	520	122	746	500	3340	1190	262	796	214	258	55
7	13	316	114	940	400	1580	968	243	441	147	176	45
8	12	230	103	1740	300	904	963	237	310	112	116	39
9	11	180	92	1090	240	678	1140	338	455	91	94	39
10	9.6	183	85	708	190	591	810	711	349	77	83	907
11	8.7	248	81	527	185	526	661	405	241	172	71	287
12	7.5	198	78	779	180	447	563	309	248	1490	65	165
13	7.0	192	75	1030	341	382	482	259	655	1550	60	120
14	6.9	204	71	727	6920	383	418	237	682	511	55	96
15	6.7	182	68	2120	3960	364	373	230	551	323	51	79
16	8.4	170	63	1190	4660	312	327	220	419	229	48	87
17	9.1	203	61	819	1910	279	281	215	320	176	46	101
18	9.6	178	58	645	1210	266	270	213	250	140	46	69
19	31	453	55	521	896	233	502	212	215	1080	43	59
20	23	2600	52	413	705	921	395	267	191	1700	50	53
21	20	1230	51	334	1340	4260	324	217	169	551	153	48
22	21	676	51	274	1380	1570	282	210	143	383	217	44
23	32	465	51	242	841	963	256	266	120	276	120	39
24	61	347	67	219	540	700	256	238	103	515	98	35
25	82	277	174	200	470	556	238	185	92	410	85	30
26	58	235	125	186	410	451	232	222	82	242	71	28
27	45	648	110	191	370	375	371	224	72	185	67	28
28	40	522	1530	186	351	333	392	160	96	150	60	26
29	37	359	1430	173	---	1340	2490	138	96	120	56	24
30	40	288	748	168	---	4660	1070	124	68	119	60	23
31	35	---	534	162	---	3940	---	110	---	602	46	---
TOTAL	730.5	12005	6929	20046	31924	32085	28444	8432	9087	12602	4206	2967
MEAN	23.6	400	224	647	1140	1035	948	272	303	407	136	98.9
MAX	82	2600	1530	2120	6920	4660	5950	711	1080	1700	956	907
MIN	6.7	31	51	162	143	228	232	110	68	59	43	23
CFSM	.08	1.41	.79	2.28	4.03	3.66	3.35	.96	1.07	1.44	.48	.35
IN.	.10	1.58	.91	2.64	4.20	4.22	3.74	1.11	1.19	1.66	.55	.39

CAL YR 1988 TOTAL 79584.4 MEAN 217 MAX 6880 MIN 3.0 CFSM .77 IN. 10.46  
WTR YR 1989 TOTAL 169457.5 MEAN 464 MAX 6920 MIN 6.7 CFSM 1.64 IN. 22.27

## 03302849 WHISKEY RUN AT MARENGO, IN

LOCATION.--Lat 38°22'32", long 86°20'41", in SW1/4 sec.6, T.2 S., R.2 E., Crawford County, Hydrologic Unit 05140104, on left (north) bank about 100 ft upstream from bridge and intersection of North Main Street and North Water Street in Marengo, known as Old Town.

DRAINAGE AREA.--7.02 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder. Datum of gage is 561.446 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Feb. 6-13. Records poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 795 ft<sup>3</sup>/s Apr. 4, 1989, gage height, 6.13 ft; no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 26, 1979 appears to be highest known from reports of local residents, and reached a stage of 15.89 ft from levels of high-water mark located in Old Town grocery store just downstream and across bridge from gage.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft<sup>3</sup>/s (revised) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 20	0245	278	3.98	Apr. 4	0015	*795	*6.13
Feb. 14	0045	598	5.38	Sept. 9	2145	707	5.79
Mar. 29	2130	402	4.51				

No flow, Oct. 10-16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.07	.08	1.5	23	1.7	2.4	25	.72	.43	.10	1.3	4.1
2	.04	.08	1.1	12	3.7	2.2	14	.63	.35	5.6	.50	2.3
3	.03	.08	.86	7.2	62	2.1	81	.56	.37	7.9	.20	.74
4	.02	6.6	.67	4.7	19	2.0	139	.57	.35	2.8	.11	.30
5	.01	12	.54	4.2	10	45	21	.57	18	1.6	.07	.19
6	.01	3.9	.47	37	4.5	56	13	.53	6.5	.87	.07	.15
7	.01	2.4	.42	15	3.1	15	11	.48	3.1	.43	.05	.12
8	.01	1.5	.32	27	2.6	8.6	18	.46	1.9	.29	.04	.11
9	.01	.85	.25	11	2.2	6.3	14	2.6	1.8	.22	.04	52
10	.00	1.4	.23	6.6	1.9	5.4	9.3	2.8	1.1	.18	.03	28
11	.00	1.4	.23	5.0	1.6	4.5	7.2	1.7	.72	.20	.03	7.9
12	.00	.93	.20	25	1.3	3.6	5.7	1.3	1.1	2.3	.03	4.4
13	.00	1.5	.21	13	60	4.1	4.6	1.0	1.7	.52	.02	2.9
14	.00	1.3	.20	26	127	4.8	3.9	.99	2.8	.25	.01	2.6
15	.00	.95	.18	26	94	5.9	3.4	1.4	2.4	.17	.01	2.7
16	.00	1.9	.16	12	49	4.3	2.8	1.0	1.8	.15	.02	29
17	.02	2.7	.17	7.4	18	3.7	2.4	.78	1.2	.12	.03	7.6
18	.05	1.6	.16	5.4	11	3.3	2.7	.62	.82	.11	.02	3.6
19	.03	24	.16	4.0	8.0	2.7	3.1	6.4	.62	7.4	.04	2.2
20	.03	68	.17	3.2	8.6	60	2.6	28	.44	3.2	.11	1.5
21	.05	10	.18	2.4	28	42	2.3	7.6	.32	1.3	1.8	1.0
22	.06	4.9	.17	2.1	14	16	2.1	4.8	.25	.60	.52	.81
23	.17	3.0	.24	1.8	8.7	10	2.0	7.4	.21	.36	.12	.69
24	.13	2.0	.40	1.6	6.1	7.3	1.8	4.7	.19	.28	.11	.42
25	.09	1.4	.27	1.4	5.0	5.6	1.6	3.3	.17	.30	.07	.35
26	.07	4.3	.26	2.6	4.5	4.4	1.5	4.2	.15	.20	.06	.29
27	.07	10	.34	3.5	3.7	3.7	1.3	2.8	.15	.17	.05	.23
28	.10	4.6	40	2.7	3.0	3.2	1.2	1.9	.20	.14	.04	.20
29	.09	2.8	13	2.4	---	124	1.1	1.4	.14	.12	.04	.21
30	.08	2.1	7.1	2.2	---	69	.90	1.0	.11	18	.04	.19
31	.08	---	5.3	1.9	---	92	---	.66	---	3.8	.03	---
TOTAL	1.33	178.27	75.46	299.3	562.2	619.1	399.50	92.87	49.39	59.68	5.61	156.80
MEAN	.043	5.94	2.43	9.65	20.1	20.0	13.3	3.00	1.65	1.93	.18	5.23
MAX	.17	68	40	37	127	124	139	28	18	18	1.8	52
MIN	.00	.08	.16	1.4	1.3	2.0	.90	.46	.11	.10	.01	.11
CFSM	.01	.85	.35	1.38	2.86	2.84	1.90	.43	.23	.27	.03	.74
IN.	.01	.94	.40	1.59	2.98	3.28	2.12	.49	.26	.32	.03	.83

CAL YR 1988 TOTAL 1142.80 MEAN 3.12 MAX 213 MIN .00 CFSM .44 IN. 6.06  
WTR YR 1989 TOTAL 2499.51 MEAN 6.85 MAX 139 MIN .00 CFSM .98 IN. 13.25

## 03303000 BLUE RIVER NEAR WHITE CLOUD, IN

LOCATION.--Lat 38°14'15", long 86°13'42", in NW¼SE¼ sec.19, T.3 S., R.3 E., Harrison County, Hydrologic Unit 05140104, on left bank 400 ft downstream from Spring Creek, 600 ft upstream from bridge on Interstate 64, 0.2 mi upstream from bridge on State Highway 62, 0.8 mi north of White Cloud, and at mile 14.7.

DRAINAGE AREA.--476 mi<sup>2</sup>, of which 192 mi<sup>2</sup> does not contribute directly to surface runoff. Also, part of flow from Indian Creek, downstream from Corydon, IN, enters Blue River via solution channel in Karst area through Harrison Spring.

PERIOD OF RECORD.--October 1930 to current year. Monthly figures only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 1335: 1921-32, 1933(M), 1935-38(M), 1944. WSP 1385: Drainage area. WSP 1555: 1953. WDR IN-75-1: 1973.

GAGE.--Water-stage recorder. Datum of gage is 434.26 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana, Department of Natural Resources). Prior to Nov. 16, 1938, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good.

AVERAGE DISCHARGE.--59 years, 635 ft<sup>3</sup>/s, 18.12 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,500 ft<sup>3</sup>/s Jan. 22, 1959, gage height, 23.07 ft; minimum daily, 9.6 ft<sup>3</sup>/s Oct. 17, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Feb. 15	0500	*11,800	*13.80	Mar. 30	1900	8,910	11.80
Mar. 21	1300	7,950	11.08	Apr. 4	2300	11,600	13.68

Minimum daily discharge, 38 ft<sup>3</sup>/s Oct. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61	83	674	1480	468	874	6400	1250	267	159	1090	169
2	76	81	569	2270	459	781	3570	939	238	162	876	318
3	69	76	495	1580	2310	731	3010	770	243	430	586	353
4	66	122	448	1260	3350	695	10000	655	479	960	399	291
5	64	1100	403	1000	1970	1310	7090	591	1120	707	323	195
6	56	1330	364	1460	1490	5260	3130	577	2110	612	356	159
7	51	824	339	2060	1200	3880	2320	519	1130	453	445	138
8	49	589	313	2660	990	2170	2110	465	776	348	353	131
9	47	441	283	2510	827	1670	2450	533	643	278	251	154
10	46	410	262	1630	700	1450	1950	1070	828	232	210	1100
11	45	494	242	1290	659	1340	1650	963	591	199	182	1330
12	42	505	223	1420	615	1230	1440	717	481	879	166	608
13	40	441	214	2100	1180	1110	1270	611	748	2770	153	441
14	39	436	205	1840	8900	1110	1120	541	931	1550	141	368
15	38	418	200	3470	9620	1090	1010	537	1230	898	132	317
16	40	387	189	2570	8900	919	910	484	898	627	125	431
17	42	413	179	1770	4660	829	814	429	708	480	123	554
18	42	424	166	1440	2810	775	745	393	576	387	117	405
19	40	1160	161	1220	2070	730	886	375	491	1230	115	299
20	45	4370	157	1010	1710	1180	994	635	413	3470	113	243
21	76	3530	158	856	2380	6580	820	701	366	1530	319	213
22	79	1680	159	767	3090	3620	736	501	333	927	410	193
23	87	1220	167	693	2080	2170	673	491	292	713	408	186
24	103	949	203	632	1600	1660	640	617	257	565	341	168
25	104	771	251	568	1370	1380	620	536	230	894	278	151
26	153	680	379	550	1260	1180	573	466	206	648	256	144
27	136	1120	324	582	1150	1030	536	501	187	479	228	131
28	111	1370	1700	571	1000	913	811	457	176	391	203	122
29	99	994	3330	522	---	1940	1530	369	167	332	173	118
30	88	788	1690	500	---	7320	2370	328	197	311	152	114
31	81	---	1280	484	---	7310	---	297	---	395	141	---
TOTAL	2115	27206	15727	42765	68818	64237	62178	18318	17312	24016	9165	9544
MEAN	68.2	907	507	1380	2458	2072	2073	591	577	775	296	318
MAX	153	4370	3330	3470	9620	7320	10000	1250	2110	3470	1090	1330
MIN	38	76	157	484	459	695	536	297	167	159	113	114
CFSM	.14	1.91	1.07	2.90	5.16	4.35	4.35	1.24	1.21	1.63	.62	.67
IN.	.17	2.13	1.23	3.34	5.38	5.02	4.86	1.43	1.35	1.88	.72	.75

CAL YR 1988 TOTAL 184585 MEAN 504 MAX 8580 MIN 26 CFSM 1.06 IN. 14.43  
WTR YR 1989 TOTAL 361401 MEAN 990 MAX 10000 MIN 38 CFSM 2.08 IN. 28.24



## 03303300 MIDDLE FORK ANDERSON RIVER AT BRISTOW, IN

LOCATION.--Lat 38°08'19", long 86°43'16". in SW¼NE¼ sec.27, T.4 S., R.3 W., Perry County, Hydrologic Unit 05140201, on left bank at downstream side of bridge on State Highway 145 at Bristow, 2.0 mi downstream from Coon Branch, 5.8 mi upstream from Sulphur Fork Creek, and at mile 14.1.

DRAINAGE AREA.--39.8 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1961 to current year.

REVISED RECORDS.--WDR IN-72-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 395.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 29 to Nov. 3. Records good above 1 ft<sup>3</sup>/s and poor below. Flow regulated by Forest Service and Middle Fork Anderson River Conservancy District control structures beginning June 1967.

AVERAGE DISCHARGE.--28 years, 57.4 ft<sup>3</sup>/s, 19.59 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,360 ft<sup>3</sup>/s Mar. 9, 1964; maximum gage height, 19.33 ft Mar. 4, 1964; no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 21, 1959, reached a stage of 20.0 ft, from floodmark, discharge, 15,000 ft<sup>3</sup>/s, from rating curve extended above 7,000 ft<sup>3</sup>/s. This is the maximum flood since 1905, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,290 ft<sup>3</sup>/s Apr. 3, gage height, 17.98 ft; minimum daily, no flow Oct. 6-22, and Aug. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.32	.04	32	137	34	36	401	12	8.2	4.7	.94	3.1
2	.35	.04	24	134	47	33	351	10	7.6	31	.70	5.0
3	.26	.09	19	95	465	31	649	9.5	7.2	79	.63	5.5
4	.57	11	16	65	368	29	1170	9.0	6.9	41	.61	4.8
5	.47	61	14	57	279	246	534	10	27	23	.65	3.9
6	.00	41	13	169	147	476	509	10	25	13	.75	3.0
7	.00	26	12	158	79	349	500	9.6	18	8.9	.57	2.4
8	.00	16	11	232	53	242	495	8.8	14	7.0	.54	1.9
9	.00	11	10	154	40	141	472	19	14	6.0	.43	3.6
10	.00	13	9.1	97	35	90	428	34	11	4.9	.38	15
11	.00	14	8.4	68	33	68	353	27	10	4.6	.36	17
12	.00	10	7.5	99	30	55	208	19	12	4.2	.35	10
13	.00	13	7.3	115	272	55	87	15	15	4.3	.10	6.6
14	.00	15	7.3	180	720	62	49	13	13	5.2	.03	5.2
15	.00	12	6.8	280	756	82	42	16	12	5.0	.19	4.2
16	.00	16	6.4	189	614	71	37	13	11	5.1	.18	11
17	.00	22	6.2	116	483	59	33	11	9.6	4.3	.21	10
18	.00	17	5.5	78	454	50	30	10	8.6	3.4	.02	6.9
19	.00	180	5.3	58	428	43	31	9.9	8.0	4.4	.00	5.0
20	.00	451	5.4	46	393	116	29	19	7.5	5.3	.09	3.6
21	.00	299	5.2	38	383	284	26	20	7.1	4.3	3.1	2.5
22	.00	138	5.4	35	273	229	25	24	6.6	3.8	8.1	1.9
23	.48	61	5.6	31	161	143	22	71	6.0	3.6	13	1.4
24	.25	43	7.3	28	96	90	21	45	6.1	3.3	11	.97
25	.13	34	8.9	25	70	65	19	30	6.0	2.9	10	.71
26	.17	41	8.5	41	58	52	23	23	5.5	2.5	7.1	.56
27	.14	89	8.5	62	48	43	22	18	5.7	2.1	5.0	.31
28	.25	71	250	60	41	38	14	15	5.6	1.8	3.8	.19
29	.08	47	213	50	---	82	13	12	5.1	1.2	2.9	.18
30	.04	39	118	43	---	321	13	10	4.7	1.1	2.2	.15
31	.07	---	74	37	---	580	---	9.2	---	1.1	1.6	---
TOTAL	3.58	1791.17	930.6	2977	6860	4261	6606	562.0	304.0	292.0	75.53	136.57
MEAN	.12	59.7	30.0	96.0	245	137	220	18.1	10.1	9.42	2.44	4.55
MAX	.57	451	250	280	756	580	1170	71	27	79	13	17
MIN	.00	.04	5.2	25	30	29	13	8.8	4.7	1.1	.00	.15
CFSM	.00	1.50	.75	2.41	6.16	3.45	5.53	.46	.25	.24	.06	.11
IN.	.00	1.67	.87	2.78	6.41	3.98	6.17	.53	.28	.27	.07	.13

CAL YR 1988 TOTAL 11731.09 MEAN 32.1 MAX 599 MIN .00 CFSM .81 IN. 10.96  
WTR YR 1989 TOTAL 24799.45 MEAN 67.9 MAX 1170 MIN .00 CFSM 1.71 IN. 23.18

## 03303400 CROOKED CREEK NEAR SANTA CLAUS, IN

LOCATION.--Lat 38°07'05", long 86°53'24", in SW¼SE¼ sec.31, T.4 S., R.4 W., Spencer County, Hydrologic Unit 05140201, on right bank at upstream side of bridge on county road, 1.3 mi east of Santa Claus Post Office, and 1.8 mi upstream from unnamed right-bank tributary.

DRAINAGE AREA.--7.86 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is 404.34 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Apr. 12 to Sept. 30. Records poor.

AVERAGE DISCHARGE.--20 years, 11.1 ft<sup>3</sup>/s, 19.18 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,100 ft<sup>3</sup>/s Apr. 28, 1970, gage height, 9.74 ft, from rating curve extended above 450 ft<sup>3</sup>/s on basis of two indirect measurements of peak flow at site 1.6 mi downstream, drainage area, 16.0 mi<sup>2</sup>, adjusted to gage site; maximum gage height, 10.13 ft, Apr. 3 1989; no flow many days most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 20	0230	549	8.79	Mar. 6	0115	558	8.84
Feb. 3	0515	551	8.80	Mar. 31	0215	591	8.95
Feb. 14	0045	665	9.15	Apr. 3	2300	*4,010	*10.13

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	.01	2.7	70	2.7	3.6	28	1.6	.63	.17	.12	4.5
2	.91	.00	2.0	18	69	3.2	18	1.1	.59	45	.09	2.6
3	.03	.00	2.0	11	228	3.1	399	1.0	.55	11	.08	.40
4	.04	28	1.5	6.6	33	2.9	319	1.5	.50	3.7	.06	.15
5	.03	20	1.3	30	17	155	32	2.1	9.6	1.0	.05	.08
6	.00	6.3	1.3	63	9.4	146	20	1.5	1.8	.50	.04	.05
7	.00	4.7	1.2	40	6.3	26	17	1.1	1.2	.25	.03	.04
8	.00	2.6	.88	71	4.6	14	20	1.0	.85	.15	.03	.03
9	.00	1.8	.80	13	3.2	9.6	12	7.0	1.0	.13	.02	.02
10	.00	8.6	.79	8.0	2.8	7.7	8.7	3.4	.90	.11	.02	.40
11	.00	3.0	.60	6.8	2.7	6.7	7.2	2.0	.70	.10	.02	.15
12	.00	2.2	.51	36	2.6	5.2	5.8	1.4	1.5	3.0	.02	.07
13	.00	3.6	.67	13	252	8.9	4.9	1.0	2.9	3.2	.01	.05
14	.00	2.0	.63	118	176	8.2	4.2	.90	.75	.70	.01	.05
15	.00	1.7	.70	42	297	11	3.8	1.2	.60	.35	.01	.50
16	.04	16	.51	14	101	6.3	3.3	.95	.45	.18	.00	24
17	.03	5.2	.54	8.8	27	5.4	3.1	.80	.40	.14	.00	2.3
18	.01	4.0	.46	6.5	18	4.4	5.0	.70	.35	.12	.00	.50
19	.00	124	.54	4.5	13	3.8	4.1	6.0	.30	4.0	.00	.30
20	.00	142	.61	3.4	34	84	3.4	12	.26	1.0	.00	.22
21	.02	19	.67	2.5	82	47	2.8	3.3	.24	.55	12	.15
22	.05	10	.57	2.4	21	14	2.4	2.3	.21	.42	2.5	.11
23	3.7	6.2	.84	2.4	12	9.0	2.1	2.9	.19	1.5	.50	.09
24	.12	4.5	2.2	2.3	8.5	6.7	1.8	2.0	.17	.80	.20	.07
25	.07	3.4	1.1	2.1	7.3	5.3	1.6	1.6	.15	.40	.10	.05
26	.06	35	.83	31	6.8	4.2	1.5	1.3	.14	.30	.07	.04
27	.04	21	1.7	12	5.3	3.9	1.4	1.1	1.5	.25	.05	.04
28	.23	7.9	149	6.9	4.3	3.6	2.1	.96	.70	.20	.04	.03
29	.06	4.9	20	5.6	---	53	4.2	.82	.40	.17	.03	.03
30	.03	3.6	12	4.6	---	81	2.4	.74	.25	.25	.03	.03
31	.02	---	10	3.5	---	186	---	.67	---	.17	.02	---
TOTAL	7.59	491.21	219.15	659.0	1446.5	928.7	940.8	65.94	29.78	79.81	16.15	37.05
MEAN	.24	16.4	7.07	21.3	51.7	30.0	31.4	2.13	.99	2.57	.52	1.23
MAX	3.7	142	149	118	297	186	399	12	9.6	45	12	24
MIN	.00	.00	.46	2.1	2.6	2.9	1.4	.67	.14	.10	.00	.02
CFSM	.03	2.08	.90	2.70	6.57	3.81	3.99	.27	.13	.33	.07	.16
IN.	.04	2.32	1.04	3.12	6.85	4.40	4.45	.31	.14	.38	.08	.18
CAL YR 1988	TOTAL 2812.26	MEAN 7.68	MAX 296	MIN .00	CFSM .98	IN. 13.31						
WTR YR 1989	TOTAL 4921.68	MEAN 13.5	MAX 399	MIN .00	CFSM 1.72	IN. 23.29						

## 03322011 PIGEON CREEK NEAR FORT BRANCH, IN

LOCATION.--Lat 38°15'08", long 87°31'11", in NW¼SW¼ sec.15, T.3 S., R.10 W., Gibson County, Hydrologic Unit 05140202, on right bank 20 ft downstream from bridge on State Highway 168, 1.1 mi upstream from West Fork Pigeon Creek and 2.6 mi east of intersection of U.S. Highway 41 at Fort Branch.

DRAINAGE AREA.--35.4 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder. Datum of gage is 400.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Feb. 9, 10. Records poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,360 ft<sup>3</sup>/s Aug. 21, 1989, gage height, 15.19 ft; maximum gage height, 16.86 ft Apr. 4, 1989; minimum daily discharge, 0.64 ft<sup>3</sup>/s Oct. 3, 1987.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft<sup>3</sup>/s (revised) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 4	1900	1,860	14.01	Mar. 31	0500	1,970	14.29
Nov. 20	0445	1,590	13.29	Apr. 4	0200	2,280	*16.86
Feb. 14	0400	2,170	14.76	May 22	2400	1,540	13.16
Mar. 5	0715	1,700	13.59	July 3	0415	1,610	13.35
Mar. 30	0200	1,790	13.83	Aug. 21	1745	*2,360	15.19

Minimum daily discharge, 0.96 ft<sup>3</sup>/s Oct. 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	1.2	6.3	168	13	15	72	8.4	4.0	2.8	5.7	181
2	1.4	1.2	5.3	69	129	15	104	7.3	4.7	490	3.2	16
3	1.0	1.2	5.3	56	678	15	499	6.3	3.7	724	2.7	6.2
4	1.0	726	4.7	27	41	18	1020	27	3.7	34	2.5	4.7
5	.96	217	4.4	100	25	868	64	39	180	38	2.3	4.1
6	1.0	17	4.5	376	17	602	45	25	9.0	11	38	3.7
7	1.0	9.6	4.3	112	14	55	48	9.2	5.9	7.2	4.1	3.4
8	1.1	6.7	3.7	205	12	33	56	6.9	4.8	5.4	2.1	3.1
9	1.1	4.6	3.5	23	11	31	30	51	4.2	4.6	1.4	5.9
10	1.2	18	3.5	18	10	32	23	27	3.4	4.1	1.2	8.4
11	1.1	5.7	3.4	16	9.9	28	20	12	3.1	3.8	1.1	3.4
12	1.0	4.1	3.2	43	9.2	22	18	8.9	7.1	7.5	2.0	3.0
13	1.0	15	3.3	21	702	43	16	7.8	20	3.8	1.5	2.8
14	1.1	5.6	3.4	151	1140	33	15	6.9	187	3.4	1.1	5.6
15	1.1	4.2	3.0	86	1020	67	14	6.2	13	3.6	1.1	4.1
16	2.0	5.3	2.9	30	270	22	13	5.8	7.3	3.3	2.1	310
17	1.7	3.6	2.9	22	51	19	12	5.4	5.3	3.1	1.8	13
18	1.9	3.1	2.7	19	38	17	12	4.9	4.6	2.9	1.4	6.0
19	1.4	101	2.7	15	33	15	12	53	4.3	4.5	1.1	4.3
20	1.2	566	2.9	13	157	448	11	168	4.1	3.8	27	3.4
21	1.6	28	2.6	11	223	172	11	9.3	3.6	3.3	1400	3.0
22	1.5	15	2.5	11	40	36	10	183	3.3	3.2	298	3.0
23	8.3	11	4.3	10	26	26	10	258	3.1	102	29	2.6
24	3.5	9.2	20	9.9	20	21	9.7	15	2.9	70	14	2.2
25	1.5	8.0	6.9	16	19	17	9.2	11	2.8	9.1	11	2.2
26	1.1	36	4.9	105	20	15	8.7	37	2.7	3.6	6.2	2.2
27	1.1	34	8.5	29	18	14	8.2	7.8	2.8	3.0	308	1.9
28	1.7	12	493	20	17	14	13	6.3	44	2.7	72	1.9
29	1.3	9.0	37	19	---	481	58	6.4	3.6	2.4	85	2.1
30	1.1	7.7	25	17	---	895	11	5.2	2.9	32	6.9	2.1
31	1.1	---	22	14	---	997	---	4.4	---	36	6.2	---
TOTAL	48.56	1886.0	702.6	1831.9	4763.1	5086	2252.8	1029.4	550.9	1628.1	2339.7	615.3
MEAN	1.57	62.9	22.7	59.1	170	164	75.1	33.2	18.4	52.5	75.5	20.5
MAX	8.3	726	493	376	1140	997	1020	258	187	724	1400	310
MIN	.96	1.2	2.5	9.9	9.2	14	8.2	4.4	2.7	2.4	1.1	1.9
CFSM	.04	1.78	.64	1.67	4.81	4.63	2.12	.94	.52	1.48	2.13	.58
IN.	.05	1.98	.74	1.93	5.01	5.34	2.37	1.08	.58	1.71	2.46	.65

CAL YR 1988 TOTAL 8370.23 MEAN 22.9 MAX 838 MIN .66 CFSM .65 IN. 8.80  
WTR YR 1989 TOTAL 22734.36 MEAN 62.3 MAX 1400 MIN .96 CFSM 1.76 IN. 23.89

## 03322900 WABASH RIVER AT LINN GROVE, IN

LOCATION.--Lat 40°39'22", long 85°01'58", in SE¼SE¼ sec.34, T.26 N., R.13 E., Adams County, Hydrologic Unit 05120101, on right bank 10 ft downstream from bridge on State Highway 218, 800 ft downstream from Shoemaker ditch, 0.8 mi north of Linn Grove, and 2.2 mi upstream from Rice ditch.

DRAINAGE AREA.--453 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1964 to current year.

REVISED RECORDS.--WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 808.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 12, 13, 16-19, Dec. 29 to Jan. 8, Feb. 6-18, Feb. 25 to Mar. 3, and Mar. 7-9. Records good except for estimated daily discharges, which are poor. Occasional regulation of Grand Lake, diversion from or into St. Marys River basin, and into Miami and Erie Canals.

AVERAGE DISCHARGE.--25 years, 372 ft<sup>3</sup>/s, 11.15 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,560 ft<sup>3</sup>/s Mar. 17, 1978, gage height, 13.87 ft; minimum daily, 4.3 ft<sup>3</sup>/s July 9, 1988.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in April 1964 reached a stage of 13.13 ft, from floodmark, discharge, 6,900 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,900 ft<sup>3</sup>/s and maximum(\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 9	1500	2,480	9.45	May 27	1700	*6,030	*12.75
Apr. 5	1900	4,410	11.62	June 3	2000	3,700	10.87
Apr. 29	2400	2,710	9.61				

Minimum daily discharge, 5.2 ft<sup>3</sup>/s Oct. 7, 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.3	7.4	99	300	221	115	1460	2380	1130	159	345	474
2	6.2	8.1	75	200	172	105	1370	1430	1120	119	280	1200
3	6.0	8.7	59	150	139	100	1670	860	2000	101	238	1010
4	5.9	9.9	49	130	116	109	2910	653	2890	115	247	439
5	6.7	26	42	140	96	371	4100	651	2890	154	255	272
6	6.0	174	37	350	80	913	3980	684	2480	133	257	229
7	5.2	142	36	1000	70	400	2860	591	1730	109	259	212
8	5.2	88	35	1600	62	250	1760	494	1060	89	230	202
9	5.3	69	31	2440	58	210	1160	399	727	74	213	263
10	5.7	282	23	2140	54	279	910	792	570	66	191	849
11	5.8	733	20	1110	56	484	612	838	475	60	184	775
12	5.7	300	18	717	59	575	386	501	456	75	182	426
13	5.3	137	18	891	62	433	313	342	526	426	228	210
14	6.2	182	20	576	72	313	273	295	490	326	252	231
15	8.3	134	25	371	200	275	252	262	447	207	185	1340
16	6.3	84	19	292	330	210	226	329	412	139	183	1640
17	5.3	125	17	253	240	148	204	267	385	100	177	1270
18	9.1	134	16	253	180	134	193	205	366	79	165	563
19	22	70	16	322	170	126	381	182	352	68	161	252
20	23	115	19	342	141	110	564	181	343	516	164	146
21	14	1000	25	244	461	597	382	188	293	1200	186	102
22	10	794	23	166	928	655	282	158	182	1570	425	81
23	9.0	359	26	145	534	368	236	200	143	1630	520	66
24	8.4	195	35	126	267	244	204	799	144	1200	346	58
25	9.2	129	48	112	200	192	185	657	122	1000	366	48
26	9.6	96	48	565	150	157	784	2510	113	713	232	43
27	9.7	137	41	1330	135	133	1560	5200	101	524	187	38
28	8.5	376	574	898	125	172	2060	5350	238	430	171	36
29	7.9	230	1200	503	---	183	2540	4170	425	433	169	35
30	7.1	135	820	348	---	371	2660	2900	237	387	200	34
31	6.9	---	450	276	---	1190	---	1850	---	386	530	---
TOTAL	255.8	6280.1	3964	18290	5378	9922	36477	36318	22847	12588	7728	12544
MEAN	8.25	209	128	590	192	320	1216	1172	762	406	249	418
MAX	23	1000	1200	2440	928	1190	4100	5350	2890	1630	530	1640
MIN	5.2	7.4	16	112	54	100	185	158	101	60	161	34
CFSM	.02	.46	.28	1.30	.42	.71	2.68	2.59	1.68	.90	.55	.92
IN.	.02	.52	.33	1.50	.44	.81	3.00	2.98	1.88	1.03	.63	1.03

CAL YR 1988 TOTAL 57680.9 MEAN 158 MAX 1900 MIN 4.3 CFSM .35 IN. 4.74  
WTR YR 1989 TOTAL 172591.9 MEAN 473 MAX 5350 MIN 5.2 CFSM 1.04 IN. 14.17

## 03323000 WABASH RIVER AT BLUFFTON, IN

LOCATION.--Lat 40°44'30", long 85°10'19", in NW¼NE¼ sec.4, T.26 N., R.12 E., Wells County, Hydrologic Unit 05120101, on downstream side of left abutment of Main Street (State Highway 1) bridge in Bluffton, 2 mi downstream from Sixmile Creek, and at mile 434.5.

DRAINAGE AREA.--532 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1930 to September 1971 (discharge). October 1987 to current year (stage only).  
Gage-height records collected at same site since December 1910 are contained in reports of National Weather Service.

GAGE.--Data-Collection Platform with Ultrasonic Ranger. Datum of gage is 793.01 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Gage-height accuracy to tenths of a foot for stage-only period. Estimated gage heights for Mar. 17, Apr. 27, May 8 and 13, June 22, July 1 and 6, and Sept. 9 are reasonable accurate.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 16.07 ft Feb. 15, 1950; minimum gage height, 0.61 ft July 21, 1932.

EXTREMES FOR CURRENT YEAR.--Maximum 2400 hr gage height, 12.4 ft May 28; minimum 2400 hr gage height, 1.1 ft Oct. 3 and 11.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	1.4	2.3	3.1	2.7	2.6	---	7.5	4.8	2.1	3.1	3.6
2	1.4	1.4	1.9	2.7	2.4	2.3	---	5.2	5.4	2.0	2.8	5.2
3	1.1	1.4	1.9	2.2	2.3	2.2	---	4.3	8.9	2.0	2.8	4.3
4	1.2	1.5	1.9	2.2	2.2	2.2	---	3.7	9.7	2.0	2.9	3.2
5	1.2	---	1.8	2.3	2.0	3.6	10.1	4.0	8.5	2.1	2.8	2.7
6	1.2	---	1.9	4.6	1.9	4.6	10.4	4.0	7.8	2.1	2.8	2.7
7	1.2	2.4	1.6	8.3	2.3	3.1	8.5	3.0	6.2	2.0	2.7	2.5
8	1.4	2.2	1.6	8.0	2.0	2.8	6.3	3.2	4.6	1.8	2.5	2.5
9	1.2	2.0	1.8	8.3	1.9	2.7	5.1	3.2	3.7	2.0	2.5	2.5
10	1.2	3.1	1.8	7.5	1.8	2.8	4.1	4.6	3.5	1.7	2.4	---
11	1.1	3.9	1.6	4.9	1.9	3.5	3.5	4.1	3.2	1.7	2.5	---
12	1.2	2.9	1.5	4.3	2.0	3.5	2.9	3.1	3.2	1.7	2.4	---
13	1.2	2.4	1.6	4.6	2.0	3.1	2.5	2.7	3.5	3.2	2.5	---
14	1.2	2.7	1.5	3.5	2.2	2.8	2.7	2.7	3.2	2.5	2.5	---
15	1.2	2.4	1.6	3.3	3.0	2.5	2.5	2.7	3.2	2.4	2.5	---
16	1.4	2.2	1.5	2.9	3.3	2.4	2.4	2.9	2.9	2.0	2.5	---
17	1.4	2.2	1.6	3.0	3.1	2.2	2.4	2.4	2.9	1.8	2.5	4.8
18	1.2	2.4	1.5	2.9	2.7	---	2.4	2.4	2.9	1.8	2.4	3.1
19	1.4	2.0	1.5	3.1	2.6	---	---	2.4	2.9	1.8	2.4	2.4
20	1.6	2.6	1.6	3.0	2.4	---	3.3	2.4	2.9	4.1	2.4	2.1
21	1.5	5.2	1.5	2.9	4.2	---	2.7	2.4	2.5	5.4	2.5	2.0
22	1.5	4.2	1.9	2.6	4.6	---	2.5	2.1	2.3	6.0	3.7	1.7
23	1.4	3.1	1.8	2.4	3.4	---	2.2	2.1	2.2	5.8	3.5	1.8
24	1.5	2.6	1.8	2.4	2.7	---	2.2	4.3	2.2	4.8	3.1	1.6
25	1.4	2.3	1.8	2.0	2.9	---	2.8	8.3	2.0	4.4	2.9	1.4
26	1.4	2.3	1.9	5.4	2.7	---	5.4	11.1	2.4	3.7	2.5	1.3
27	1.5	2.3	2.4	6.0	2.7	---	6.1	11.9	2.1	3.5	2.5	1.4
28	1.5	3.1	4.9	4.5	2.6	---	7.3	12.4	2.5	3.3	2.9	1.6
29	1.2	2.7	5.8	3.4	---	---	7.8	10.9	2.8	3.2	2.5	1.3
30	1.4	2.3	4.8	3.3	---	---	8.1	8.9	2.5	3.2	2.4	1.3
31	1.4	---	3.2	2.9	---	---	---	6.5	---	3.2	3.6	---
MEAN	1.3	---	2.1	4.0	2.6	---	---	4.9	3.9	2.9	2.7	---
MAX	1.6	---	5.8	8.3	4.6	---	---	12.4	9.7	6.0	3.7	---
MIN	1.1	---	1.5	2.0	1.8	---	---	2.1	2.0	1.7	2.4	---



## 03323500 WABASH RIVER AT HUNTINGTON, IN

LOCATION.--Lat 40°51'20", long 85°29'53", in SW¼NE¼ sec.27, T.28 N., R.9 E., Huntington County, Hydrologic Unit 05120101, on right bank at the Huntington Water and Light Plant, 2 mi south of Huntington, 2.4 mi downstream from Huntington Lake, 3.2 mi upstream from Little River, and at mile 409.0.

DRAINAGE AREA.--721 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1951 to current year.

REVISED RECORDS.--WSP 1909: 1959. WSP 2109: Drainage area.

GAGE.--Data-Collection Platform. Datum of gage was 700.04 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana, Department of Natural Resources). July 5, 1951, to Sept. 30, 1974, water-stage recorder at site described in "LOCATION" paragraph. Prior to July 5, 1951, nonrecording gage at same site and datum. Data-Collection Platform installed on June 13, 1986.

REMARKS.--Flow regulated by Huntington Lane since January 1969. Daily discharge computed from relation between discharge, head, and gate openings for Huntington Lake beginning Oct. 1, 1974.

COOPERATION.--Records of daily discharge provided by U.S. Army Corps of Engineers beginning Oct. 1, 1976.

AVERAGE DISCHARGE.--38 years, 591 ft<sup>3</sup>/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,900 ft<sup>3</sup>/s Feb. 10, 1959; maximum gage height, 23.20 ft Feb. 10, 1959 (backwater from ice); minimum daily discharge, 0.0 ft<sup>3</sup>/s Sept. 12, 1989.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 22.7 ft, from high-water mark by U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 4,390 ft<sup>3</sup>/s Apr. 7; minimum daily discharge, 0.0 ft<sup>3</sup>/s Sept. 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	54	284	552	372	162	1310	2840	3000	221	324	417
2	60	54	207	280	263	156	1460	2940	3500	264	354	1310
3	60	54	91	134	213	156	1760	1690	2600	180	276	1310
4	59	54	91	95	153	141	2670	807	827	126	236	721
5	59	54	90	129	126	136	3880	669	1250	105	220	440
6	59	54	90	137	126	346	4370	822	2080	95	242	259
7	59	67	89	1160	94	619	4390	888	3070	107	252	285
8	59	106	88	2590	125	469	4020	714	3860	129	104	332
9	59	141	87	3700	105	292	2800	582	3920	136	151	357
10	58	151	67	3580	96	216	1990	569	4240	136	219	882
11	58	303	60	2640	85	178	1350	792	4290	108	224	343
12	58	384	74	1470	87	378	732	900	4150	87	326	.00
13	58	384	81	976	95	460	337	775	3330	177	146	876
14	58	378	80	1020	96	392	313	444	2330	124	188	1310
15	57	369	91	592	124	290	228	338	1990	104	218	1510
16	57	219	107	325	287	214	103	353	1670	179	264	1840
17	57	146	111	246	308	213	63	393	1180	190	220	1940
18	57	145	109	236	286	164	37	284	984	189	190	1290
19	71	145	137	248	249	166	32	267	955	188	190	663
20	78	146	151	297	214	178	185	453	923	156	190	318
21	78	490	92	300	217	181	293	511	608	279	212	238
22	77	974	72	261	688	570	176	390	402	1020	216	158
23	77	877	87	173	916	722	105	406	210	1720	213	112
24	77	416	94	140	468	431	33	456	173	1460	365	107
25	77	308	93	140	277	255	24	597	196	1130	473	107
26	76	301	92	170	272	256	560	210	229	757	485	76
27	76	252	119	989	249	199	1640	1340	201	479	309	58
28	76	192	289	1520	199	172	2210	2670	161	419	224	58
29	76	193	516	1410	---	196	2280	2520	140	416	359	58
30	75	259	1130	1210	---	219	2490	3550	142	402	573	58
31	61	---	1210	639	---	650	---	3960	---	439	459	---
TOTAL	2027	7670	5979	27359	6790	9177	41841	34130	52611	11522	8422	17433.00
MEAN	65.4	256	193	883	242	296	1395	1101	1754	372	272	581
MAX	78	974	1210	3700	916	722	4390	3960	4290	1720	573	1940
MIN	57	54	60	95	85	136	24	210	140	87	104	.00

CAL YR 1988 TOTAL 89775 MEAN 245 MAX 2980 MIN 21  
WTR YR 1989 TOTAL 224961.00 MEAN 616 MAX 4390 MIN .00

## 03324000 LITTLE RIVER NEAR HUNTINGTON, IN

LOCATION.--Lat 40°54'14", long 85°24'22", in NE¼NW¼ sec.9, T.28 N., R.10 E., Huntington County, Hydrologic Unit 05120101, on right bank on upstream side of highway bridge, 5 mi east of Huntington, and at mile 7.5.

DRAINAGE AREA.--263 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1943 to current year. Prior to January 1944 monthly discharge only, published in WSP 1305. Published as Little River at Huntington, January 1944 to September 1948, Little River near Huntington, October 1948 to September 1956, and Little Wabash River near Huntington, October 1956 to September 1961.

REVISED RECORDS.--WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 728.10 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1948, nonrecording gage 4 mi downstream at datum 8.79 ft lower, and Oct. 1, 1948, to Sept. 5, 1950, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Dec. 10-21, Dec. 26 to Jan. 6, Jan. 21-23, and Feb. 4 to Mar. 10. Records good except for estimated daily discharges, which are poor. During periods of extreme high water in the St. Marys River, some water leaves the St. Marys River basin through Junk ditch and flows into Little River basin via Graham McCulloch ditch.

AVERAGE DISCHARGE.--46 years, 227 ft<sup>3</sup>/s, 11.72 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,990 ft<sup>3</sup>/s Jan. 4, 1950; maximum gage height, 19.50 ft Feb. 25, 1985; minimum daily discharge, 1.1 ft<sup>3</sup>/s Oct. 8, 1946, site then in use.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,800 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
June 4	1200	*4,920	*17.83

Minimum daily discharge, 17 ft<sup>3</sup>/s Oct. 1, 8, 9, 14, 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	29	90	130	198	58	109	180	1180	46	49	125
2	34	28	76	110	153	57	100	148	783	44	37	174
3	45	26	70	98	128	57	1370	132	2040	44	30	83
4	29	31	66	93	95	70	1570	112	4890	44	28	51
5	21	64	59	90	85	130	816	175	4300	41	96	38
6	19	99	56	500	78	110	402	149	2920	37	80	30
7	18	104	55	1210	73	85	274	105	1620	36	43	35
8	17	114	52	2490	70	71	213	90	814	34	32	35
9	17	108	46	1360	67	68	178	96	559	31	27	68
10	23	301	42	454	66	68	138	115	355	31	25	399
11	19	338	40	262	67	73	116	102	246	28	40	215
12	22	163	38	330	68	82	109	87	204	30	151	101
13	21	181	37	356	73	79	101	88	268	37	227	65
14	17	191	36	225	80	86	91	80	194	35	66	265
15	17	156	35	186	84	134	92	73	162	30	44	706
16	19	112	35	144	84	114	85	85	135	28	43	295
17	28	104	34	131	78	89	82	85	113	27	32	261
18	413	80	34	124	71	341	88	68	97	23	29	146
19	255	71	33	131	70	319	85	95	150	45	26	91
20	108	268	33	152	73	193	75	550	280	61	28	69
21	65	1040	34	120	80	366	71	312	135	49	33	56
22	54	417	36	100	90	236	67	168	99	294	25	49
23	48	234	164	96	77	169	63	137	112	175	28	41
24	98	168	234	95	73	142	58	113	95	86	36	37
25	76	131	178	92	72	128	91	174	100	63	38	31
26	51	112	100	1120	72	110	1180	2400	91	55	27	29
27	40	145	110	1300	67	101	613	2020	69	55	23	30
28	36	162	800	515	62	98	433	757	65	81	27	28
29	35	120	450	345	---	96	467	360	55	54	45	26
30	34	102	250	312	---	96	259	345	48	64	53	25
31	33	---	180	247	---	108	---	284	---	87	39	---
TOTAL	1729	5199	3503	12918	2354	3936	9396	9685	22179	1795	1507	3604
MEAN	55.8	173	113	417	84.1	127	313	312	739	57.9	48.6	120
MAX	413	1040	800	2490	198	366	1570	2400	4890	294	227	706
MIN	17	26	33	90	62	57	58	68	48	23	23	25
CFSM	.21	.66	.43	1.58	.32	.48	1.19	1.19	2.81	.22	.18	.46
IN.	.24	.74	.50	1.83	.33	.56	1.33	1.37	3.14	.25	.21	.51

CAL YR 1988 TOTAL 57885 MEAN 158 MAX 3460 MIN 14 CFSM .60 IN. 8.19  
WTR YR 1989 TOTAL 77805 MEAN 213 MAX 4890 MIN 17 CFSM .81 IN. 11.01

## 03324200 SALAMONIE RIVER AT PORTLAND, IN

LOCATION.--Lat 40°25'40", long 85°02'20", in NE1SE1 sec.23, T.23 N., R.13 E., Jay County, Hydrologic Unit 05120102, on right bank at downstream side of county road bridge, 2.3 mi downstream from Butternut Creek, 3.2 mi west of Portland, 3.7 mi downstream from Little Salamonie River, and at mile 70.5.

DRAINAGE AREA.--85.6 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1959 to current year.

REVISED RECORDS.--WSP 2109: Drainage area. WDR IN-72-1: 1971.

GAGE.--Water-stage recorder. Datum of gage is 877.59 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana, Department of Natural Resources). Prior to Oct. 1, 1960, nonrecording gage at site 1.4 mi upstream at datum 6.43 ft higher.

REMARKS.--Estimated daily discharges: Oct. 11-16, Dec. 29 to Jan. 5, Jan. 9-11, 21, 22, Feb. 5-15, 17-20, Feb. 23 to Mar. 4, and Mar. 6-9. Records good except for estimated daily discharges, which are poor. Natural flow partially affected by sewage effluent.

AVERAGE DISCHARGE.--30 years, 72.8 ft<sup>3</sup>/s, 11.55 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,460 ft<sup>3</sup>/s Mar. 5, 1963, gage height, 16.96 ft; minimum daily, 0.4 ft<sup>3</sup>/s Sept. 27, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,400 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 4	1100	2,310	13.51	July 21	0500	1,410	10.24
Apr. 26	1200	1,610	11.01	Sept. 14	2300	1,540	10.74
May 26	1600	*3,300	*16.55				

Minimum daily discharge, 1.5 ft<sup>3</sup>/s Oct. 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	2.3	19	40	39	21	325	98	61	6.2	19	639
2	2.7	3.2	14	28	30	20	178	66	99	5.4	13	360
3	2.0	2.7	12	22	27	19	755	60	149	8.7	11	75
4	1.8	17	10	19	21	21	1970	46	477	8.5	9.2	32
5	2.1	58	9.0	19	18	217	668	120	143	6.8	9.1	20
6	1.7	36	8.8	520	16	140	219	79	112	5.8	7.5	14
7	2.1	24	8.8	821	15	50	140	48	57	4.7	6.2	12
8	2.1	18	7.5	831	13	40	106	36	39	4.4	5.4	9.5
9	1.9	14	6.5	150	13	36	131	102	31	4.4	4.8	17
10	1.7	119	5.7	65	12	112	80	256	23	4.1	4.9	224
11	1.6	80	5.8	45	13	216	58	91	19	37	4.5	89
12	1.6	30	5.4	159	14	158	47	53	31	60	4.7	36
13	1.5	39	5.8	170	16	88	41	45	42	44	9.8	20
14	1.7	40	6.3	72	23	71	36	37	32	25	5.1	481
15	1.6	24	6.1	58	63	65	34	37	22	13	5.1	803
16	4.0	17	5.7	49	94	41	28	57	18	8.2	10	178
17	9.1	41	4.7	48	52	33	26	36	15	6.4	6.6	108
18	10	22	4.8	54	35	31	50	27	12	5.0	4.9	52
19	3.4	13	5.2	85	30	23	272	23	12	180	4.5	32
20	2.2	147	5.5	63	28	73	103	30	12	801	5.9	24
21	2.1	287	6.0	34	267	245	60	26	12	981	7.5	18
22	2.8	89	5.1	26	182	97	43	19	13	164	84	16
23	2.7	47	11	24	60	58	33	367	10	163	56	15
24	4.1	31	14	21	40	45	26	201	8.7	650	23	11
25	3.3	22	18	21	31	37	27	356	8.1	327	13	9.2
26	2.2	19	21	204	33	31	1090	3060	7.9	93	7.9	9.0
27	2.3	68	25	221	29	30	248	1580	8.9	45	5.7	7.3
28	2.6	73	595	97	25	32	257	164	15	60	5.4	6.5
29	3.3	36	250	68	---	33	233	131	10	33	7.9	6.4
30	2.6	26	100	60	---	366	254	196	7.1	29	196	6.4
31	2.3	---	60	48	---	369	---	87	---	35	37	---
TOTAL	87.2	1445.2	1261.7	4142	1239	2818	7538	7534	1506.7	3818.6	594.6	3330.3
MEAN	2.81	48.2	40.7	134	44.2	90.9	251	243	50.2	123	19.2	111
MAX	10	287	595	831	267	369	1970	3060	477	981	196	803
MIN	1.5	2.3	4.7	19	12	19	26	19	7.1	4.1	4.5	6.4
CFSM	.03	.56	.48	1.56	.52	1.06	2.94	2.84	.59	1.44	.22	1.30
IN.	.04	.63	.55	1.80	.54	1.22	3.28	3.27	.65	1.66	.26	1.45
CAL YR 1988	TOTAL 12486.6	MEAN 34.1	MAX 797	MIN 1.3	CFSM .40	IN. 5.43						
WTR YR 1989	TOTAL 35315.3	MEAN 96.8	MAX 3060	MIN 1.5	CFSM 1.13	IN. 15.35						

## 03324300 SALAMONIE RIVER NEAR WARREN, IN

LOCATION.--Lat 40°42'45", long 85°27'13", in SE¼SE¼ sec.12, T.26 N., R.9 E., Huntington County, Hydrologic Unit 05120102, on right bank at downstream side of bridge on County Road 800 South, 0.4 mi downstream from Detamore ditch, 0.4 mi downstream from Interstate 69, 0.8 mi upstream from concrete and stone dam, 2.4 mi northwest of Warren, and at mile 30.0.

DRAINAGE AREA.--425 mi<sup>2</sup>.

PERIOD OF RECORD.--March 1957 to current year.

REVISED RECORDS.--WSP 2109: Drainage area.

GAGE.--Water-stage recorder and concrete and stone control. Datum of gage is 784.65 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana, Department of Natural Resources). Prior to July 28, 1960, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Dec. 30 to Jan. 7, Jan. 9, 10, Feb. 7-20, Feb.23 to Mar. 3, and Mar. 7-9. Records fair.

AVERAGE DISCHARGE.--32 years, 382 ft<sup>3</sup>/s, 12.21 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,200 ft<sup>3</sup>/s Feb. 10, 1959, gage height, 17.05 ft; minimum daily, 5.1 ft<sup>3</sup>/s Jan. 2, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 7	0435	(a)	12.40	May 26	1935	*9,420	*14.60
Jan. 8	0435	3,800	10.25	June 4	1635	5,110	11.33
Apr. 4	2335	4,530	10.86				

Minimum daily discharge, 8.6 ft<sup>3</sup>/s Oct. 14.

(a) Backwater from ice jam.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	22	116	200	256	120	1230	1090	758	63	110	910
2	14	23	98	150	204	115	779	593	1300	59	87	2040
3	15	23	84	120	169	110	2080	417	1190	59	70	1050
4	13	28	74	100	143	118	4010	324	4540	61	64	329
5	13	37	70	90	129	225	4260	649	4260	63	62	186
6	13	95	64	400	99	840	3920	626	2240	61	60	129
7	13	97	61	2100	105	350	1590	369	869	56	57	108
8	14	60	59	3630	91	200	693	259	515	49	51	92
9	12	49	58	2000	79	180	527	234	369	48	48	122
10	12	65	54	750	70	221	459	544	279	48	47	2210
11	11	476	47	406	73	467	333	609	218	49	45	1520
12	10	266	48	371	75	625	272	320	199	199	45	569
13	9.3	146	48	820	78	450	235	242	250	328	46	299
14	8.6	124	48	506	87	321	201	206	240	185	53	410
15	9.5	130	48	312	180	288	187	180	185	107	78	2010
16	11	104	46	244	300	242	169	180	149	73	232	1920
17	12	84	48	210	280	193	153	213	127	58	148	1030
18	18	76	46	203	200	179	148	158	113	49	88	525
19	22	86	45	232	180	168	248	161	101	49	65	301
20	30	124	46	295	160	155	573	544	97	153	62	205
21	38	644	48	229	394	590	304	385	90	1370	79	153
22	32	665	51	168	1010	718	217	237	84	1840	76	127
23	29	287	70	149	400	367	175	194	80	728	184	109
24	25	180	101	134	190	270	148	674	77	1340	225	92
25	23	138	108	122	210	224	135	625	75	1480	160	82
26	21	114	95	687	180	188	519	7940	92	726	95	76
27	20	108	90	1760	160	161	1680	7500	72	342	68	69
28	22	239	588	860	140	190	1440	6610	72	198	144	64
29	22	225	1980	491	---	225	2450	5110	75	178	100	65
30	22	147	900	378	---	248	2340	3170	68	151	80	63
31	22	---	400	311	---	1240	---	1590	---	118	255	---
TOTAL	551.4	4862	5639	18428	5642	9988	31475	41953	18784	10288	2984	16865
MEAN	17.8	162	182	594	201	322	1049	1353	626	332	96.3	562
MAX	38	665	1980	3630	1010	1240	4260	7940	4540	1840	255	2210
MIN	8.6	22	45	90	70	110	135	158	68	48	45	63
CFSM	.04	.38	.43	1.40	.47	.76	2.47	3.18	1.47	.78	.23	1.32
IN.	.05	.43	.49	1.61	.49	.87	2.75	3.67	1.64	.90	.26	1.48

CAL YR 1988 TOTAL 66318.0 MEAN 181 MAX 3630 MIN 8.6 CFSM .43 IN. 5.80  
WTR YR 1989 TOTAL 167459.4 MEAN 459 MAX 7940 MIN 8.6 CFSM 1.08 IN. 14.66

## 03324500 SALAMONIE RIVER AT DORA, IN

LOCATION.--Lat 40°48'42", long 85°41'02", in NE1/4 sec.12, T.27 N., R.7 E., Wabash County, Hydrologic Unit 05120102, on right bank, 0.4 mi downstream from Salamonie Lake, 1.5 mi northwest of Dora, and 3.0 mi upstream from mouth.

DRAINAGE AREA.--557 mi<sup>2</sup>.

PERIOD OF RECORD.--November 1923 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 1275: 1931(M), 1932, 1933(M), 1935-36(M), 1938-40(M), 1941-42, 1945, 1952. WSP 1335: 1934(M). WSP 1555: 1952, 1955-56(M), 1957. WSP 2109: Drainage area.

GAGE.--Data-Collection Platform since May 1, 1986. Datum of gage is 673.96 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana, Department of Natural Resources). Prior to Oct. 1, 1951, non-recording gage at site 1.5 mi upstream at datum 688.59 ft National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers) and Oct. 1, 1951, to Oct. 8, 1961, water-stage recorder located on left bank 2,000 ft upstream at datum 679.77 ft National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Oct. 9, 1961, to Sept. 30, 1974, water-stage recorder at site described in "LOCATION" paragraph.

REMARKS.--Flow regulated by Salamonie Lake since April 1967. Daily discharge computed from relation between discharge, head, and gate openings for Salamonie Lake beginning Oct. 1, 1974.

COOPERATION.--Records of daily discharge provided by U.S. Army Corps of Engineers beginning Oct. 1, 1976.

AVERAGE DISCHARGE.--65 years (1924 to current year), 507 ft<sup>3</sup>/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,500 ft<sup>3</sup>/s May 18, 1943, gage height, 14.75 ft, from graph based on gage readings, site and datum then in use; minimum daily, 0.70 ft<sup>3</sup>/s Oct. 30, 1968, result of abnormal regulation.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 4,130 ft<sup>3</sup>/s Jan. 24; minimum daily, 26 ft<sup>3</sup>/s Aug 12, 14, 16-22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	313	281	365	722	513	227	62	1810	174	4090	227	1670
2	312	280	330	582	405	205	63	1210	106	3000	95	749
3	312	279	290	326	305	150	63	660	106	1230	48	955
4	311	278	288	255	198	140	65	379	106	508	48	1520
5	310	277	285	134	184	161	676	393	107	245	48	817
6	309	276	196	268	125	382	1650	507	107	120	48	241
7	308	275	165	619	91	603	2030	537	107	120	45	183
8	307	275	131	104	121	368	2010	557	107	120	48	140
9	306	274	114	108	159	253	1980	535	107	120	48	120
10	304	273	114	476	170	242	1420	417	107	120	48	1480
11	303	273	114	1080	157	226	674	502	107	120	33	2040
12	302	274	113	1190	109	230	435	471	107	120	26	1430
13	301	274	113	1180	110	314	475	382	529	217	114	836
14	300	425	113	1170	143	373	378	382	1720	339	26	615
15	299	520	112	1150	143	247	289	279	2400	261	72	823
16	298	515	112	1140	284	55	243	138	2780	169	26	1260
17	297	510	112	1110	355	56	195	95	3270	132	26	1420
18	297	505	111	1090	355	56	81	95	3310	120	26	1520
19	296	499	156	1070	332	57	81	221	3270	120	26	1220
20	295	495	158	1040	239	57	82	376	3320	154	26	937
21	294	494	149	1020	196	57	82	453	3340	605	26	680
22	293	497	148	995	308	59	82	558	3320	1590	26	552
23	292	497	148	965	185	59	82	557	3910	1660	42	550
24	291	494	148	818	277	60	82	493	4130	1470	255	548
25	290	489	182	608	368	60	53	732	4060	1960	312	546
26	288	484	213	448	367	60	41	124	4000	1540	201	544
27	287	479	227	554	313	60	42	127	3930	671	104	542
28	286	473	285	1040	228	60	43	130	2520	308	95	540
29	285	469	482	1210	---	61	397	132	1250	226	154	538
30	284	400	782	1170	---	61	1660	133	3590	286	183	536
31	283	---	829	771	---	61	---	133	---	313	183	---
TOTAL	9253	11834	7085	24413	6740	5060	15516	13518	55997	22054	2685	25552
MEAN	298	394	229	788	241	163	517	436	1867	711	86.6	852
MAX	313	520	829	1210	513	603	2030	1810	4130	4090	312	2040
MIN	283	273	111	104	91	55	41	95	106	120	26	120

CAL YR 1988 TOTAL 89239 MEAN 244 MAX 1710 MIN 18  
WTR YR 1989 TOTAL 199707 MEAN 547 MAX 4130 MIN 26



## 03325000 WABASH RIVER AT WABASH, IN

LOCATION.--Lat 40°47'25", long 85°49'13", in SE¼NW¼ sec.14, T.27 N., R.6 E., Wabash County, Hydrologic Unit 05120101, on right bank on upstream side of Wabash Street bridge in Wabash, 7.1 mi downstream from Salamonie River, and at mile 387.2.

DRAINAGE AREA.--1,768 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1923 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 1275: 1931-37(M), 1938-39, 1940(M). WSP 1385: 1942. WSP 1505: 1955. WSP 2109: Drainage area. WRD IN-84-1: 1983.

GAGE.--Water-stage recorder. Datum of gage is 642.66 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 30, 1954, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Dec. 13-15, 18, 19, and Feb. 7-12. Records good. Flow regulated by Huntington Lake and Salamonie Lake.

AVERAGE DISCHARGE.--66 years, 1,487 ft<sup>3</sup>/s, 11.42 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,600 ft<sup>3</sup>/s May 18, 1943; maximum gage height, 24.44 ft Feb. 11, 1959 (ice jam); minimum daily discharge, 19 ft<sup>3</sup>/s July 21, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 28.7 ft Mar. 26, 1913, from floodmark, determined by U.S. Army Corps of Engineers, discharge, 90,000 ft<sup>3</sup>/s, from rating curve extended above 49,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 17,500 ft<sup>3</sup>/s June 4, gage height, 17.99 ft; minimum daily, 186 ft<sup>3</sup>/s Aug. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	414	366	949	2190	1600	653	1510	4690	4680	4130	780	2300
2	454	349	906	1590	1310	609	1720	4400	4880	3640	579	2440
3	433	347	670	939	965	546	3890	3230	4940	1670	505	2500
4	422	354	597	655	769	559	5340	1620	11100	680	418	2690
5	405	371	556	514	595	723	5730	1300	6920	513	371	1630
6	389	402	448	1130	474	912	6710	1520	5830	277	434	798
7	382	440	445	3550	390	1610	6820	1630	5250	251	435	479
8	376	476	403	7110	380	1490	6810	1550	5240	269	392	569
9	376	540	346	6100	380	923	5750	1360	5120	283	186	616
10	376	688	291	5320	340	865	3920	1160	4960	285	279	2190
11	376	1160	253	4710	345	646	2670	1340	5070	286	328	3540
12	376	1090	260	3900	360	738	1760	1560	4890	247	445	1810
13	378	1030	275	3090	379	1140	1280	1450	4580	254	543	1220
14	380	1200	285	2910	455	1240	1020	1130	4420	565	367	2710
15	380	1290	280	2680	528	1030	932	836	4250	365	361	3790
16	387	1320	275	2080	793	737	687	663	4340	307	340	3670
17	409	1110	354	1900	1130	570	556	642	4390	324	387	3910
18	704	962	370	1760	1010	697	364	650	4090	313	283	3540
19	969	896	370	1770	980	947	329	584	4200	547	269	2480
20	616	1170	356	1810	787	702	301	1140	4500	524	272	1640
21	499	2610	309	1870	882	928	635	1620	4120	832	270	1160
22	457	2440	298	1720	1330	941	510	1210	3670	2690	321	921
23	443	2260	359	1630	1740	1320	416	1180	3940	3630	316	776
24	450	1580	658	1420	1480	1080	309	1100	4140	3280	522	746
25	490	1190	618	1120	1020	692	237	1670	4100	3140	855	731
26	447	1150	598	2070	1080	682	1040	5150	4090	2760	843	726
27	414	1150	621	3710	940	632	2370	3650	4040	1530	678	658
28	403	1100	2290	3880	771	512	2850	3840	3160	868	417	635
29	386	1020	2700	3810	---	515	3190	4050	1170	739	446	631
30	380	937	2490	3460	---	536	4130	2640	3360	887	766	629
31	380	---	2940	2700	---	596	---	4800	---	932	907	---
TOTAL	13751	30998	22570	83098	23213	25771	73786	63365	139440	37018	14315	52135
MEAN	444	1033	728	2681	829	831	2460	2044	4648	1194	462	1738
MAX	969	2610	2940	7110	1740	1610	6820	5150	11100	4130	907	3910
MIN	376	347	253	514	340	512	237	584	1170	247	186	479
CFSM	.25	.58	.41	1.52	.47	.47	1.39	1.16	2.63	.68	.26	.98
IN.	.29	.65	.47	1.75	.49	.54	1.55	1.33	2.93	.78	.30	1.10

CAL YR 1988 TOTAL 298982 MEAN 817 MAX 11000 MIN 48 CFSM .46 IN. 6.29  
WTR YR 1989 TOTAL 579460 MEAN 1588 MAX 11100 MIN 186 CFSM .90 IN. 12.19

## 03325311 LITTLE MISSISSINAWA RIVER AT UNION CITY, IN

LOCATION.--Lat 40°11'46", long 84°49'45", in SE½SE½ sec.26, T.18 N., R.1 W., Randolph County, Hydrologic Unit 05120103, on right bank 85 ft downstream from Westinghouse Road, 0.5 mi downstream from Little ditch, 0.8 mi upstream from City Drain, and 1.2 mi west of the Post Office in Union City.

DRAINAGE AREA.--9.67 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1982 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1075.50 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 4 to Nov. 18, Dec. 10-14, Dec. 25 to Jan. 19, Feb. 5-14, 23-26, Mar. 1-3, 7-9, and Aug. 6-21, 25-28. Records good except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--7 years, 9.23 ft<sup>3</sup>/s, 12.96 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 315 ft<sup>3</sup>/s June 3, 1987, gage height, 8.67 ft; no flow at times in 1983, 1984, 1988, and 1989 water years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 140 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 7	----	145	4.90	July 20	1030	156	5.01
Mar. 30	1330	219	5.60	July 23	2000	179	5.24
Apr. 4	0415	227	5.67	Sept. 1	1300	*275	*6.06
May 23	1200	165	5.10	Sept. 14	1700	188	5.33
May 26	0445	239	5.77				

Minimum daily discharge, no flow Oct. 1-14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.34	3.2	5.6	4.1	3.0	85	22	12	2.9	3.8	153
2	.00	.32	2.4	4.5	3.3	2.5	60	14	9.1	2.6	3.2	109
3	.00	.30	2.4	3.6	2.9	2.6	78	9.9	16	8.1	2.8	45
4	.00	1.0	1.9	2.7	2.6	3.1	164	8.8	30	5.7	2.4	25
5	.00	2.5	1.8	7.1	2.4	30	77	25	27	3.8	2.2	14
6	.00	2.0	1.8	24	2.2	22	47	20	19	3.1	2.1	7.5
7	.00	1.0	1.7	100	2.1	9.0	35	13	12	2.7	1.8	4.7
8	.00	.75	1.3	71	1.9	5.5	29	10	9.4	2.4	1.7	2.9
9	.00	.62	1.1	41	1.8	6.5	25	27	7.8	2.3	1.5	2.7
10	.00	9.0	1.0	22	1.8	22	18	34	5.7	2.0	1.4	17
11	.00	4.5	.90	9.9	1.8	32	14	19	5.0	6.7	1.3	9.3
12	.00	2.3	.82	35	1.9	24	11	13	6.2	8.5	1.5	4.6
13	.00	2.5	.85	25	2.0	16	8.4	10	7.4	5.2	1.3	3.1
14	.00	1.9	1.0	13	2.1	14	7.7	8.0	6.7	3.3	1.1	82
15	.13	1.4	.90	9.0	4.5	9.3	6.7	7.2	6.0	2.5	1.1	96
16	.25	1.1	.75	8.0	7.3	6.2	5.5	6.4	5.1	2.1	.95	48
17	.40	1.7	.76	7.5	5.3	6.1	5.2	5.5	4.2	1.8	.83	30
18	.50	1.2	.76	8.3	4.7	5.2	14	5.2	3.9	1.6	.73	19
19	.42	1.0	.76	10	4.2	3.9	34	5.1	3.7	16	.70	11
20	.37	21	.81	8.0	4.2	13	18	5.2	3.4	97	1.5	6.9
21	.32	30	.92	6.2	23	24	12	4.1	4.0	79	.90	4.5
22	.33	13	.93	5.8	16	13	9.3	4.2	4.5	40	1.8	5.7
23	.30	7.7	1.1	4.8	7.0	9.4	7.4	101	3.3	65	2.6	4.4
24	.28	5.4	.90	4.1	5.0	7.8	6.3	69	2.9	105	1.3	3.1
25	.26	4.2	1.4	3.8	4.3	6.5	6.0	43	2.7	66	1.3	2.8
26	.25	3.8	2.5	5.8	4.5	5.3	69	168	2.5	36	1.0	2.5
27	1.0	13	10	7.8	4.1	4.9	35	62	5.0	20	.80	1.9
28	.90	9.1	51	6.3	3.5	4.9	39	34	7.3	12	.70	1.8
29	.60	5.2	22	5.8	---	48	52	26	3.9	8.0	4.4	1.8
30	.45	4.4	10	5.4	---	166	34	23	3.2	6.2	13	1.6
31	.37	---	7.0	4.8	---	121	---	15	---	4.8	3.6	---
TOTAL	7.13	152.23	134.66	475.8	130.5	646.7	1012.5	817.6	238.9	622.3	65.31	720.8
MEAN	.23	5.07	4.34	15.3	4.66	20.9	33.7	26.4	7.96	20.1	2.11	24.0
MAX	1.0	30	51	100	23	166	164	168	30	105	13	153
MIN	.00	.30	.75	2.7	1.8	2.5	5.2	4.1	2.5	1.6	.70	1.6
CFSM	.02	.52	.45	1.59	.48	2.16	3.49	2.73	.82	2.08	.22	2.48
IN.	.03	.59	.45	1.83	.50	2.49	3.90	3.15	.92	2.39	.25	2.77

CAL YR 1988 TOTAL 1480.62 MEAN 4.05 MAX 67 MIN .00 CFSM .42 IN. 5.70  
WTR YR 1989 TOTAL 5024.43 MEAN 13.8 MAX 168 MIN .00 CFSM 1.42 IN. 19.33

## 03325500 MISSISSINEMA RIVER NEAR RIDGEVILLE, IN

LOCATION.--Lat 40°16'49", long 84°59'44", in SE½ sec. 7, T. 21 N., R. 14 E., Randolph County, Hydrologic Unit 05120103, on right bank 30 ft downstream from highway bridge, 0.8 mi downstream from Mud Creek, 2 mi east of Ridgeville, and at mile 99.5.

DRAINAGE AREA.--133 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1946 to current year.

REVISED RECORDS.--WSP 1235: 1948. WSP 1335: 1953. WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 965.28 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana, Department of Natural Resources). Prior to Oct. 5, 1950, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Oct. 11 to Nov. 2, Dec. 10-14, 16-19, Jan. 2-7, and Feb. 5-14, 17-20, Feb. 22 to Mar. 3, and Mar. 7-9. Records fair except for those above 1,000 ft<sup>3</sup>/s, which are poor.

AVERAGE DISCHARGE.--43 years, 127 ft<sup>3</sup>/s, 12.97 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,900 ft<sup>3</sup>/s June 10, 1958, gage height, 16.25 ft, from rating curve extended above 5,000 ft<sup>3</sup>/s on basis of contracted-opening measurement of peak flow; minimum daily, 0.1 ft<sup>3</sup>/s Oct. 24, 1946.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,400 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 8	0600	2,820	11.05	July 20	2200	4,480	12.84
Mar. 30	1500	3,030	11.37	July 24	0100	2,850	11.10
Apr. 4	0900	3,860	12.37	Sept. 1	1900	*4,960	*13.17
May 26	1000	3,630	12.17	Sept. 14	2100	3,240	11.69

Minimum daily discharge, 2.1 ft<sup>3</sup>/s, Oct. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	4.1	42	89	72	50	797	151	90	22	44	3010
2	3.3	4.0	34	66	58	46	475	116	78	21	38	1780
3	2.8	6.5	31	54	55	46	1050	89	92	49	34	317
4	2.6	14	28	50	47	53	2980	77	298	54	31	149
5	3.1	30	25	47	41	450	878	160	185	32	35	94
6	3.0	22	25	500	37	278	408	136	173	26	35	65
7	3.4	13	25	1000	34	100	267	93	97	22	27	53
8	3.6	10	22	1890	31	72	222	78	72	19	24	43
9	3.6	9.4	20	427	29	80	245	232	61	18	22	80
10	3.0	117	19	205	27	247	158	399	48	17	21	220
11	2.6	73	17	133	29	385	125	167	42	243	20	97
12	2.4	28	16	271	32	270	105	113	55	974	20	58
13	2.2	32	17	249	35	164	90	94	236	308	19	44
14	2.1	35	20	145	46	137	80	76	98	118	17	1320
15	2.3	23	20	121	85	113	74	69	74	63	17	1290
16	2.5	27	16	102	134	77	65	70	58	43	21	334
17	3.2	32	15	105	80	71	60	59	47	33	19	169
18	4.1	21	15	112	66	67	141	53	40	28	19	102
19	4.9	16	16	149	61	52	528	52	38	1580	18	74
20	4.2	282	19	119	58	164	199	62	36	3660	44	57
21	3.6	355	17	80	437	351	128	50	53	2820	299	47
22	3.3	122	15	71	200	156	96	46	47	725	288	45
23	3.1	74	24	63	100	108	79	1200	34	784	231	42
24	2.9	54	38	57	75	90	68	535	30	1560	94	33
25	2.7	43	56	54	68	79	65	389	27	447	57	31
26	2.6	38	38	251	78	66	1310	2640	25	185	40	30
27	6.5	171	49	233	70	61	400	569	29	114	32	27
28	6.0	117	1020	130	58	61	322	236	46	127	28	26
29	5.2	66	421	105	---	238	354	214	28	74	172	26
30	4.6	53	195	96	---	2050	248	242	23	65	881	24
31	4.2	---	119	83	---	1380	---	127	---	54	147	---
TOTAL	106.5	1892.0	2434	7057	2143	7562	12017	8594	2260	14285	2794	9687
MEAN	3.44	63.1	78.5	228	76.5	244	401	277	75.3	461	90.1	323
MAX	6.5	355	1020	1890	437	2050	2980	2640	298	3660	881	3010
MIN	2.1	4.0	15	47	27	46	60	46	23	17	17	24
CFSM	.03	.47	.59	1.71	.58	1.83	3.01	2.08	.57	3.46	.68	2.43
IN.	.03	.53	.68	1.97	.60	2.12	3.36	2.40	.63	4.00	.78	2.71

CAL YR 1988 TOTAL 18817.2 MEAN 51.4 MAX 1020 MIN 1.9 CFSM .39 IN. 5.26  
WTR YR 1989 TOTAL 70831.5 MEAN 194 MAX 3660 MIN 2.1 CFSM 1.46 IN. 19.81

## 03326070 BIG LICK CREEK NEAR HARTFORD CITY, IN

LOCATION.--Lat 40°25'20", long 85°21'04", in SE¼SE¼ sec.23, T.23 N., R.10 E., Blackford County, Hydrologic Unit 05120103, on right bank 6 ft downstream from bridge on County Road 100 East, and 2.0 mi southeast of Hartford City.

DRAINAGE AREA.--29.2 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1971 to current year.

GAGE.--Water-stage recorder. Datum of gage is 865.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 10-14, 16-19, Dec. 29 to Jan. 5, Feb. 5-20, Feb. 23 to Mar. 4, Mar. 6-9, and Aug. 16 to Sept. 30. Records fair except Aug. 16 to Sept. 30, which are poor.

AVERAGE DISCHARGE.--18 years, 27.2 ft<sup>3</sup>/s, 12.65 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,940 ft<sup>3</sup>/s June 6, 1981, gage height, 16.14 ft; minimum daily, 0.19 ft<sup>3</sup>/s Oct. 4, 1983.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 450 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 8	0400	513	11.21	May 29	2100	676	12.42
Apr. 4	0500	915	13.54	June 3	2100	1,240	14.54
May 26	0600	*1,400	*14.94	Sept. 15	Unknown	657	12.29

Minimum daily discharge, 0.40 ft<sup>3</sup>/s Oct. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.74	.69	6.6	13	16	7.6	90	18	63	5.1	5.5	220
2	.86	.77	5.1	10	12	7.4	75	14	138	5.1	4.3	100
3	1.3	.78	4.4	8.0	11	7.2	378	12	459	5.8	3.7	35
4	.75	1.3	3.9	7.0	9.2	8.0	663	10	626	6.3	3.4	15
5	.67	25	3.4	6.0	8.0	65	185	45	158	5.0	6.8	9.0
6	.59	14	3.3	209	7.0	30	88	23	80	4.7	6.1	5.5
7	.58	6.8	3.1	341	6.0	15	56	12	44	4.5	3.8	4.6
8	.57	5.2	2.7	334	5.2	11	44	9.6	31	4.3	2.9	3.8
9	.53	4.3	2.3	70	4.5	12	40	18	25	4.2	2.5	6.0
10	.49	104	2.1	35	4.7	41	26	49	19	4.1	2.3	75
11	.40	48	1.9	25	4.9	76	20	18	15	6.9	2.1	40
12	.43	15	1.7	78	5.2	60	17	12	20	63	1.9	17
13	.49	11	1.8	59	5.6	30	15	11	24	24	2.3	8.0
14	.54	12	2.1	28	8.0	25	13	9.6	16	9.1	2.1	70
15	.56	6.6	2.3	22	23	21	12	8.3	13	5.7	1.7	300
16	.62	4.9	1.7	18	24	12	11	9.5	11	4.8	2.8	90
17	1.7	3.7	1.7	17	17	10	10	7.4	9.5	4.3	2.3	40
18	3.9	2.7	1.6	19	13	9.3	16	6.3	8.7	4.2	2.0	22
19	3.2	2.3	1.7	26	11	6.3	76	6.4	8.5	9.1	1.8	14
20	1.2	57	2.3	21	11	29	28	14	8.5	187	2.0	10
21	.88	109	2.0	13	88	103	18	8.6	7.6	135	4.5	7.5
22	.74	31	1.9	11	46	31	13	6.7	6.9	31	22	6.6
23	1.0	17	3.7	9.9	13	19	10	39	6.6	14	16	6.0
24	.97	9.8	6.4	9.3	11	14	9.0	23	6.3	11	10	5.0
25	1.7	7.5	4.2	9.1	11	11	8.5	94	6.8	9.5	6.5	4.0
26	1.1	7.1	2.9	126	12	8.1	18	1120	6.0	7.0	4.0	3.7
27	.90	39	4.2	95	11	11	13	285	5.9	5.4	2.2	3.4
28	.76	28	176	40	8.8	26	72	82	6.2	57	2.0	3.0
29	.72	12	80	29	---	14	65	249	5.5	15	3.2	2.9
30	1.2	8.6	33	25	---	100	36	297	5.1	9.8	60	2.8
31	.73	---	18	20	---	123	---	74	---	7.5	30	---
TOTAL	30.82	595.04	388.0	1733.3	407.1	942.9	2125.5	2591.4	1840.1	669.4	222.7	1129.8
MEAN	.99	19.8	12.5	55.9	14.5	30.4	70.8	83.6	61.3	21.6	7.18	37.7
MAX	3.9	109	176	341	88	123	663	1120	626	187	60	300
MIN	.40	.69	1.6	6.0	4.5	6.3	8.5	6.3	5.1	4.1	1.7	2.8
CFSM	.03	.68	.43	1.91	.50	1.04	2.43	2.86	2.10	.74	.25	1.29
IN.	.04	.76	.49	2.21	.52	1.20	2.71	3.30	2.34	.85	.28	1.44

CAL YR 1988 TOTAL 4984.32 MEAN 13.6 MAX 348 MIN .40 CFSM .47 IN. 6.35  
WTR YR 1989 TOTAL 12676.06 MEAN 34.7 MAX 1120 MIN .40 CFSM 1.19 IN. 16.15

## 03326500 MISSISSINAWA RIVER AT MARION, IN

LOCATION.--Lat 40°34'34", long 85°39'34", in SE¼NE¼ sec.31, T.25 N., R.8 E., Grant County, Hydrologic Unit 05120103, on left bank 12 ft downstream from Highland Avenue bridge in Marion, 0.1 mi downstream from old mill dam, 1.0 mi upstream from Hummel Creek, 4.6 mi downstream from Lugar Creek, and at mile 35.8.

DRAINAGE AREA.--682 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1923 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 1335: 1927(M). WSP 1385: 1948. WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 774.56 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 9, 1933, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Dec. 10-13, 16-19, Dec. 29 to Jan. 6, Jan. 9, 10, Feb. 5 to Mar. 2, and Mar. 7-9. Records good except for estimated daily discharges, which are poor. Flow periodically regulated by dam 0.1 mi above station.

AVERAGE DISCHARGE.--66 years, 625 ft<sup>3</sup>/s, 12.44 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,000 ft<sup>3</sup>/s Mar. 21, 1927, gage height, 17.40 ft from graph based on gage readings, from rating curve extended above 18,000 ft<sup>3</sup>/s; minimum daily, 3.4 ft<sup>3</sup>/s Oct. 25, 1968.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 19.20 ft from information by State of Indiana, Department of Natural Resources.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,600 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 5	1600	7,990	9.17	June 4	0900	9,890	10.35
May 26	1330	*16,900	a*13.97	July 22	0400	7,210	8.65
May 30	0100	5,740	7.61	Sept. 3	0500	8,740	9.65

a Regulated

Minimum daily discharge, 18 ft<sup>3</sup>/s Nov. 19 (regulated).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	74	196	750	421	240	3450	969	1420	173	333	3590
2	30	36	173	450	359	225	2270	671	2640	157	272	8370
3	29	36	155	330	308	219	3170	539	2850	159	231	8320
4	28	58	137	270	264	225	6960	464	8030	160	204	3090
5	29	59	122	250	220	343	7890	765	3830	158	195	1120
6	29	86	110	250	180	1110	5030	745	2100	195	191	611
7	28	115	101	2230	160	800	1870	628	1460	160	199	542
8	27	115	94	4730	150	430	1310	465	892	141	199	438
9	27	104	90	3200	135	370	1090	435	767	127	166	439
10	27	129	86	2000	130	413	1010	557	620	117	146	3050
11	27	205	85	867	135	855	765	992	511	115	138	2740
12	25	285	85	652	145	1330	633	609	495	908	138	1280
13	24	220	84	1010	155	1040	552	481	541	2260	166	770
14	24	149	84	973	165	717	479	414	829	1250	130	966
15	25	122	81	632	200	606	442	359	600	619	165	3980
16	35	120	80	496	260	504	409	320	456	389	331	4260
17	46	110	79	411	380	383	374	301	380	277	147	1900
18	60	51	78	389	330	343	370	283	329	219	120	875
19	52	18	77	396	300	312	586	337	449	212	111	682
20	59	126	76	456	270	290	1330	734	282	2120	127	516
21	52	208	74	427	400	669	794	550	119	6010	126	415
22	48	305	72	335	900	1210	568	400	231	6910	243	354
23	51	328	82	285	600	695	456	386	223	3870	361	309
24	49	322	84	260	370	499	251	1120	233	2470	643	273
25	43	267	85	245	320	418	342	2040	204	3050	350	246
26	42	213	86	563	340	363	357	14500	214	1760	227	222
27	41	179	92	1430	320	321	957	11200	211	894	175	205
28	41	158	113	1200	270	311	1280	5890	185	680	159	192
29	39	187	300	722	---	326	1140	2950	170	909	148	182
30	38	204	800	565	---	451	1440	4530	181	580	566	174
31	37	---	900	486	---	2300	---	2330	---	407	1680	---
TOTAL	1141	4589	4761	27260	8187	18318	47575	56964	31452	37456	8387	50111
MEAN	36.8	153	154	879	292	591	1586	1838	1048	1208	271	1670
MAX	60	328	900	4730	900	2300	7890	14500	8030	6910	1680	8370
MIN	24	18	72	245	130	219	251	283	119	115	111	174
CFSM	.05	.22	.23	1.29	.43	.87	2.33	2.69	1.54	1.77	.40	2.45
IN.	.06	.25	.26	1.49	.45	1.00	2.59	3.11	1.72	2.04	.46	2.73

CAL YR 1988 TOTAL 98630 MEAN 269 MAX 5110 MIN 18 CFSM .40 IN. 5.38  
WTR YR 1989 TOTAL 296201 MEAN 812 MAX 14500 MIN 18 CFSM 1.19 IN. 16.16



## 03327000 MISSISSINewa RIVER AT PEORIA, IN

LOCATION.--Lat 40°43'24", long 85°57'27", in SW¼SW¼ sec.3, T.26 N., R.5 E., Miami County, Hydrologic Unit 05120103, on right bank at Peoria, 0.6 mi downstream from Mississinewa Lake, 6.5 mi southeast of Peru, and 6.7 mi upstream from mouth.

DRAINAGE AREA.--808 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1952 to current year.

REVISED RECORDS.--WSP 1335: 1953. WSP 2109: Drainage area.

GAGE.--Data-Collection Platform. Datum of gage was 660.00 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1962, to Sept. 30, 1974, water-stage recorder at site described in "LOCATION" paragraph. Prior to Oct. 7, 1954, nonrecording gage and crest-stage gage on highway bridge 2,500 ft upstream, and Oct. 7, 1954, to Sept. 30, 1962, water-stage recorder on right bank at site 2,500 ft upstream at same datum. Data-Collection Platform installed on Aug. 21, 1986.

REMARKS.--Flow regulated by Mississinewa Lake since April 1968. Daily discharge computed from relation between discharge, head, and gate openings for Mississinewa Lake beginning Oct. 1, 1974.

COOPERATION.--Records of daily discharge provided by U.S. Army Corps of Engineers beginning Oct. 1, 1976.

AVERAGE DISCHARGE.--37 years, 710 ft<sup>3</sup>/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,000 ft<sup>3</sup>/s June 11, 1958, gage height, 19.26 ft, site then in use; zero flow, Sept. 11 to Oct. 2, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 4,340 ft<sup>3</sup>/s July 26; minimum daily, 35 ft<sup>3</sup>/s Apr. 25, 26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	233	432	401	1290	600	405	122	1040	2190	269	255	1760
2	233	431	400	907	447	355	127	1210	2000	217	228	2410
3	241	353	399	363	355	259	131	949	1340	217	222	3030
4	246	322	398	248	355	212	135	631	136	217	302	3570
5	246	428	396	207	355	213	141	655	138	180	252	3800
6	245	426	394	388	280	538	1980	735	1020	146	205	3770
7	245	425	392	953	168	863	3740	661	2470	149	110	3170
8	244	362	327	680	132	986	4290	547	3180	154	110	1750
9	244	321	295	735	152	608	4220	466	3410	154	134	971
10	244	320	294	1400	214	420	3760	466	3390	133	154	1850
11	262	320	293	1890	271	410	2600	864	3380	110	122	2800
12	278	406	292	2010	271	414	1080	778	1770	129	106	2160
13	277	504	291	1990	230	702	553	541	2750	1500	80	852
14	277	503	290	1980	183	989	470	343	3390	1660	68	468
15	276	445	302	1960	184	589	421	288	2980	889	68	2070
16	276	382	317	1930	262	227	421	288	3370	491	94	3000
17	275	381	315	1890	433	102	386	288	3560	342	146	3230
18	336	380	314	1460	547	103	344	288	3860	200	171	2400
19	378	379	312	1260	546	103	344	288	3440	110	129	1090
20	377	378	310	894	303	104	1090	631	3160	475	111	750
21	377	424	309	465	269	105	1110	939	3580	1600	111	557
22	376	616	307	465	597	107	606	595	4010	2660	149	383
23	375	706	306	465	827	110	383	394	3680	3230	360	323
24	331	703	305	381	781	111	134	394	3550	3510	563	366
25	441	700	304	306	534	112	35	1740	2590	4110	456	394
26	440	579	303	307	466	113	35	955	1650	4340	225	393
27	439	493	334	1020	466	113	36	179	1660	3860	194	280
28	437	491	473	1500	465	114	1050	186	758	2050	194	216
29	436	489	711	1270	---	114	852	188	692	931	194	216
30	434	444	1110	776	---	115	658	727	382	931	513	216
31	433	---	1290	601	---	117	---	1680	---	495	1300	---
TOTAL	9952	13543	12484	31991	10693	9833	31254	19934	73486	35459	7326	48245
MEAN	321	451	403	1032	382	317	1042	643	2450	1144	236	1608
MAX	441	706	1290	2010	827	989	4290	1740	4010	4340	1300	3800
MIN	233	320	290	207	132	102	35	179	136	110	68	216

CAL YR 1988 TOTAL 126888 MEAN 347 MAX 2850 MIN 36  
WTR YR 1989 TOTAL 304200 MEAN 833 MAX 4340 MIN 35

## 03327500 WABASH RIVER AT PERU, IN

LOCATION.--Lat 40°44'35", long 86°05'45", in SE¼NE¼ sec.32, T.27 N., R.4 E., Miami County, Hydrologic Unit 05120101, on right bank at upstream side of bridge on U.S. Highway 31, 0.5 mi southwest of Peru, 4.4 mi downstream from Mississinewa River, and at mile 370.5.

DRAINAGE AREA.--2,686 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1943 to current year.

REVISED RECORDS.--WSP 2109: Drainage area. WDR IN-74-1: 1973. WDR IN-81-1: 1979.

GAGE.--Water-stage recorder. Datum of gage is 617.94 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to June 20, 1961, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Dec. 1-13, Jan. 26-31, Feb. 6-13, Mar. 11-13, Apr. 4-6, and June 29 to July 5. Records fair. Flow regulated by Huntington Lake, Salamonie Lake, and Mississinewa Lake.

AVERAGE DISCHARGE.--46 years, 2,356 ft<sup>3</sup>/s, 11.91 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 68,000 ft<sup>3</sup>/s May 18, 1943, gage height, 24.46 ft, from floodmark; minimum daily, 72 ft<sup>3</sup>/s Oct. 5, 1946.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 26, 1913, reached a stage of 28.1 ft, discharge, 115,000 ft<sup>3</sup>/s, from rating curve extended above 63,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,800 ft<sup>3</sup>/s June 4, gage height, 12.73 ft; minimum daily, 402 ft<sup>3</sup>/s Aug. 10, 21.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	674	913	1400	3780	2610	1320	1410	6050	7290	4050	1300	4340
2	742	888	1370	2930	2170	1150	1890	6120	7390	4020	1010	5360
3	716	882	1240	1700	1590	1040	3400	5010	9620	3100	735	5540
4	716	739	1100	1120	1370	925	6850	2800	15500	1700	835	6530
5	684	927	1020	862	1180	1110	6500	2000	8650	1060	713	6000
6	689	938	950	1250	940	1300	8000	2390	7380	598	688	5010
7	686	988	880	3770	720	2570	10800	2430	8340	514	581	4230
8	684	983	800	8580	710	2840	11200	2330	8880	508	544	2770
9	673	903	720	6880	710	1990	10300	1970	9140	515	460	1950
10	672	1040	660	6680	710	1490	8510	1830	8850	515	402	3010
11	694	1380	610	6710	710	1460	5950	2130	9030	514	487	6940
12	725	1540	600	6180	710	1350	3560	2690	7660	533	446	4730
13	683	1630	620	5290	710	1650	2170	2360	7430	1380	630	2470
14	673	1660	630	5030	753	2420	1780	1940	8530	2560	585	3150
15	676	1880	644	4870	837	2080	1540	1500	7600	1720	431	5680
16	737	2190	642	4240	983	1270	1340	1250	8050	1050	468	6990
17	758	1800	662	4000	1650	848	1140	1090	8740	872	506	7410
18	1020	1580	741	3570	1810	826	950	1060	8670	736	531	6700
19	1390	1430	736	3180	1760	1160	834	1010	8600	789	442	4150
20	1140	1600	785	3010	1510	985	1270	1680	8030	1650	412	2740
21	977	2940	704	2440	1220	1060	1940	2800	8780	2450	402	2150
22	902	3300	685	2360	1800	1150	1520	2330	7510	5130	435	1490
23	904	3170	735	2290	2470	1490	990	1830	7850	7280	642	1240
24	863	2620	894	2090	2770	1400	754	1750	7600	7190	1020	1190
25	1010	2090	1020	1630	1930	1060	425	3050	6670	7270	1440	1230
26	983	1930	983	2100	1750	891	520	7900	5740	7590	1160	1210
27	963	1750	1020	3850	1680	858	2350	4420	5690	5950	910	1110
28	936	1710	2360	5100	1480	786	3820	4340	4440	3770	731	921
29	905	1640	3700	5150	---	721	4580	5230	2960	2090	646	914
30	887	1550	3580	4520	---	742	4790	4670	2780	2080	986	906
31	886	---	4370	3860	---	760	---	7510	---	1840	2200	---
TOTAL	25648	48591	36861	119022	39243	40702	111083	95470	233400	81024	22778	108061
MEAN	827	1620	1189	3839	1402	1313	3703	3080	7780	2614	735	3602
MAX	1390	3300	4370	8580	2770	2840	11200	7900	15500	7590	2200	7410
MIN	672	739	600	862	710	721	425	1010	2780	508	402	906
CFSM	.31	.60	.44	1.43	.52	.49	1.38	1.15	2.90	.97	.27	1.34
IN.	.36	.67	.51	1.65	.54	.56	1.54	1.32	3.23	1.12	.32	1.50

CAL YR 1988 TOTAL 464295 MEAN 1269 MAX 13100 MIN 123 CFSM .47 IN. 6.43  
WTR YR 1989 TOTAL 961883 MEAN 2635 MAX 15500 MIN 402 CFSM .98 IN. 13.32

## 03327520 PIPE CREEK NEAR BUNKER HILL, IN

LOCATION.--Lat 40°40'06", long 86°05'44", in NE¼SE¼ sec.29, T.26 N., R.4 E., Miami County, Hydrologic Unit 05120101, on right bank 150 ft downstream from bridge on County Road 125 West, 0.5 mi northeast of Bunker Hill, and at mile 11.4.

DRAINAGE AREA.--159 mi<sup>2</sup>.

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1960-67; May 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 736.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 6-10, 12-16, Dec. 10-18, Dec. 28 to Jan. 5, Feb. 6 to Mar. 2, and Mar. 6-9. Records good except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--21 years, 144 ft<sup>3</sup>/s, 12.30 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,390 ft<sup>3</sup>/s Feb. 24, 1985, gage height, 16.59 ft; minimum daily, 3.3 ft<sup>3</sup>/s Feb. 1, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
May 27	0300	*3,470	*14.60	June 4	1300	1,620	9.71
May 30	1200	1,590	9.62				

Minimum daily discharge, 4.0 ft<sup>3</sup>/s Oct. 13, 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	6.5	25	60	139	47	59	261	492	34	23	349
2	7.2	6.8	23	50	113	46	58	193	502	33	20	362
3	7.8	6.2	22	46	94	46	270	150	711	33	18	190
4	5.9	7.6	21	43	80	63	613	123	1550	32	16	99
5	5.1	22	20	40	76	82	529	144	860	30	16	58
6	4.7	23	20	133	67	67	354	131	455	29	15	39
7	4.5	15	20	393	60	58	260	108	312	27	14	31
8	4.3	12	19	899	55	56	209	95	231	25	13	29
9	4.2	12	18	491	54	56	172	100	181	23	12	27
10	4.1	42	17	272	53	64	137	110	144	22	12	56
11	4.1	55	16	183	53	80	117	106	117	22	12	90
12	4.1	30	15	177	54	93	108	98	135	30	12	71
13	4.0	24	16	186	56	89	98	95	141	40	12	45
14	4.0	22	17	151	58	91	90	85	113	31	11	118
15	4.2	19	18	132	58	90	90	76	95	31	11	261
16	4.7	42	16	107	57	70	83	70	83	27	11	198
17	12	52	15	94	56	60	76	65	75	23	10	126
18	20	27	15	87	53	68	76	62	67	21	10	84
19	15	22	16	84	52	60	87	67	63	26	10	58
20	8.2	70	17	86	52	61	87	96	59	28	11	43
21	6.7	187	16	76	60	95	83	103	55	30	16	35
22	5.4	99	16	72	70	95	79	90	51	75	13	31
23	6.0	67	20	68	70	86	73	86	48	50	13	26
24	6.4	51	27	63	65	80	68	80	45	50	13	24
25	7.8	42	23	59	60	77	78	234	42	123	12	22
26	7.1	37	22	206	64	70	271	2370	41	92	12	21
27	6.4	35	29	433	57	65	166	2840	41	54	11	19
28	6.9	32	150	294	50	63	264	1370	41	38	12	18
29	8.3	28	160	217	---	62	350	909	38	29	14	17
30	7.1	26	120	184	---	64	424	1530	35	27	13	16
31	6.2	---	85	159	---	65	---	909	---	26	12	---
TOTAL	206.6	1120.1	1034	5545	1836	2169	5429	12756	6823	1161	410	2563
MEAN	6.66	37.3	33.4	179	85.6	70.0	181	411	227	37.5	13.2	85.4
MAX	20	187	160	899	139	95	613	2840	1550	123	23	362
MIN	4.0	6.2	15	40	50	46	58	62	35	21	10	16
CFSM	.04	.23	.21	1.12	.41	.44	1.14	2.59	1.43	.24	.08	.54
IN.	.05	.26	.24	1.30	.43	.51	1.27	2.98	1.60	.27	.10	.60
CAL YR 1988	TOTAL 32652.9	MEAN 89.2	MAX 2490	MIN 4.0	CFSM .56	IN. 7.64						
WTR YR 1989	TOTAL 41052.7	MEAN 112	MAX 2840	MIN 4.0	CFSM .71	IN. 9.60						

## 03328000 EEL RIVER AT NORTH MANCHESTER, IN

LOCATION.--Lat 40°59'55", long 85°45'50", in NE¼NE¼ sec.5, T.29 N., R.7 E., Wabash County, Hydrologic Unit 05120104, on right bank 200 ft downstream from Main Street bridge in North Manchester, 1.3 mi upstream from Pony Creek, and at mile 52.7.

DRAINAGE AREA.--417 mi<sup>2</sup>, includes that of Pony Creek.

PERIOD OF RECORD.--October 1929 to current year. Prior to April 1930, monthly discharge only, published in WSP 1305. Gage-height records since November 20, 1923 are available from the district office.

REVISED RECORDS.--WSP 1275: 1930-37, 1939, 1940(M), 1942, 1948. WSP 1909: 1957. WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 738.00 ft above National Geodetic Vertical Datum of 1929. Prior to July 24, 1953, nonrecording gage on downstream side of Second Street bridge, 700 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Oct. 8-16, Dec. 12, 13, 18, 19, Dec. 29 to Jan. 5, Jan. 9, 10, Feb. 5 to Mar. 1, and Mar. 7, 8. Records good except for Feb. 5 to Mar. 1, which are poor. Records include flow of Pony Creek.

AVERAGE DISCHARGE.--60 years, 366 ft<sup>3</sup>/s, 11.92 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,240 ft<sup>3</sup>/s Feb. 24, 1985, gage height, 13.76 ft; maximum gage height, 14.00 ft Feb. 27, 1936; minimum daily discharge, 16 ft<sup>3</sup>/s Oct. 19, 1956.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 16	2300	2,930	7.79	Jan. 8	1400	*4,060	*9.55
Nov. 21	0400	2,470	6.99	Apr. 3	1700	2,300	6.68
Dec. 28	1000	2,340	6.76	June 4	0900	3,990	9.45

Minimum daily discharge, 62 ft<sup>3</sup>/s Oct. 14, 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	126	409	500	534	198	306	287	1090	144	113	187
2	92	119	355	420	453	195	290	264	2120	139	102	194
3	122	112	323	370	405	190	1740	260	2180	140	96	127
4	104	111	299	330	353	296	2150	244	3810	140	93	97
5	86	130	281	300	300	588	1530	235	2900	133	103	87
6	75	165	269	851	260	368	963	221	2160	122	92	83
7	71	185	257	1690	230	270	704	201	1590	117	87	87
8	66	238	238	3760	220	240	568	191	1090	110	84	108
9	65	285	227	3100	205	223	475	195	773	106	83	166
10	64	729	216	2500	200	211	402	201	588	105	82	262
11	66	1130	206	1850	205	217	364	191	475	100	79	180
12	65	734	200	1270	210	236	337	183	422	161	78	126
13	64	640	195	1040	220	232	311	176	440	333	81	105
14	62	630	190	775	240	242	286	187	408	243	77	284
15	62	464	185	636	255	334	275	182	433	177	84	777
16	66	1660	175	530	265	338	259	178	405	142	83	446
17	94	2540	177	472	260	291	246	173	331	123	77	315
18	1110	1970	175	441	255	1380	257	165	287	111	74	241
19	1340	1350	172	445	250	1440	253	159	458	118	71	184
20	956	1380	169	444	250	1010	240	406	851	131	73	150
21	571	2320	167	393	255	955	231	426	504	135	73	129
22	402	1930	166	353	250	712	223	322	362	306	72	117
23	317	1340	575	323	235	562	211	259	294	325	78	107
24	361	881	799	310	225	486	200	226	260	223	85	99
25	311	682	584	302	225	419	196	285	225	174	75	96
26	243	572	425	1260	230	384	266	721	204	148	69	95
27	202	649	566	1660	215	356	360	597	184	155	65	91
28	175	687	2240	1090	205	347	331	375	179	129	68	90
29	159	532	1900	796	---	350	443	297	167	123	74	89
30	145	456	1100	724	---	344	361	296	155	156	69	88
31	133	---	700	630	---	332	---	289	---	131	64	---
TOTAL	7715	24747	13940	29565	7410	13746	14778	8392	25345	4900	2504	5207
MEAN	249	825	450	954	265	443	493	271	845	158	80.8	174
MAX	1340	2540	2240	3760	534	1440	2150	721	3810	333	113	777
MIN	62	111	166	300	200	190	196	159	155	100	64	83
CFSM	.60	1.98	1.08	2.29	.63	1.06	1.18	.65	2.03	.38	.19	.42
IN.	.69	2.21	1.24	2.64	.66	1.23	1.32	.75	2.26	.44	.22	.46

CAL YR 1988 TOTAL 129473 MEAN 354 MAX 4130 MIN 57 CFSM .85 IN. 11.55  
WTR YR 1989 TOTAL 158249 MEAN 434 MAX 3810 MIN 62 CFSM 1.04 IN. 14.12

## WABASH RIVER BASIN

03328430 WEESAU CREEK NEAR DEEDSVILLE, IN

LOCATION.--Lat 40°54'34", long 86°07'36", in NW¼ sec.6, T.28 N., R.4 E., Miami County, Hydrologic Unit 05120104, on left bank 100 ft downstream from bridge on County Road 1000 North, and 1.5 mi west of Deedsville.

DRAINAGE AREA.--8.87 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder. Datum of gage is 785.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 31 to Jan. 4, Feb. 6-13, Mar. 7-10, and Aug. 3-7. Records poor.

AVERAGE DISCHARGE.--19 years, 9.96 ft<sup>3</sup>/s, 15.25 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 471 ft<sup>3</sup>/s Feb. 23, 1985, gage height, 7.01 ft; maximum gage height, 7.37 ft Mar. 13, 1982; minimum daily discharge, 0.26 ft<sup>3</sup>/s Feb. 1, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 8	0300	219	4.94	June 19	2000	176	4.51
June 3	2100	250	5.23	Sept. 1	1000	*307	*5.73

Minimum daily discharge, 0.52 ft<sup>3</sup>/s Oct. 1, 13-15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.52	.65	2.8	4.1	9.6	4.7	4.8	4.8	37	7.1	2.6	205
2	.69	.59	2.5	3.6	8.6	4.3	5.9	4.7	18	6.6	2.3	105
3	.77	.59	2.4	3.2	7.7	3.9	83	4.5	90	5.9	2.2	57
4	.73	.63	2.2	2.9	7.0	29	50	4.3	113	5.2	1.8	32
5	.69	.89	2.0	2.6	6.3	21	26	4.1	50	4.6	1.6	16
6	.66	1.1	1.9	16	5.2	11	15	4.0	25	4.3	1.5	10
7	.59	1.3	1.7	54	4.4	7.4	14	3.7	13	3.8	1.5	9.3
8	.59	1.4	1.7	135	3.9	5.8	14	3.5	9.8	3.4	1.4	9.5
9	.59	1.6	1.6	46	3.6	5.2	13	3.4	9.4	2.9	1.5	31
10	.59	21	1.5	21	3.5	5.0	12	3.5	8.8	2.7	1.6	26
11	.59	8.5	1.4	12	3.5	5.2	11	3.5	8.2	7.0	1.5	13
12	.56	5.0	1.3	13	3.6	4.7	10	3.5	15	36	1.4	8.9
13	.52	4.1	1.3	11	3.7	4.5	9.1	3.5	12	15	1.2	8.3
14	.52	4.2	1.2	9.6	3.8	4.5	8.5	3.3	10	2.9	1.1	14
15	.52	3.2	1.2	8.6	4.1	5.2	7.8	3.3	11	2.6	1.1	18
16	.53	65	1.2	7.5	4.6	5.6	7.2	3.2	9.3	2.3	1.0	10
17	.99	49	1.2	6.8	4.9	5.6	6.8	3.1	9.0	1.9	.97	8.5
18	21	16	1.1	6.1	5.0	59	6.3	3.0	8.3	1.6	.90	7.9
19	13	7.2	1.1	5.7	4.8	21	5.9	2.9	55	2.6	.84	7.3
20	5.0	37	1.1	5.3	4.6	16	5.7	11	72	2.6	.81	6.9
21	2.0	44	1.1	5.1	4.5	19	5.4	14	23	6.1	.81	6.4
22	1.7	14	.99	4.8	5.0	12	5.1	13	12	2.9	.81	5.7
23	1.5	7.1	5.5	4.5	5.5	11	5.0	11	9.8	2.6	.81	5.1
24	1.6	6.2	6.3	4.2	5.7	9.7	4.8	9.7	9.4	2.3	.87	4.6
25	1.6	5.3	5.4	4.0	5.2	8.7	4.4	26	8.9	2.0	.90	4.4
26	1.5	4.4	4.3	48	5.2	7.5	4.2	29	8.3	1.8	.83	4.0
27	5.2	4.0	13	34	5.3	6.4	4.0	15	8.2	1.6	.81	3.6
28	2.0	3.9	47	16	5.0	5.7	4.2	14	9.4	1.4	5.2	3.4
29	1.0	3.4	16	11	---	5.3	4.7	12	8.6	1.2	20	3.1
30	.77	3.2	7.2	10	---	5.2	4.8	11	7.8	3.9	32	2.9
31	.67	---	5.2	10	---	5.0	---	22	---	2.8	14	---
TOTAL	69.19	324.45	144.39	525.6	143.8	324.1	362.6	257.5	689.2	149.6	105.86	646.8
MEAN	2.23	10.8	4.66	17.0	5.14	10.5	12.1	8.31	23.0	4.83	3.41	21.6
MAX	21	65	47	135	9.6	59	83	29	113	36	32	205
MIN	.52	.59	.99	2.6	3.5	3.9	4.0	2.9	7.8	1.2	.81	2.9
CFSM	.25	1.22	.53	1.91	.58	1.18	1.36	.94	2.59	.54	.38	2.43
IN.	.29	1.36	.61	2.20	.60	1.36	1.52	1.08	2.89	.63	.44	2.71

CAL YR 1988 TOTAL 1971.96 MEAN 5.39 MAX 66 MIN .33 CFSM .61 IN. 8.27  
WTR YR 1989 TOTAL 3743.09 MEAN 10.3 MAX 205 MIN .52 CFSM 1.16 IN. 15.70



## 03328500 EEL RIVER NEAR LOGANSPOET, IN

LOCATION.--Lat 40°46'55", long 86°15'50", in NE1/4 sec.14, T.27 N., R.2 E., Cass County, Hydrologic Unit 05120104, on right bank at downstream side of bridge on Adamsboro Road, 5.5 mi northeast of Logansport, and 7.4 mi upstream from mouth.

DRAINAGE AREA.--789 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1943 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 621.50 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 16, 1956, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Dec. 11-14, 16-20, Dec. 29 to Jan. 6, Feb. 5 to Mar. 1, and Mar. 7-9. Records good except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--46 years, 746 ft<sup>3</sup>/s, 12.84 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,700 ft<sup>3</sup>/s Feb. 24, 1985, gage height, 12.68 ft; minimum daily, 70 ft<sup>3</sup>/s Mar. 15, 1960, results of freezeup.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 18, 1943, reached a stage of 13.2 ft, from floodmark, discharge, 17,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 8	2200	5,950	8.25	June 4	2200	*8,620	*9.50

Minimum daily discharge, 113 ft<sup>3</sup>/s Oct. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	113	223	659	850	854	350	497	520	1240	331	383	2120
2	138	214	596	730	741	344	482	458	2250	318	287	1960
3	148	209	546	650	649	339	1550	427	4210	319	249	1050
4	220	215	512	590	583	470	3190	413	7710	316	229	652
5	174	254	479	560	510	867	2530	399	6610	302	220	446
6	167	290	460	670	435	802	1680	372	3620	282	223	349
7	142	326	443	2220	400	490	1200	350	2540	267	216	320
8	132	339	423	5470	380	450	963	327	1860	254	198	292
9	128	394	398	5170	365	415	815	339	1360	242	186	360
10	123	585	377	3600	360	398	696	363	1070	233	175	889
11	125	1300	340	2490	360	388	611	338	882	244	171	907
12	124	1180	310	1860	370	399	566	315	901	383	171	563
13	116	866	350	1530	395	423	530	306	906	483	178	401
14	116	853	360	1200	420	419	498	302	803	544	175	359
15	119	761	339	973	450	458	483	305	758	425	174	1280
16	135	1500	290	816	460	542	464	288	747	333	172	1250
17	145	4160	290	723	450	518	445	277	684	282	176	803
18	298	2890	320	672	440	944	438	267	598	250	168	594
19	1460	2080	330	644	430	2010	444	274	630	354	164	476
20	1250	1700	330	653	430	1500	430	377	1780	637	164	389
21	908	3440	308	637	440	1380	411	586	1270	446	167	331
22	633	2810	292	573	430	1180	397	539	864	420	173	296
23	505	2090	370	536	410	909	380	461	675	583	179	262
24	438	1440	975	503	390	771	367	395	580	546	222	239
25	468	1090	934	491	390	695	359	451	506	407	266	222
26	431	917	748	988	410	621	369	990	450	333	209	213
27	359	842	677	2630	380	584	434	1180	431	291	180	206
28	312	931	2530	1790	360	548	593	771	488	287	203	199
29	274	863	2700	1280	---	537	613	1050	398	258	349	193
30	253	734	1700	1070	---	535	620	877	356	324	383	191
31	237	---	1100	976	---	522	---	717	---	490	302	---
TOTAL	10190	35496	20486	43545	12692	20808	23055	15034	47177	11184	6712	17812
MEAN	329	1183	661	1405	453	671	768	485	1573	361	217	594
MAX	1460	4160	2700	5470	854	2010	3190	1180	7710	637	383	2120
MIN	113	209	290	491	360	339	359	267	356	233	164	191
CFSM	.42	1.50	.84	1.78	.57	.85	.97	.61	1.99	.46	.27	.75
IN.	.48	1.67	.97	2.05	.60	.98	1.09	.71	2.22	.53	.32	.84

CAL YR 1988 TOTAL 217673 MEAN 595 MAX 6650 MIN 91 CFSM .75 IN. 10.26  
WTR YR 1989 TOTAL 264191 MEAN 724 MAX 7710 MIN 113 CFSM .92 IN. 12.46

## 03329000 WABASH RIVER AT LOGANSPOET, IN

LOCATION.--Lat 40°44'47", long 86°22'39", in SW¼ sec.35, T.27 N., R.1 E., Cass County, Hydrologic Unit 05120105, on left bank 150 ft downstream from Cicott Street bridge in Logansport, 1,000 ft downstream from Eel River, and at mile 353.7.

DRAINAGE AREA.--3,779 mi<sup>2</sup>.

PERIOD OF RECORD.--April to September, November and December 1903, March to November 1904, March 1905 to July 1906, May 1923 to current year. January, February, and December 1904, January and February 1905 (gage heights only). Gage-height records collected at same site December 1910 to December 1916, and since January 1926 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 783: 1934. WSP 1335: 1904, 1925(M), 1926-30, 1931(M), 1932-35, 1937-39, 1948. WSP 1385: 1903, 1905-6, 1923-25. WSP 1505: 1906(M). WSP 2109: Drainage area. WDR IN-81-1: 1979.

GAGE.--Water-stage recorder. Datum of gage is 573.28 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). See WSP 1705 for history of changes prior to Oct. 1, 1927.

REMARKS.--Estimated daily discharges: Dec. 11-13, 16-19, Dec. 29 to Jan. 5, and Feb. 6-15, 23-25. Records good except for estimated daily discharges, which are fair. Flow partially regulated by Huntington Lake, Salamonie Lake, and Mississinewa Lake.

AVERAGE DISCHARGE.--66 years (water years 1924 to current year), 3,310 ft<sup>3</sup>/s, 11.90 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 89,800 ft<sup>3</sup>/s May 18, 1943, gage height, 21.32 ft; minimum daily, 135 ft<sup>3</sup>/s Sept. 26, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 25.3 ft Mar. 26, 1913, from floodmarks, discharge, 140,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 27,100 ft<sup>3</sup>/s June 4, gage height, 11.52 ft; minimum daily, 632 ft<sup>3</sup>/s Aug. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	776	1170	2030	4500	3960	2000	1820	6650	9320	4650	1700	7170
2	840	1140	1960	3500	3350	1730	2550	6730	10500	4640	1350	8220
3	824	1130	1840	2500	2660	1660	4500	5810	14400	3120	1110	6800
4	856	1050	1590	1900	2320	1700	9150	3620	26400	1950	1080	7350
5	843	1200	1520	1600	2090	2240	8860	2520	17300	1410	1000	6920
6	774	1260	1450	1830	1600	2290	9230	2810	10700	1130	940	5740
7	788	1310	1370	5720	1350	3070	11900	2780	10400	921	892	5060
8	774	1340	1340	15400	1250	3510	12400	2740	9960	878	811	3530
9	769	1320	1200	13200	1200	2880	11500	2440	9880	872	766	2590
10	762	1650	1120	10800	1180	2140	9730	2300	9210	859	632	2850
11	759	2480	1020	9700	1400	2030	7160	2260	9130	881	690	7890
12	784	2670	960	8620	1400	1900	4840	3040	8490	1140	705	6070
13	792	2440	1000	7390	1400	2150	3010	2600	7520	1330	793	3530
14	790	2390	1130	6570	1300	2990	2520	2260	8720	3300	831	3150
15	806	2530	1050	6130	1400	3000	2210	1780	7810	2460	710	6480
16	855	3860	970	5390	1810	2250	2000	1540	8100	1600	691	8610
17	916	6150	920	4940	2310	1770	1750	1390	8480	1240	703	8400
18	1270	4590	970	4520	2550	1950	1580	1390	8230	1090	777	7960
19	2570	3570	1150	3960	2450	3350	1410	1420	8270	1150	692	5240
20	2480	3270	1270	3910	2330	2950	1420	1740	8430	2390	649	3480
21	1940	6110	1100	3190	1920	2720	2390	3150	8890	2510	636	2810
22	1570	6260	1050	3020	2470	2760	2100	3070	8200	5030	662	1930
23	1430	5350	1160	2880	3200	2580	1510	2260	7720	7840	797	1570
24	1350	4290	1680	2690	3300	2560	1330	2130	8160	7750	1140	1410
25	1340	3310	1940	2250	2600	2220	1000	2620	7270	7700	1620	1430
26	1440	2890	1720	2940	2450	1840	1030	11300	6110	8230	1410	1410
27	1340	2570	1700	7210	2380	1770	2330	9070	6330	6690	1170	1380
28	1280	2620	4370	7600	2160	1690	3970	6990	5270	4690	1120	1150
29	1230	2480	6200	7000	---	1580	5640	7340	3300	2510	1080	1110
30	1200	2270	5500	5870	---	1590	5450	7910	2840	2190	1070	1110
31	1180	---	5600	5190	---	1590	---	9030	---	2560	2090	---
TOTAL	35328	84670	57880	171920	59790	70460	136290	122690	275340	94711	30317	132350
MEAN	1140	2822	1867	5546	2135	2273	4543	3958	9178	3055	978	4412
MAX	2570	6260	6200	15400	3960	3510	12400	11300	26400	8230	2090	8610
MIN	759	1050	920	1600	1180	1580	1000	1390	2840	859	632	1110
CFSM	.30	.75	.49	1.47	.57	.60	1.20	1.05	2.43	.81	.26	1.17
IN.	.35	.83	.57	1.69	.59	.69	1.34	1.21	2.71	.93	.30	1.30

CAL YR 1988 TOTAL 728520 MEAN 1990 MAX 21200 MIN 228 CFSM .53 IN. 7.17  
MEAN 3484 MAX 26400 MIN 632 CFSM .92 IN. 12.52

## 33329400 RATTLESNAKE CREEK NEAR PATTON, IN

LOCATION.--Lat 40°42'46", long 86°41'49", in NW¼SW¼ sec.7, T.26 N., R.2 W., Carroll County, Hydrologic Unit 05120105, on left bank 5 ft downstream from bridge on County Road 980 West, and 2.5 mi northeast of Patton.

DRAINAGE AREA.--6.83 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 644.97 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 28, 1979, at datum 1.00 ft higher.

REMARKS.--Estimated daily discharges: Oct. 1 to Nov. 19, Dec. 10-19, Dec. 29 to Jan. 5, Feb. 5 to Mar. 1, and Mar. 6-8. Records fair except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--21 years, 6.60 ft<sup>3</sup>/s, 13.12 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 456 ft<sup>3</sup>/s June 5, 1981, gage height, 5.12 ft; maximum gage height, 5.30 ft June 14, 1975; minimum daily discharge, 0.06 ft<sup>3</sup>/s Sept. 11-18, 27-30, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 90 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 7	2300	290	4.73	May 29	1200	354	4.89
May 19	2300	193	4.40	Sept. 1	0800	*379	*5.00

Minimum daily discharge, 0.09 ft<sup>3</sup>/s Oct. 13, 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	.33	.63	2.4	4.7	2.1	2.1	3.2	29	2.7	1.3	193
2	.40	.33	.57	2.0	4.0	2.2	3.6	3.1	27	2.8	1.2	54
3	.18	.33	.61	1.9	3.5	2.4	21	2.8	19	2.9	1.1	30
4	.15	.90	.55	1.7	3.3	6.4	20	2.9	15	2.5	1.1	19
5	.13	.54	.57	1.5	2.8	4.8	12	2.9	12	2.3	1.1	12
6	.12	.45	.62	7.2	2.5	3.1	9.1	2.6	9.0	2.1	1.0	7.6
7	.12	.41	.57	48	2.3	2.8	7.5	2.5	7.7	2.0	1.0	5.2
8	.11	.39	.51	75	2.1	2.6	6.8	2.5	6.7	1.9	1.0	4.2
9	.11	.38	.48	17	2.0	2.6	5.6	3.5	6.1	1.8	1.0	5.3
10	.10	1.4	.43	10	2.0	2.6	4.9	3.2	5.3	1.6	.98	3.7
11	.10	.60	.38	8.0	2.0	2.7	4.7	2.9	4.8	1.9	.95	2.8
12	.10	.52	.37	9.9	2.0	2.6	4.5	2.9	31	5.4	.94	2.4
13	.09	.48	.40	7.3	2.1	2.6	4.0	3.0	19	3.6	.93	2.1
14	.09	.46	.50	6.0	2.2	2.9	4.1	2.7	13	2.3	.97	9.7
15	.10	.44	.40	4.9	2.2	2.6	3.9	2.6	14	1.9	1.3	9.1
16	.25	1.1	.36	4.3	2.2	2.3	3.7	2.5	8.9	1.7	.95	5.3
17	.40	.70	.37	4.0	2.1	2.6	3.6	2.5	6.9	1.6	.88	3.8
18	1.0	.58	.39	3.9	2.0	7.6	3.5	2.6	5.9	1.5	.87	2.9
19	.45	.52	.45	3.9	2.0	4.8	3.3	29	5.4	3.4	.85	2.5
20	.26	2.5	.70	3.7	2.0	4.7	3.2	65	5.7	2.2	.88	2.2
21	.31	3.5	.50	3.3	2.4	4.3	3.2	22	4.8	1.8	.87	2.0
22	.28	1.8	.65	3.3	2.7	3.7	3.2	14	4.3	1.6	.99	2.0
23	.50	1.3	3.4	3.0	2.7	3.5	3.1	11	4.0	1.5	1.0	1.9
24	.40	1.1	2.1	2.8	2.6	3.3	3.1	8.4	3.7	1.5	1.0	1.7
25	.36	1.0	1.5	2.7	2.3	3.1	3.2	8.8	3.5	1.4	.87	1.7
26	.33	.90	1.3	8.6	2.4	2.8	3.0	19	3.4	1.4	.87	1.5
27	.44	.88	4.8	9.1	2.3	2.7	3.8	9.9	3.7	1.3	.85	1.4
28	.37	.76	9.5	7.3	2.2	2.7	4.6	7.6	3.4	1.3	9.4	1.5
29	.35	.70	4.5	6.5	---	2.6	4.0	146	2.9	1.2	2.9	1.4
30	.34	.67	3.6	6.0	---	2.5	3.3	47	2.8	1.5	1.4	1.3
31	.33	---	2.9	5.5	---	2.3	---	29	---	1.4	5.5	---
TOTAL	8.37	25.97	44.61	280.7	69.6	100.5	165.6	467.6	287.9	64.0	45.95	393.2
MEAN	.27	.87	1.44	9.05	2.49	3.24	5.52	15.1	9.60	2.06	1.48	13.1
MAX	1.0	3.5	9.5	75	4.7	7.6	21	146	31	5.4	9.4	193
MIN	.09	.33	.36	1.5	2.0	2.1	2.1	2.5	2.8	1.2	.85	1.3
CFSM	.04	.13	.21	1.33	.36	.47	.81	2.21	1.41	.30	.22	1.92
IN.	.05	.14	.24	1.53	.38	.55	.90	2.55	1.57	.35	.25	2.14

CAL YR 1988 TOTAL 1152.72 MEAN 3.15 MAX 47 MIN .06 CFSM .46 IN. 6.28  
WTR YR 1989 TOTAL 1954.00 MEAN 5.35 MAX 193 MIN .09 CFSM .78 IN. 10.64

## 03329700 DEER CREEK NEAR DELPHI, IN

LOCATION.--Lat 40°35'25", long 86°37'15", in NE¼NE¼ sec.27, T.25 N., R.2 W., Carroll County, Hydrologic Unit 05120105, on downstream side of left wingwall of highway bridge, 2.6 mi northeast of Delphi Post Office, and 4.8 mi upstream from mouth.

DRAINAGE AREA.--274 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1943 to current year. Prior to March 1944 monthly discharge only, published in WSP 1305.

REVISED RECORDS.--WSP 1275: 1944, 1947-48. WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 553.81 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark, levels by State of Indiana, Department of Natural Resources).

REMARKS.--Estimated daily discharges: Dec. 11-13, 15-18, Dec. 28 to Jan. 6, Feb. 5 to Mar. 2, and Mar. 7-9. Records good except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--46 years, 240 ft<sup>3</sup>/s, 11.89 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,400 ft<sup>3</sup>/s June 10, 1958, gage height, 18.26 ft; minimum daily, 6.2 ft<sup>3</sup>/s Sept. 25-28, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1943 reached a stage of 19.8 ft, from floodmarks, discharge, 18,000 ft<sup>3</sup>/s, from rating curve extended above 8,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
May 26	1100	6,540	11.16	June 3	1815	6,200	10.85
May 29	1200	2,580	7.04	Sept. 1	0900	*8,480	*12.89

Minimum daily discharge, 15 ft<sup>3</sup>/s Oct. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	20	65	135	243	100	115	369	824	91	72	5740
2	22	20	58	115	208	98	115	278	1190	87	67	3150
3	20	20	55	110	178	105	258	230	2490	87	62	1160
4	18	27	53	105	155	151	504	195	4370	86	59	672
5	17	46	49	125	135	201	501	191	1960	82	56	441
6	17	51	48	150	120	197	364	174	973	76	53	314
7	17	39	47	383	110	140	296	152	649	71	49	242
8	17	33	45	1230	105	135	265	137	474	67	48	196
9	17	30	42	722	100	130	238	152	368	63	46	180
10	18	73	40	406	98	128	202	156	293	60	44	256
11	17	79	35	293	99	127	179	147	246	89	47	324
12	17	82	37	270	100	132	170	137	549	297	46	243
13	18	62	38	265	102	131	163	137	400	257	42	181
14	18	50	40	235	105	135	151	131	276	176	41	314
15	18	42	40	216	110	138	153	121	228	123	42	909
16	25	374	33	186	110	124	146	113	199	99	44	640
17	33	362	36	166	105	111	139	108	179	85	40	400
18	48	176	37	157	100	131	141	103	163	76	38	281
19	34	129	38	151	98	131	140	156	341	256	37	214
20	24	171	39	149	98	130	138	253	511	706	39	173
21	23	327	38	139	115	166	135	178	223	465	39	146
22	22	267	37	132	133	185	131	144	168	306	59	132
23	24	186	57	132	130	166	124	133	144	227	98	118
24	24	146	69	125	125	155	118	122	136	322	111	105
25	21	123	61	123	115	149	118	304	122	181	63	96
26	20	108	57	252	120	139	315	5570	116	139	51	91
27	20	98	85	542	120	131	277	4710	112	114	60	84
28	21	86	220	418	105	130	274	1640	120	96	132	79
29	20	76	270	327	---	127	458	1770	106	85	122	76
30	19	70	250	290	---	125	549	1880	96	79	74	73
31	20	---	180	264	---	122	---	979	---	75	64	---
TOTAL	664	3373	2199	8313	3442	4270	6877	20870	18026	5023	1845	17030
MEAN	21.4	112	70.9	268	123	138	229	673	601	162	59.5	568
MAX	48	374	270	1230	243	201	549	5570	4370	706	132	5740
MIN	15	20	33	105	98	98	115	103	96	60	37	73
CFSM	.08	.41	.26	.98	.45	.50	.84	2.46	2.19	.59	.22	2.07
IN.	.09	.46	.30	1.13	.47	.58	.93	2.83	2.45	.68	.25	2.31

CAL YR 1988 TOTAL 57457 MEAN 157 MAX 2390 MIN 12 CFSM .57 IN. 7.80  
WTR YR 1989 TOTAL 91932 MEAN 252 MAX 5740 MIN 15 CFSM .92 IN. 12.48

## 03330241 TIPPECANOE RIVER AT NORTH WEBSTER, IN

LOCATION.--Lat 41°18'58", long 85°41'32", in SE¼NE¼ sec.15, T.33 N., R.7 E., Kosciusko County, Hydrologic Unit 05120106, on right upstream corner of State Road 13 bridge, at the intersection of State Road 13 and County Road 550 North, and 0.4 mi southeast of North Webster.

DRAINAGE AREA.--49.3 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1986 to current year.

GAGE.--Water-stage recorder. Datum of gage is 840.00 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana, Department of Natural Resources).

REMARKS.--No estimated daily discharges. Records fair. Flow regulated at times by dams at Webster Lake, 0.25 mi upstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 294 ft<sup>3</sup>/s June 5, 1986, (gage height, 5.64 ft); maximum gage height, 5.71 ft, June 4, 1989; minimum daily discharge, 0.06 ft<sup>3</sup>/s Aug. 18, 1988, regulation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 243 ft<sup>3</sup>/s June 4, gage height, 5.71 ft; minimum daily, 4.3 ft<sup>3</sup>/s Oct. 5 and Aug. 13, (regulated).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.0	11	81	39	47	22	23	11	112	20	17	26
2	9.5	12	78	46	47	23	27	12	160	19	14	26
3	7.0	21	77	49	46	24	31	11	179	19	13	27
4	4.7	40	74	51	46	26	40	12	239	18	14	26
5	4.3	36	71	51	46	27	52	12	212	17	14	25
6	5.2	32	69	80	45	26	97	13	214	14	11	24
7	6.4	31	67	145	43	26	112	13	220	5.8	12	28
8	7.0	31	65	153	42	29	111	14	209	11	13	43
9	7.7	31	63	151	42	36	108	15	194	21	10	42
10	11	34	60	151	42	37	106	23	187	25	11	39
11	7.1	83	58	148	41	37	103	25	131	25	11	37
12	6.4	106	56	142	40	36	99	21	101	27	9.6	34
13	5.9	107	54	136	39	36	77	26	97	25	4.3	30
14	5.5	105	52	129	38	36	28	33	93	26	10	46
15	5.4	103	49	123	38	36	27	42	65	31	13	115
16	5.5	110	46	115	28	35	26	47	48	33	13	69
17	7.2	110	22	109	15	36	26	47	45	30	13	28
18	9.2	114	5.1	83	14	37	26	43	38	24	20	27
19	26	119	4.9	52	15	37	25	28	9.2	23	26	26
20	46	129	7.2	51	17	36	25	28	12	20	20	25
21	45	137	9.8	50	18	36	25	27	16	19	21	21
22	44	146	10	49	18	36	27	28	20	24	19	21
23	44	152	14	49	18	36	28	31	24	23	20	21
24	44	152	16	49	18	36	28	32	28	49	21	20
25	44	176	19	47	18	32	49	30	29	38	21	20
26	43	202	19	48	20	23	92	33	30	24	21	19
27	46	187	19	47	20	23	103	38	29	27	20	18
28	48	172	20	47	21	23	60	37	28	26	20	20
29	47	160	19	47	---	23	12	37	25	24	21	22
30	29	127	22	47	---	22	12	37	22	18	21	21
31	11	---	33	46	---	22	---	37	---	21	21	---
TOTAL	641.0	2976	1260.0	2530	882	950	1605	843	2816.2	726.8	494.9	946
MEAN	20.7	99.2	40.6	81.6	31.5	30.6	53.5	27.2	93.9	23.4	16.0	31.5
MAX	48	202	81	153	47	37	112	47	239	49	26	115
MIN	4.3	11	4.9	39	14	22	12	11	9.2	5.8	4.3	18
CFSM	.42	2.01	.82	1.66	.64	.62	1.09	.55	1.90	.48	.32	.64
IN.	.48	2.25	.95	1.91	.67	.72	1.21	.64	2.13	.55	.37	.71
CAL YR 1988	TOTAL 13409.95	MEAN 36.6	MAX 202	MIN .06	CFSM .74	IN. 10.12						
WTR YR 1989	TOTAL 16670.9	MEAN 45.7	MAX 239	MIN 4.3	CFSM .93	IN. 12.58						



## 03330500 TIPPECANOE RIVER AT OSWEGO, IN

LOCATION.--Lat 41°19'14", long 85°47'21", in NE¼NE¼ sec.14, T.33 N., R.6 E., Kosciusko County, Hydrologic Unit 05120106, on left bank 25 ft downstream from dam at Tippecanoe Lake Outlet in Oswego, 3 mi east of Leesburg, and at mile 158.9.

DRAINAGE AREA.--113 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1949 to current year.

REVISED RECORDS.--WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 830.00 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 12, 1953, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. Periodic regulation by gates at lake outlet.

AVERAGE DISCHARGE.--40 years, 103 ft<sup>3</sup>/s, 12.38 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 950 ft<sup>3</sup>/s Mar. 21, 1982, gage height, 9.25 ft; minimum daily, 0.08 ft<sup>3</sup>/s Aug. 4, 5, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 346 ft<sup>3</sup>/s June 8, gage height, 7.78 ft; minimum daily, 17 ft<sup>3</sup>/s Oct. 1, 6-8, Mar. 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	102	243	108	146	62	94	50	124	45	27	72
2	18	91	227	112	145	61	95	51	198	45	26	115
3	18	82	215	115	142	60	104	50	223	45	26	88
4	18	77	204	118	139	60	114	50	257	45	26	55
5	18	76	194	120	137	60	134	50	287	40	27	39
6	17	73	185	129	134	60	150	42	311	29	26	39
7	17	72	177	143	131	58	185	30	332	28	25	44
8	17	71	168	180	127	56	194	26	344	27	24	118
9	18	70	158	207	123	56	191	37	341	26	24	154
10	19	83	151	228	119	58	188	67	334	27	24	149
11	19	92	144	245	116	39	184	64	324	49	24	143
12	19	110	135	254	113	17	180	61	310	90	24	128
13	19	129	129	258	111	18	176	60	296	69	24	115
14	19	145	122	259	110	18	164	36	284	26	24	114
15	19	156	116	255	108	19	88	27	270	26	25	111
16	20	174	110	249	105	18	46	34	254	27	25	102
17	21	191	105	242	100	18	48	54	239	28	24	100
18	53	207	100	234	93	73	51	53	226	33	24	97
19	126	220	97	221	88	101	65	64	211	61	23	94
20	130	236	92	208	84	100	99	94	193	60	24	73
21	137	250	89	196	83	99	95	92	164	57	24	25
22	168	259	85	185	80	97	92	90	126	41	24	26
23	184	266	88	176	77	96	61	60	98	32	24	26
24	182	269	89	168	73	94	47	49	75	33	25	41
25	177	268	86	162	70	61	49	73	74	34	25	48
26	172	272	86	158	69	28	54	108	73	43	25	46
27	158	271	90	153	67	27	83	104	71	64	24	39
28	139	266	96	150	64	57	158	101	63	54	26	20
29	132	262	99	149	---	70	147	100	38	26	27	21
30	127	254	102	147	---	100	86	101	41	27	26	21
31	114	---	105	146	---	97	---	101	---	27	26	---
TOTAL	2312	5094	4087	5675	2954	1838	3422	1979	6181	1264	772	2263
MEAN	74.6	170	132	183	105	59.3	114	63.8	206	40.8	24.9	75.4
MAX	184	272	243	259	146	101	194	108	344	90	27	154
MIN	17	70	85	108	64	17	46	26	38	26	23	20
CFSM	.66	1.50	1.17	1.62	.93	.52	1.01	.56	1.82	.36	.22	.67
IN.	.76	1.68	1.35	1.87	.97	.61	1.13	.65	2.03	.42	.25	.74

CAL YR 1988 TOTAL 33437.2 MEAN 91.4 MAX 302 MIN 8.3 CFSM .81 IN. 11.01  
WTR YR 1989 TOTAL 37841 MEAN 104 MAX 344 MIN 17 CFSM .92 IN. 12.46

## WABASH RIVER BASIN

89

03331110 WALNUT CREEK NEAR WARSAW, IN

LOCATION.--Lat 41°12'17", long 85°52'11", in NW¼ sec. 30, T. 32 N., R. 6 E., Kosciusko County, Hydrologic Unit 05120106, on left bank 10 ft upstream from bridge on County Road 200 South, 0.3 mi downstream from small right-bank tributary, and 2.5 mi south of court house in Warsaw.

DRAINAGE AREA.--19.6 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is 823.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 4-14, Feb. 5-11, 18-24, and April 16-20. Records good except for estimated daily discharges and those below 2 ft<sup>3</sup>/s, which are poor. Flow occasionally regulated by lakes upstream.

AVERAGE DISCHARGE.--20 years, 17.4 ft<sup>3</sup>/s, 12.00 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 561 ft<sup>3</sup>/s June 13, 1981, gage height, 5.38 ft; minimum daily, 0.40 ft<sup>3</sup>/s Oct. 15, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 75 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 8	0100	*109	*3.01	June 3	1700	93	2.93

Minimum daily discharge, 0.40 ft<sup>3</sup>/s Oct. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.74	2.0	12	25	19	9.7	16	9.2	31	2.7	2.3	11
2	1.2	2.0	11	21	17	8.9	15	9.2	45	2.6	2.1	14
3	1.2	1.9	9.9	17	15	8.6	35	8.9	65	2.5	2.0	13
4	1.1	2.0	9.0	15	13	8.8	49	8.0	89	2.5	2.0	9.1
5	.92	2.8	8.0	15	11	12	47	7.5	81	2.4	2.5	6.8
6	.86	3.2	7.4	25	10	13	45	6.8	66	2.2	2.4	5.2
7	.76	3.5	7.0	42	9.7	13	41	5.9	51	2.1	2.2	4.7
8	.68	3.4	6.4	88	9.5	11	36	5.6	39	2.0	2.0	11
9	.61	3.8	6.0	71	9.5	9.6	32	6.3	29	1.9	2.1	13
10	.54	21	5.7	55	9.5	8.8	28	6.7	21	1.8	2.0	12
11	.50	20	5.5	42	9.6	8.5	25	5.9	15	2.6	1.9	9.7
12	.47	15	5.2	40	10	8.4	23	5.3	14	2.2	1.9	7.7
13	.45	12	5.0	37	10	8.4	21	5.5	16	2.1	1.8	6.3
14	.44	9.0	4.9	32	11	8.6	19	5.5	15	1.8	1.8	7.7
15	.40	6.4	5.0	26	12	10	17	5.3	14	1.7	1.8	9.7
16	.50	22	5.6	23	13	12	15	4.8	12	1.6	1.7	9.9
17	.64	33	6.0	20	13	12	14	4.4	10	1.5	1.7	8.9
18	5.6	31	6.5	18	11	16	12	4.2	8.6	1.5	1.6	7.5
19	3.6	26	4.9	17	11	22	12	4.7	7.6	2.4	1.6	6.2
20	2.6	27	4.0	16	11	24	11	6.9	8.1	2.5	1.8	5.1
21	2.1	34	4.2	15	11	25	11	7.7	8.0	2.6	1.7	4.4
22	1.9	33	4.7	14	11	24	11	7.1	7.2	2.5	1.8	3.9
23	2.0	28	23	13	10	22	9.8	6.1	5.5	2.2	2.0	3.1
24	2.7	22	26	12	10	19	9.1	4.2	4.4	2.2	5.5	2.8
25	2.4	17	25	11	12	18	8.8	6.6	3.9	3.1	8.4	2.8
26	2.3	14	22	14	11	16	10	11	3.7	2.7	9.5	2.7
27	2.2	14	28	20	10	15	9.3	10	3.7	4.5	8.4	2.5
28	2.1	13	40	23	9.7	15	9.9	8.5	3.7	3.9	7.7	2.4
29	2.0	13	39	22	---	16	10	7.6	3.4	2.7	7.7	2.3
30	2.0	12	37	21	---	16	9.8	7.5	3.1	2.7	6.2	2.2
31	2.0	---	30	20	---	16	---	6.5	---	2.5	4.8	---
TOTAL	47.51	447.0	413.9	830	319.5	435.3	611.7	209.4	683.9	74.2	102.9	207.6
MEAN	1.53	14.9	13.4	26.8	11.4	14.0	20.4	6.75	22.8	2.39	3.32	6.92
MAX	5.6	34	40	88	19	25	49	11	89	4.5	9.5	14
MIN	.40	1.9	4.0	11	9.5	8.4	8.8	4.2	3.1	1.5	1.6	2.2
CFSM	.08	.76	.68	1.37	.58	.72	1.04	.34	1.16	.12	.17	.35
IN.	.09	.85	.79	1.58	.61	.83	1.16	.40	1.30	.14	.20	.39

CAL YR 1988 TOTAL 4250.66 MEAN 11.6 MAX 86 MIN .40 CFSM .59 IN. 8.07  
WTR YR 1989 TOTAL 4382.91 MEAN 12.0 MAX 89 MIN .40 CFSM .61 IN. 8.32

## 03331500 TIPPECANOE RIVER NEAR ORA, IN

LOCATION.--Lat 41°09'26", long 86°33'49", in SE¼SE¼ sec.6, T.31 N., R.1 W., Pulaski County, Hydrologic Unit 05120106, on right bank at downstream side of bridge on County Road 700 East, 1.0 mi upstream from Bartee ditch, 1.3 mi southwest of Ora, and at mile 78.5.

DRAINAGE AREA.--856 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1943 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 1335: 1944(M). WSP 1505: 1949-50(P). WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 692.91 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to July 30, 1956, nonrecording gage on upstream side of old highway bridge, 120 ft downstream. July 30, 1956, to Dec. 20, 1964, water-stage recorder on right bank at downstream side of old highway bridge, and Dec. 21, 1964, to Aug. 19, 1965, nonrecording gage on right bank 500 ft downstream. All gages at same datum.

REMARKS.--Estimated daily discharges: Dec. 11-14, 17-20, Dec. 29 to Jan. 11, and Feb. 6-25. Records good below 1,000 ft<sup>3</sup>/s and fair above except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--46 years, 832 ft<sup>3</sup>/s, 13.20 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,660 ft<sup>3</sup>/s June 15, 1981, gage height, 15.08 ft; minimum daily, 87 ft<sup>3</sup>/s Sept. 13, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,300 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 10	1200	(a)	*11.02	June 5	1300	*2,030	10.20

a Backwater from ice.

Minimum daily discharge, 166 ft<sup>3</sup>/s Oct. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	168	381	878	840	896	535	583	566	771	409	346	495
2	183	399	841	780	865	523	590	546	1360	379	304	1050
3	189	414	812	720	826	509	854	514	1570	370	280	913
4	190	414	783	650	789	516	1330	473	1750	358	264	753
5	201	407	754	600	759	567	1440	465	2000	339	254	643
6	193	393	728	640	690	592	1360	451	1890	326	247	534
7	185	389	700	820	620	555	1250	438	1700	312	241	439
8	179	394	672	1050	580	518	1180	424	1570	296	238	427
9	175	404	647	1610	570	521	1100	434	1470	279	226	601
10	172	523	621	1670	570	527	1010	445	1370	270	218	639
11	168	727	550	1660	270	500	935	427	1230	261	212	609
12	167	724	515	1640	580	507	879	420	1200	306	207	580
13	168	733	490	1600	600	513	831	425	1390	356	227	531
14	169	762	535	1480	640	508	787	425	1370	373	224	510
15	166	756	573	1330	670	521	755	419	1240	368	238	604
16	176	765	529	1200	670	551	728	407	1130	332	238	617
17	193	897	450	1100	620	546	707	386	1050	281	224	568
18	241	907	430	1050	570	599	676	368	979	259	209	518
19	354	872	440	1020	570	748	632	376	910	283	195	472
20	420	911	510	992	580	737	604	535	884	325	194	435
21	460	1140	566	963	580	788	583	624	842	335	196	406
22	475	1270	490	918	560	807	574	563	783	359	197	383
23	473	1220	571	881	530	774	567	526	727	367	208	356
24	457	1170	723	847	510	737	550	495	677	349	234	307
25	437	1120	727	822	520	704	535	545	616	311	321	284
26	425	1080	702	835	580	674	527	852	559	284	301	272
27	422	1060	708	945	586	649	503	867	512	285	271	266
28	414	1010	927	950	563	621	511	735	492	294	260	269
29	400	963	960	926	---	595	566	682	466	273	275	266
30	387	918	950	921	---	583	563	690	437	336	272	258
31	382	---	900	918	---	592	---	657	---	425	264	---
TOTAL	8789	23123	20682	32378	17364	18617	23710	16180	32945	10100	7585	15005
MEAN	284	771	667	1044	620	601	790	522	1098	326	245	500
MAX	475	1270	960	1670	896	807	1440	867	2000	425	346	1050
MIN	166	381	430	600	270	500	503	368	437	259	194	258
CFSM	.33	.90	.78	1.22	.72	.70	.92	.61	1.28	.38	.29	.58
IN.	.38	1.00	.90	1.41	.75	.81	1.03	.70	1.43	.44	.33	.65

CAL YR 1988 TOTAL 221017 MEAN 604 MAX 2510 MIN 133 CFSM .71 IN. 9.60  
WTR YR 1989 TOTAL 226478 MEAN 620 MAX 2000 MIN 166 CFSM .72 IN. 9.84

## WABASH RIVER BASIN

91

## 03332345 TIPPECANOE RIVER AT BUFFALO, IN

LOCATION.--Lat 40°53'05", long 86°44'49", in SE¼SE¼ sec.10, T.28 N., R.3 W., White County, Hydrologic Unit 05120106, on right bank approximately 30 ft upstream from State Road 16 bridge at Buffalo, 0.2 mi downstream from Harp ditch, 10.8 mi upstream from Norway dam.

DRAINAGE AREA.--1,284 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1986 to current year.

GAGE.--Water-stage recorder. Datum of gage is 640.000 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Stage possibly affected by backwater from Norway dam, estimated midnight gage heights: Nov. 5, 6, Apr. 19 and July 1.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 14.13 ft Jan. 20, 1988; minimum gage height, 6.98 ft Sept. 30, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 12.02 ft Dec. 31, 1988; minimum gage height, 7.80 ft Oct. 10, 1988.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.90	7.95	8.48	11.48	8.59	8.22	8.26	8.18	9.79	8.1	8.19	10.49
2	7.97	7.95	8.57	10.06	8.65	8.17	8.27	8.18	9.84	8.14	8.10	10.12
3	7.88	7.98	8.45	9.28	8.53	8.15	8.91	8.18	10.63	8.08	8.09	9.45
4	7.80	7.99	8.48	9.30	8.47	8.20	9.37	8.24	10.34	8.11	8.11	8.95
5	7.89	8.0	8.45	9.31	8.60	8.18	9.41	8.09	10.09	8.06	8.09	8.69
6	7.91	8.1	8.41	8.77	9.01	8.17	9.25	8.06	9.97	8.10	7.99	8.51
7	7.88	8.08	8.32	9.34	8.69	8.31	9.15	8.05	9.72	8.02	8.06	8.40
8	7.85	8.08	8.28	10.30	8.64	8.27	9.02	8.12	9.53	8.09	8.01	8.42
9	7.98	8.12	8.36	10.10	8.54	8.18	8.91	8.18	9.36	8.02	8.07	8.71
10	7.80	8.34	8.24	10.02	8.80	8.20	8.79	8.15	9.22	8.05	8.02	8.59
11	7.84	8.42	9.89	9.90	8.89	8.18	8.78	8.08	9.07	8.21	8.00	8.48
12	7.86	8.44	9.39	9.66	8.82	8.18	8.66	8.10	10.16	8.43	7.95	8.40
13	7.88	8.38	9.33	9.52	8.77	8.22	8.53	8.02	9.85	8.33	7.91	8.32
14	7.89	8.36	9.12	9.44	8.84	8.36	8.57	8.09	9.68	8.28	7.96	8.55
15	7.94	8.48	8.81	9.25	8.87	8.25	8.50	8.05	9.40	8.15	8.03	8.53
16	7.90	8.65	8.46	9.16	9.03	8.20	8.39	8.05	9.16	8.17	8.02	8.53
17	7.95	8.50	8.30	8.93	9.09	8.29	8.43	8.04	9.02	8.13	8.02	8.44
18	8.01	8.54	8.23	8.83	9.01	8.50	8.39	8.05	8.84	8.17	8.00	8.28
19	7.98	8.49	8.41	8.85	8.84	8.49	8.3	8.33	9.02	8.28	8.01	8.26
20	8.05	8.87	8.60	8.77	8.52	8.40	8.27	8.60	9.06	8.25	7.98	8.19
21	8.01	9.02	8.40	8.74	8.40	8.40	8.31	8.48	8.82	8.37	7.97	8.17
22	7.99	9.00	8.23	8.76	8.25	8.50	8.25	8.36	8.68	8.22	7.98	8.08
23	8.06	8.94	8.44	8.64	8.38	8.38	8.23	8.27	8.59	8.15	7.99	8.16
24	7.97	8.92	8.47	8.66	8.66	8.34	8.21	8.34	8.47	8.18	8.07	8.11
25	8.11	8.86	8.40	8.63	8.34	8.37	8.21	8.58	8.38	8.10	8.04	8.09
26	7.95	8.81	8.43	8.77	8.25	8.34	8.19	8.81	8.38	8.08	7.98	8.06
27	8.13	8.77	8.67	8.80	8.22	8.34	8.14	8.69	8.39	8.05	8.07	8.07
28	8.09	8.72	8.94	8.80	8.24	8.28	8.29	8.51	8.24	8.08	8.31	8.11
29	8.10	8.72	9.65	8.83	---	8.18	8.30	9.43	8.24	8.08	8.19	8.09
30	8.06	8.57	11.99	8.75	---	8.12	8.28	9.19	8.18	8.09	8.10	7.99
31	8.08	---	12.02	8.77	---	8.16	---	8.85	---	8.16	8.30	---
MEAN	7.96	8.47	8.85	9.24	8.64	8.28	8.55	8.33	9.20	8.15	8.05	8.51
MAX	8.13	9.02	12.02	11.48	9.09	8.50	9.41	9.43	10.63	8.43	8.31	10.49
MIN	7.80	7.95	8.23	8.63	8.22	8.12	8.14	8.02	8.18	8.02	7.91	7.99

CAL YR 1988 MEAN 8.58 MAX 13.05 MIN 7.74  
WTR YR 1989 MEAN 8.52 MAX 12.02 MIN 7.80

## 03333050 TIPPECANOE RIVER NEAR DELPHI, IN

LOCATION.--Lat 40°35'38", long 86°46'12", in SW¼SW¼ sec.21, T.25 N., R.3 W., Carroll County, Hydrologic Unit 05120106, on left bank 20 ft upstream from bridge on State Highway 18, 1,400 ft east of Springboro, 8.1 mi downstream from Big Creek, 5 mi west of Delphi, and at mile 8.7.

DRAINAGE AREA.--1,869 mi<sup>2</sup>.

PERIOD OF RECORD.--March to December 1903, March to December 1904, March 1905 to July 1906, November and December 1908, July 1939 to September 1987, October 1987 to current year. Published as "at Springboro" 1903-08.

REVISED RECORDS.--WSP 973: 1942. WSP 1335: 1905-6. WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 535.00 ft above National Geodetic Vertical Datum of 1929. Mar. 14, 1903, to July 20, 1906, and Nov. 2 to Dec. 31, 1908, nonrecording gage at present site at different datum. July 1939 to Sept. 30, 1987, at site 6.4 mi upstream at datum 17.01 ft higher.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by upstream reservoirs.

AVERAGE DISCHARGE.--50 years (water years 1940 to current year), 1,679 ft<sup>3</sup>/s, 12.20 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,600 ft<sup>3</sup>/s Feb. 10, 1959, gage height, 15.10 ft at site then in use; minimum daily, 1.0 ft<sup>3</sup>/s Nov. 2, 3, 1954, caused by repair work at Oakdale Dam, 10.2 mi upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,600 ft<sup>3</sup>/s Sept. 1, gage height, 10.04 ft; minimum daily, 284 ft<sup>3</sup>/s Oct. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	284	624	1520	1790	1910	1110	1260	941	2990	1060	1060	9280
2	609	581	1050	2130	1570	1050	1350	1120	5650	757	836	10000
3	299	796	1540	1620	1780	985	2790	976	5000	828	819	6550
4	367	563	1210	1540	1730	1070	4470	906	5890	777	820	4210
5	351	755	1130	1400	1350	1570	4020	1030	4670	830	810	2910
6	421	891	1130	1830	1070	1060	3410	782	3950	734	462	2270
7	344	589	1190	2150	1070	1180	2860	741	3400	738	533	2120
8	439	815	1200	5090	823	1100	2560	776	3130	499	615	1960
9	291	603	942	4450	1030	1110	2380	985	2590	723	582	2900
10	456	1080	1090	4000	1140	974	1970	819	2660	502	600	3120
11	414	1230	763	3660	1290	1040	1820	926	2130	930	532	2490
12	289	1430	758	3590	1410	1170	1900	610	3260	2290	650	2140
13	290	1420	779	2840	1410	981	1570	1040	3970	1810	401	1820
14	295	1430	934	2910	1310	989	1590	785	3110	1220	595	2010
15	572	1250	842	2730	1380	1370	1330	630	3220	1130	834	2780
16	338	1480	857	2370	1560	1110	1480	817	2560	872	777	2420
17	383	1760	660	2260	1170	1210	1320	709	2190	764	378	2010
18	810	1700	550	2090	1370	1540	1350	566	2140	756	716	1850
19	637	1450	507	1750	1700	2040	1320	1090	1930	1370	310	1500
20	682	1960	884	2080	1220	1940	1090	3710	2870	1780	431	1480
21	564	2310	1230	1770	1460	1660	1080	2710	2440	1670	802	1350
22	740	2560	924	2020	1230	1720	1130	1870	1760	2300	570	1340
23	748	2460	1310	1660	1120	1890	920	1760	1650	1560	539	1170
24	856	2030	1630	1670	1050	1620	920	1540	1350	1190	576	1130
25	821	2160	1530	1660	1200	1470	1130	1730	1350	1050	542	937
26	526	1950	1210	1900	1370	1460	1340	3270	1350	1020	797	1220
27	735	1780	1720	2120	1120	1470	1210	2800	1150	870	530	740
28	679	1790	2240	2190	1220	1420	1150	2320	1300	820	1140	868
29	601	1570	2350	1910	---	1580	1610	3990	878	625	1580	967
30	607	1620	2050	1900	---	1120	1280	5170	978	912	988	818
31	615	---	2020	2070	---	1110	---	3690	---	956	876	---
TOTAL	16063	42637	37750	73150	37063	41119	53610	50809	81516	33343	21701	76360
MEAN	518	1421	1218	2360	1324	1326	1787	1639	2717	1076	700	2545
MAX	856	2560	2350	5090	1910	2040	4470	5170	5890	2300	1580	10000
MIN	284	563	507	1400	823	974	920	566	878	499	310	740
CFSM	.28	.76	.65	1.26	.71	.71	.96	.88	1.45	.58	.37	1.36
IN.	.32	.85	.75	1.46	.74	.82	1.07	1.01	1.62	.66	.43	1.52

CAL YR 1988 TOTAL 486635 MEAN 1330 MAX 6820 MIN 131 CFSM .71 IN. 9.69  
WTR YR 1989 TOTAL 565121 MEAN 1548 MAX 10000 MIN 284 CFSM .83 IN. 11.25



## 03333450 WILDCAT CREEK NEAR JEROME, IN

LOCATION.--Lat 40°26'29", long 85°55'08". in NE¼SE¼ sec.14, T.23 N., R.5 E., Howard County, Hydrologic Unit 05120107, on right bank at downstream side of bridge on County Road 1100 East, 0.5 mi downstream from Mud Creek, 1.5 mi southeast of Jerome, and at mile 79.9.

DRAINAGE AREA.--146 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1961 to current year.

REVISED RECORDS.--WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 820.04 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 1 to Nov. 20, Dec. 10-14, 16-18, Dec. 29 to Jan. 6, and Feb. 5 to Mar. 10. Records good except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--28 years, 129 ft<sup>3</sup>/s, 12.00 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,140 ft<sup>3</sup>/s June 3, 1980, gage height, 13.34 ft; minimum daily, 0.89 ft<sup>3</sup>/s Jan. 24-26, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of about 18 ft, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft<sup>3</sup>/s and maximum(\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
May 26	1415	4,080	11.79	Sept. 2	0400	*5,130	*12.62
June 4	0015	3,350	11.01				

Minimum daily discharge, 2.5 ft<sup>3</sup>/s Oct. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	4.5	18	50	108	35	72	255	585	27	30	2390
2	6.8	4.5	16	42	88	34	69	198	758	27	25	4650
3	7.4	4.5	14	36	76	34	361	158	1200	30	21	2560
4	6.0	10	13	32	62	38	845	134	2230	30	19	1110
5	5.0	21	12	40	52	46	699	173	977	27	17	682
6	4.0	14	11	50	45	76	443	162	569	24	21	464
7	3.7	10	11	241	43	64	326	132	359	21	20	320
8	3.6	8.0	11	585	42	56	266	116	259	19	15	237
9	3.7	12	10	400	36	50	226	117	200	17	12	231
10	3.9	25	8.8	226	35	80	186	112	152	16	11	600
11	4.1	31	8.0	149	34	187	161	100	123	16	9.4	546
12	4.3	18	7.8	130	35	222	149	96	136	48	9.6	336
13	4.4	14	7.8	132	39	185	133	97	173	90	20	230
14	4.5	12	8.5	112	40	166	119	90	131	67	20	327
15	4.5	11	9.8	105	43	151	120	81	107	43	14	797
16	8.0	11	8.0	85	42	107	108	76	92	31	11	548
17	13	30	7.4	74	40	92	102	72	80	24	9.0	361
18	18	20	7.3	69	38	94	100	69	71	20	8.2	252
19	12	16	7.7	65	38	77	116	74	65	20	7.4	187
20	8.0	20	8.6	63	40	75	128	104	60	24	8.8	147
21	6.0	148	10	55	50	109	120	107	54	131	9.1	119
22	4.8	126	9.8	50	60	111	111	93	50	256	9.3	106
23	5.2	80	14	50	50	101	102	97	46	245	16	93
24	6.2	57	23	47	44	95	94	111	43	493	109	75
25	5.5	44	25	43	45	91	93	167	39	257	86	66
26	5.0	37	21	90	50	82	118	3340	37	160	51	61
27	4.7	33	19	288	45	76	105	2060	37	109	31	53
28	4.6	29	94	215	38	75	117	1080	37	78	23	47
29	4.5	24	150	158	---	73	227	758	32	54	24	45
30	4.5	19	100	135	---	76	372	775	28	43	56	42
31	4.5	---	70	118	---	79	---	513	---	36	50	---
TOTAL	182.9	893.5	741.5	3935	1358	2837	6188	11517	8730	2483	772.8	17682
MEAN	5.90	29.8	23.9	127	48.5	91.5	206	372	291	80.1	24.9	589
MAX	18	148	150	585	108	222	845	3340	2230	493	109	4650
MIN	2.5	4.5	7.3	32	34	34	69	69	28	16	7.4	42
CFSM	.04	.20	.16	.87	.33	.63	1.41	2.54	1.99	.55	.17	4.04
IN.	.05	.23	.19	1.00	.35	.72	1.58	2.93	2.22	.63	.20	4.51

CAL YR 1988 TOTAL 25320.6 MEAN 69.2 MAX 2380 MIN 1.5 CFSM .47 IN. 6.45  
WTR YR 1989 TOTAL 57320.7 MEAN 157 MAX 4650 MIN 2.5 CFSM 1.08 IN. 14.60

## 03333600 KOKOMO CREEK NEAR KOKOMO, IN

LOCATION.--Lat 40°26'28", long 86°05'20", in NW¼SW¼ sec.16, T.23 N., R.4 E., Howard County, Hydrologic Unit 05120107, on left bank at upstream side of bridge on County Road 200 East, 2.6 mi southeast of intersection of U.S. Highways 31 and 35 in Kokomo, and 4.2 mi upstream from mouth.

DRAINAGE AREA.--24.7 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1959 to current year.

REVISED RECORDS.--WSP 2109: Drainage area. WDR IN-72-1: 1970-71(P).

GAGE.--Water-stage recorder. Datum of gage is 807.68 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 1 to Jan. 5, and Feb. 4 to Mar. 10. Records good except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--30 years, 21.4 ft<sup>3</sup>/s, 11.77 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,040 ft<sup>3</sup>/s Apr. 20, 1964, gage height, 9.88 ft; minimum daily, 0.07 ft<sup>3</sup>/s Sept. 18, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 260 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
May 26	0200	712	8.56	Sept. 1	1000	*734	*8.75
June 3	1930	425	5.98				

Minimum daily discharge, 0.28 ft<sup>3</sup>/s Oct. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.50	.60	1.9	4.5	21	7.5	12	24	92	3.6	1.9	494
2	2.7	.60	1.8	3.7	17	7.3	12	21	155	3.6	1.7	525
3	1.6	.60	1.8	3.1	15	7.5	74	17	200	3.9	1.7	288
4	.47	1.6	1.7	2.9	12	8.4	159	17	267	3.9	1.6	106
5	.40	3.0	1.7	2.8	11	10	84	20	125	3.4	1.7	64
6	.36	1.5	1.6	9.5	9.8	11	56	18	79	2.8	2.1	41
7	.34	1.3	1.6	50	9.5	10	46	15	54	2.5	1.8	28
8	.32	1.0	1.6	128	8.6	10	41	14	39	2.3	1.7	20
9	.31	1.2	1.5	49	7.7	11	38	17	30	2.1	1.5	18
10	.30	6.0	1.4	31	7.4	14	32	17	23	2.0	1.5	28
11	.30	2.0	1.4	23	7.4	27	29	16	19	2.0	1.4	26
12	.29	1.9	1.3	24	7.5	28	27	15	25	4.6	1.4	18
13	.29	2.0	1.3	23	8.5	25	23	15	24	12	1.3	14
14	.29	1.6	1.5	21	8.6	24	22	14	18	6.7	1.3	44
15	.28	1.5	1.5	19	9.0	21	21	12	15	4.3	1.4	84
16	1.0	5.0	1.4	15	9.0	15	19	12	13	3.1	1.3	49
17	3.5	2.1	1.3	14	8.5	15	18	11	11	2.4	1.3	32
18	8.0	1.7	1.2	14	8.3	15	18	11	9.6	2.2	1.3	22
19	5.0	2.0	1.3	13	8.2	12	18	11	9.0	2.9	1.2	17
20	1.1	15	1.4	13	9.0	14	17	14	8.5	2.9	2.3	13
21	.60	9.0	1.5	11	13	19	17	13	7.9	5.4	2.6	11
22	.50	5.4	1.7	11	12	18	16	12	6.9	15	4.9	10
23	1.0	3.5	6.5	11	10	16	15	12	6.3	8.5	5.5	8.9
24	.85	2.5	4.0	9.9	9.5	16	14	12	5.7	5.7	1.5	7.0
25	.75	2.0	2.8	9.4	10	15	14	55	5.4	4.5	1.4	6.6
26	.68	1.7	2.5	34	11	13	15	601	5.1	3.6	1.5	6.4
27	.65	3.5	3.4	51	10	13	14	280	5.2	2.9	1.3	5.7
28	.62	2.6	15	34	9.0	13	15	130	5.2	2.6	2.4	5.3
29	.61	2.3	11	28	---	12	25	121	4.3	2.2	2.4	5.2
30	.60	2.1	7.0	26	---	14	30	126	3.7	2.0	2.3	5.2
31	.60	---	5.4	23	---	14	---	77	---	2.1	3.9	---
TOTAL	34.81	86.80	91.0	711.8	287.5	455.7	941	1750	1271.8	127.7	61.1	2002.3
MEAN	1.12	2.89	2.94	23.0	10.3	14.7	31.4	56.5	42.4	4.12	1.97	66.7
MAX	8.0	15	15	128	21	28	159	601	267	15	5.5	525
MIN	.28	.60	1.2	2.8	7.4	7.3	12	11	3.7	2.0	1.2	5.2
CFSM	.05	.12	.12	.93	.42	.60	1.27	2.29	1.72	.17	.08	2.70
IN.	.05	.13	.14	1.07	.43	.69	1.42	2.64	1.92	.19	.09	3.02
CAL YR 1988	TOTAL 4165.55	MEAN 11.4	MAX 457	MIN .07	CFSM .46	IN. 6.27						
WTR YR 1989	TOTAL 7821.51	MEAN 21.4	MAX 601	MIN .28	CFSM .87	IN. 11.78						

## 03333700 WILDCAT CREEK AT KOKOMO, IN

LOCATION.--Lat 40°28'15", long 86°09'11", in SW¼ sec.2, T.23 N., R.3 E., Howard County, Hydrologic Unit 05120107, on right bank on property of Kokomo Sewage Treatment Plant in Kokomo, 250 ft downstream from Kokomo Creek, 1.0 mi upstream from Dixon Road bridge, and at mile 62.9.

DRAINAGE AREA.--242 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1955 to current year.

REVISED RECORDS.--WSP 2109: Drainage area. WDR-IN-83: 1980, 1981(P), 1982. WRD-IN-88: 1986(P), 1987 (M).

GAGE.--Water-stage recorder. Datum of gage is 775.62 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana, Department of Natural Resources). Prior to May 9, 1986, recording gage at site 0.4 mi downstream at present datum.

REMARKS.--No estimated daily discharges. Records good. Some regulation of Kokomo Reservoirs No. 1 and No. 2, combined capacity, 4,170 acre-ft, for municipal water supply and by Kokomo Sewage Treatment Plant.

AVERAGE DISCHARGE.--34 years, 228 ft<sup>3</sup>/s, 12.80 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,100 ft<sup>3</sup>/s Feb. 10, 1959; maximum gage height, 12.59 ft Feb. 24, 1985, at former site; minimum daily discharge, 7.2 ft<sup>3</sup>/s Sept. 30, 1956.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,100 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
May 27	0115	5,400	13.21	Sept. 2	1830	*6,070	*14.22
June 4	1145	4,210	11.38				

Minimum daily discharge, 18 ft<sup>3</sup>/s Oct. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	20	35	88	183	78	102	381	656	50	60	3140
2	31	21	29	71	156	68	136	275	1310	54	56	5590
3	23	21	28	65	129	65	464	229	1330	59	52	4760
4	22	69	25	58	107	88	1260	220	3690	52	54	2300
5	21	32	27	60	99	104	1250	215	2000	50	50	1100
6	21	24	27	131	86	141	775	219	981	52	60	739
7	21	23	26	255	82	111	534	191	621	50	50	535
8	21	22	26	785	79	115	433	165	432	48	47	402
9	20	29	26	726	68	118	351	221	325	50	46	391
10	21	109	25	400	65	131	294	173	258	47	46	497
11	23	34	22	263	64	202	242	155	214	60	44	722
12	23	31	24	216	66	283	218	136	245	142	41	585
13	23	34	26	206	74	269	205	153	248	77	39	405
14	23	26	26	187	76	192	177	134	225	59	40	579
15	22	26	26	167	81	72	188	118	185	54	40	876
16	58	54	25	142	81	58	161	112	155	51	38	917
17	76	34	24	120	76	59	156	104	134	64	38	630
18	42	29	22	108	72	77	170	99	120	52	36	456
19	24	32	23	102	71	94	153	140	112	181	33	335
20	21	127	25	96	87	122	168	137	107	108	60	260
21	25	71	26	93	111	142	168	144	83	96	37	207
22	22	46	30	82	127	154	156	139	79	224	68	173
23	28	47	58	81	118	144	141	144	77	291	83	142
24	22	67	28	78	91	130	122	138	70	460	44	119
25	21	58	22	84	93	123	131	578	65	366	36	100
26	20	55	25	214	106	117	157	4750	65	224	37	102
27	20	57	71	364	99	107	160	4450	72	156	39	109
28	26	40	81	370	88	105	187	2100	67	119	89	72
29	20	37	88	282	---	109	290	1300	65	82	58	61
30	18	34	143	232	---	129	458	1200	61	76	45	58
31	20	---	109	205	---	103	---	880	---	66	58	---
TOTAL	804	1309	1198	6331	2635	3810	9407	19400	14052	3520	1524	26362
MEAN	25.9	43.6	38.6	204	94.1	123	314	626	468	114	49.2	879
MAX	76	127	143	785	183	283	1260	4750	3690	460	89	5590
MIN	18	20	22	58	64	58	102	99	61	47	33	58
CFSM	.11	.18	.16	.84	.39	.51	1.30	2.59	1.94	.47	.20	3.63
IN.	.12	.20	.18	.97	.41	.59	1.45	2.98	2.16	.54	.23	4.05

CAL YR 1988 TOTAL 48594 MEAN 133 MAX 3870 MIN 18 CFSM .55 IN. 7.47  
WTR YR 1989 TOTAL 90352 MEAN 248 MAX 5590 MIN 18 CFSM 1.02 IN. 13.89

## 03334000 WILDCAT CREEK AT OWASCO, IN

LOCATION.--Lat 40°27'50", long 86°38'15", in SE1/4 sec.4, T.23 N., R.2 W., Carroll County, on left bank 500 ft downstream from bridge on State Highway 39, 0.5 mi northwest of Owasco, and 15 mi upstream from South Fork Wildcat Creek.

DRAINAGE AREA.--396 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1943 to September 1973. Annual maximum, water years 1975-81. October 1988 to current year. Prior to March 1944 monthly discharge only, published in WSP 1305.

REVISED RECORDS.--WSP 1625: 1958. WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 624.63 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1950, nonrecording gage at site 500 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Dec. 10-13, 17-19, Dec. 28 to Jan. 6, Feb. 6 to Mar. 2, Mar. 7-9, and May 14-26. Records good except for estimated daily discharges, which are poor. Some regulation at low stages for municipal water supply by Kokomo Water Company since 1955.

AVERAGE DISCHARGE.--31 years (1944-73, 1989 to current year), 358 ft<sup>3</sup>/s, 12.28 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,200 ft<sup>3</sup>/s Jan. 5, 1950, gage height, 13.30 ft, from rating curve extended above 6,700 ft<sup>3</sup>/s; minimum daily, 11 ft<sup>3</sup>/s Sept. 25, 1944.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 18, 1943, reached a stage of 14.00 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
May 27	0800	7,300	10.66	Sept. 2	2000	*8,560	*11.42
June 5	1700	4,150	8.06				

Minimum daily discharge, 32 ft<sup>3</sup>/s Oct. 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	41	83	175	348	167	205	565	1060	131	113	2540
2	40	39	78	150	315	158	204	471	1290	126	105	6780
3	57	42	71	125	283	156	348	386	1990	119	97	6980
4	50	51	66	100	251	176	861	336	3320	127	93	5960
5	42	78	64	95	231	222	1400	337	3890	127	88	3340
6	40	126	61	105	180	237	1160	320	2440	112	112	1260
7	39	72	61	350	165	210	795	299	1070	109	102	870
8	39	62	60	746	155	200	636	253	755	106	89	680
9	37	56	57	945	150	210	565	247	601	102	84	619
10	38	76	52	741	148	229	477	290	497	100	80	737
11	34	196	46	499	149	252	416	241	422	98	78	797
12	32	117	48	399	150	327	369	220	467	108	80	818
13	34	84	52	354	153	383	339	208	455	215	100	660
14	37	79	55	331	158	374	317	230	405	154	80	632
15	38	71	56	309	162	311	306	200	362	120	76	1140
16	42	268	46	283	160	202	302	180	321	109	73	1160
17	54	261	50	257	155	173	273	170	288	101	70	949
18	105	141	50	233	148	175	272	160	261	100	67	717
19	137	103	50	219	148	187	286	155	267	131	65	569
20	66	134	53	208	148	195	267	210	258	215	66	465
21	53	364	53	196	170	244	273	210	228	216	69	391
22	47	266	53	188	210	271	269	220	197	179	111	339
23	51	179	64	177	200	270	255	210	182	273	127	303
24	50	139	102	172	180	259	238	220	175	336	189	268
25	53	143	81	172	170	246	225	215	164	491	138	241
26	46	135	65	233	175	235	232	4500	153	390	94	217
27	44	122	67	497	190	226	254	6700	145	277	79	204
28	42	123	100	554	173	215	271	5380	147	210	190	214
29	43	102	155	504	---	211	341	3030	151	169	297	176
30	46	90	185	430	---	209	579	2080	135	138	181	157
31	44	---	180	382	---	237	---	1470	---	124	131	---
TOTAL	1516	3760	2264	10129	5225	7167	12685	29713	22096	5313	3324	40183
MEAN	48.9	125	73.0	327	187	231	423	958	737	171	107	1339
MAX	137	364	185	945	348	383	1400	6700	3890	491	297	6980
MIN	32	39	46	95	148	156	204	155	135	98	65	157
CFSM	.12	.32	.18	.83	.47	.58	1.07	2.42	1.86	.43	.27	3.38
IN.	.14	.35	.21	.95	.49	.67	1.19	2.79	2.08	.50	.31	3.77

WTR YR 1989 TOTAL 143375 MEAN 393 MAX 6980 MIN 32 CFSM .99 IN. 13.47

## 03334500 SOUTH FORK WILDCAT CREEK NEAR LAFAYETTE, IN

LOCATION.--Lat 40°25'04", Long 86°46'05", in SW1SW1 sec.21, T.23 N., R.3 W., Tippecanoe County, Hydrologic Unit 05120107, on right bank 40 ft upstream from bridge on State Highway 26, 0.5 mi upstream from Middle Fork, 4.4 mi upstream from mouth, and 5 mi east of Lafayette.

DRAINAGE AREA.--243 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1943 to current year. Prior to March 1944 monthly discharge only, published in WSP 1305.

REVISED RECORDS.--WSP 1335: 1948(M). WSP 1505: 1947. WSP 1725: 1951-53(M), 1955(M). WSP 1909: 1955(P). WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 566.60 ft above National Geodetic Vertical Datum of 1929 (Indiana Department of Highways bench mark). Prior to July 29, 1954, nonrecording gage at site 40 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Dec. 10-13, 16-19, Dec. 28 to Jan. 6, Feb. 5 to Mar. 4, Mar. 7-9, May 26, 27, Aug. 29, and Sept. 2. Records good except for Dec. 10-13, 16-19, Dec. 28 to Jan. 6, and Feb. 5 to Mar. 4, which are poor. Backwater from Middle Fork at times on peaks.

AVERAGE DISCHARGE.--46 years, 237 ft<sup>3</sup>/s, 13.24 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,100 ft<sup>3</sup>/s May 2, 1983, gage height, 15.68 ft. from rating curve extended above 6,000 ft<sup>3</sup>/s on basis of contracted-opening measurement at 16.8 ft; minimum daily, 15 ft<sup>3</sup>/s Sept. 19, 22, 1944, Aug. 30, 31, Sept. 1, 14, 15, 1969.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1943 reached a stage of 16.8 ft. from floodmarks, discharge, 17,900 ft<sup>3</sup>/s by contracted-opening measurement.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
May 26	0800	*14,400	*15.36	Aug. 29	0100	4,250	9.28
June 4	0300	4,570	9.58	Sept. 1	2300	8,610	12.50

Minimum daily discharge, 23 ft<sup>3</sup>/s Oct. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	28	82	120	208	92	133	552	411	85	68	4110
2	27	31	76	100	182	90	131	406	444	82	64	5000
3	26	29	72	87	164	94	359	322	967	98	60	2170
4	27	34	69	80	147	100	779	268	2670	112	57	1230
5	25	59	66	75	130	148	751	266	1250	90	55	758
6	24	57	64	100	110	164	512	237	714	82	69	532
7	24	44	64	311	97	135	398	204	477	77	80	404
8	25	39	63	864	91	128	348	185	364	72	58	328
9	25	36	61	589	87	130	349	187	304	69	53	547
10	25	70	56	347	86	151	319	180	258	66	51	1360
11	24	135	48	257	86	261	273	160	223	70	50	1140
12	24	85	52	225	88	330	247	149	363	325	48	689
13	25	69	54	213	91	288	225	150	374	160	52	464
14	25	63	57	186	94	256	201	146	273	111	55	843
15	26	55	57	173	96	233	205	137	213	94	50	1500
16	30	433	47	153	95	190	189	130	189	81	123	912
17	36	344	52	137	91	164	177	124	170	73	69	635
18	48	175	52	129	86	169	184	119	154	68	53	462
19	42	126	48	125	86	158	232	137	177	79	49	355
20	35	166	52	122	87	150	246	327	163	83	48	292
21	31	448	52	114	100	219	224	248	139	136	58	252
22	29	277	52	106	120	222	204	190	128	223	59	226
23	30	197	64	105	115	194	186	181	120	191	171	205
24	30	155	84	104	100	178	172	162	113	152	225	181
25	31	131	74	100	98	167	164	443	109	208	142	176
26	30	116	69	160	105	155	160	9700	105	154	98	160
27	29	110	74	423	105	146	176	3200	102	124	77	147
28	29	102	130	353	100	145	434	1460	102	102	929	138
29	29	92	180	283	---	141	901	910	96	86	2800	132
30	29	86	190	251	---	140	883	722	89	77	1190	133
31	29	---	170	228	---	142	---	547	---	72	693	---
TOTAL	892	3792	2331	6620	3045	5280	9762	22149	11261	3502	7654	25481
MEAN	28.8	126	75.2	214	109	170	325	714	375	113	247	849
MAX	48	448	190	864	208	330	901	9700	2670	325	2800	5000
MIN	23	28	47	75	86	90	131	119	89	66	48	132
CFSM	.12	.52	.31	.88	.45	.70	1.34	2.94	1.54	.46	1.02	3.50
IN.	.14	.58	.36	1.01	.47	.81	1.49	3.39	1.72	.54	1.17	3.90

CAL YR 1988 TOTAL 51564 MEAN 141 MAX 3330 MIN 21 CFSM .58 IN. 7.89  
WTR YR 1989 TOTAL 101769 MEAN 279 MAX 9700 MIN 23 CFSM 1.15 IN. 15.58



## 03335000 WILDCAT CREEK NEAR LAFAYETTE, IN

LOCATION.--Lat 40°26'26", long 86°49'45", in SW¼ sec.13, T.23 N., R.4 W., Tippecanoe County, Hydrologic Unit 05120107, on right bank about 200 ft downstream of bridge on County Road 2A East, 2.8 mi downstream from South Fork Wildcat Creek, 3.7 mi northeast of courthouse in Lafayette, and 4.8 mi upstream from mouth.

DRAINAGE AREA.--794 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1954 to current year.

REVISED RECORDS.--WSP 1555: 1955, 1957(M). WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 527.66 ft above National Geodetic Vertical Datum of 1929 (Indiana Flood Control and Water Resources Commission bench mark). Nonrecording gage prior to June 13, 1957, and August 31, 1974, to May 20, 1976, at present site and datum.

REMARKS.--Estimated daily discharges: Dec. 10-13, 17-19, 28-30, Feb. 5 to Mar. 1, 7-9, June 15-28, and Sept. 5-11. Records fair.

AVERAGE DISCHARGE.--35 years, 752 ft<sup>3</sup>/s, 12.86 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,000 ft<sup>3</sup>/s June 10, 1958, gage height, 21.52 ft, from rating curve extended above 18,000 ft<sup>3</sup>/s; minimum daily, 46 ft<sup>3</sup>/s Sept. 28, 29, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1913 reached a stage of about 25.4 ft, from profile by State of Indiana, Department of Natural Resources.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,300 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
May 26	1200	*21,700	*20.70	Sept. 2	0400	12,800	16.22
June 4	0400	8,490	13.55				

Minimum daily discharge, 62 ft<sup>3</sup>/s Oct.1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	102	308	589	681	329	415	1370	2180	254	206	6210
2	79	102	280	484	605	309	406	1120	2330	243	189	12100
3	77	101	264	416	544	299	755	908	3790	239	177	10200
4	91	123	250	343	480	360	1780	788	7160	250	168	7540
5	80	171	236	334	410	433	2400	763	5560	261	162	5000
6	73	246	222	464	365	478	2090	751	4300	244	213	2900
7	70	206	217	903	335	410	1560	698	2250	226	221	1900
8	69	157	203	2270	310	380	1270	659	1620	209	183	1400
9	72	145	189	2090	295	370	1170	638	1300	203	158	1800
10	72	231	180	1570	285	436	1030	676	1080	193	151	2300
11	69	417	150	1110	285	571	887	617	917	189	144	3200
12	68	379	150	880	290	712	787	582	1400	187	144	1900
13	68	253	160	787	300	759	715	568	1600	474	208	1470
14	68	209	169	714	305	736	657	568	1280	349	193	1730
15	72	193	167	661	313	696	633	546	950	317	158	3230
16	90	1220	136	588	312	518	614	517	820	248	217	2540
17	120	1240	145	522	309	430	565	497	720	220	175	2030
18	186	650	140	478	295	421	554	488	660	198	149	1530
19	207	469	140	447	285	421	594	595	630	229	139	1190
20	174	538	161	423	285	404	606	980	700	282	143	957
21	133	1300	159	396	310	508	578	849	600	400	149	808
22	117	977	159	369	370	588	556	686	500	436	168	699
23	116	680	183	349	400	554	530	653	450	396	438	619
24	118	547	227	333	350	529	500	630	400	472	604	555
25	113	479	262	326	330	500	477	1340	360	631	417	510
26	110	447	218	482	325	471	467	16100	330	623	296	468
27	106	416	225	1080	360	444	514	11600	300	449	214	428
28	107	395	390	1110	345	434	801	8030	280	339	800	419
29	103	369	550	996	---	423	1430	5370	272	278	3800	388
30	101	328	600	847	---	414	1730	3680	272	246	2870	365
31	102	---	590	746	---	426	---	2760	---	216	2870	---
TOTAL	3093	13090	7430	23107	10079	14763	27071	66027	45011	9501	16124	76386
MEAN	99.8	436	240	745	360	476	902	2130	1500	306	520	2546
MAX	207	1300	600	2270	681	759	2400	16100	7160	631	3800	12100
MIN	62	101	136	326	285	299	406	488	272	187	139	365
CFSM	.13	.55	.30	.94	.45	.60	1.14	2.68	1.89	.39	.66	3.21
IN.	.14	.61	.35	1.08	.47	.69	1.27	3.09	2.11	.45	.76	3.58

CAL YR 1988 TOTAL 188524 MEAN 515 MAX 5950 MIN 62 CFSM .65 IN. 8.83  
WTR YR 1989 TOTAL 311682 MEAN 854 MAX 16100 MIN 62 CFSM 1.08 IN. 14.60

## 03335500 WABASH RIVER AT LAFAYETTE, IN

LOCATION.--Lat 40°25'19", long 86°53'49", in NE1SW1 sec.20, T.23 N., R.4 W., Tippecanoe County, Hydrologic Unit 05120108, on right bank 20 ft downstream from Brown Street in Lafayette, 0.2 mi upstream from Main Street bridge, 0.3 mi downstream from Harrison Memorial Bridge, 5.1 mi downstream from Wildcat Creek, and at mile 311.9.

DRAINAGE AREA.--7,267 mi<sup>2</sup>.

PERIOD OF RECORD.--February 1901 to January 1902, March to December 1902, January to May 1903 (gage heights only), October 1923 to current year. Monthly discharge only for some periods, published in WSP 1305. Gage-height records collected at present site since October 1913 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 1335: 1929, 1932-33, 1936. WSP 1505: 1950. WSP 1555: 1928(M). WSP 2109: Drainage area. WDR IN-81-1: 1979.

GAGE.--Water-stage recorder. Datum of gage is 504.14 ft above National Geodetic Vertical Datum of 1929. Prior to May 2, 1903, nonrecording gage 0.5 mi upstream at different datum. Oct. 7, 1923, to Nov. 20, 1933, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Feb. 6-15, 23-26. Records good except for estimated daily discharges which are poor. Flow partially regulated by upstream reservoirs and power development.

AVERAGE DISCHARGE.--66 years (1923 to current year), 6,460 ft<sup>3</sup>/s, 12.07 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 131,000 ft<sup>3</sup>/s May 19, 1943, gage height, 28.47 ft; minimum daily, 399 ft<sup>3</sup>/s Sept. 26, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 26, 1913, reached a stage of 32.9 ft, from floodmark determined by National Weather Service, discharge, 190,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 40,700 ft<sup>3</sup>/s June 5, gage height, 18.36 ft; minimum daily, 1,280 ft<sup>3</sup>/s Oct. 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1300	2190	4570	8520	7930	3900	3540	9200	16200	5480	4150	10000
2	1610	2060	4230	7150	6510	3700	3910	9540	19300	6570	3410	34800
3	1500	2030	4100	6080	5860	3420	6080	8970	21000	6040	2960	35200
4	1400	2190	3880	4810	4930	3590	12400	7530	34600	4670	2670	25600
5	1550	2430	3600	4100	4720	4120	16000	5790	39500	3690	2630	19900
6	1430	2490	3430	4350	3500	4630	14600	5100	29800	3120	2360	14300
7	1480	2360	3390	5790	3200	4200	15300	4900	20800	2710	2080	10300
8	1500	2540	3270	16700	2800	5230	16300	5010	17400	2430	2230	8940
9	1390	2530	3020	22500	2400	5240	15800	5000	16000	2020	1790	7410
10	1330	3090	2860	18400	2600	4420	14300	4710	15000	2270	2080	8660
11	1600	3760	2720	15400	3200	4040	11900	4520	13900	1950	1500	9460
12	1280	4670	2310	13900	3600	4250	9360	4610	14800	3880	1770	12000
13	1290	4680	2480	12100	3800	4040	7100	5130	15300	4310	1870	9590
14	1320	4460	2590	10800	3700	4500	5710	4480	14200	4330	1940	7130
15	1610	4440	2700	10100	3600	5350	5380	4200	13600	5010	1950	9240
16	1460	5340	2480	9130	3840	4670	4900	3520	12500	4040	2060	12700
17	1690	8400	2150	8260	4150	4190	4700	3530	12300	3210	1850	13300
18	2360	8250	2120	7890	4410	3940	4410	3030	12100	2700	1770	12100
19	2350	6680	2200	7100	4620	4910	4290	3360	11800	2960	1710	10600
20	3980	6090	2690	6730	4430	5690	4000	7570	13000	4480	1610	7910
21	3420	7660	2950	6520	4410	5370	4240	6910	13200	5210	1570	6240
22	3160	10100	2810	5850	4080	5510	4680	6890	12000	6410	1930	5390
23	2830	9150	2920	5660	4300	5180	4340	5930	11100	8350	2260	4680
24	2670	7900	3320	5450	4700	5050	3640	5030	10600	9470	2510	3870
25	2700	6750	4000	5220	4800	4920	3460	5280	10400	9320	2540	3750
26	2320	5870	4000	5520	4500	4370	3820	24700	9460	9430	3150	3510
27	2560	5560	3950	8380	4330	4070	3820	33100	8460	9050	2660	3490
28	2510	5140	5060	11400	4230	4000	5730	25200	8480	7390	2890	3230
29	2270	5100	8600	10800	---	3880	8680	18900	6710	5410	7800	3120
30	2230	4780	9150	9810	---	3630	9540	22000	4900	3930	5100	3010
31	2140	---	8620	8750	---	3440	---	18100	---	3990	3880	---
TOTAL	62240	148690	116170	283170	119150	137450	231930	281740	458410	153830	80680	319430
MEAN	2008	4956	3747	9135	4255	4434	7731	9088	15280	4962	2603	10650
MAX	3980	10100	9150	22500	7930	5690	16300	33100	39500	9470	7800	35200
MIN	1280	2030	2120	4100	2400	3420	3460	3030	4900	1950	1500	3010
CFSM	.28	.68	.52	1.26	.59	.61	1.06	1.25	2.10	.68	.36	1.47
IN.	.32	.76	.59	1.45	.61	.70	1.19	1.44	2.35	.79	.41	1.64

CAL YR 1988 TOTAL 1527050 MEAN 4172 MAX 32600 MIN 702 CFSM .57 IN. 7.82  
WTR YR 1989 TOTAL 2392890 MEAN 6556 MAX 39500 MIN 1280 CFSM .90 IN. 12.25

## 03335690 MUD PINE CREEK NEAR OXFORD, IN

LOCATION.--Lat 40°31'24", long 87°20'30", in NE1/4 sec.17, T.24 N., R.8 W., Benton County, Hydrologic Unit 05120108, on right bank 5 ft downstream from county road bridge, 0.3 mi north of Chase, 2 mi east of Boswell, and 5 mi west of Oxford.

DRAINAGE AREA.--39.4 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1971 to current year.

REVISED RECORDS.--WDR IN-80-1: 1971-79 (P).

GAGE.--Water-stage recorder. Datum of gage is 718.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 10-14, Dec. 30 to Jan. 6, Feb. 4-20, 22-25, 27, 28, and Mar. 6-8. Records good except for estimated daily discharges which are poor.

AVERAGE DISCHARGE.--18 years (1972 to current year), 38.1 ft<sup>3</sup>/s, 13.13 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,420 ft<sup>3</sup>/s June 2, 1980, gage height, 11.67 ft; minimum daily, 0.10 ft<sup>3</sup>/s Sept. 18, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
May 26	0230	*709	*8.10

Minimum daily discharge, 0.22 ft<sup>3</sup>/s Oct. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.66	.42	5.5	17	27	15	16	23	54	5.6	1.1	194
2	1.0	.44	4.7	13	20	14	26	21	61	7.8	1.1	103
3	2.0	.58	4.9	11	17	13	259	18	128	12	1.0	27
4	1.0	2.3	4.4	9.8	12	86	253	18	96	6.8	1.0	8.6
5	.54	12	4.2	9.3	9.8	62	149	21	55	5.2	.97	4.4
6	.37	2.8	4.4	21	8.5	29	106	16	40	4.5	.87	3.1
7	.30	1.7	4.4	42	6.9	20	83	14	32	4.2	.87	2.9
8	.24	1.2	3.5	106	5.8	15	79	14	28	3.7	.86	3.1
9	.22	1.0	3.1	60	5.2	16	76	17	25	3.3	.81	58
10	.80	19	2.7	40	4.7	16	58	15	19	2.9	.80	25
11	.60	13	2.4	30	4.9	17	52	13	17	2.6	.65	11
12	.49	5.5	2.6	30	5.8	15	47	14	24	2.9	.72	6.3
13	.31	6.0	2.9	20	7.2	16	38	14	19	2.8	.84	4.5
14	.23	5.3	3.1	22	9.0	19	38	13	16	2.3	1.1	30
15	.28	4.3	2.9	20	10	16	34	12	14	2.1	5.2	59
16	.82	7.6	2.6	16	11	12	30	11	13	2.0	3.6	23
17	3.5	9.7	2.7	17	9.9	14	28	11	12	1.8	1.3	13
18	3.6	5.2	3.1	18	9.5	127	25	11	11	1.5	.92	8.0
19	3.1	4.8	3.7	16	11	70	24	16	12	3.4	.71	5.9
20	1.2	34	3.8	15	13	60	22	75	89	7.5	.87	5.0
21	.64	90	2.9	13	15	59	22	35	33	2.8	.83	4.3
22	.46	35	3.9	15	11	46	20	27	16	4.2	1.1	4.2
23	1.0	21	110	15	9.5	40	19	24	12	2.5	2.2	3.8
24	1.9	16	55	14	8.7	36	17	20	10	2.0	1.5	2.8
25	1.4	13	28	13	9.6	31	17	37	8.6	1.8	1.1	2.7
26	.69	11	19	36	27	26	16	450	8.3	1.5	.90	2.8
27	.57	11	47	53	19	25	19	178	11	1.4	.76	2.6
28	.62	8.3	126	40	13	25	28	96	8.2	1.3	5.9	2.4
29	.46	6.6	62	36	---	22	34	65	5.9	1.2	9.4	2.5
30	.48	6.6	37	34	---	21	26	47	5.5	1.1	2.6	2.6
31	.44	---	25	32	---	18	---	35	---	1.1	1.4	---
TOTAL	29.92	355.34	587.4	834.1	321.0	1001	1661	1381	883.5	105.8	52.98	625.5
MEAN	.97	11.8	18.9	26.9	11.5	32.3	55.4	44.5	29.4	3.41	1.71	20.8
MAX	3.6	90	126	106	27	127	259	450	128	12	9.4	194
MIN	.22	.42	2.4	9.3	4.7	12	16	11	5.5	1.1	.65	2.4
CFSM	.02	.30	.48	.68	.29	.82	1.41	1.13	.75	.09	.04	.53
IN.	.03	.34	.55	.79	.30	.95	1.57	1.30	.83	.10	.05	.59
CAL YR 1988	TOTAL 7604.97	MEAN 20.8	MAX 360	MIN .10	CFSM .53	IN. 7.18						
WTR YR 1989	TOTAL 7838.54	MEAN 21.5	MAX 450	MIN .22	CFSM .55	IN. 7.40						

## 03336000 WABASH RIVER AT COVINGTON, IN

LOCATION.--Lat 40°08'24", long 87°24'24", in NE¼NW¼ sec.35, T.20 N., R.9 W., Warren County, Hydrologic Unit 05120108, on right approach to old U.S. Highway 136 bridge at Covington, 2.9 mi downstream from Oppossum Run, 3.6 mi upstream from Spring Creek, and at mile 271.1.

DRAINAGE AREA.--8,218 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1939 to current year. Gage-height records collected at site 0.4 mi downstream January 1927 to December 1930, and at present site since January 1931 are contained in reports of National Weather Service.

REVISED RECORDS.--WDR IN-73-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 473.97 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1979, nonrecording gage on old bridge.

REMARKS.--Estimated daily discharges: Feb. 6-9 and 12-15. Records good. Flow partially regulated by upstream reservoirs and power development.

AVERAGE DISCHARGE.--50 years, 7,369 ft<sup>3</sup>/s, 12.17 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 147,000 ft<sup>3</sup>/s May 20, 1943, gage height, 32.44 ft; minimum daily, 487 ft<sup>3</sup>/s Sept. 29, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 35.1 ft, from floodmark determined by National Weather Service, discharge, 200,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 35,800 ft<sup>3</sup>/s June 6, gage height, 21.72 ft; minimum daily, 1,480 ft<sup>3</sup>/s Oct 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1480	2250	5080	8960	9160	4760	3710	10400	21100	5430	4360	9660
2	1510	2250	4850	8450	8110	4420	3830	10200	19300	6460	4260	23200
3	1680	2200	4470	7380	6890	4210	5270	10100	21300	6950	3560	28500
4	1670	2240	4410	6150	6230	4290	9610	9210	24400	6300	3210	31000
5	1560	2380	4170	5100	5570	4630	15900	7600	30000	5060	3010	28700
6	1660	2470	3910	4800	4500	5120	16900	6130	34900	4100	3000	22600
7	1610	2600	3730	5240	4100	5090	15700	5520	33100	3570	2790	14500
8	1620	2500	3660	10000	3850	5100	16600	5360	27400	3180	2520	11400
9	1620	2630	3570	19600	3000	5800	17100	5430	21500	2860	2580	10700
10	1570	2790	3380	21500	2500	5730	16200	5370	18100	2630	2280	11800
11	1500	3180	3220	18800	3070	5060	14200	5050	16300	2730	2410	12100
12	1690	3830	3050	15800	3700	4870	11700	4830	15400	3440	2030	12800
13	1530	4610	2700	14100	4200	4880	9320	5040	17000	5000	2130	12000
14	1520	4580	2840	12300	4500	4780	7170	5310	15800	4900	2170	9430
15	1560	4440	2950	11100	4600	5270	6230	4780	15400	5030	2220	9180
16	1790	4540	3000	10400	4540	5800	5720	4330	14300	5240	2260	12900
17	1760	6380	2810	9430	4540	5150	5370	3840	13400	4280	2330	14500
18	1890	8600	2640	8680	4670	4700	5070	3660	13200	3500	2080	13400
19	2330	7820	2580	8210	5040	4770	4880	3700	12900	3180	2060	12400
20	2450	6660	2720	7450	5240	5920	4670	6480	13200	3980	2000	9850
21	3430	6840	3000	7280	5090	6390	4400	9090	14600	5690	1900	7690
22	3100	8960	3250	6790	4920	6050	4710	8050	14500	6680	1960	6450
23	2920	10100	3240	6420	4700	5980	5000	7460	12800	7620	2660	5660
24	2710	9030	3510	6150	5120	5700	4500	6360	12300	9370	3770	4940
25	2630	7880	3840	5900	5680	5490	3950	5960	12000	9850	2990	4550
26	2590	6870	4350	5880	5530	5150	3800	22100	11100	9790	2890	4110
27	2460	6100	4370	6470	5180	4650	4410	28900	10000	9960	3270	4050
28	2530	5720	4880	10200	4910	4380	6090	32900	9440	9000	4850	3730
29	2500	5490	6390	11900	---	4260	8320	31100	8960	7380	12000	3580
30	2350	5320	9450	11200	---	4120	10900	26700	6940	5380	9850	3500
31	2300	---	8350	10100	---	3830	---	24800	---	4280	6200	---
TOTAL	63520	151260	124370	301740	139140	156350	251230	325760	510640	172820	105600	358880
MEAN	2049	5042	4012	9734	4969	5044	8374	10510	17020	5575	3406	11960
MAX	3430	10100	9450	21500	9160	6390	17100	32900	34900	9960	12000	31000
MIN	1480	2200	2580	4800	2500	3830	3710	3660	6940	2630	1900	3500
CFSM	.25	.61	.49	1.18	.60	.61	1.02	1.28	2.07	.68	.41	1.46
IN.	.29	.68	.56	1.37	.63	.71	1.14	1.47	2.31	.78	.48	1.62

CAL YR 1988 TOTAL 1752662 MEAN 4789 MAX 30300 MIN 927 CFSM .58 IN. 7.93  
WTR YR 1989 TOTAL 2661310 MEAN 7291 MAX 34900 MIN 1480 CFSM .89 IN. 12.05

## 03339108 EAST FORK COAL CREEK NEAR HILLSBORO, IN

LOCATION.--Lat 40°06'06", long 87°07'54", in NW¼SW¼ sec.8, T.19 N., R.6 W., Fountain County, Hydrologic Unit 05120108, at center pier on downstream side of bridge on County Road 700 East, 1.5 mi east of Hillsboro, 3.7 mi northwest of Waynetown, and 9.6 mi upstream from mouth.

DRAINAGE AREA.--33.4 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 673.76 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 1-19, Dec. 28 to Jan. 4, Jan. 9, 10, Feb. 5 to Mar. 9, and July 4-10. Records good except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--21 years, 36.8 ft<sup>3</sup>/s, 14.96 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,680 ft<sup>3</sup>/s May 1, 1983, gage height, 10.47 ft; minimum daily, 2.1 ft<sup>3</sup>/s Aug. 25, 26, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 16	0845	1,320	7.39	Aug. 29	1115	872	6.13
May 19	2145	830	6.00	Sept. 9	1815	1,720	8.38
May 26	0600	*1,860	*8.70				

Minimum daily discharge, 4.2 ft<sup>3</sup>/s Oct. 13-15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	7.4	25	24	26	12	15	58	55	11	9.1	331
2	6.0	7.2	22	20	22	11	22	46	48	10	8.4	143
3	5.0	7.5	23	18	22	12	120	37	183	16	7.9	69
4	4.7	20	21	17	20	13	104	34	194	15	7.4	45
5	4.6	29	21	19	17	15	63	39	89	12	7.4	32
6	4.5	15	21	106	15	18	47	32	64	11	7.0	23
7	4.4	12	20	170	13	16	39	26	51	10	6.4	19
8	4.4	10	18	153	12	15	41	24	43	9.5	6.5	276
9	4.3	26	18	62	11	15	41	38	36	9.2	6.5	701
10	4.3	187	18	38	11	32	33	35	29	9.1	6.2	470
11	4.3	38	18	31	11	75	30	28	26	22	6.1	158
12	4.3	20	18	36	11	65	27	25	51	67	5.9	102
13	4.2	17	18	33	12	47	24	23	33	20	5.9	80
14	4.2	14	16	29	12	40	23	21	26	12	5.6	237
15	4.2	12	17	25	13	32	24	19	23	9.9	7.0	138
16	10	574	16	21	14	23	21	18	21	9.1	8.5	89
17	20	142	16	20	15	23	21	17	20	8.4	6.4	68
18	14	81	16	20	15	22	24	16	18	7.9	5.9	55
19	10	57	17	19	14	18	28	174	18	9.6	5.9	47
20	7.5	197	21	18	13	31	24	330	18	20	7.2	38
21	7.3	130	16	16	13	51	22	108	16	77	7.0	33
22	8.6	71	16	16	19	36	20	76	15	40	25	32
23	15	52	50	16	18	30	19	80	14	19	130	27
24	18	41	30	15	16	26	18	58	13	15	38	24
25	9.5	34	19	15	15	23	17	274	12	14	14	23
26	7.3	32	16	70	14	20	16	883	12	12	11	19
27	6.8	31	36	64	14	19	18	181	14	10	9.1	15
28	8.0	26	98	45	13	20	60	118	14	10	223	15
29	7.7	22	49	38	---	19	229	95	11	9.2	505	15
30	7.3	25	32	34	---	19	86	79	11	9.2	158	14
31	7.2	---	28	31	---	17	---	66	---	9.2	70	---
TOTAL	235.6	1937.1	770	1239	421	815	1276	3058	1178	523.3	1327.3	3338
MEAN	7.60	64.6	24.8	40.0	15.0	26.3	42.5	98.6	39.3	16.9	42.8	111
MAX	20	574	98	170	26	75	229	883	194	77	505	701
MIN	4.2	7.2	16	15	11	11	15	16	11	7.9	5.6	14
CFSM	.23	1.93	.74	1.20	.45	.79	1.27	2.95	1.18	.51	1.28	3.33
IN.	.26	2.16	.86	1.38	.47	.91	1.42	3.41	1.31	.58	1.48	3.72
CAL YR 1988	TOTAL 9643.2	MEAN 26.3	MAX 574	MIN 2.1	CFSM .79	IN. 10.74						
WTR YR 1989	TOTAL 16118.3	MEAN 44.2	MAX 883	MIN 4.2	CFSM 1.32	IN. 17.95						



## 03339280 PRAIRIE CREEK NEAR LEBANON, IN

LOCATION.--Lat 40°06'16", long 86°31'32", in NW¼SW¼ sec.10, T.19 N., R.1 W., Boone County, Hydrologic Unit 05120110, on right bank 50 ft upstream from bridge on County Road 450 North, 4.0 mi upstream from Deer Creek, 4.9 mi northwest of Lebanon, and 7.7 mi upstream from mouth.

DRAINAGE AREA.--33.2 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1987 to current year.

GAGE.--Water-stage recorder. Datum of gage is 860.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 11-20, 30, Jan. 2-6, 22-25, Feb. 6-15, 23-25, and Mar. 1, 2, 7-9. Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,490 ft<sup>3</sup>/s July 20, 1989, gage height, 11.08 ft; minimum daily, 1.9 ft<sup>3</sup>/s Sept. 1, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft<sup>3</sup>/s (revised) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 29	1300	859	9.18	Sept. 1	1330	898	9.31
May 25	2100	1,450	10.97	Sept. 10	0330	1,130	10.03
July 20	2400	*1,490	*11.08	Sept. 14	1530	1,140	10.07
Aug. 29	1130	853	9.16				

Minimum daily discharge, 2.1 ft<sup>3</sup>/s Oct. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	2.7	3.8	5.5	10	7.2	27	136	36	5.7	17	524
2	3.8	2.9	3.7	4.5	9.0	7.4	36	86	26	5.6	15	304
3	2.4	2.9	4.0	3.9	9.8	8.1	190	63	74	19	13	134
4	2.1	21	3.9	3.7	8.2	16	435	58	56	7.0	12	75
5	2.2	12	4.0	4.4	8.9	19	202	74	39	5.0	11	48
6	2.3	4.0	4.1	10	7.4	23	123	56	26	4.6	28	33
7	2.3	3.5	4.0	35	6.4	15	88	39	24	4.1	10	25
8	2.4	3.3	4.0	42	5.7	13	81	33	18	3.6	8.7	34
9	2.3	3.3	4.0	18	5.1	12	78	35	15	3.4	7.9	198
10	2.2	29	4.0	15	4.8	26	59	27	13	3.5	7.4	690
11	2.3	4.7	3.7	9.1	5.4	61	49	23	11	82	7.0	230
12	2.3	3.7	3.6	14	6.0	61	40	22	20	147	7.3	118
13	2.4	5.0	4.0	9.8	7.0	42	33	22	16	30	7.5	74
14	2.4	3.6	3.7	9.5	7.8	36	29	19	12	11	6.4	624
15	2.3	3.8	3.5	8.6	8.2	29	29	17	11	6.6	6.6	398
16	8.5	27	3.7	7.8	9.6	19	24	16	9.4	5.1	6.4	196
17	5.2	5.9	3.6	7.4	8.6	18	25	15	8.6	4.7	6.3	122
18	21	3.9	3.2	7.4	9.1	19	37	14	8.0	4.3	6.1	78
19	3.1	4.0	3.4	7.0	8.8	14	61	17	7.8	53	6.1	54
20	2.8	25	3.7	6.8	9.5	43	44	65	7.5	835	7.3	40
21	2.9	10	3.9	6.1	18	68	35	27	7.3	795	6.8	32
22	3.3	5.8	4.0	5.4	14	40	29	27	6.9	253	48	28
23	3.6	4.8	25	5.2	9.8	31	24	47	6.7	202	27	22
24	3.9	4.4	6.1	5.1	7.9	26	21	36	6.4	137	16	18
25	2.6	4.1	4.7	5.6	7.4	23	20	440	6.2	104	11	17
26	2.4	4.1	4.0	21	11	20	18	757	6.3	76	8.9	15
27	2.5	5.5	8.8	15	9.3	19	112	219	7.1	50	7.7	13
28	2.7	4.3	28	12	8.6	18	150	117	6.6	38	77	13
29	2.8	4.0	12	13	---	17	532	78	5.9	27	402	12
30	2.7	4.1	8.4	12	---	45	269	54	5.8	22	196	11
31	2.8	---	6.5	11	---	37	---	37	---	19	81	---
TOTAL	109.1	222.3	187.0	340.8	241.3	832.7	2900	2676	503.5	2963.2	1078.4	4180
MEAN	3.52	7.41	6.03	11.0	8.62	26.9	96.7	86.3	16.8	95.6	34.8	139
MAX	21	29	28	42	18	68	532	757	74	835	402	690
MIN	2.1	2.7	3.2	3.7	4.8	7.2	18	14	5.8	3.4	6.1	11
CFSM	.11	.22	.18	.33	.26	.81	2.91	2.60	.51	2.88	1.05	4.20
IN.	.12	.25	.21	.38	.27	.93	3.25	3.00	.56	3.32	1.21	4.68

CAL YR 1988 TOTAL 6591.4 MEAN 18.0 MAX 658 MIN 1.9 CFSM .54 IN. 7.39  
WTR YR 1989 TOTAL 16234.3 MEAN 44.5 MAX 835 MIN 2.1 CFSM 1.34 IN. 18.19

## 03339500 SUGAR CREEK AT CRAWFORDSVILLE, IN

LOCATION.--Lat 40°02'56", long 86°53'58", in SW¼ sec.32, T.19 N., R.4 W., Montgomery County, Hydrologic Unit 05120110, on left bank 327 ft upstream from Crawfordsville Electric Light and Power Co.'s dam at Crawfordsville, 0.5 mi upstream from bridge on U.S. Highway 231, 1.0 mi downstream from Walnut Fork Sugar Creek, and at mile 40.4.

DRAINAGE AREA.--509 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1938 to current year.

REVISED RECORDS.--WSP 973: 1939(M). WSP 1275: Drainage area. WSP 1335: 1949.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 657.77 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 29 to Jan. 5, and Jan. 10 to Mar. 9. Records good except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--51 years, 485 ft<sup>3</sup>/s, 12.94 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,300 ft<sup>3</sup>/s June 28, 1957, gage height, 14.48 ft; minimum daily, 2.4 ft<sup>3</sup>/s Sept. 24-27, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 17.3 ft from information by local resident, discharge, about 36,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 4	1300	4,050	4.30	Aug. 29	2100	5,630	5.11
Apr. 29	2200	4,200	4.38	Sept. 2	0100	7,130	6.01
May 26	0600	*9,390	*7.51	Sept. 10	0900	7,950	6.54
July 21	0100	6,290	5.47	Sept. 14	2200	7,110	6.00

Minimum daily discharge, 12 ft<sup>3</sup>/s Oct. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	20	83	180	372	150	347	1750	720	106	176	4340
2	15	19	76	150	313	150	318	1280	860	104	154	6300
3	14	19	73	120	275	150	1540	980	1020	134	134	3520
4	14	32	70	100	237	180	3540	776	2590	163	116	1800
5	14	78	66	110	190	230	2730	894	1480	132	106	1240
6	13	76	65	345	160	280	1740	796	1010	110	199	897
7	13	47	64	959	155	270	1340	612	712	98	191	660
8	13	37	61	1840	145	250	1160	515	561	91	113	947
9	13	60	58	1190	140	240	1170	507	451	83	93	2870
10	13	284	56	580	140	346	1020	463	371	76	84	6690
11	14	219	44	460	150	1090	841	388	314	96	77	4100
12	13	124	56	431	155	1440	722	353	830	1570	71	2100
13	13	93	60	447	160	1090	601	350	1330	709	65	1460
14	14	76	59	385	170	899	504	326	907	344	72	4400
15	14	67	57	358	185	744	492	293	545	212	73	5840
16	17	391	43	301	195	516	434	268	399	153	584	2930
17	21	400	55	263	190	418	392	244	325	122	183	2040
18	57	194	53	249	185	404	405	229	274	102	108	1490
19	36	136	54	239	180	336	596	343	293	180	84	1150
20	31	326	59	231	180	383	660	1480	243	2170	75	910
21	25	630	59	208	220	938	553	1010	222	4930	73	712
22	22	347	55	190	260	835	473	633	203	2580	113	616
23	25	240	125	190	210	612	414	681	186	1450	587	516
24	25	177	167	181	200	509	366	613	178	1220	473	415
25	21	146	135	174	190	422	337	805	174	908	283	367
26	21	129	108	335	195	351	321	8400	155	688	185	341
27	19	121	112	857	190	306	832	5970	147	483	137	299
28	18	109	353	672	160	291	1650	2460	141	375	736	270
29	19	96	310	518	---	273	3410	1660	125	293	4930	257
30	20	90	260	454	---	304	3080	1260	113	233	4620	248
31	23	---	230	409	---	383	---	941	---	201	2500	---
TOTAL	602	4783	3126	13126	5502	14790	31988	37280	16879	20116	17395	59725
MEAN	19.4	159	101	423	196	477	1066	1203	563	649	561	1991
MAX	57	630	353	1840	372	1440	3540	8400	2590	4930	4930	6690
MIN	12	19	43	100	140	150	318	229	113	76	65	248
CFSM	.04	.31	.20	.83	.39	.94	2.09	2.36	1.11	1.27	1.10	3.91
IN.	.04	.35	.23	.96	.40	1.08	2.34	2.72	1.23	1.47	1.27	4.36

CAL YR 1988 TOTAL 92542.7 MEAN 253 MAX 6770 MIN 6.6 CFSM .50 IN. 6.76  
WTR YR 1989 TOTAL 225312 MEAN 617 MAX 8400 MIN 12 CFSM 1.21 IN. 16.47

## 03340500 WABASH RIVER AT MONTEZUMA, IN

LOCATION.--Lat 39°47'33", long 87°22'26", in SE1/4 sec.35, T.16 N., R.9 W., Parke County, Hydrologic Unit 05120108, on left bank 20 ft upstream from bridge on U.S. Highway 36 at Montezuma, 2.0 mi upstream from Big Raccoon Creek, 4.9 mi downstream from Sugar Creek, and at mile 240.0.

DRAINAGE AREA.--11,118 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1927 to current year. July 1924 to September 1927 (gage height only) in reports of State of Indiana, Department of Natural Resources.

REVISED RECORDS.--WSP 1335: 1929, 1931(M). WSP 1505: 1954. WSP 1915: 1954(M). WSP 2109: Drainage area. WDR IN-74-1: 1973.

GAGE.--Water-stage recorder. Datum of gage is 457.75 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Oct. 1, 1927, to July 12, 1950, nonrecording gage on downstream side of bridge and at same datum. July 12, 1950, to July 27, 1988, recording gage in downstream side of first pier from left bank at same datum.

REMARKS.--Estimated daily discharges: Oct. 24 to Nov. 17, Dec. 28 to Jan. 5, Jan. 8-16, Feb. 2-10, 17, 18, 22-24, and Mar. 5-7. Records good except those for estimated daily discharges, which are poor. Flow partially regulated by upstream reservoirs.

AVERAGE DISCHARGE.--62 years, 9,783 ft<sup>3</sup>/s, 11.94 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 184,000 ft<sup>3</sup>/s May 20, 1943, gage height, 32.83 ft; minimum daily, 571 ft<sup>3</sup>/s Sept. 24, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 27, 1913, reached a stage of 34.0 ft, from floodmarks, discharge, 230,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 51,400 ft<sup>3</sup>/s May 28, gage height, 22.82 ft; minimum daily, 1,330 ft<sup>3</sup>/s Oct. 14, 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1460	2500	5370	11900	11200	5500	5150	17500	29400	6870	4960	11900
2	1380	2450	5140	11400	10300	5170	5090	14700	25500	6260	5060	26300
3	1440	2440	4820	10100	8900	4900	8400	13500	24300	7380	4670	29200
4	1560	2430	4520	8600	7800	4960	19700	12500	26600	7290	4190	29500
5	1460	2550	4400	6700	7000	6000	24700	11300	28300	6290	3820	29800
6	1410	2730	4160	6040	6350	7500	24200	9530	31100	5250	3470	27900
7	1460	2830	3880	8230	5400	7000	21800	8110	34400	4460	3480	21500
8	1400	2850	3780	11400	5000	6140	21000	7370	33600	4010	3310	15800
9	1420	2920	3660	17000	4900	6900	21900	7920	29000	3700	3130	25900
10	1440	3200	3540	25000	3500	7240	21700	8700	23600	3360	2910	34400
11	1360	4050	3240	24000	3230	7960	19800	8120	19900	3260	2670	31100
12	1350	4200	3130	20000	4070	9090	17000	7230	17800	4340	2630	22800
13	1450	4840	3010	17200	5090	8460	14100	6790	18500	5750	2460	18600
14	1330	5080	2980	15700	5470	7520	11400	6920	19000	5690	2490	21500
15	1330	5000	3030	14300	5820	7210	9330	6520	17400	5230	2440	26900
16	1390	4920	3050	12800	5690	7510	8460	6030	16300	5490	2550	23200
17	1640	6900	2910	11300	5600	6940	7710	5440	15100	5080	2820	20600
18	1790	10100	2650	10300	5500	6180	7340	5050	14800	4240	2640	18500
19	2010	9770	2630	9620	5570	6010	7100	5110	14600	3770	2350	16200
20	2310	8490	2780	8850	5870	6920	6900	13200	14700	5010	2410	14000
21	2740	10200	2890	8290	6130	8800	6510	15700	15600	13100	2270	11300
22	3230	10900	3220	7980	6550	9210	6180	13800	16000	13500	2670	9320
23	3010	12000	3550	7360	6450	8550	6450	12300	15000	10600	4910	8090
24	3100	11000	4900	7090	6150	7860	6310	11100	13900	10700	6730	7110
25	2950	9500	5820	6810	6120	7500	5610	10800	13400	11600	4790	6230
26	2850	8210	5490	6970	6430	7120	5160	34400	13100	11400	4010	5780
27	2830	7140	5500	8450	6100	6520	5320	49000	11800	11100	3740	5470
28	2700	6490	6200	10600	5780	6030	7750	50200	10500	10500	4780	5320
29	2730	6010	8100	13400	---	5820	16300	47600	10200	8940	17100	4980
30	2690	5670	9800	13300	---	5650	20600	41600	8740	7240	21600	4820
31	2550	---	12100	12400	---	5460	---	34400	---	5510	14700	---
TOTAL	61770	177370	140250	363090	171970	213630	368970	502440	582140	216920	151760	534020
MEAN	1993	5912	4524	11710	6142	6891	12300	16210	19400	6997	4895	17800
MAX	3230	12000	12100	25000	11200	9210	24700	50200	34400	13500	21600	34400
MIN	1330	2430	2630	6040	3230	4900	5090	5050	8740	3260	2270	4820
CFSM	.18	.53	.41	1.05	.55	.62	1.11	1.46	1.75	.63	.44	1.60
IN.	.21	.59	.47	1.21	.58	.71	1.23	1.68	1.95	.73	.51	1.79

CAL YR 1988 TOTAL 2267064 MEAN 6194 MAX 33400 MIN 916 CFSM .56 IN. 7.59  
WTR YR 1989 TOTAL 3484330 MEAN 9546 MAX 50200 MIN 1330 CFSM .86 IN. 11.66

## 03340800 BIG RACCOON CREEK NEAR FINCASTLE, IN

LOCATION.--Lat 39°48'45", long 86°57'14", in NW¼SW¼ sec.22, T.16 N., R.5 W., Putnam County, Hydrologic Unit 05120108, on left bank at downstream side of county road bridge, 1.6 mi upstream from Ramp Creek, 3.1 mi west of Fincastle, and at mile 48.8.

DRAINAGE AREA.--139 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1957 to current year. Prior to October 1963, published as Raccoon Creek near Fincastle.

REVISED RECORDS.--WSP 1909: 1958. WSP 2109: Drainage area. WDR IN-79-1: 1978.

GAGE.--Water-stage recorder. Datum of gage is 686.03 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 11, 12, 16-18, Dec. 28 to Jan. 5, Jan. 9, 10, Feb. 5 to Mar. 9, and July 28 to Aug. 5. Records fair except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--32 years, 142 ft<sup>3</sup>/s, 13.87 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,100 ft<sup>3</sup>/s Jan. 26, 1962; maximum gage height, 15.68 ft Jan. 26, 1962 (ice jam); minimum daily discharge, 1.0 ft<sup>3</sup>/s Oct. 11, 1988.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 28, 1957, reached a stage of 19.10 ft, discharge, 39,900 ft<sup>3</sup>/s, from slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,900 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 4	1200	2,810	9.93	July 21	0900	10,600	14.95
May 26	1100	*12,900	*15.48	Sept. 10	1700	2,470	9.35
July 19	2000	2,520	9.44	Sept. 15	0300	5,380	12.55

Minimum daily discharge, 1.0 ft<sup>3</sup>/s Oct. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	3.7	15	62	90	42	118	166	210	23	62	675
2	1.9	3.6	14	50	77	41	115	135	209	23	52	883
3	1.5	2.7	13	45	74	41	646	113	243	32	45	410
4	1.2	8.1	12	47	66	48	2140	103	521	39	40	243
5	1.2	23	12	54	60	64	760	130	311	33	36	162
6	1.2	21	11	122	48	80	455	117	233	26	79	120
7	1.2	18	10	367	43	74	334	93	173	22	37	91
8	1.2	13	9.7	448	41	66	298	81	139	19	31	190
9	1.2	9.4	9.3	200	40	64	310	132	118	17	27	1550
10	1.1	25	8.7	140	40	101	239	136	99	17	23	2020
11	1.0	31	8.1	111	41	310	200	104	82	27	21	952
12	1.1	15	7.9	98	42	409	176	89	158	91	20	511
13	1.2	11	8.2	110	44	272	153	85	148	57	118	354
14	1.3	9.4	8.9	96	47	218	133	79	88	37	26	2340
15	1.4	9.0	9.3	91	50	179	129	70	67	27	19	3000
16	4.5	21	8.3	77	54	123	113	65	58	21	18	711
17	14	50	6.9	69	54	105	103	61	53	19	14	519
18	20	33	6.6	68	51	98	108	59	53	17	13	367
19	12	22	6.5	66	49	79	142	99	66	819	11	260
20	8.5	31	7.1	64	49	106	136	644	62	1610	13	191
21	5.6	117	7.2	59	60	290	120	287	50	6210	32	146
22	4.4	75	7.6	55	70	211	106	178	44	1030	175	125
23	4.6	43	28	56	60	155	95	273	41	607	193	103
24	4.6	32	41	54	55	130	86	223	37	672	155	79
25	4.4	26	31	53	53	113	81	701	34	503	70	69
26	3.8	23	23	82	54	97	77	8420	31	348	41	65
27	4.2	21	22	185	53	87	81	1460	30	251	31	58
28	3.9	19	80	142	47	82	104	623	30	160	60	53
29	3.3	17	170	117	---	78	173	475	28	120	362	51
30	3.3	16	150	107	---	112	255	370	25	90	292	49
31	3.3	---	100	97	---	145	---	275	---	78	144	---
TOTAL	124.4	748.9	852.3	3392	1512	4020	7986	15846	3441	13045	2260	16347
MEAN	4.01	25.0	27.5	109	54.0	130	266	511	115	421	72.9	545
MAX	20	117	170	448	90	409	2140	8420	521	6210	362	3000
MIN	1.0	2.7	6.5	45	40	41	77	59	25	17	11	49
CFSM	.03	.18	.20	.79	.39	.93	1.92	3.68	.83	3.03	.52	3.92
IN.	.03	.20	.23	.91	.40	1.08	2.14	4.24	.92	3.49	.60	4.37

CAL YR 1988 TOTAL 27382.7 MEAN 74.8 MAX 2180 MIN 1.0 CFSM .54 IN. 7.33  
WTR YR 1989 TOTAL 69574.6 MEAN 191 MAX 8420 MIN 1.0 CFSM 1.37 IN. 18.62

## 03340900 BIG RACCOON CREEK AT FERNDAL, IN

LOCATION.--Lat 39°42'40", long 87°04'15", in SE¼ sec.28, T.15 N., R.6 W., Parke County, Hydrologic Unit 05120108, on right bank at upstream side of bridge on New Discovery Road, 0.5 mi downstream from Cecil M. Harden Lake, 3.7 mi upstream from Rocky Fork Creek, and at mile 33.3.

DRAINAGE AREA.--217 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1956 to current year. Prior to October 1963, published as Raccoon Creek at Ferndale.

REVISED RECORDS.--WSP 2109: Drainage area.

GAGE.--Data-Collection Platform. Datum of gage is 590.00 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark). Prior to Oct. 1, 1974, water-stage recorder at site 1.7 mi downstream and at datum 7.64 ft lower. Data-Collection Platform installed on June 27, 1986.

REMARKS.--Flow regulated by Cecil M. Harden Lake since December 1960. Daily discharge computed from relation between discharge, head, and gate openings for Cecil M. Harden Lake beginning Oct. 1, 1974.

COOPERATION.--Records of daily discharge provided by U.S. Army Corps of Engineers beginning Oct. 1, 1976.

AVERAGE DISCHARGE.--33 years, 228 ft<sup>3</sup>/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,500 ft<sup>3</sup>/s June 28, 1957, gage height, 19.87 ft, from rating curve extended above 5,000 ft<sup>3</sup>/s on basis of records for station at Big Raccoon Creek at Mansfield; minimum daily, 2.7 ft<sup>3</sup>/s Oct. 11, 1956; no flow, Aug. 23, 24, 1977, July 26, 1986, Mar. 11, 12, 18, 19, 1987, due to regulation.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 1,500 ft<sup>3</sup>/s, June 25; minimum daily, 17 ft<sup>3</sup>/s, many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	195	266	117	67	21	25	17	20	17	792	184
2	17	194	306	72	55	21	25	85	20	17	918	103
3	17	194	304	72	55	21	25	165	20	17	1200	43
4	17	193	303	72	55	21	27	165	20	17	1220	18
5	17	193	301	72	56	21	28	165	164	17	855	18
6	17	193	300	72	48	21	28	165	308	17	856	18
7	17	193	299	73	33	21	28	165	308	17	1180	18
8	17	192	297	230	33	21	28	165	308	17	1170	219
9	17	192	296	325	33	22	339	165	308	17	902	30
10	17	191	294	324	33	22	504	166	307	17	267	19
11	17	191	292	323	33	22	504	259	397	17	82	20
12	17	191	291	321	33	22	502	325	823	51	59	20
13	17	190	289	320	27	22	501	216	995	144	49	20
14	17	190	288	318	20	22	310	107	734	166	49	20
15	35	190	286	236	20	23	196	107	499	166	49	21
16	17	189	284	108	20	23	196	107	498	166	49	21
17	17	189	282	85	20	23	158	107	818	165	49	21
18	17	189	280	85	20	23	120	107	1000	137	49	21
19	17	188	279	85	20	23	120	107	1120	124	49	349
20	17	188	277	85	20	23	75	108	1250	125	49	679
21	17	188	275	85	20	23	48	108	1320	106	263	797
22	166	188	273	85	20	23	48	304	1300	155	371	903
23	202	188	272	85	21	24	48	730	1320	313	229	992
24	189	187	270	85	21	24	37	998	1400	528	214	988
25	198	195	268	85	21	24	17	522	1500	529	692	984
26	197	200	267	68	21	24	17	64	961	529	803	1060
27	156	199	265	66	21	24	17	19	297	528	949	1100
28	197	199	264	87	21	24	17	20	81	527	647	1090
29	196	198	220	87	---	24	17	20	49	635	100	1090
30	196	198	177	87	---	24	17	20	29	638	101	1080
31	195	---	177	87	---	25	---	20	---	796	101	---
TOTAL	2267	5765	8542	4302	867	701	4022	5798	18174	6715	14363	11946
MEAN	73.1	192	276	139	31.0	22.6	134	187	606	217	463	398
MAX	202	200	306	325	67	25	504	998	1500	796	1220	1100
MIN	17	187	177	66	20	21	17	17	20	17	49	18

CAL YR 1988 TOTAL 44312 MEAN 121 MAX 1020 MIN 17  
WTR YR 1989 TOTAL 83462 MEAN 229 MAX 1500 MIN 17



## 03341300 BIG RACCOON CREEK AT COXVILLE, IN

LOCATION.--Lat 39°39'09" N, long 87°17'37" W, in SW1/4 sec.15, T.14 N., R.8 W., Parke County, Hydrologic Unit 05120108, on right bank at downstream side of covered bridge on county road at Coxville, 0.8 mi upstream from Rock Run, 1.5 mi downstream from Little Raccoon Creek, 2.1 mi northwest of Rosedale, and at mile 13.1.

DRAINAGE AREA.--448 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1956 to September 1988 (Discharge). October 1988 to current year (gage height only). Part to October 1963, published as Raccoon Creek at Coxville.

REVISED RECORDS.--WSP 2109: Drainage area. WDR IN-74-1: 1973.

GAGE.--Water-stage recorder. Datum of gage is 494.00 ft above National Geodetic Vertical Datum of 1929 (Indiana Flood Control and Water Resources Commission bench mark).

REMARKS.--Records good. Flow regulated by Cecil M. Harden Lake.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 108,000 ft<sup>3</sup>/s June 28, 1957, gage height, 21.23 ft, from rating curve extended above 35,000 ft<sup>3</sup>/s on basis of an estimate made by slope-area study; minimum daily, 6.5 ft<sup>3</sup>/s Oct. 10, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 14.76 ft Sept. 14, minimum gage height, 2.81 ft Oct. 11, 12.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.86	4.38	4.86	4.60	4.29	3.67	4.30	4.69	5.40	3.68	6.59	8.69
2	2.86	4.37	4.96	4.29	4.18	3.65	4.82	4.54	4.90	3.65	6.62	6.16
3	2.83	4.38	4.96	4.22	4.20	3.66	8.02	4.86	6.79	3.68	7.77	5.26
4	2.82	4.66	4.96	4.10	4.12	3.84	9.05	5.02	5.21	3.58	7.88	4.70
5	2.82	4.62	4.96	4.29	4.13	4.09	7.12	5.22	4.97	3.50	7.42	4.42
6	2.82	4.51	4.96	5.93	4.18	3.98	6.22	4.98	5.50	3.46	7.04	4.24
7	2.85	4.47	4.94	6.12	4.04	4.12	5.74	4.86	5.35	3.41	7.83	4.09
8	2.82	4.43	4.92	5.96	3.95	3.94	6.21	4.79	5.27	3.37	7.82	9.08
9	2.83	4.46	4.91	5.80	4.53	4.03	6.70	6.34	5.20	3.38	6.99	12.95
10	2.83	4.63	4.90	5.66	3.86	4.68	6.64	5.54	5.11	3.33	4.80	10.01
11	2.81	4.48	4.87	5.53	3.73	5.14	6.51	5.44	5.06	3.57	4.33	7.91
12	2.81	4.47	4.89	5.50	3.80	5.03	6.40	5.60	6.78	5.89	4.09	6.74
13	2.82	4.49	4.88	5.41	3.80	4.78	6.29	5.51	7.10	5.13	3.91	5.91
14	2.82	4.45	4.89	5.41	3.80	4.63	5.53	4.72	6.56	4.72	3.82	14.76
15	2.82	4.44	4.86	5.32	3.96	4.41	5.35	4.60	5.80	4.53	3.78	9.93
16	3.14	5.94	4.85	4.56	4.03	4.25	5.20	4.51	5.71	4.41	3.73	8.10
17	3.29	4.88	4.81	4.42	3.93	4.20	5.18	4.43	6.79	4.33	3.67	7.18
18	3.64	4.68	4.82	4.35	3.89	4.10	5.04	4.38	7.09	4.28	3.63	6.24
19	3.16	4.65	4.82	4.29	3.87	4.01	5.03	8.37	7.60	5.27	3.60	6.88
20	3.08	5.99	4.83	4.22	3.97	6.25	4.89	7.44	7.81	9.19	3.59	7.35
21	3.04	5.17	4.80	4.17	4.27	5.17	4.58	6.05	8.07	8.40	4.71	7.31
22	3.30	4.89	4.91	4.14	4.11	4.78	4.47	6.35	8.05	6.59	7.81	7.72
23	4.61	4.74	5.22	4.12	3.94	4.58	4.37	7.15	8.38	6.27	8.53	7.71
24	4.32	4.63	5.10	4.09	3.91	4.46	4.29	7.82	8.46	6.70	5.44	7.64
25	4.30	4.60	4.99	4.19	3.87	4.34	4.14	8.90	8.58	6.87	7.51	7.59
26	4.30	4.65	4.97	4.93	3.90	4.25	4.06	13.61	6.65	6.58	5.53	7.89
27	4.28	4.60	5.22	4.63	3.79	4.17	4.78	9.96	4.96	6.34	7.22	7.89
28	4.38	4.53	5.71	4.59	3.73	4.13	7.43	8.50	4.36	6.15	9.95	7.87
29	4.34	4.51	5.43	4.54	---	4.11	5.56	7.52	3.99	6.64	6.40	7.85
30	4.36	4.47	5.01	4.46	---	4.68	4.95	6.33	3.84	6.11	5.58	7.83
31	4.37	---	4.92	4.40	---	4.47	---	5.76	---	6.61	5.04	---
MEAN	3.37	4.67	4.97	4.78	3.99	4.37	5.63	6.25	6.18	5.15	5.89	7.60
MAX	4.61	5.99	5.71	6.12	4.53	6.25	9.05	13.61	8.58	9.19	9.95	14.76
MIN	2.81	4.37	4.80	4.09	3.73	3.65	4.06	4.38	3.84	3.33	3.59	4.09

WTR YR 1989 MEAN 5.24 MAX 14.76 MIN 2.81

## 03341315 BIG RACCOON CREEK NEAR MECCA, IN

LOCATION.--Lat 39°42'33", long 87°19'23", in NW¼NE¼ sec.32, T.15N., R.8W., Parke County, Hydrologic Unit 05120108, on left bank at downstream side of bridge on U.S. Highway 41, 1.2 mi southeast of Mecca, 4.8 mi downstream from Rock Run, 6.5 mi south of Rockville, and at river mile 7.4.

DRAINAGE AREA.--473 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1988 to current year.

GAGE.--Water-stage recorder. Datum of gage is 475.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Feb. 7, 8, 10-12, 14-19, Apr. 4-11, Sept. 2-5, and 10-13. Records fair. Flow regulated by Cecil M. Harden Lake.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,700 ft<sup>3</sup>/s, May 26, 1989, gage height, 19.79 ft; minimum daily, 30 ft<sup>3</sup>/s Oct. 1, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,700 ft<sup>3</sup>/s, May 26, gage height, 19.79 ft; minimum daily 30 ft<sup>3</sup>/s Oct. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	243	278	347	251	175	268	377	557	175	813	801
2	37	242	353	272	227	169	259	326	452	160	806	1030
3	39	243	371	241	228	167	1050	348	550	161	1130	640
4	37	267	371	227	221	178	2520	369	686	158	1320	390
5	35	318	370	218	212	207	1410	464	436	144	1330	300
6	35	282	371	416	195	229	870	427	504	135	644	234
7	35	266	369	671	187	229	670	383	505	126	1220	207
8	36	258	365	663	180	218	635	358	478	119	1320	530
9	35	257	361	620	176	210	710	571	461	125	1280	3850
10	36	299	360	544	175	266	910	663	438	114	714	4250
11	36	284	352	515	174	440	870	509	421	110	279	2100
12	34	268	351	503	172	465	828	565	571	1110	223	1300
13	34	269	354	484	169	397	787	553	1020	477	186	800
14	35	269	353	462	162	345	741	400	1060	344	167	3290
15	34	262	352	463	160	302	518	322	652	281	158	6040
16	49	472	344	367	160	259	471	293	581	253	152	1820
17	74	473	346	273	160	237	442	270	594	237	144	1210
18	174	335	342	252	160	227	416	255	1030	226	136	828
19	124	309	342	242	164	214	428	477	1100	261	131	593
20	81	428	341	234	185	303	398	1950	1360	897	128	836
21	75	573	338	224	235	638	340	1000	1500	1670	152	1010
22	70	398	337	218	251	417	297	675	1520	1120	551	1000
23	184	349	414	216	221	341	276	1020	1540	740	1330	1150
24	270	319	423	213	202	300	257	1400	1520	837	744	1140
25	229	302	396	210	204	273	241	1500	1720	940	625	1140
26	231	304	378	264	205	251	222	6280	1620	861	682	1140
27	233	307	387	341	196	236	381	3890	745	762	562	1270
28	218	296	559	300	185	226	784	1880	328	688	1270	1270
29	238	287	546	287	---	220	833	1430	239	669	1510	1270
30	238	282	485	274	---	267	493	981	202	667	630	1260
31	241	---	410	261	---	307	---	698	---	789	449	---
TOTAL	3257	9461	11719	10822	5417	8713	19325	30634	24390	15356	20786	42699
MEAN	105	315	378	349	193	281	644	988	813	495	671	1423
MAX	270	573	559	671	251	638	2520	6280	1720	1670	1510	6040
MIN	30	242	278	210	160	167	222	255	202	110	128	207
CFSM	.22	.67	.80	.74	.41	.59	1.36	2.09	1.72	1.05	1.42	3.01
IN.	.26	.74	.92	.85	.43	.69	1.52	2.41	1.92	1.21	1.63	3.36

WTR YR 1989 TOTAL 202579 MEAN 555 MAX 6280 MIN 30 CFSM 1.17 IN. 15.93

## 03341500 WABASH RIVER AT TERRE HAUTE, IN

LOCATION.--Lat 39°28'33", long 87°25'07", in NE¼NW¼ sec.21, T.12 N., R.9 W., Vigo County, Hydrologic Unit 05120111, on left bank at Indiana America Water Company, Inc., 1st and Elm Streets in Terre Haute, 3.0 mi upstream from Sugar Creek, and 3.6 mi downstream from Lost Creek and at mile 215.

DRAINAGE AREA.--12,263 mi<sup>2</sup> (revised).

PERIOD OF RECORD.--August 1902 to December 1903 (gage height only), February 1905 to July 1906, October 1927 to current year. Gage-height records collected at site 100 ft downstream June 1891 to June 1897 and since December 1904 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 205: 1905. WSP 1335: 1944. WDR IN-73-1: Drainage area. WDR IN-84-1: 1983. WDR IN-86-1: 1913 (Gage height).

GAGE.--Water-stage recorder. Datum of gage is 445.78 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 17, 1984, water-stage recorder at Wabash Avenue bridge 3,400 ft downstream at datum 2.88 ft lower. See WSP 1725 for history of changes prior to Oct. 27, 1928.

REMARKS.--Estimated daily discharges. Feb. 8-11. Records poor. Flow partially regulated by upstream reservoirs.

AVERAGE DISCHARGE.--62 years, 10,790 ft<sup>3</sup>/s, 11.95 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 189,000 ft<sup>3</sup>/s May 20, 1943, gage height, 30.50 ft; minimum daily, 701 ft<sup>3</sup>/s Aug. 3, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 27, 1913, reached a stage of 31.3 ft, present site and datum, discharge, 245,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 53,500 ft<sup>3</sup>/s May 29, gage height, 19.78 ft; minimum daily, 1,520 ft<sup>3</sup>/s Oct. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1720	2610	6070	10900	11900	6200	6240	20000	39500	8430	6210	14100
2	1680	2550	5800	10500	10900	5890	5960	16600	33500	7030	5990	22800
3	1670	2540	5560	9700	9910	5550	8600	14700	28600	7600	5890	28700
4	1710	2680	5200	8650	8800	5450	20000	13800	27800	8160	5540	30100
5	1800	2800	5060	7330	7900	6170	25000	13000	29400	7510	5120	31100
6	1660	2930	4840	7010	6880	7800	25700	11500	30900	6350	4730	31200
7	1670	2950	4580	8900	6050	7970	24000	9960	33600	5390	4250	27000
8	1680	3090	4380	11400	5200	7290	22300	8900	36100	4750	4480	18600
9	1640	3040	4290	17600	4600	7210	23100	8780	35600	4450	4230	29300
10	1670	3720	4160	21900	3900	7900	22800	10100	30900	4030	4010	37700
11	1650	5160	3920	22400	3600	8710	21500	9870	24100	3710	3390	40000
12	1540	4570	3680	20500	4060	9910	19000	8950	20400	6140	3120	33600
13	1610	4660	3530	17900	5160	10000	16100	8260	19100	6540	2880	24500
14	1620	5060	3360	15900	5860	9010	13500	8020	19800	6610	2760	28600
15	1520	5020	3380	14300	6290	8320	11300	7880	18700	6160	2770	39100
16	1590	6410	3420	13100	6550	8210	10000	7310	17400	5980	2770	33800
17	1750	9670	3380	12100	6320	8080	9210	6800	16100	6020	2920	26500
18	2150	9420	3130	11100	6150	7300	8680	6230	15300	5310	3010	22500
19	2260	10200	2970	10400	6170	6780	8410	6200	15100	4750	2740	19400
20	2510	9320	3020	9780	6440	7680	8160	12500	15000	6330	2560	16700
21	2700	10300	3130	9070	6880	10200	7840	15900	15400	12000	2600	14000
22	3360	10800	3370	8720	7210	10500	7340	15600	16100	15400	2750	11800
23	3460	11600	3830	8220	6910	9880	7310	14900	15700	12600	5140	10200
24	3360	11500	4470	7840	6350	9100	7420	13200	14800	11300	8650	9130
25	3190	10300	5910	7560	6520	8570	6950	11800	14000	12700	6740	8210
26	2990	9130	5940	7510	7070	8110	6310	24400	13800	12600	5200	7520
27	2940	8140	5880	8600	7070	7610	6560	41900	12900	11900	4440	7120
28	2830	7340	6600	9970	6600	7050	9470	51300	11600	11500	5030	6920
29	2770	6780	8240	12500	---	6680	16700	53200	10800	10400	12300	6590
30	2800	6380	9490	13400	---	6620	21200	51200	10100	9000	21100	6320
31	2680	---	10900	12800	---	6610	---	45900	---	7280	17900	---
TOTAL	68180	190670	151490	367560	187250	242360	406660	548660	642100	247930	171220	643110
MEAN	2199	6356	4887	11860	6687	7818	13560	17700	21400	7998	5523	21440
MAX	3460	11600	10900	22400	11900	10500	25700	53200	39500	15400	21100	40000
MIN	1520	2540	2970	7010	3600	5450	5960	6200	10100	3710	2560	6320
CFSM	.18	.52	.40	.97	.55	.64	1.11	1.44	1.75	.65	.45	1.75
IN.	.21	.58	.46	1.11	.57	.74	1.23	1.66	1.95	.75	.52	1.95
CAL YR 1988	TOTAL 2499470	MEAN 6829	MAX 35000	MIN 1080	CFSM .56	IN. 7.58						
WTR YR 1989	TOTAL 3867190	MEAN 10600	MAX 53200	MIN 1520	CFSM .86	IN. 11.73						

## 03342000 WABASH RIVER AT RIVERTON, IN

LOCATION.--Lat 39°01'13", long 87°34'07", in NE¼SW¼ sec.30, T.7 N., R.10 W., Sullivan County, Hydrologic Unit 05120111, on left bank at downstream side of Illinois Central Railroad bridge at Riverton, 0.5 mi downstream from Turtle Creek, and at mile 162.0.

DRAINAGE AREA.--13,161 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1938 to current year. Prior to April 1939 monthly discharge only, published in WSP 1305. June 1911 to December 1914 (gage heights only) available in the U.S. Army Corps of Engineers office, Louisville, Ky.

REVISED RECORDS.--WSP 1335: 1939, 1950. WDR IN-73-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 414.65 ft above National Geodetic Vertical Datum of 1929. Prior to July 17, 1951, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Feb. 9-11. Records good. Flow partially regulated by upstream reservoirs.

AVERAGE DISCHARGE.--51 years, 11,830 ft<sup>3</sup>/s, 12.20 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 201,000 ft<sup>3</sup>/s May 21, 1943, gage height, 29.36 ft; minimum daily, 858 ft<sup>3</sup>/s Sept. 27-30, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 28, 1913, reached a stage of 26.4 ft, from graph based on once-daily readings by Illinois Central Railroad Co., discharge, 250,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 46,300 ft<sup>3</sup>/s June 2, gage height, 19.07 ft; minimum daily, 1,730 ft<sup>3</sup>/s Oct. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1780	2850	6820	11600	13800	7090	9380	22100	45900	10400	7560	18200
2	1870	2770	6470	11600	12800	6700	8170	21100	45900	8860	6590	20500
3	1860	2710	6180	11200	12100	6380	12600	18500	43600	8240	6340	25000
4	1820	2780	5930	10300	11100	6170	20900	16700	39800	9470	6130	26600
5	1850	3020	5600	9140	9690	6390	27300	16200	36100	9200	5790	27800
6	1930	3090	5420	9230	8490	7570	28200	15100	34100	8130	5450	29000
7	1860	3100	5200	10700	7480	8720	28500	13200	33400	6950	5000	29600
8	1840	3110	4950	12600	6610	8660	28300	11500	33500	5990	4620	28300
9	1850	3210	4750	14900	5800	8040	28300	10400	33900	5470	4680	32000
10	1820	3320	4630	19700	5200	8930	27400	10700	34300	5100	4460	35100
11	1820	4060	4470	22500	4800	10400	26200	11500	34200	4620	4190	36200
12	1830	5270	4250	23100	4570	10900	24400	11100	32300	7960	3650	36800
13	1740	4920	4010	21500	4850	11500	21500	10100	27700	10500	3370	37000
14	1760	4970	3860	19100	5870	11200	18400	9450	24300	8260	3120	37100
15	1780	5290	3730	17300	6630	10100	15600	9180	22800	7380	2980	39600
16	1730	5690	3730	15700	7450	9340	13200	8890	20900	6690	2980	41700
17	1760	8680	3720	14400	7530	9180	11800	8320	19200	6420	2980	42000
18	1890	10000	3690	13200	7110	8870	10900	7740	17700	6250	3080	39400
19	2170	10300	3490	12100	6880	8070	10400	7280	16800	5620	3120	34300
20	2330	11100	3340	11300	6930	9400	9950	10100	16300	5690	2910	28700
21	2550	11200	3320	10500	7630	15900	9560	15300	16200	10900	2800	22500
22	2750	11600	3460	9800	8110	14500	9110	17000	16600	16000	2650	17600
23	3340	11900	3810	9400	7990	12900	9180	18900	17100	16200	3150	13900
24	3530	12600	4370	8860	7460	11700	10400	17900	16900	13800	6580	11700
25	3440	12100	5050	8480	6980	10600	9350	15400	15700	12900	8480	10300
26	3300	10900	6210	8370	7220	9850	8470	16400	14800	13900	6630	9190
27	3130	9720	6310	8730	7710	9280	8500	24400	14400	13300	5320	8400
28	3080	8650	6750	9860	7560	8690	10200	28800	13400	12500	4710	7890
29	2980	7840	7730	11500	---	8140	17100	33000	12100	11800	8500	7550
30	2920	7240	9160	13800	---	9100	20300	37800	11400	10600	16900	7150
31	2940	---	9310	14500	---	10200	---	43700	---	9230	20400	---
TOTAL	71250	203990	159720	404970	216350	294470	493570	517760	761300	288330	175320	761080
MEAN	2298	6800	5152	13060	7727	9499	16450	16700	25380	9301	5655	25370
MAX	3530	12600	9310	23100	13800	15900	28500	43700	45900	16200	20400	42000
MIN	1730	2710	3320	8370	4570	6170	8170	7280	11400	4620	2800	7150
CFSM	.17	.52	.39	.99	.59	.72	1.25	1.27	1.93	.71	.43	1.93
IN.	.20	.58	.45	1.14	.61	.83	1.40	1.46	2.15	.81	.50	2.15
CAL YR 1988	TOTAL 2862100	MEAN 7820	MAX 34400	MIN 1300	CFSM .59	IN. 8.09						
WTR YR 1989	TOTAL 4348110	MEAN 11910	MAX 45900	MIN 1730	CFSM .91	IN. 12.29						

## 03342100 BUSSEYON CREEK NEAR HYMERA, IN

LOCATION.--Lat 39°12'54", long 87°18'41", in NW¼NW¼ sec.21, T.9 N., R.8 W., Sullivan County, Hydrologic Unit 05120111, on right bank at downstream side of bridge on County Road 900 North, 1.3 mi upstream from East Fork Busseyon Creek, 1.9 mi northwest of Hymera, 4.1 mi upstream from West Fork Busseyon Creek, and at mile 30.3.

DRAINAGE AREA.--16.7 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1966 to current year.

REVISED RECORDS.--WDR IN-72-1: 1971. WDR IN-87-1: 1982-86.

GAGE.--Water-stage recorder. Datum of gage is 480.00 ft above National Geodetic Vertical Datum of 1929 (U.S. Soil Conservation Service benchmark).

REMARKS.--Estimated daily discharges: Nov. 5-7, 24-26, Dec. 29-31, Jan. 3, 4, Feb. 5-12, 24-26, Mar. 1, 6, 7, June 12-18, July 12-17, and Sept. 4-7. Records poor. Flow affected by U.S. Soil Conservation Service floodwater-retarding structures.

AVERAGE DISCHARGE.--23 years, 18.5 ft<sup>3</sup>/s, 15.04 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,890 ft<sup>3</sup>/s Sept. 12, 1974, gage height, 18.58 ft; maximum gage height, 19.16 ft July 8, 1982; no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 710 ft<sup>3</sup>/s Sept. 9, gage height, 18.69 ft; no flow Oct. 7-15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.05	2.4	7.1	8.8	3.7	37	18	3.9	.92	6.4	167
2	.02	.05	2.0	6.4	9.4	3.9	59	12	3.8	1.3	4.1	80
3	.01	.09	1.8	6.0	33	4.1	250	8.9	4.5	4.7	2.5	40
4	.02	18	1.4	6.5	19	15	195	20	4.4	3.2	1.7	20
5	.02	11	1.3	33	11	41	47	37	8.5	1.8	2.1	14
6	.01	6.0	1.2	155	9.0	27	36	17	5.9	1.3	4.1	8.0
7	.0	2.6	1.1	71	6.5	15	46	11	10	1.1	3.7	5.2
8	.00	1.4	.96	78	5.6	13	89	8.1	13	1.0	1.8	51
9	.00	1.0	.87	32	5.0	46	56	19	7.1	.96	.76	543
10	.0	14	.84	21	4.4	69	32	17	9.6	5.3	.57	170
11	.00	3.8	.73	17	4.7	44	22	9.9	24	34	.47	50
12	.00	2.5	.71	22	5.0	25	17	7.6	17	270	.75	37
13	.00	2.0	.78	16	6.5	17	15	6.4	13	65	.95	29
14	.00	1.5	.80	14	9.7	13	11	5.7	9.0	45	.47	305
15	.00	1.4	.69	14	18	8.8	9.8	5.3	7.5	32	.40	95
16	.02	14	.62	14	21	6.6	8.1	4.9	4.5	20	.37	61
17	.07	3.8	.63	12	13	6.0	7.6	4.7	3.2	14	.31	45
18	.33	2.2	.61	12	9.4	5.3	9.5	4.7	6.0	8.8	.31	29
19	.15	2.0	.65	10	7.1	4.7	11	6.9	4.0	17	.28	21
20	.06	48	.63	8.6	14	243	7.8	6.9	2.7	39	.46	14
21	.08	22	.55	7.3	28	166	7.1	4.7	2.6	106	.58	9.8
22	.06	23	.59	6.9	13	44	6.5	71	2.9	49	.37	11
23	.26	36	5.4	6.3	8.3	31	20	170	2.9	45	17	5.3
24	.30	24	5.1	6.0	7.0	26	22	36	2.5	64	26	2.3
25	.13	15	2.4	6.7	6.0	24	13	24	1.9	67	21	2.4
26	.08	10	1.6	21	5.2	23	9.1	31	1.4	34	10	2.3
27	.07	14	5.9	16	4.6	21	20	16	1.2	24	4.5	2.5
28	.09	8.4	39	10	4.1	20	86	8.8	1.1	13	39	2.4
29	.09	4.5	20	9.1	---	22	53	7.4	.96	10	47	2.4
30	.07	3.0	12	8.1	---	125	27	5.5	.83	8.9	19	2.4
31	.06	---	9.0	8.1	---	75	---	4.6	---	10	9.1	---
TOTAL	2.01	295.29	122.26	661.1	296.3	1188.1	1229.5	610.0	179.89	997.28	226.05	1827.0
MEAN	.065	9.84	3.94	21.3	10.6	38.3	41.0	19.7	6.00	32.2	7.29	60.9
MAX	.33	48	39	155	33	243	250	170	24	270	47	543
MIN	.00	.05	.55	6.0	4.1	3.7	6.5	4.6	.83	.92	.28	2.3
CFSM	.00	.59	.24	1.28	.63	2.29	2.45	1.18	.36	1.93	.44	3.65
IN.	.00	.66	.27	1.47	.66	2.65	2.74	1.36	.40	2.22	.50	4.07

CAL YR 1988 TOTAL 5830.19 MEAN 15.9 MAX 493 MIN .00 CFSM .95 IN. 12.99  
WTR YR 1989 TOTAL 7634.78 MEAN 20.9 MAX 543 MIN .00 CFSM 1.25 IN. 17.01



## 03342244 MUD CREEK NEAR CASS, IN

LOCATION.--Lat 39°05'55", long 87°15'46", in NE¼NE¼ sec.35, T.8 N., R.8 W., Sullivan County, Hydrologic Unit 05120111, on left upstream wingwall of bridge on County Road 100 North, 1.0 mi northeast of Cass, and 2.9 mi above mouth.

DRAINAGE AREA.--9.16 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1981 to current year.

GAGE.--Water-stage recorder. Datum of gage is 474.00 (correction, prior figure in error) ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 4-15, Oct. 25 to Nov. 15, Nov. 28 to Dec. 22, Jan. 3-5, 10, 11, Feb. 5-15, Feb. 23 to Mar. 3, Mar. 7-9, Apr. 14-22, Apr. 29 to May 3, May 6-8, 10-18, 21, 22, June 26 to July 11, July 13, July 31 to Sept. 6, Sept. 29, 30. Records poor. Flow affected by surface-mined areas.

AVERAGE DISCHARGE.--8 years, 13.6 ft<sup>3</sup>/s, 20.16 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge recorded, 996 ft<sup>3</sup>/s May 29, 1986 and July 12, 1989, gage height, 12.16 ft but may have been greater during period of no gage-height record Nov. 14 to Dec. 18, 1985; minimum daily, 0.20 ft<sup>3</sup>/s Sept. 18, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 996 ft<sup>3</sup>/s July 12, gage height, 12.16 ft; minimum daily, 0.21 ft<sup>3</sup>/s Oct. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.76	1.0	3.1	12	5.1	3.2	28	8.6	7.7	3.8	7.4	200
2	.59	.97	2.8	11	13	3.1	65	8.2	7.5	15	5.9	80
3	.45	.96	2.6	10	46	3.0	130	8.0	40	50	5.0	40
4	.40	29	2.5	9.5	14	36	89	17	19	30	4.3	20
5	.36	13	2.4	35	9.0	72	33	14	35	24	4.0	13
6	.33	7.5	2.2	94	7.0	40	25	9.6	14	19	7.0	9.0
7	.30	5.0	2.1	53	5.6	16	20	8.0	9.3	16	5.0	7.9
8	.28	4.0	2.0	45	5.0	15	43	7.0	7.7	14	3.2	14
9	.26	5.0	2.0	16	4.5	30	24	11	6.9	13	2.4	81
10	.25	4.5	1.9	8.5	4.2	36	17	9.4	5.9	12	2.2	32
11	.24	3.5	1.8	7.6	4.0	27	15	7.6	5.7	20	2.0	26
12	.23	3.1	1.8	15	3.9	17	13	6.2	8.2	398	1.9	22
13	.22	2.8	1.7	9.0	5.0	14	11	5.2	6.3	25	4.0	12
14	.22	2.6	1.7	9.2	10	12	9.8	4.6	7.2	12	2.5	78
15	.21	2.5	1.7	11	20	11	9.0	4.2	5.4	11	2.1	22
16	8.8	3.7	1.7	8.5	25	8.7	8.2	3.7	5.2	11	1.8	33
17	.31	2.2	1.6	7.7	9.9	8.3	8.0	3.6	5.0	10	1.7	15
18	.35	2.1	1.6	6.8	6.6	7.7	13	3.5	5.0	10	1.6	9.5
19	.28	7.3	1.6	5.8	5.4	7.1	12	42	5.3	19	1.5	8.3
20	.34	43	1.6	5.6	10	152	10	25	4.9	13	5.0	8.0
21	.62	15	1.6	5.0	22	73	8.8	10	4.4	13	7.0	7.3
22	.42	8.2	2.5	5.0	9.7	35	8.5	30	4.4	14	3.0	7.1
23	8.0	6.2	54	4.6	5.6	27	39	38	7.1	44	15	6.7
24	1.7	5.4	40	4.5	4.5	22	19	14	6.7	17	23	6.5
25	.90	4.6	19	7.7	4.1	20	13	17	5.4	13	13	6.4
26	.76	8.2	13	24	3.7	17	11	79	5.0	11	7.0	6.3
27	.73	8.2	23	13	3.5	15	15	17	4.5	11	5.0	6.1
28	2.1	5.2	76	8.6	3.3	14	12	12	5.0	10	30	6.0
29	1.9	4.1	60	7.8	---	35	10	10	4.6	10	35	5.9
30	1.4	3.6	51	6.8	---	153	9.2	8.9	4.1	16	14	5.8
31	1.1	---	27	5.7	---	65	---	7.9	---	10	8.5	---
TOTAL	34.81	212.43	407.5	472.9	269.6	995.1	728.5	450.2	262.4	894.8	231.0	794.8
MEAN	1.12	7.08	13.1	15.3	9.63	32.1	24.3	14.5	8.75	28.9	7.45	26.5
MAX	8.8	43	76	94	46	153	130	79	40	398	35	200
MIN	.21	.96	1.6	4.5	3.3	3.0	8.0	3.5	4.1	3.8	1.5	5.8
CFSM	.12	.77	1.44	1.67	1.05	3.50	2.65	1.59	.95	3.15	.81	2.89
IN.	.14	.86	1.65	1.92	1.09	4.04	2.96	1.83	1.07	3.63	.94	3.23

CAL YR 1988 TOTAL 2949.47 MEAN 8.06 MAX 188 MIN .20 CFSM .88 IN. 11.98  
WTR YR 1989 TOTAL 5754.04 MEAN 15.8 MAX 398 MIN .21 CFSM 1.72 IN. 23.37

## 03342500 BUSSEY CREEK NEAR CARLISLE, IN

LOCATION.--Lat 38°58'26", long 87°25'33", in NW¼ survey 17, Vincennes Tract, Sullivan County, Hydrologic Unit 05120111, on left bank 10 ft downstream from bridge on State Highway 58, 1.5 mi northwest of Carlisle, and 6.9 mi (revised) upstream from mouth.

DRAINAGE AREA.--228 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1943 to current year.

REVISED RECORDS.--WSP 1335: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 425.36 ft above National Geodetic Vertical Datum of 1929 (Indiana Department of Highways bench mark). Prior to Nov. 8, 1950, nonrecording gage at same site and datum. Nov. 8, 1950, to Oct. 31, 1969, at site 200 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Dec. 29 to Jan. 6, Feb. 7-13, 23-25, and Mar. 8, 9. Records fair except for estimated daily discharges, which are poor. Flow affected by U.S. Soil Conservation Service floodwater-retarding structures and surface-mined areas.

AVERAGE DISCHARGE.--46 years, 229 ft<sup>3</sup>/s, 13.64 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,800 ft<sup>3</sup>/s Jan. 5, 1950, gage height, 20.05 ft; maximum gage height, 20.30 ft May 9, 1961; no flow many days in 1954.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,200 ft<sup>3</sup>/s and maximum(\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 30	1300	2,340	13.64	Apr. 4	1000	*2,750	*14.50

Minimum daily discharge, 3.5 ft<sup>3</sup>/s Oct. 13, 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.2	9.9	33	82	96	53	1790	220	96	16	129	915
2	5.9	10	26	71	93	47	1350	170	82	72	94	1560
3	8.1	11	26	65	521	46	2060	131	102	822	73	1320
4	6.4	46	24	60	396	172	2610	115	161	387	56	1000
5	4.5	139	20	57	249	537	2400	244	222	185	46	480
6	5.2	76	22	800	167	622	2110	204	197	113	50	258
7	8.8	37	22	897	103	390	1470	135	116	78	43	186
8	8.9	28	19	801	82	260	1070	106	87	58	34	142
9	8.6	22	16	490	73	300	956	101	74	47	29	1140
10	8.3	74	13	304	64	700	716	134	59	38	25	1440
11	6.7	71	10	222	52	651	458	110	53	36	22	1570
12	4.1	42	14	253	50	464	347	83	66	1040	20	1630
13	3.5	31	12	242	90	322	279	70	69	1220	19	1150
14	3.6	27	13	178	431	259	229	59	91	1420	17	1170
15	3.5	22	14	182	381	234	193	52	53	1330	17	1340
16	7.0	59	9.4	178	474	162	163	47	43	788	22	1470
17	11	95	12	149	292	129	138	44	36	334	20	1400
18	16	53	11	126	197	110	169	41	32	200	18	951
19	12	52	11	107	154	90	268	96	33	344	16	515
20	12	233	13	92	147	948	206	242	29	274	16	302
21	11	278	13	76	412	1830	155	106	26	476	126	226
22	11	145	13	66	304	1490	127	172	22	663	226	180
23	16	98	44	61	130	1270	402	701	21	609	135	148
24	24	75	94	57	100	751	734	665	48	664	725	115
25	15	74	71	57	95	419	410	287	35	1150	396	95
26	11	62	45	163	92	304	280	1020	26	787	222	82
27	9.1	78	39	234	78	236	239	603	22	401	130	69
28	9.1	67	325	168	66	195	286	270	23	263	142	60
29	9.5	51	250	136	---	288	473	185	19	190	530	56
30	9.3	41	180	125	---	2050	327	143	17	191	326	52
31	9.8	---	120	110	---	2090	---	114	---	193	170	---
TOTAL	284.1	2106.9	1534.4	6609	5389	17419	22415	6670	1960	14389	3894	21022
MEAN	9.16	70.2	49.5	213	192	562	747	215	65.3	464	126	701
MAX	24	278	325	897	521	2090	2610	1020	222	1420	725	1630
MIN	3.5	9.9	9.4	57	50	46	127	41	17	16	16	52
CFSM	.04	.31	.22	.94	.84	2.46	3.28	.94	.29	2.04	.55	3.07
IN.	.05	.34	.25	1.08	.88	2.84	3.66	1.09	.32	2.35	.64	3.43

CAL YR 1988 TOTAL 56678.5 MEAN 155 MAX 2380 MIN 3.5 CFSM .68 IN. 9.25  
WTR YR 1989 TOTAL 103692.4 MEAN 284 MAX 2610 MIN 3.5 CFSM 1.25 IN. 16.92

## 03343000 WABASH RIVER AT VINCENNES, IN

LOCATION.--Lat 38°42'19", long 87°31'14", T.3 N., R.10 W., Lawrence County, IL, Hydrologic Unit 05120111, on right bank 30 ft east of Illinois State Highway 33, 300 ft upstream from Kelso Creek, 570 ft downstream from U.S. Highway 50 bridge, 5.1 mi downstream from Maria Creek, 7.5 mi upstream from Embarras River and at mile 129.6.

DRAINAGE AREA.--13,706 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1929 to current year. Prior to December 1929 monthly discharge only, published in WSP 1305. Gage-height records for flood peaks in 1867 and 1883, intermittent records 1887-1904, and continuous since November 1904, collected at site 1.8 mi downstream, are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 1173: 1943 (maximum gage height only). WSP 1335: 1930-31, 1933, 1936. WSP 1909: 1955. WDR IN-73-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 394.43 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1968, to June 19, 1979, recording gage at site 570 ft upstream at same datum. Oct. 1, 1960, to September 30, 1968, nonrecording gage at site 1.8 mi downstream at same datum. Oct. 1, 1960, to Sept. 30, 1968, auxiliary water-stage recorder at site 2.8 mi upstream from base gage at datum 0.80 ft lower. See WSP 1725 for history of changes prior to Oct. 1, 1960.

REMARKS.--Estimated daily discharges: Nov. 5-7, Jan. 6-8, and Feb. 3, 4, 9-11, 14-16. Records fair. Flow partially regulated by upstream reservoirs.

AVERAGE DISCHARGE.--60 years, 12,020 ft<sup>3</sup>/s, 11.91 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 189,000 ft<sup>3</sup>/s May 22, 23, 1943, gage height, 29.33 ft, at former site 1.8 mi downstream and at present datum; minimum daily, 770 ft<sup>3</sup>/s Aug. 4, 5, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 29, 1913, reached a stage of 26.3 ft, at former site 1.8 mi downstream and at present datum, from floodmarks, determined by U.S. Army Corps of Engineers, discharge, 255,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 40,900 ft<sup>3</sup>/s June 3, gage height, 18.72 ft; minimum daily, 1,870 ft<sup>3</sup>/s Oct. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1980	3020	7040	11000	14300	7600	16700	23100	37000	11700	9390	20800
2	1990	2940	6670	11500	13400	7180	14300	23700	39600	10600	7780	22400
3	2050	2920	6340	11300	12900	6870	16500	21400	40000	12600	7200	23800
4	1950	3120	6030	10600	11800	6820	22000	18300	38600	12300	6880	25600
5	1910	3200	5720	9730	10900	7930	25800	17100	37100	11200	6540	26600
6	1940	3250	5420	9400	9500	9090	27500	16300	35100	9810	6280	27000
7	1950	3300	5220	10200	8330	9390	28400	14700	33000	8430	5800	27200
8	1920	3360	4940	12600	7440	9550	29000	12700	31600	7290	5430	27300
9	1950	3500	4670	15200	6400	9250	28800	11400	31100	6370	5120	27900
10	1930	3880	4520	17700	5900	9960	28000	10800	31100	6200	4980	31200
11	1930	3900	4370	20400	5400	11300	26900	11600	31300	5660	4760	33200
12	1930	5120	4220	21900	5110	12100	25400	11700	31200	9300	4430	34400
13	1930	5490	4050	21800	5110	12400	23200	10900	29500	12400	3920	35500
14	1870	5220	3810	20000	6200	12600	20300	10000	26600	11200	3660	36400
15	2000	5450	3610	18100	7000	11700	17700	9490	24000	9670	3400	37400
16	2060	5700	3480	16500	7900	10400	15200	9270	22200	8620	3320	38500
17	1980	7190	3480	15100	8560	9900	13200	8790	20400	7620	3330	39500
18	2060	9730	3480	13900	8020	9660	12100	8220	18700	7180	3320	40000
19	2140	9860	3420	12700	7570	8920	11500	7730	17400	6880	3420	39300
20	2360	10900	3210	11900	7390	10800	11000	9040	17000	6830	3410	37100
21	2510	11300	3130	11100	8390	19100	10400	13900	16900	9230	3560	32700
22	2730	11400	3150	10300	9010	19100	9930	17300	17000	15600	3540	26300
23	3010	11600	3390	9810	8720	17400	9370	21000	17300	18600	3380	18500
24	3430	12000	4040	9340	8220	16000	11000	21000	17600	16800	6540	14400
25	3440	12200	4760	8900	7620	14100	10800	17700	16900	14700	9730	12200
26	3350	11400	5680	8770	7470	11700	9780	17400	16000	15400	8580	10800
27	3210	10300	6340	9000	7790	10600	8880	23500	15700	15000	6570	9690
28	3130	9160	6940	9600	8010	9940	10000	27400	15300	13800	5620	8940
29	3040	8240	7470	10800	---	10600	15400	29600	13400	13100	7090	8450
30	2990	7600	8490	12900	---	16300	20700	31300	12400	12500	13800	8020
31	3030	---	9510	14400	---	18800	---	33800	---	11500	19400	---
TOTAL	73700	206250	156600	406450	234360	357060	529760	520140	751000	338090	190180	781100
MEAN	2377	6875	5052	13110	8370	11520	17660	16780	25030	10910	6135	26040
MAX	3440	12200	9510	21900	14300	19100	29000	33800	40000	18600	19400	40000
MIN	1870	2920	3130	8770	5110	6820	8880	7730	12400	5660	3320	8020
CFSM	.17	.50	.37	.96	.61	.84	1.29	1.22	1.83	.80	.45	1.90
IN.	.20	.56	.43	1.10	.64	.97	1.44	1.41	2.04	.92	.52	2.12

CAL YR 1988 TOTAL 3110120 MEAN 8498 MAX 36500 MIN 1500 CFSM .62 IN. 8.44  
WTR YR 1989 TOTAL 4544690 MEAN 12450 MAX 40000 MIN 1870 CFSM .91 IN. 12.33

## 03347000 WHITE RIVER AT MUNCIE, IN

LOCATION.--Lat 40°12'15", long 85°23'14", in SE¼NW¼ Hackley Reserve, Delaware County, Hydrologic Unit 05120201, on right bank 200 ft downstream from Walnut Street bridge in Muncie, 6 mi upstream from Bell Creek, and at mile 315.8.

DRAINAGE AREA.--241 mi<sup>2</sup>.

PERIOD OF RECORD.--November 1930 to current year. Prior to October 1948, published as West Fork White River at Muncie. Daily gage heights from July 1923 to December 1929 are available in the district office.

REVISED RECORDS.--WSP 1335: 1931-32(M), 1936(M), 1938, 1948. WSP 1435: 1955. WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 917.10 ft above National Geodetic Vertical Datum of 1929 (city of Muncie bench mark). See WSP 1705 for history of changes prior to Jan. 28, 1942. Jan. 28, 1942, to Apr. 27, 1964, water-stage recorder at present site at datum 3.00 ft higher.

REMARKS.--Estimated daily discharges: Dec. 13, 17, 30, 31, Jan. 4, 5, Feb. 5-13, Feb. 23 to Mar. 2, Mar. 7-9, Apr. 25 to May 2, June 3-9, and July 27 to Aug. 4. Records good except for estimated daily discharges and discharge below 10 ft<sup>3</sup>/s, which are poor. Natural flow affected by regulation of Prairie Creek Reservoir and by diversion of municipal water supply by Muncie Water Works Co. above gage. Records of diversion available since October 1937.

AVERAGE DISCHARGE.--58 years (1931 to current year), 210 ft<sup>3</sup>/s, 11.83 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,300 ft<sup>3</sup>/s Apr. 21, 1964, gage height, 14.98 ft present datum, maximum gage height, 21.07 ft Jan. 15, 1937, present datum; minimum daily discharge, 1.1 ft<sup>3</sup>/s Sept. 16, 17, 23-25, 1954, and Oct. 10, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 22.6 ft in March 1913, present datum, discharge, 20,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft<sup>3</sup>/s and maximum(\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 31	0900	3,680	8.60	July 20	1000	3,370	8.35
Apr. 05	0100	4,860	9.51	Sept. 2	1300	*6,220	*10.46
May 27	0600	4,480	9.23	Sept. 15	1500	3,420	8.39

Minimum daily discharge, 5.5 ft<sup>3</sup>/s Oct. 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	12	120	190	148	120	2200	498	295	48	103	3020
2	7.9	26	100	153	128	105	1180	450	254	48	73	5630
3	7.3	22	87	133	121	109	1560	322	236	80	73	2590
4	6.0	60	80	110	109	121	3450	267	450	88	73	800
5	5.5	160	71	95	98	358	3340	368	429	71	71	512
6	6.2	196	69	556	85	664	1270	449	520	60	74	376
7	6.2	124	66	1230	78	450	816	359	369	53	66	273
8	6.4	95	63	1730	72	270	655	264	244	51	56	223
9	6.8	85	57	1190	69	190	606	272	187	48	48	268
10	6.7	150	55	548	67	289	488	540	156	38	42	723
11	5.7	306	40	329	68	558	407	432	135	40	38	715
12	5.7	171	44	337	71	590	347	302	160	98	36	415
13	6.6	126	50	480	75	434	300	251	304	147	43	263
14	8.3	144	54	339	93	346	258	219	195	92	35	979
15	17	118	54	259	115	302	240	188	149	66	30	3040
16	31	98	29	209	152	227	226	170	127	55	30	1540
17	40	166	40	183	154	195	210	158	112	45	30	776
18	12	125	42	175	135	178	249	147	99	42	30	503
19	7.5	99	44	179	124	155	725	154	92	780	31	364
20	7.3	207	48	182	119	202	562	155	88	2900	48	277
21	7.3	675	48	161	318	611	385	144	82	1670	65	224
22	7.2	406	47	141	464	451	291	140	78	818	71	197
23	7.1	249	58	126	220	295	234	866	80	489	124	180
24	7.0	174	76	117	175	229	197	1650	78	516	95	155
25	6.5	139	111	115	170	200	178	973	77	709	75	140
26	6.3	126	105	234	160	174	182	2380	65	464	62	132
27	6.6	203	104	434	150	160	249	3480	62	271	51	120
28	6.3	315	539	278	140	153	326	1190	60	223	50	114
29	5.9	205	663	215	---	314	667	613	54	178	92	108
30	6.9	146	380	187	---	1660	1160	495	53	138	410	101
31	7.4	---	270	165	---	3220	---	392	---	103	220	---
TOTAL	287.6	5128	3614	10780	3878	13330	22958	18288	5290	10429	2345	24758
MEAN	9.28	171	117	348	138	430	765	590	176	336	75.6	825
MAX	40	675	663	1730	464	3220	3450	3480	520	2900	410	5630
MIN	5.5	12	29	95	67	105	178	140	53	38	30	101
CFSM	.04	.71	.48	1.44	.57	1.78	3.18	2.45	.73	1.40	.31	3.42
IN.	.04	.79	.56	1.66	.60	2.06	3.54	2.82	.82	1.61	.36	3.82

CAL YR 1988 TOTAL 38842.9 MEAN 106 MAX 1350 MIN 3.8 CFSM .44 IN. 6.00  
WTR YR 1989 TOTAL 121085.6 MEAN 332 MAX 5630 MIN 5.5 CFSM 1.38 IN. 18.69



## 03347500 BUCK CREEK NEAR MUNCIE, IN

LOCATION.--Lat 40°08'05", long 85°22'25", in SW¼SE¼ sec.34, T.20 N., R.10 E., Delaware County, Hydrologic Unit 05120201, on left bank at downstream side of bridge on County Road 400 South, 1.0 mi upstream from Muncie Water Works Co. pumping station, 4.2 mi southeast of court house in Muncie, and at mile 10.6.

DRAINAGE AREA.--35.5 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1954 to current year.

REVISED RECORDS.--WSP 1909: 1955, 1957. WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 944.67 ft above National Geodetic Vertical Datum of 1929. Prior to May 5, 1955, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Dec. 9-22, Dec. 30 to Jan. 5, Feb. 2-12, and Feb. 24 to Mar. 3. Records good except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--35 years, 36.0 ft<sup>3</sup>/s, 13.77 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,780 ft<sup>3</sup>/s Apr. 21, 1964, gage height, 13.96 ft; minimum daily, 4.7 ft<sup>3</sup>/s Jan. 17, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, about 15 ft, from information by local residents. Date unknown.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
May. 30	1800	577	8.98	July 20	0400	474	8.19
Apr. 4	1300	776	10.18	Sept. 1	1100	594	9.09
May 26	0600	*805	*10.32	Sept. 14	2300	477	8.22

Minimum daily discharge, 8.8 ft<sup>3</sup>/s Oct. 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.0	10	16	18	30	23	150	78	47	25	25	340
2	9.7	10	15	16	27	22	118	61	45	26	24	162
3	9.2	10	15	15	25	23	196	53	46	36	24	75
4	9.0	25	15	14	23	25	496	51	55	29	23	51
5	8.9	45	14	13	22	54	202	67	58	27	24	41
6	9.0	25	14	95	20	58	130	57	52	26	25	36
7	9.3	19	14	110	19	37	103	49	44	25	23	32
8	9.1	17	13	100	18	30	93	46	41	24	22	29
9	9.3	16	12	50	18	31	84	55	39	24	21	37
10	9.5	36	12	36	17	44	73	60	37	23	21	151
11	9.4	24	12	30	18	59	66	49	35	24	21	78
12	8.8	18	11	36	20	53	61	45	38	30	21	49
13	9.0	20	10	35	22	42	58	45	37	28	20	40
14	9.7	18	10	31	24	38	55	42	35	25	20	249
15	11	16	10	29	25	35	53	40	34	23	20	259
16	13	16	10	26	27	30	51	39	32	23	20	107
17	18	16	9.8	26	25	29	49	37	31	22	20	80
18	18	15	9.8	26	25	28	56	36	31	22	20	58
19	13	14	9.4	26	24	26	94	36	31	237	19	48
20	12	47	9.2	26	24	44	66	37	31	261	23	43
21	12	52	9.0	24	53	74	57	35	30	75	21	39
22	12	32	9.4	24	46	46	52	35	29	53	30	39
23	12	25	15	24	33	38	48	173	28	53	34	36
24	13	21	15	23	28	34	45	91	28	57	26	34
25	12	19	15	24	27	31	44	68	28	43	23	33
26	11	18	14	55	25	29	43	604	27	35	22	31
27	10	24	15	60	25	29	45	163	27	32	21	30
28	11	23	78	43	24	28	65	90	27	30	21	29
29	11	19	45	37	---	44	164	71	26	28	35	29
30	10	18	25	34	---	375	121	61	25	27	45	28
31	10	---	21	32	---	249	---	52	---	26	28	---
TOTAL	337.9	668	502.6	1138	714	1708	2938	2426	1074	1419	742	2293
MEAN	10.9	22.3	16.2	36.7	25.5	55.1	97.9	78.3	35.8	45.8	23.9	76.4
MAX	18	52	78	110	53	375	496	604	58	261	45	340
MIN	8.8	10	9.0	13	17	22	43	35	25	22	19	28
CFSM	.31	.63	.46	1.03	.72	1.55	2.76	2.20	1.01	1.29	.67	2.15
IN.	.35	.70	.53	1.19	.75	1.79	3.08	2.54	1.13	1.49	.78	2.40

CAL YR 1988 TOTAL 8044.1 MEAN 22.0 MAX 350 MIN 8.0 CFSM .62 IN. 8.43  
WTR YR 1989 TOTAL 15960.5 MEAN 43.7 MAX 604 MIN 8.8 CFSM 1.23 IN. 16.72



## 03348000 WHITE RIVER AT ANDERSON, IN

LOCATION.--Lat 40°06'20", long 85°40'16", in NW¼ sec.18, T.19 N., R.8 E., Madison County, Hydrologic Unit 05120201, on downstream side of abandoned Twelfth Street bridge abutment, 250 ft upstream from municipal water-supply plant in Anderson, 1 mi upstream from Killbuck Creek, and at mile 293.3.

DRAINAGE AREA.--406 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1925 to September 1926, October 1931 to current year. Monthly discharge only for some periods published in WSP 1305. Gage-height records collected at site 950 ft downstream December 1910 to February 1918, 250 ft downstream from February 1918 to Sept. 14, 1973, and at present site since Sept. 15, 1973, are contained in reports of National Weather Service. Prior to October 1948, published as West Fork White River at Anderson.

REVISED RECORDS.--WSP 1335: 1932, 1934-35, 1936(M), 1938-40. WSP 1385: 1950(P). WSP 1725: 1956 (P). WSP 1909: 1956. WSP 2109: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 825.02 ft above National Geodetic Vertical Datum of 1929. Prior to May 12, 1934, nonrecording gage at present site and datum. May 12, 1934, to Sept. 14, 1973 nonrecording gage at site 250 ft downstream at same datum. Sept. 15, 1973, to Sept. 23, 1976, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Dec. 12-13, 17-19, 29-31, Jan. 4-5, Feb. 6-12, 23-25, and Mar. 7-8. Records good except for those of estimated daily discharges, which are poor. Prior to Sept. 15, 1973, the City of Anderson diverted water for its municipal supply above the gage then in use.

AVERAGE DISCHARGE.--59 years, 385 ft<sup>3</sup>/s, 12.88 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,700 ft<sup>3</sup>/s Apr. 21, 1964, gage height, 19.41 ft; maximum gage height, 19.96 ft June 14, 1958; minimum daily discharge, 9.1 ft<sup>3</sup>/s Sept. 24, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 23.6 ft Mar. 25, 1913, at site 250 ft downstream and at present datum, based on determination of National Weather Service at site then in use, discharge, 28,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,700 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 31	2200	4,810	9.59	July 20	1900	4,600	9.41
Apr. 5	0300	7,250	11.64	Sept. 2	1200	*9,690	*13.53
May 27	1900	5,930	10.56	Sept. 15	1500	5,930	10.56

Minimum daily discharge, 47 ft<sup>3</sup>/s Oct. 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	62	210	326	286	235	3720	1030	570	164	248	2470
2	61	61	188	268	259	217	1750	729	504	159	233	8880
3	60	65	170	234	252	207	2190	606	480	233	216	7810
4	54	95	158	200	230	221	4810	543	693	236	205	1740
5	51	315	150	165	214	317	6780	655	673	205	198	892
6	47	306	142	474	190	779	2610	691	694	185	224	688
7	49	238	139	1420	175	490	1310	621	571	167	197	557
8	48	180	133	1820	165	360	993	542	475	154	178	480
9	48	156	127	1740	155	335	893	525	407	142	166	521
10	49	270	122	789	150	398	756	668	352	137	161	1700
11	52	361	111	505	170	641	653	654	308	132	158	1610
12	49	298	100	458	190	723	594	536	330	177	156	881
13	51	229	115	566	187	607	547	488	537	325	157	660
14	52	207	123	489	190	503	505	451	426	232	154	1550
15	56	210	116	419	197	465	483	415	339	180	148	5490
16	64	183	104	355	233	384	455	387	294	154	148	3840
17	144	180	92	316	257	333	440	366	265	141	147	1750
18	130	225	95	300	236	313	477	346	246	134	145	1050
19	86	188	115	294	222	284	839	356	233	734	141	808
20	73	307	112	299	216	312	811	389	276	3900	148	684
21	73	694	109	282	316	665	626	351	245	2910	181	587
22	79	596	105	252	582	655	527	334	227	1280	206	531
23	72	387	134	238	400	473	471	717	217	833	292	483
24	76	282	137	227	300	389	429	2200	211	797	297	420
25	69	233	155	221	280	341	400	1300	210	980	224	382
26	61	207	183	299	292	304	412	3550	200	768	196	360
27	59	230	175	582	276	280	444	5730	189	573	175	336
28	60	368	413	463	257	285	553	2670	185	427	168	316
29	61	322	750	377	---	297	1240	1050	178	359	201	297
30	56	244	540	336	---	1650	1970	813	168	320	592	283
31	59	---	400	307	---	4450	---	665	---	284	522	---
TOTAL	1997	7699	5723	15021	6877	17913	38688	30378	10703	17422	6582	48056
MEAN	64.4	257	185	485	246	578	1290	980	357	562	212	1602
MAX	144	694	750	1820	582	4450	6780	5730	694	3900	592	8880
MIN	47	61	92	165	150	207	400	334	168	132	141	283
CFSM	.16	.63	.45	1.19	.60	1.42	3.18	2.41	.88	1.38	.52	3.95
IN.	.18	.71	.52	1.38	.63	1.64	3.54	2.78	.98	1.60	.60	4.40

CAL YR 1988 TOTAL 70617 MEAN 193 MAX 1890 MIN 33 CFSM .48 IN. 6.47  
WTR YR 1989 TOTAL 207059 MEAN 567 MAX 8880 MIN 47 CFSM 1.40 IN. 18.97

## 03348020 KILLBUCK CREEK NEAR GASTON, IN

LOCATION.--Lat 40°15'45", long 85°30'53", in SE¼SW¼ sec.16, T.21 N., R.9 E., Delaware County, Hydrologic Unit 05120201, on right bank 30 ft upstream from bridge on County Road 500 North, 3.6 mi southwest of Gaston, and at mile 15.6.

DRAINAGE AREA.--25.5 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 873.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 5-27 and Feb. 7, 8. Records poor prior to January, fair thereafter.

AVERAGE DISCHARGE.--21 years, 24.7 ft<sup>3</sup>/s, 13.15 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,200 ft<sup>3</sup>/s June 2, 1980, gage height, 12.70 ft; minimum daily, 0.76 ft<sup>3</sup>/s Jan. 19, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 4	0700	361	10.25	Sept. 1	1400	*963	*11.86
May 26	1000	388	10.32	Sept. 15	0400	271	9.59
July 24	2100	374	10.26				

Minimum daily discharge, 1.3 ft<sup>3</sup>/s Oct. 10-11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	4.6	5.9	11	14	9.7	57	24	36	7.2	18	642
2	2.3	5.1	5.3	9.4	12	9.5	47	22	32	7.1	17	891
3	2.3	5.2	5.4	8.3	11	9.5	148	19	33	8.5	16	469
4	2.5	5.6	5.5	7.4	10	9.9	341	18	74	9.2	15	89
5	2.5	12	5.4	6.8	10	23	196	29	49	7.3	15	57
6	2.3	11	5.1	47	9.1	30	101	25	42	6.6	22	43
7	2.2	7.5	5.0	102	7.9	21	74	20	33	6.1	18	35
8	2.2	6.1	4.9	131	7.2	15	59	18	28	5.9	15	30
9	1.9	5.6	4.8	63	7.7	14	53	19	25	5.7	13	40
10	1.3	13	4.7	39	8.2	28	44	23	22	5.6	12	127
11	1.3	15	4.1	31	8.5	46	39	20	19	5.7	11	74
12	1.4	8.6	4.2	44	8.3	41	36	18	19	27	10	46
13	1.5	6.7	4.8	47	8.5	31	36	17	23	50	9.9	35
14	1.4	5.8	5.1	35	10	28	36	16	20	24	9.1	106
15	1.7	5.1	5.2	29	14	25	35	15	17	14	8.4	194
16	2.1	4.6	4.7	25	17	19	33	14	15	10	8.2	81
17	2.7	4.4	4.3	24	15	18	29	13	14	8.5	7.7	61
18	3.5	5.2	4.4	24	14	17	29	12	13	7.4	7.1	45
19	4.1	5.7	4.9	24	13	15	62	13	18	27	6.8	37
20	3.6	19	5.4	23	12	21	43	20	20	98	7.7	31
21	3.5	38	5.4	17	26	50	34	16	13	121	8.5	27
22	3.4	18	5.1	11	27	34	29	14	12	50	7.5	25
23	4.0	11	5.4	11	17	27	25	28	11	55	11	23
24	4.0	8.4	6.2	9.9	14	23	23	31	10	169	9.9	21
25	4.2	6.8	5.9	9.4	13	21	21	26	9.8	189	7.9	20
26	4.3	6.2	5.3	19	14	18	20	348	9.3	60	6.8	18
27	4.5	8.7	5.7	34	13	17	19	279	8.8	42	6.3	17
28	4.8	11	43	23	11	18	21	95	8.7	32	6.1	17
29	4.7	8.0	34	19	---	18	30	64	7.9	26	10	16
30	5.7	6.8	20	17	---	46	30	55	7.4	23	46	16
31	4.6	---	14	16	---	64	---	44	---	21	22	---
TOTAL	92.5	278.7	249.1	917.2	352.4	766.6	1750	1375	649.9	1128.8	388.9	3333
MEAN	2.98	9.29	8.04	29.6	12.6	24.7	58.3	44.4	21.7	36.4	12.5	111
MAX	5.7	38	43	131	27	64	341	348	74	189	46	891
MIN	1.3	4.4	4.1	6.8	7.2	9.5	19	12	7.4	5.6	6.1	16
CFSM	.12	.36	.32	1.16	.49	.97	2.29	1.74	.85	1.43	.49	4.36
IN.	.13	.41	.36	1.34	.51	1.12	2.55	2.01	.95	1.65	.57	4.86

CAL YR 1988 TOTAL 4377.9 MEAN 12.0 MAX 145 MIN 1.2 CFSM .47 IN. 6.39  
WTR YR 1989 TOTAL 11282.1 MEAN 30.9 MAX 891 MIN 1.3 CFSM 1.21 IN. 16.46

## 0334B350 PIPE CREEK AT FRANKTON, IN

LOCATION.--Lat 40°13'38", long 85°45'58", in SE 1/4 sec. 31, T. 21 N., R. 7 E., Madison County, Hydrologic Unit 05120201, on right bank 20 ft downstream from bridge on County Road 500 West, at northeast edge of Frankton.

DRAINAGE AREA.--113 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 810.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 11-13, 16-18, Dec. 29 to Jan. 5, Feb. 4-12, 23-25, and Mar. 7-9. Records good except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--21 years, 101 ft<sup>3</sup>/s, 12.14 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,920 ft<sup>3</sup>/s September 2, 1989, gage height, 14.71 ft; maximum gage height, 14.78 ft June 3, 1980; minimum daily discharge, 3.0 ft<sup>3</sup>/s Oct. 11, 12, 1988.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 10, 1958, reached a stage of 15.5 ft, from floodmark determined by State of Indiana, Department of Natural Resources, discharge, 4,900 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 4	1800	1,470	9.90	Sept. 2	0100	*4,920	*14.71
May 26	1700	2,350	11.65	Sept. 10	1300	1,160	9.12
June 4	1300	1,500	9.97	Sept. 15	0600	940	8.50
July 24	1400	720	7.73				

Minimum daily discharge, 3.0 ft<sup>3</sup>/s Oct. 11, 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	7.5	13	25	51	31	100	169	184	29	61	2710
2	3.6	7.7	12	22	43	26	86	129	192	28	52	3700
3	3.5	8.0	11	19	38	26	316	106	412	32	46	1460
4	3.3	13	11	18	30	26	1120	88	1330	31	41	807
5	3.2	23	11	17	28	48	939	161	958	28	46	457
6	3.3	17	10	48	26	89	533	135	539	25	59	287
7	3.5	15	10	168	24	60	336	96	305	23	41	221
8	3.5	12	9.9	301	23	50	257	78	229	20	32	177
9	3.4	11	10	207	22	40	217	75	179	19	28	303
10	3.3	17	9.6	115	21	71	169	73	144	17	25	1020
11	3.0	27	8.2	81	22	113	138	65	123	18	22	739
12	3.0	23	8.4	77	23	118	119	59	144	63	22	372
13	3.2	19	9.4	97	25	92	101	58	211	232	20	254
14	3.1	17	10	78	26	82	87	53	147	157	18	400
15	3.4	15	10	68	27	74	81	48	118	99	18	832
16	4.3	14	8.3	56	34	57	70	44	102	72	17	475
17	11	13	8.2	48	35	48	63	41	90	55	16	317
18	11	12	8.6	45	34	46	74	38	82	43	15	233
19	8.6	11	9.2	43	34	39	169	44	78	46	15	181
20	7.5	15	9.9	41	33	44	147	83	73	294	19	149
21	7.4	28	10	36	51	102	110	83	67	368	18	126
22	7.9	32	9.8	32	84	99	89	64	61	335	34	113
23	8.0	25	14	31	60	77	75	71	54	275	63	97
24	8.9	21	13	29	50	67	65	100	50	639	52	84
25	7.4	18	12	27	40	61	60	102	86	394	31	77
26	7.6	16	11	38	45	53	74	1730	54	227	24	72
27	7.8	16	12	103	41	47	66	1460	46	158	21	62
28	7.6	15	45	87	35	46	82	713	41	121	21	56
29	7.6	14	70	70	---	45	173	399	34	95	118	52
30	7.3	13	42	63	---	54	273	332	30	84	468	47
31	7.4	---	30	57	---	98	---	241	---	73	187	---
TOTAL	176.8	495.2	466.5	2147	1005	1929	6189	6938	6163	4100	1650	15880
MEAN	5.70	16.5	15.0	69.3	35.9	62.2	206	224	205	132	53.2	529
MAX	11	32	70	301	84	118	1120	1730	1330	639	468	3700
MIN	3.0	7.5	8.2	17	21	26	60	38	30	17	15	47
CFSM	.05	.15	.13	.61	.32	.55	1.83	1.98	1.82	1.17	.47	4.68
IN.	.06	.16	.15	.71	.33	.64	2.04	2.28	2.03	1.35	.54	5.23

CAL YR 1988 TOTAL 17387.9 MEAN 47.5 MAX 1160 MIN 3.0 CFSM .42 IN. 5.72  
WTR YR 1989 TOTAL 47139.5 MEAN 129 MAX 3700 MIN 3.0 CFSM 1.14 IN. 15.52

## 03349000 WHITE RIVER AT NOBLESVILLE, IN

LOCATION.--Lat 40°02'50", long 86°01'00", in SE½SE¼ sec.36, T.19 N., R.4 E., Hamilton County, Hydrologic Unit 05120201, on right bank at downstream side of Logan Street bridge in Noblesville, 1.5 mi upstream from Cicero Creek, 5.1 mi downstream from dam at Clare, and at mile 263.5.

DRAINAGE AREA.--858 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1946 to current year. Gage-height records collected at present site from December 1913 to December 1935, and at site 400 ft downstream January 1936 to May 1951, are contained in reports of National Weather Service. Prior to October 1948, published as West Fork White River at Noblesville.

REVISED RECORDS.--WSP 1335: 1949. WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 738.16 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 16, 17, Jan. 4-6, Feb. 7-11, and July 19, 20. Records good. Flow slightly regulated by powerplant above station.

AVERAGE DISCHARGE.--43 years, 832 ft<sup>3</sup>/s, 13.17 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,800 ft<sup>3</sup>/s Apr. 22, 1964, gage height, 21.31 ft; minimum daily, 44 ft<sup>3</sup>/s Sept. 28, 1954.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 5	2100	8,020	14.02	Sept. 10	1700	6,370	12.41
May 27	1700	9,450	15.18	Sept. 16	0500	6,620	12.66
Sept. 3	1300	*14,600	*17.79				

Minimum daily discharge, 87 ft<sup>3</sup>/s Oct. 10, 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	91	88	344	630	518	403	4210	2620	1570	301	521	3360
2	96	93	304	511	472	369	2970	1710	1340	306	457	10200
3	103	93	274	425	443	347	2880	1320	1780	350	411	13900
4	101	120	247	345	415	348	6040	1100	3220	426	378	9480
5	99	297	233	290	378	421	7620	1340	3370	387	355	3410
6	93	461	223	370	352	898	6860	1500	2540	337	392	2010
7	89	433	212	1550	305	1020	3510	1280	1770	303	391	1470
8	89	332	206	2720	270	717	2510	1060	1300	278	332	1190
9	89	273	200	3070	252	604	2150	970	1060	257	293	1710
10	87	321	193	1890	258	655	1810	1030	891	241	273	5430
11	89	458	182	1080	295	1020	1490	1180	770	237	256	5520
12	88	590	151	843	309	1440	1290	999	798	280	258	3250
13	89	430	179	905	300	1290	1140	870	1190	589	258	1990
14	88	339	189	956	304	1020	1020	795	1150	723	238	2410
15	91	321	181	785	318	885	941	721	854	495	229	5700
16	97	309	164	673	355	756	861	674	723	367	221	6380
17	138	264	136	586	409	638	809	630	645	303	213	3930
18	229	274	148	536	416	570	870	584	573	271	210	2470
19	180	299	178	512	389	516	1290	598	529	350	207	1760
20	128	340	184	499	375	515	1810	913	561	2400	208	1390
21	106	649	167	483	432	899	1360	837	580	4380	244	1150
22	99	1090	166	441	767	1340	1090	709	487	3290	281	1010
23	104	752	190	408	833	990	921	830	446	2250	570	893
24	110	543	211	388	590	784	807	2160	419	3200	562	782
25	98	417	209	373	490	693	744	2260	418	2850	435	715
26	97	356	222	409	490	626	740	5890	433	2230	333	655
27	93	333	254	703	475	557	787	9010	383	1560	281	590
28	95	375	391	931	445	539	958	7980	359	1070	366	538
29	94	531	1080	724	---	532	1850	4010	337	808	676	507
30	92	424	1120	626	---	800	3690	3010	312	694	1450	481
31	87	---	840	566	---	3210	---	2130	---	604	1560	---
TOTAL	3229	11605	8978	25228	11655	25402	65028	60720	30808	32137	12859	94281
MEAN	104	387	290	814	416	819	2168	1959	1027	1037	415	3143
MAX	229	1090	1120	3070	833	3210	7620	9010	3370	4380	1560	13900
MIN	87	88	136	290	252	347	740	584	312	237	207	481
CFSM	.12	.45	.34	.95	.49	.96	2.53	2.28	1.20	1.21	.48	3.66
IN.	.14	.50	.39	1.09	.51	1.10	2.82	2.63	1.34	1.39	.56	4.09

CAL YR 1988 TOTAL 154797 MEAN 423 MAX 6650 MIN 74 CFSM .49 IN. 6.71  
WTR YR 1989 TOTAL 381930 MEAN 1046 MAX 13900 MIN 87 CFSM 1.22 IN. 16.56

## 03350500 CICERO CREEK AT MOBLESVILLE, IN

LOCATION.--lat 40°03'20", long 86°02'30", in-WINE sec.35, T.19 N., R.4 E., Hamilton County, Hydrologic Unit 05120201, on right bank 150 ft downstream from bridge on Stage Highway 38, 1.0 mi northwest of Moblesville, 1.6 mi downstream from Morse Reservoir, 1.9 mi downstream from Hinkle Creek, and 3.2 mi upstream from mouth.

DRAINAGE AREA.--216 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1950 to September 1980 and October 1985 to current year.

REVISED RECORDS.--WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 750.00 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana, Department of Natural Resources).

REMARKS.--Estimated daily discharges: Dec. 30 to Jan. 5, and Feb. 8. Records good except for estimated daily discharges, which are poor. Flow regulated by Morse Reservoir.

AVERAGE DISCHARGE.--34 years (1951-80, 1986 to current year), 192 ft<sup>3</sup>/s, 12.07 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,800 ft<sup>3</sup>/s June 28, 1957, gage height, 15.26 ft; minimum daily, 0.25 ft<sup>3</sup>/s Oct. 21, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,090 ft<sup>3</sup>/s May 26, gage height, 12.12 ft; minimum daily, 0.36 ft<sup>3</sup>/s Nov. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	2.2	.71	.70	148	66	167	556	392	32	69	1460
2	42	2.2	.75	.62	127	52	149	387	312	25	54	2930
3	30	2.3	.75	.55	127	53	430	281	289	59	37	2230
4	22	17	.75	.53	90	70	1610	233	376	80	32	1080
5	18	19	.75	.51	89	146	1400	348	337	42	45	661
6	21	11	.81	1.9	77	213	843	329	245	39	64	466
7	13	.94	.88	1.9	68	119	601	233	193	35	27	350
8	16	.62	1.0	.42	57	120	492	190	158	36	8.8	348
9	19	.52	1.0	.387	54	118	454	216	126	29	8.1	531
10	18	.46	1.0	.318	52	140	390	219	101	11	12	2080
11	22	.45	1.0	.226	53	284	305	189	95	9.3	11	1640
12	28	.45	1.0	.198	59	434	260	136	103	19	16	870
13	31	.42	1.1	.178	67	372	231	124	184	46	22	557
14	35	.36	1.1	.167	72	298	189	124	181	28	5.6	763
15	30	.56	1.1	.153	77	266	186	121	149	30	7.3	1510
16	29	.80	1.0	.130	78	193	161	113	108	32	17	1060
17	5.6	.75	1.0	.112	77	156	158	52	94	9.5	8.6	779
18	1.1	.75	1.0	.108	62	162	177	2.7	88	4.5	14	576
19	1.1	.73	1.0	.98	66	117	231	11	75	7.1	20	416
20	1.3	.66	1.1	.122	78	156	249	105	78	151	8.0	319
21	1.3	.60	1.3	.69	107	266	220	106	72	593	7.9	264
22	1.4	.60	1.4	.71	124	272	190	114	63	794	25	134
23	1.5	.63	1.6	.77	107	225	161	175	59	610	137	115
24	1.7	.67	1.5	.77	68	190	140	130	67	497	183	93
25	1.7	.67	1.4	.78	77	169	130	116	58	492	148	103
26	1.7	.65	1.4	.106	106	148	132	2500	26	377	112	114
27	1.8	.60	1.6	.177	78	133	157	2760	31	279	84	84
28	2.0	.61	2.3	.218	77	126	210	1450	44	175	144	79
29	2.1	.67	1.5	.192	---	132	534	817	28	121	686	78
30	2.0	.67	1.1	.168	---	153	838	700	21	104	1190	79
31	2.1	---	.85	.146	---	185	---	540	---	80	716	---
TOTAL	446.4	68.54	34.75	3624.71	2322	5534	11395	13377.7	4153	4846.4	3919.3	21769
MEAN	14.4	2.28	1.12	117	82.9	179	380	432	138	156	126	726
MAX	44	19	2.3	387	148	434	1610	2760	392	794	1190	2930
MIN	1.1	.36	.71	.51	52	52	130	2.7	21	4.5	5.6	78
CFSM	.07	.01	.01	.54	.38	.83	1.76	2.00	.64	.72	.59	3.36
IN.	.08	.01	.01	.62	.40	.95	1.96	2.30	.72	.83	.67	3.75

CAL YR 1988 TOTAL 39132.44 MEAN 107 MAX 3170 MIN .36 CFSM .49 IN. 6.74  
WTR YR 1989 TOTAL 71490.80 MEAN 196 MAX 2930 MIN .36 CFSM .91 IN. 12.31



## 03350700 STONY CREEK NEAR NOBLESVILLE, IN

LOCATION (Revised).---Lat 40°01'44", long 85°59'44", in NE¼NE¼ sec.7, T.18 N., R.5 E., Hamilton County, Hydrologic Unit 05120201, on right bank, between dual bridges on State-Highway 37, 1.1 mi upstream from mouth, and 1.4 mi southeast of Noblesville.

DRAINAGE AREA.--50.8 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1967 to current year.

REVISED RECORDS.--WDR IN-82-1: 1981.

GAGE.--Water-stage recorder. Datum of gage is 749.00 ft above National Geodetic Vertical Datum of 1929 (Indiana Department of Highways bench mark). Prior to Oct. 1, 1988, water-stage recorder at county road bridge 200 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Oct. 1-13, 16-25. Records good except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--22 years, 47.1 ft<sup>3</sup>/s, 12.59 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,640 ft<sup>3</sup>/s Feb. 23, 1979; maximum gage height, 7.67 ft Dec. 11, 1985; minimum daily discharge, 2.3 ft<sup>3</sup>/s Aug. 4, 5, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 7	1115	320	3.77	Sept. 1	2100	753	5.50
Apr. 4	0945	661	5.19	Sept. 10	0615	769	5.55
Apr. 29	1400	372	4.02	Sept. 15	0030	873	5.85
May 26	1230	*1,010	*6.23				

Minimum daily discharge, 2.7 ft<sup>3</sup>/s Oct. 14, 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	3.5	5.9	9.4	15	12	59	164	82	14	25	447
2	3.7	3.7	5.5	8.4	14	11	55	127	74	18	20	486
3	5.0	3.9	5.6	7.2	13	11	191	97	78	28	18	252
4	4.5	6.2	5.3	8.0	11	13	550	81	135	26	16	174
5	4.0	12	5.2	7.3	11	25	285	118	102	20	15	124
6	3.6	8.7	5.1	19	11	114	189	103	88	17	15	88
7	3.4	5.7	5.0	47	10	166	156	74	65	15	13	63
8	3.2	5.7	4.9	112	9.5	26	139	59	53	14	12	48
9	3.1	5.6	5.0	61	9.4	23	136	60	47	13	11	244
10	3.0	10	4.7	34	8.8	59	106	56	39	13	11	734
11	2.9	10	4.9	26	9.2	120	87	47	35	12	10	477
12	2.8	7.0	4.6	25	9.4	108	74	43	49	19	9.7	251
13	2.8	6.9	4.8	27	9.5	68	61	41	58	24	10	192
14	2.7	6.5	4.9	22	11	53	53	36	42	17	9.4	455
15	2.7	6.1	4.7	21	11	41	47	33	35	14	8.9	652
16	3.3	5.9	4.6	17	13	28	40	30	31	13	8.6	317
17	5.0	5.3	4.5	15	14	25	36	29	29	12	8.5	239
18	7.8	5.1	4.5	14	13	24	41	27	26	11	8.4	190
19	6.6	5.3	4.6	13	14	19	94	32	26	39	8.1	156
20	5.6	17	4.7	12	14	33	72	53	25	36	8.7	130
21	4.8	23	4.7	11	26	89	55	42	24	34	9.0	109
22	4.9	12	5.7	10	35	59	46	36	22	27	10	95
23	5.4	9.2	6.0	10	28	44	39	88	21	107	20	78
24	4.5	8.0	6.3	10	22	37	35	95	20	159	20	61
25	4.3	8.0	5.9	10	19	33	32	77	19	150	14	54
26	4.0	6.9	5.5	14	19	29	31	822	19	105	11	48
27	3.8	7.0	6.1	22	17	27	39	424	18	123	9.7	40
28	3.9	6.6	24	21	14	26	80	202	17	83	25	36
29	3.6	6.2	21	19	---	28	296	156	15	46	194	35
30	4.2	5.9	14	18	---	56	262	137	15	36	197	32
31	3.5	---	11	16	---	73	---	103	---	31	101	---
TOTAL	126.0	232.9	209.2	666.3	410.8	1480	3386	3492	1309	1276	857.0	6307
MEAN	4.06	7.76	6.75	21.5	14.7	47.7	113	113	43.6	41.2	27.6	210
MAX	7.8	23	24	112	35	166	550	822	135	159	197	734
MIN	2.7	3.5	4.5	7.2	8.8	11	31	27	15	11	8.1	32
CFSM	.08	.15	.13	.42	.29	.94	2.22	2.22	.86	.81	.54	4.14
IN.	.09	.17	.15	.49	.30	1.08	2.48	2.56	.96	.93	.63	4.62

CAL YR 1988 TOTAL 8933.4 MEAN 24.4 MAX 618 MIN 2.5 CFSM .48 IN. 6.54  
WTR YR 1989 TOTAL 19752.2 MEAN 54.1 MAX 822 MIN 2.7 CFSM 1.07 IN. 14.46

## 03351000 WHITE RIVER NEAR NORA, IN

LOCATION.--Lat 39°54'35", long 86°06'20", in NW1/4 sec.20, T.17 N., R.4 E., Marion County, Hydrologic Unit 05120201, on downstream side of center pier of bridge on 82nd Street, 2 mi east of Nora, 14 mi upstream from Fall Creek, and at mile 247.9.

DRAINAGE AREA.--1,219 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1929 to current year. Prior to April 1930, monthly discharge only, published in WSP 1305. Prior to October 1948, published as West Fork White River near Nora.

REVISED RECORDS.--WSP 1335: 1930-31, 1934(m), 1936, 1941, 1943, 1945, 1947-48. WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 710.94 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Oct. 26, 1929 to July 29, 1942, at site 200 ft downstream at same datum. Supplemental water-stage recorder 4.5 mi downstream.

REMARKS.--Estimated daily discharges: Feb. 8 and 9. Records good. Flow slightly regulated by Morse Reservoir.

AVERAGE DISCHARGE: 60 years, 1,099 ft<sup>3</sup>/s, 12.24 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,400 ft<sup>3</sup>/s May 19, 1943; maximum gage height, 18.65 ft Apr. 23, 1964; minimum daily discharge, 49 ft<sup>3</sup>/s Sept. 17, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 26, 1913, reached a stage of 22.4 ft, from floodmark, determined by Indiana Department of Highways, discharge, 58,500 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 6	0600	10,100	11.06	Sept. 11	0400	9,250	10.55
May 28	0400	12,400	12.55	Sept. 16	1700	9,190	10.51
Sept. 3	2100	*15,800	*14.36				

Minimum daily discharge, 117 ft<sup>3</sup>/s Nov. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	161	123	398	747	743	540	4390	3890	2430	370	690	3760
2	184	117	342	555	692	483	3800	2580	2060	385	597	10100
3	179	121	311	453	653	452	3290	1950	1960	481	521	14700
4	175	216	285	388	578	463	6990	1610	3710	539	463	14700
5	167	307	264	367	522	607	9270	1780	4000	530	445	6920
6	164	455	254	531	480	951	9650	2080	3410	447	460	3220
7	162	453	242	1190	414	1370	5340	1790	2510	393	492	2370
8	148	391	234	2740	375	1020	3490	1480	1880	360	397	1940
9	151	315	229	3310	345	855	3010	1380	1530	333	343	2780
10	155	403	220	2720	352	907	2580	1370	1270	308	311	6790
11	147	438	207	1650	408	1340	2130	1490	1070	301	292	8720
12	147	551	179	1230	406	1950	1830	1340	1070	378	279	5630
13	148	529	192	1150	414	1940	1630	1170	1410	515	303	3360
14	157	399	217	1260	414	1610	1440	1060	1660	818	275	4060
15	159	343	212	1100	430	1380	1320	974	1290	636	259	7190
16	185	353	183	933	459	1180	1210	899	1040	475	248	8930
17	195	305	188	794	512	969	1110	823	887	387	244	6650
18	295	267	162	717	533	865	1170	689	779	326	236	3970
19	292	320	189	681	506	769	1500	682	716	489	233	2870
20	207	486	215	661	497	818	2180	1090	696	1710	249	2260
21	168	564	204	633	582	1220	1910	1120	751	4900	248	1890
22	154	1080	190	573	790	1730	1520	970	655	4610	389	1630
23	157	923	227	531	1080	1530	1270	1200	591	3430	708	1320
24	162	648	238	510	814	1210	1110	1900	551	3880	835	1140
25	151	492	248	495	656	1040	1010	2860	529	3810	718	1020
26	140	415	239	564	655	925	962	7720	544	3120	519	950
27	140	375	283	740	643	833	1110	11200	485	2430	414	849
28	143	370	491	1230	588	780	1290	11800	451	1740	477	764
29	134	498	812	1060	---	793	2840	6770	433	1240	1560	725
30	131	493	1270	902	---	956	4420	4170	389	957	2700	692
31	130	---	950	805	---	2590	---	3200	---	824	2820	---
TOTAL	5188	12750	9875	31220	15541	34076	84772	83037	40757	41122	18725	131900
MEAN	167	425	319	1007	555	1099	2826	2679	1359	1327	604	4397
MAX	295	1080	1270	3310	1080	2590	9650	11800	4000	4900	2820	14700
MIN	130	117	162	367	345	452	962	682	389	301	233	692
CFSM	.14	.35	.26	.83	.46	.90	2.32	2.20	1.11	1.09	.50	3.61
IN.	.16	.39	.30	.95	.47	1.04	2.59	2.53	1.24	1.25	.57	4.03

CAL YR 1988 TOTAL 222344 MEAN 607 MAX 9360 MIN 117 CFSM .50 IN. 6.79  
WTR YR 1989 TOTAL 508963 MEAN 1394 MAX 14700 MIN 117 CFSM 1.14 IN. 15.53

## 03351310 CROOKED CREEK AT INDIANAPOLIS, IN

LOCATION.--Lat 39°49'47", long 86°12'22", in NW¼SE¼ sec.16, T.16 N., R.3 E., Marion County, Hydrologic Unit 05120201, on left bank 150 ft downstream from 42nd Street bridge in Indianapolis, and at mile 1.6.

DRAINAGE AREA.--17.9 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is 711.00 ft above National Geodetic Vertical Datum of 1929 (Indiana Department of Highways bench mark).

REMARKS.--Estimated daily discharges: Dec. 14-16, Jan. 2-6, Feb. 3, 4, 11, and 13-16. Records fair.

AVERAGE DISCHARGE.--20 years, 18.6 ft<sup>3</sup>/s, 14.11 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,500 ft<sup>3</sup>/s June 26, 1978, gage height, 13.31 ft; minimum daily, 0.39 ft<sup>3</sup>/s Sept. 1, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 4	0215	840	6.00	Aug. 22	1645	412	4.66
Apr. 29	1800	672	5.48	Sept. 1	1215	625	5.33
May 26	0745	*2,190	*9.80	Sept. 9	1930	1,120	6.89
July 24	2145	588	5.21	Sept. 14	1400	1,700	8.51

Minimum daily discharge, 0.76 ft<sup>3</sup>/s Oct. 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	1.4	4.3	11	7.4	5.2	18	39	14	1.7	6.5	200
2	4.5	1.5	3.5	9.1	7.1	4.9	30	27	18	1.9	5.7	54
3	2.2	2.0	3.4	8.0	6.6	5.2	166	20	24	26	4.9	23
4	1.4	77	3.3	7.4	6.8	14	344	27	28	10	4.4	15
5	.90	35	3.0	9.0	7.2	36	53	51	32	4.2	28	12
6	.82	10	2.8	22	6.1	22	31	26	19	2.8	17	8.8
7	.82	7.2	2.7	60	5.4	15	24	18	13	2.3	7.0	7.8
8	.76	6.2	2.7	124	4.6	11	31	15	9.8	2.0	4.9	7.5
9	.77	5.2	2.6	26	4.2	18	28	36	8.6	1.7	3.9	429
10	.91	69	2.6	16	3.9	41	19	25	7.3	1.6	3.3	232
11	1.2	12	2.4	12	4.1	50	17	17	5.9	64	6.0	50
12	1.3	6.3	2.3	20	4.6	35	15	15	22	65	9.6	28
13	1.2	16	2.6	15	5.3	22	13	15	13	14	4.1	20
14	1.3	7.6	2.4	11	6.2	19	11	13	7.9	6.3	3.2	655
15	1.2	5.3	2.2	11	6.7	18	12	11	6.1	3.7	4.6	118
16	13	9.0	2.3	9.5	7.0	13	10	9.6	5.4	2.8	4.8	56
17	14	7.0	2.3	8.5	7.6	11	10	8.5	4.9	2.3	2.9	37
18	45	4.3	2.1	7.7	6.7	11	25	8.2	4.8	1.9	3.3	25
19	6.1	4.3	2.2	7.3	6.6	9.3	28	28	4.6	72	2.6	19
20	2.7	96	2.3	7.0	7.5	67	16	72	4.5	89	6.1	15
21	2.1	26	2.5	6.0	21	51	13	20	4.2	39	3.3	13
22	2.9	12	2.5	5.5	13	25	11	37	3.9	22	77	12
23	6.6	8.6	27	5.3	8.3	18	9.9	85	3.6	13	46	10
24	7.5	6.2	12	5.2	6.5	15	9.4	27	3.3	91	23	8.9
25	3.2	5.4	7.5	5.9	6.0	12	9.0	78	3.0	67	11	8.1
26	2.0	5.4	5.0	31	8.7	11	8.6	940	2.8	18	7.8	7.5
27	1.8	9.1	13	18	6.9	9.6	16	72	2.7	12	6.2	6.7
28	2.8	6.6	85	11	6.1	9.6	32	37	2.7	37	81	6.6
29	3.2	5.2	25	10	---	15	415	27	2.3	13	77	6.6
30	1.8	4.7	18	9.3	---	44	108	21	1.9	11	36	6.0
31	1.5	---	13	8.4	---	26	---	18	---	7.5	16	---
TOTAL	137.18	471.5	264.5	517.1	198.1	663.8	1532.9	1843.3	283.2	705.7	517.1	2097.5
MEAN	4.43	15.7	8.53	16.7	7.07	21.4	51.1	59.5	9.44	22.8	16.7	69.9
MAX	45	96	85	124	21	67	415	940	32	91	81	655
MIN	.76	1.4	2.1	5.2	3.9	4.9	8.6	8.2	1.9	1.6	2.6	6.0
CFSM	.25	.88	.48	.93	.40	1.20	2.85	3.32	.53	1.27	.93	3.91
IN.	.29	.98	.55	1.07	.41	1.38	3.19	3.83	.59	1.47	1.07	4.36

CAL YR 1988 TOTAL 4126.12 MEAN 11.3 MAX 321 MIN .39 CFSM .63 IN. 8.57  
WTR YR 1989 TOTAL 9231.88 MEAN 25.3 MAX 940 MIN .76 CFSM 1.41 IN. 19.19

## 03351400 SUGAR CREEK NEAR MIDDLETOWN, IN

LOCATION.--Lat 40°02'27", long 85°31'30", in NW¼ sec.5, T.18 N., R.9 E., Henry County, Hydrologic Unit 05120201, on right bank 90 ft upstream from bridge on County Road 750 North, 1 mi southeast of Middletown.

DRAINAGE AREA.--5.80 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1968 to September 1989 (discontinued).

REVISED RECORDS.--WDR IN-75-1: 1969-74.

GAGE.--Water-stage recorder. Datum of gage is 950.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 12, 13, 16-18, Dec. 31 to Jan. 6, Jan. 21, 22, Feb. 5-13, 18, 19, Feb. 23 to Mar. 4, and Mar. 6-10. Records fair except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--21 years, 5.76 ft<sup>3</sup>/s, 13.49 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,100 ft<sup>3</sup>/s April 28, 1975, gage height, 7.72 ft; minimum daily, 0.02 ft<sup>3</sup>/s Aug. 30 to Sept. 2, 1972.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 120 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 30	0800	515	6.63	July 23	1715	151	5.59
Apr. 4	0200	578	6.76	Sept. 1	1100	217	5.92
May 26	0145	*1,040	*7.49	Sept. 14	1500	425	6.58
July 19	1215	176	5.73				

Minimum daily discharge, 0.12 ft<sup>3</sup>/s Oct. 6-8, 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.18	.17	.60	2.5	3.5	2.3	40	15	3.9	.59	1.1	67
2	.15	.17	.45	1.9	2.9	2.0	32	8.8	3.3	.60	.99	28
3	.14	.18	.40	1.7	2.8	2.0	61	6.3	4.1	1.3	.89	10
4	.13	.87	.39	1.6	2.5	2.2	184	6.3	4.1	.95	.83	4.1
5	.13	.66	.33	1.5	2.3	13	36	15	5.8	.72	.75	2.3
6	.12	.35	.31	20	1.9	9.0	21	9.5	4.3	.57	.77	1.6
7	.12	.26	.33	30	1.8	5.3	16	6.4	3.1	.51	.62	1.1
8	.12	.24	.32	27	1.7	3.6	13	5.4	2.6	.46	.53	.92
9	.13	.23	.28	10	1.6	3.4	12	10	2.4	.45	.48	2.5
10	.13	1.7	.25	6.0	1.5	10	8.3	10	2.1	.42	.45	34
11	.12	.86	.25	4.6	1.4	18	6.8	6.8	1.9	.40	.40	12
12	.13	.46	.24	7.5	1.4	14	5.9	5.6	2.3	5.2	.39	4.8
13	.13	.42	.22	6.3	1.5	8.9	4.9	5.1	1.7	3.5	.36	2.8
14	.13	.40	.26	5.3	2.2	7.5	4.6	4.3	1.4	1.4	.32	130
15	.13	.34	.28	4.2	2.9	5.6	4.2	4.0	1.3	.91	.29	44
16	.16	.33	.24	3.6	3.7	4.3	3.7	3.6	1.2	.71	.28	24
17	.23	.29	.24	3.6	3.0	4.1	3.7	3.3	1.0	.58	.28	16
18	.25	.27	.27	3.6	2.7	3.7	8.2	3.1	.98	.53	.29	7.9
19	.21	.27	.29	3.4	2.3	3.0	17	3.5	1.0	.48	.28	4.8
20	.19	3.9	.26	3.2	2.7	11	8.6	4.0	1.2	15	.45	3.3
21	.22	4.7	.27	2.5	13	16	6.3	3.0	1.0	5.2	.39	2.5
22	.21	2.0	.25	2.4	8.3	7.9	5.2	3.2	.95	3.0	2.6	2.4
23	.22	1.2	.40	2.3	5.0	5.9	4.5	44	.87	38	2.1	1.7
24	.22	.86	.54	2.2	3.8	5.0	3.9	20	1.2	26	.98	1.3
25	.21	.63	.85	2.2	3.6	4.3	3.8	14	1.3	7.6	.59	1.3
26	.19	.58	.57	15	3.5	3.7	3.6	293	.94	3.9	.45	1.1
27	.20	1.5	.74	12	3.1	3.9	4.1	30	1.1	2.8	.37	.90
28	.20	1.6	17	7.0	2.6	4.3	19	14	1.2	2.1	.58	.86
29	.19	.97	8.1	5.5	---	11	60	9.2	.73	1.6	2.2	.85
30	.19	.84	5.2	4.8	---	188	32	6.4	.62	1.5	2.0	.80
31	.17	---	3.5	4.2	---	68	---	4.7	---	1.3	.90	---
TOTAL	5.25	27.25	43.63	207.6	89.2	450.9	633.3	577.5	59.59	175.80	23.91	414.83
MEAN	.17	.91	1.41	6.70	3.19	14.5	21.1	18.6	1.99	5.67	.77	13.8
MAX	.25	4.7	17	30	13	188	184	293	5.8	48	2.6	130
MIN	.12	.17	.22	1.5	1.4	2.0	3.6	3.0	.62	.40	.28	.80
CFSM	.03	.16	.24	1.15	.55	2.51	3.64	3.21	.34	.98	.13	2.38
IN.	.03	.17	.28	1.33	.57	2.89	4.06	3.70	.38	1.13	.15	2.66

CAL YR 1988 TOTAL 867.95 MEAN 2.37 MAX 53 MIN .03 CFSM .41 IN. 5.57  
WTR YR 1989 TOTAL 2708.76 MEAN 7.42 MAX 293 MIN .12 CFSM 1.28 IN. 17.37

## 03351500 FALL CREEK NEAR FORTVILLE, IN

LOCATION.--Lat 39°57'15", long 85°52'05", in NW¼ sec.5, T.17 N., R.6 E., Hamilton County, Hydrologic Unit 05120201, on right bank 100 ft downstream from bridge on State Highway 238, 0.2 mi downstream from Lick Creek, 2 mi northwest of Fortville, and at mile 26.1.

DRAINAGE AREA.--169 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1941 to current year.

REVISED RECORDS.--WSP 1435: 1949(P). WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 787.43 ft above National Geodetic Vertical Datum of 1929 (levels by Indianapolis Water Co.). Prior to June 27, 1942, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Dec. 16, 17, Dec. 29 to Jan. 5, Feb. 5-11, 23-25, and Mar. 7, 8. Records good except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--48 years, 166 ft<sup>3</sup>/s, 13.34 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,750 ft<sup>3</sup>/s Apr. 21, 1964, gage height, 9.88 ft; minimum daily, 5.0 ft<sup>3</sup>/s Sept. 23, 24, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, about 12 ft March 1913 (information by local resident).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,300 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 31	1300	1,660	6.25	Sept. 2	0300	1,870	6.65
May 27	0900	*4,050	*8.52	Sept. 15	2000	2,420	7.33

Minimum daily discharge, 13 ft<sup>3</sup>/s Oct. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	25	65	60	105	70	822	510	298	81	99	989
2	14	22	57	56	88	66	523	376	270	84	94	1690
3	20	20	53	52	85	66	863	305	249	115	87	696
4	18	50	53	50	78	74	1570	267	292	118	82	397
5	15	187	48	50	70	126	1920	376	272	101	78	295
6	16	103	44	154	65	249	713	384	284	90	91	234
7	17	57	44	399	61	170	530	301	234	82	79	191
8	16	39	44	456	58	130	449	253	200	75	72	166
9	19	32	39	301	58	113	421	260	184	75	68	222
10	23	121	39	186	57	179	352	322	169	72	65	640
11	20	181	34	135	57	324	310	276	157	71	61	595
12	18	112	35	133	58	352	280	239	164	87	66	362
13	17	89	41	156	57	266	254	221	175	147	64	270
14	17	76	40	128	63	218	227	203	153	104	58	847
15	17	67	38	118	70	192	216	189	145	82	54	2110
16	18	60	32	98	77	151	199	178	134	76	54	1450
17	29	53	30	90	83	130	186	166	125	72	56	747
18	49	47	29	88	77	118	199	156	118	71	58	505
19	47	48	36	82	74	107	327	174	120	250	55	387
20	35	95	33	78	74	127	294	227	140	621	62	317
21	31	236	33	72	103	322	246	194	122	312	76	266
22	30	175	30	66	191	255	215	174	115	228	87	241
23	32	119	36	63	120	194	196	442	106	198	158	216
24	40	98	45	60	100	163	181	556	103	392	126	189
25	34	82	45	61	95	139	171	386	103	358	95	177
26	29	74	43	101	93	124	167	2410	100	256	80	168
27	25	83	45	246	90	115	180	3340	93	190	72	151
28	28	89	140	184	80	116	226	979	95	152	242	145
29	26	80	150	146	---	139	682	523	87	123	874	139
30	30	73	100	127	---	542	894	438	82	113	639	135
31	27	---	75	114	---	1390	---	353	---	108	330	---
TOTAL	770	2593	1576	4110	2287	6727	13813	15178	4889	4904	4182	14937
MEAN	24.8	86.4	50.8	133	81.7	217	460	490	163	158	135	498
MAX	49	236	150	456	191	1390	1920	3340	298	621	874	2110
MIN	13	20	29	50	57	66	167	156	82	71	54	135
CFSM	.15	.51	.30	.78	.48	1.28	2.72	2.90	.96	.94	.80	2.95
IN.	.17	.57	.35	.90	.50	1.48	3.04	3.34	1.08	1.08	.92	3.29

CAL YR 1988 TOTAL 35487.2 MEAN 97.0 MAX 1110 MIN 8.0 CFSM .57 IN. 7.81  
WTR YR 1989 TOTAL 75966 MEAN 208 MAX 3340 MIN 13 CFSM 1.23 IN. 16.72



## 03352500 FALL CREEK AT MILLERSVILLE, IN

LOCATION.--Lat 39°51'07", long 86°05'15", in NE¼NE¼ sec.9, T.16 N., R.4 E., Marion County, Hydrologic Unit 05120201, on right bank at downstream side of Emerson Way bridge at Millersville, and 9.2 mi upstream from mouth.

DRAINAGE AREA.--298 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1929 to current year. Monthly discharges only for some periods, published in WSP 1305. Twice-daily chain gage readings at former site from July 1925 to September 1926 are available in the district office.

REVISED RECORDS.--WSP 1335: 1930-31, 1933, 1936-38, 1942-43. WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 722.16 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 21, 1961, water-stage recorder at site 500 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Feb. 7, 9-11, 13, and 14. Records fair. Flow regulated by Geist Reservoir.

AVERAGE DISCHARGE.--60 years, 284 ft<sup>3</sup>/s, 12.94 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,900 ft<sup>3</sup>/s May 28, 1956, gage height, 13.53 ft; minimum daily, 7.8 ft<sup>3</sup>/s Sept. 28, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 16.3 ft Mar. 26, 1913, from floodmarks, discharge, 22,000 ft<sup>3</sup>/s by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,200 ft<sup>3</sup>/s May 26, gage height, 10.10 ft; minimum daily, 33 ft<sup>3</sup>/s Nov. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	36	47	61	181	139	1340	1130	505	92	128	1280
2	44	33	45	55	175	134	890	738	448	82	109	2480
3	39	37	44	51	172	126	1220	587	401	164	93	1910
4	39	122	41	48	150	164	2240	501	438	164	82	908
5	40	148	41	48	141	338	2470	597	453	125	109	564
6	49	54	41	186	122	559	1730	616	419	102	167	399
7	46	53	41	234	110	357	942	522	371	86	120	333
8	39	41	40	286	106	251	772	423	319	78	80	289
9	42	47	40	161	104	242	704	472	271	67	73	560
10	44	205	40	107	102	355	626	472	242	60	79	1440
11	44	102	39	85	100	605	530	437	220	92	74	1410
12	48	65	41	96	102	684	455	367	244	160	73	844
13	49	62	45	130	104	577	423	354	259	145	76	505
14	47	54	45	183	106	474	360	323	233	130	76	1830
15	48	51	45	204	126	405	343	283	204	101	80	3470
16	52	51	44	184	143	343	310	257	181	85	80	3110
17	56	47	46	147	144	280	284	239	160	69	79	2170
18	88	49	48	149	137	253	320	221	153	65	74	1200
19	44	44	47	146	133	231	423	251	152	184	71	810
20	49	149	44	136	140	339	457	394	174	527	76	623
21	48	153	42	129	224	614	401	357	167	595	73	504
22	46	77	42	114	286	554	350	337	151	419	99	426
23	43	71	60	111	288	440	303	829	140	407	147	379
24	44	62	58	108	209	358	267	869	132	610	170	292
25	43	57	53	108	192	305	246	727	120	620	133	250
26	38	55	48	181	195	266	246	3320	107	504	105	244
27	37	57	56	279	181	238	410	3950	101	362	91	205
28	39	41	210	311	162	221	460	2960	105	284	156	181
29	37	48	137	268	---	244	1140	1190	105	207	1070	174
30	36	47	98	226	---	510	1730	768	77	160	1670	175
31	36	---	74	199	---	1170	---	622	---	142	940	---
TOTAL	1397	2118	1742	4731	4335	11776	22392	25113	7052	6888	6453	28965
MEAN	45.1	70.6	56.2	153	155	380	746	810	235	222	208	965
MAX	88	205	210	311	288	1170	2470	3950	505	620	1670	3470
MIN	36	33	39	48	100	126	246	221	77	60	71	174
CFSM	.15	.24	.19	.51	.52	1.27	2.50	2.72	.79	.75	.70	3.24
IN.	.17	.26	.22	.59	.54	1.47	2.80	3.13	.88	.86	.81	3.62

CAL YR 1988 TOTAL 62670 MEAN 171 MAX 2750 MIN 33 CFSM .57 IN. 7.82  
WTR YR 1989 TOTAL 122962 MEAN 337 MAX 3950 MIN 33 CFSM 1.13 IN. 15.35

## 03352875 FALL CREEK AT 16TH STREET AT INDIANAPOLIS, IN

LOCATION.--Lat 39°47'20", long 86°10'40", in SW¼NW¼ sec.35, T.16 N., R.3 E., Marion County, Hydrologic Unit 05120201, on left bank 120 ft upstream from 16th Street on Aqueduct Street, 1.3 mi upstream from mouth.

DRAINAGE AREA.--317 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1985 to current year.

GAGE.--Water-stage recorder. Datum of gage is 675.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 1-13. Records fair except those for estimated daily discharges, which are poor. Natural flow affected by regulation of Geist Reservoir, and by diversion of municipal water supply by the Indianapolis Water Company.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,310 ft<sup>3</sup>/s (revised) Oct. 4, 1986, gage height, 11.92 ft; maximum gage height, 12.81 ft Dec. 12, 1985; minimum daily discharge, 19 ft<sup>3</sup>/s Sept. 3, 1987.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,300 ft<sup>3</sup>/s May 28, gage height, 11.91 ft; minimum daily, 25 ft<sup>3</sup>/s Oct. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	32	46	67	158	105	1480	1350	458	73	105	1320
2	50	29	69	64	165	102	1000	769	396	91	91	2310
3	42	29	53	63	159	95	1350	558	390	202	86	2500
4	35	225	46	61	127	146	2090	485	393	153	76	2210
5	36	173	40	67	105	271	2310	545	413	122	228	1030
6	40	59	40	169	85	465	2050	594	365	91	156	430
7	38	46	46	248	77	344	1200	500	330	76	116	360
8	31	33	44	283	69	239	818	422	282	65	80	339
9	25	38	42	169	57	233	719	448	228	76	62	845
10	26	243	38	108	63	288	598	441	198	57	69	1590
11	28	106	34	82	62	493	495	416	188	192	68	1730
12	28	60	35	84	62	625	424	359	220	178	91	1030
13	28	62	40	98	66	535	392	337	220	118	81	527
14	28	51	38	135	77	435	336	308	195	122	76	1860
15	29	48	36	167	79	357	310	268	160	97	69	2810
16	62	50	42	162	92	323	287	232	140	83	74	2710
17	73	51	42	111	102	263	260	209	129	61	74	2200
18	126	61	40	106	98	221	300	189	113	58	82	1390
19	48	49	42	110	94	208	369	222	115	166	62	867
20	33	176	39	100	111	314	415	353	127	470	110	633
21	32	162	38	106	160	533	365	334	132	558	66	499
22	30	77	39	93	234	500	314	366	113	394	127	420
23	40	63	73	91	258	393	277	859	105	375	150	378
24	32	54	62	82	183	320	240	903	98	508	153	308
25	44	54	58	90	149	280	216	737	90	546	130	269
26	37	51	47	143	158	247	198	2640	79	441	102	256
27	34	56	53	240	143	199	444	3230	74	325	92	222
28	32	46	237	300	129	177	554	2910	83	293	179	186
29	35	43	142	273	---	180	1130	1570	74	188	933	178
30	30	48	88	225	---	396	1770	799	66	158	1640	178
31	30	---	73	201	---	1060	---	578	---	125	999	---
TOTAL	1230	2275	1762	4298	3322	10347	22711	23931	5974	6462	6427	31585
MEAN	39.7	75.8	56.8	139	119	334	757	772	199	208	207	1053
MAX	126	243	237	300	258	1060	2310	3230	458	558	1640	2810
MIN	25	29	34	61	57	95	198	189	66	57	62	178
CFSM	.13	.24	.18	.44	.37	1.05	2.39	2.44	.63	.66	.65	3.32
IN.	.14	.27	.21	.50	.39	1.21	2.67	2.81	.70	.76	.75	3.71

CAL YR 1988 TOTAL 61314 MEAN 168 MAX 2310 MIN 25 CFSM .53 IN. 7.20  
WTR YR 1989 TOTAL 120324 MEAN 330 MAX 3230 MIN 25 CFSM 1.04 IN. 14.12

## 03353000 WHITE RIVER AT INDIANAPOLIS, IN

LOCATION.--Lat 39°45'05", long 86°10'30", in NW1/4 sec.14, T.15 N., R.3 E., Marion County, Hydrologic Unit 05120201, on downstream side of second pier from right bank of Morris Street bridge in Indianapolis, 2.6 mi downstream from Fall Creek, 3.4 mi upstream from Eagle Creek, 4.0 mi upstream from Indianapolis Power and Light Company dam, and at mile 230.3.

DRAINAGE AREA.--1,635 mi<sup>2</sup>.

PERIOD OF RECORD.--March 1904 to July 1906 and April 1930 to current year. Gage-height record published in reports of National Weather Service for site 1.1 mi upstream Feb. 8, 1911, to Mar. 25, 1913, and at site 2.3 mi upstream since Oct. 16, 1913. Prior to October 1948, published as West Fork White River at Indianapolis.

REVISED RECORDS.--WSP 1335: 1932-33, 1937, 1939-41. WSP 1505: 1938. WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 662.26 ft above National Geodetic Vertical Datum of 1929. March 1904 to July 1906, nonrecording gage at railroad bridge 0.8 mi upstream at datum approximately 2.9 ft higher. April 1930 to July 20, 1931, nonrecording gage at Indianapolis sanitation plant, 2.5 mi downstream at datum 660.00 ft lower. July 21, 1931 to Mar. 2, 1932, nonrecording gage and March 3, 1932, to September 30, 1960, water-stage recorder at present site at datum 660.00 ft lower.

REMARKS.--Estimated daily discharges: Jan. 5, 6, and Feb. 6-11. Records fair. Natural flow affected by regulation of Morse Reservoir and Geist Reservoir, and by diversion of municipal water supply by the Indianapolis Water Company. Stage-discharge relation affected at times by large releases from Eagle Creek and by variable leakage at Indianapolis Power and Light Company dam.

AVERAGE DISCHARGE.--60 years (water years 1905, 1931 to current year), 1,395 ft<sup>3</sup>/s, 11.59 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,200 ft<sup>3</sup>/s May 18, 1943; maximum gage height, 21.57 ft Jan. 16, 1937; minimum daily discharge, 8.0 ft<sup>3</sup>/s Sept. 29, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 26, 1913, reached a stage of 30.0 ft, from floodmarks determined by Indianapolis Water Company, discharge, 70,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 6	1000	11,600	11.85	Sept. 11	0600	9,030	10.84
May 28	0400	15,900	13.39	Sept. 14	1500	12,900	12.32
Sept. 4	0300	*16,600	*13.68	Sept. 16	2000	11,200	11.70

Minimum daily discharge, 57 ft<sup>3</sup>/s Oct. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	98	60	382	700	849	653	4720	4890	2830	446	796	4450
2	99	61	337	556	822	596	4550	3580	2380	506	699	9730
3	79	63	308	467	818	573	4570	2680	2250	829	630	15000
4	77	508	286	397	731	724	9300	2300	3520	692	573	15700
5	74	584	279	360	657	1140	10600	2510	4010	601	1060	8280
6	72	342	270	640	560	1260	10800	2710	3680	500	969	3880
7	74	350	255	1060	500	1610	6600	2410	2780	444	682	2760
8	73	342	244	2270	450	1280	4500	1990	2100	402	603	2230
9	69	340	243	2440	420	1180	3990	2060	1690	397	522	3990
10	73	889	240	2650	430	1290	3470	1870	1400	354	484	7090
11	73	482	228	1660	475	1830	2900	1860	1210	536	470	8550
12	67	422	226	1270	508	2360	2500	1760	1310	858	505	6110
13	66	533	213	1100	527	2350	2210	1590	1390	552	496	4100
14	66	412	227	1200	551	2000	1950	1430	1640	665	475	8500
15	67	343	229	1170	547	1700	1770	1290	1430	678	457	9710
16	182	347	222	1020	594	1440	1630	1200	1150	544	463	10600
17	284	326	207	875	603	1220	1470	1080	980	457	445	8360
18	346	286	209	786	627	1060	1430	1000	850	387	449	4710
19	145	282	206	739	659	947	1830	1010	855	1040	434	3390
20	117	876	221	706	649	1450	2300	1610	778	1470	607	2520
21	108	686	219	699	815	1930	2290	1520	786	3960	479	2110
22	85	686	216	656	964	2050	1900	1760	735	4500	906	1770
23	105	803	383	615	1140	1970	1530	2930	675	3570	959	1530
24	108	593	332	590	1010	1570	1390	2530	630	3710	1150	1250
25	91	467	294	595	807	1330	1230	3520	620	3980	954	1100
26	86	410	278	806	787	1160	1200	12900	605	3270	782	1010
27	75	398	349	864	801	1070	1700	14100	581	2530	672	946
28	81	352	943	1280	722	1020	1990	14800	565	1960	887	856
29	66	347	651	1220	---	990	4260	8090	520	1340	2250	862
30	57	435	963	1030	---	1740	5780	4520	489	1050	3830	804
31	61	---	825	920	---	2750	---	3690	---	901	3440	---
TOTAL	3124	13025	10485	31341	19023	44243	106360	111190	44439	43129	28128	151898
MEAN	101	434	338	1011	679	1427	3545	3587	1481	1391	907	5063
MAX	346	889	963	2650	1140	2750	10800	14800	4010	4500	3830	15700
MIN	57	60	206	360	420	573	1200	1000	489	354	434	804
CFSM	.06	.27	.21	.62	.42	.87	2.17	2.19	.91	.85	.55	3.10
IN.	.07	.30	.24	.71	.43	1.01	2.42	2.53	1.01	.98	.64	3.46

CAL YR 1988 TOTAL 263341 MEAN 720 MAX 11400 MIN 43 CFSM .44 IN. 5.99  
WTR YR 1989 TOTAL 606385 MEAN 1661 MAX 15700 MIN 57 CFSM 1.02 IN. 13.80

## 03353120 PLEASANT RUN AT ARLINGTON AVENUE AT INDIANAPOLIS, IN

LOCATION.--Lat 39°46'33", long 86°03'50", in SW¼ sec.2, T.15 N., R.4 E., Marion County, Hydrologic Unit 15120201, on right bank 46 ft upstream from Arlington Avenue bridge in Indianapolis, 0.5 mi downstream from small left-bank tributary, and at mile 7.9.

DRAINAGE AREA.--7.58 mi<sup>2</sup>.

PERIOD OF RECORD.--December 1959 to current year.

REVISED RECORDS.--WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 780.00 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana, Department of Natural Resources).

REMARKS.--Estimated daily discharges: Oct. 31 to Nov. 3, Dec. 5-9, 13-15, 19-22, Jan. 1-3, 5, 6, Feb. 15, 18-20, 26, and Mar. 7-9. Records good above 2.0 ft<sup>3</sup>/s, fair below.

AVERAGE DISCHARGE.--29 years (water years 1961 to current year), 7.90 ft<sup>3</sup>/s, 14.15 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,600 ft<sup>3</sup>/s June 25, 1978, gage height, 13.86 ft; no flow at times in 1960-62.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1956 reached a stage of 16.0 ft, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 450 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 10	0345	579	6.45	Sept. 1	0930	541	6.28
May 26	0130	497	6.08	Sept. 9	1745	583	6.47
July 19	0945	1,170	8.79	Sept. 14	1130	*1,650	*10.44
Aug. 5	1630	631	6.68				

Minimum daily discharge, 0.31 ft<sup>3</sup>/s Oct. 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	.63	2.3	3.4	2.4	1.8	9.6	4.4	3.5	.86	1.9	93
2	1.1	.60	2.1	2.8	5.5	1.6	32	3.1	2.5	3.2	1.7	10
3	.54	.70	2.0	2.5	9.7	1.6	80	2.5	16	22	1.6	3.5
4	.43	109	1.9	2.4	3.4	21	57	20	7.5	6.2	1.5	2.1
5	.40	22	1.8	3.0	2.6	35	12	18	26	2.2	63	1.7
6	.36	9.9	1.8	12	2.2	10	7.6	6.0	5.4	1.2	28	1.5
7	.36	6.4	1.7	33	1.9	5.0	5.7	3.5	2.7	.88	4.4	1.4
8	.31	5.7	1.7	20	1.7	4.0	17	2.8	2.1	.80	2.4	4.4
9	.32	12	1.6	6.9	1.5	15	8.3	27	1.7	.66	1.7	96
10	.32	87	1.6	4.6	1.4	18	5.2	7.7	1.5	.82	1.5	23
11	.33	8.6	1.6	4.0	1.3	13	4.0	4.0	1.3	72	1.4	5.6
12	.38	5.5	1.4	14	1.2	8.4	3.5	3.0	15	27	1.5	3.0
13	.36	12	1.6	5.2	1.3	5.9	3.4	7.0	3.7	5.8	1.3	3.3
14	.37	5.0	1.8	7.3	1.5	5.2	2.6	3.4	2.1	2.2	1.1	373
15	.57	3.8	1.7	5.8	3.5	4.3	3.2	2.6	1.7	1.1	3.1	22
16	21	4.7	1.6	4.2	4.9	3.1	2.4	2.1	1.5	.86	2.5	20
17	46	3.1	1.6	3.2	2.9	2.8	5.8	1.8	1.3	.78	1.4	8.4
18	33	2.7	1.7	3.0	2.3	2.7	20	2.4	1.2	.71	1.2	4.2
19	3.7	3.1	1.7	2.4	2.1	2.2	9.8	21	6.6	177	.97	2.7
20	1.2	68	1.6	2.1	2.7	54	4.3	12	2.0	15	15	2.0
21	2.0	12	1.8	1.8	18	15	3.1	3.7	1.6	6.6	2.5	1.6
22	1.4	6.2	2.2	1.8	6.1	7.0	2.6	86	1.4	3.4	44	1.8
23	9.9	4.6	20	1.7	3.7	5.1	2.0	76	1.3	37	11	1.6
24	2.4	3.8	13	1.7	2.6	4.1	2.1	14	1.1	9.4	4.3	1.5
25	1.2	3.3	4.4	7.4	2.4	3.5	1.9	9.3	1.2	4.8	2.2	1.4
26	.82	3.8	3.5	23	3.7	3.0	1.8	99	1.4	20	1.6	1.3
27	.95	6.6	23	7.2	2.7	2.8	38	11	2.5	4.2	1.3	1.3
28	3.4	3.4	50	4.4	2.2	3.4	30	5.6	1.6	8.1	33	1.2
29	.80	2.6	10	3.6	---	6.4	17	4.3	1.2	2.4	25	1.1
30	.71	2.6	5.9	3.1	---	60	6.9	3.7	1.1	8.2	7.7	1.2
31	.67	---	5.0	2.7	---	25	---	4.3	---	3.2	2.8	---
TOTAL	140.10	419.33	173.6	200.2	97.4	349.9	398.8	471.2	119.7	448.57	272.57	694.8
MEAN	4.52	14.0	5.60	6.46	3.48	11.3	13.3	15.2	3.99	14.5	8.79	23.2
MAX	46	109	50	33	18	60	80	99	26	177	63	373
MIN	.31	.60	1.4	1.7	1.2	1.6	1.8	1.8	1.1	.66	.97	1.1
CFSM	.60	1.84	.74	.85	.46	1.49	1.75	2.01	.53	1.91	1.16	3.06
IN.	.69	2.06	.85	.98	.48	1.72	1.96	2.31	.59	2.20	1.34	3.41
CAL YR 1988	TOTAL 2854.61	MEAN 7.80	MAX 134	MIN .31	CFSM 1.03	IN. 14.01						
WTR YR 1989	TOTAL 3786.17	MEAN 10.4	MAX 373	MIN .31	CFSM 1.37	IN. 18.58						

## 03353180 BEAN CREEK AT INDIANAPOLIS, IN

LOCATION.--Lat 39°43'45", long 86°07'14", in NW¼SW¼ sec.20, T.15 N., R.4-E., Marion County, Hydrologic Unit 05120201, on left bank 80 ft upstream from Keystone Avenue bridge and west edge of Sarah Shank Golf Course in Indianapolis, and at mile 1.8.

DRAINAGE AREA.--4.40 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder. Datum of gage is 735.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 31 to Nov. 2, Jan. 2-6, Feb. 2-10, 12-16, 20, 23, 24, Apr. 22-27, May 7-9, 11-19, and June 13 to July 12. Records good prior to April, poor thereafter.

AVERAGE DISCHARGE.--19 years, 5.19 ft<sup>3</sup>/s, 16.02 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 770 ft<sup>3</sup>/s June 25, 1978, gage height, 7.77 ft; minimum daily, 0.38 ft<sup>3</sup>/s Oct. 2, 1983.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
May 22	2200	452	6.13	Aug. 5	1700	355	5.52
May 26	0200	512	6.47	Sept. 1	1000	252	4.79
July 19	0915	478	6.28	Sept. 14	1130	*554	*6.70

Minimum daily discharge, 1.1 ft<sup>3</sup>/s Oct. 3 and July 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	1.2	2.2	2.9	2.2	2.1	8.5	4.1	3.6	1.5	2.3	45
2	1.3	1.2	2.1	2.4	2.1	1.9	18	3.5	3.5	15	1.9	7.7
3	1.1	1.3	2.0	2.1	2.0	1.8	38	3.2	8.7	13	1.7	4.1
4	1.3	33	2.0	2.0	2.1	5.8	25	8.8	4.2	4.3	1.7	3.0
5	1.4	6.8	1.9	2.5	2.2	11	6.8	6.0	12	2.6	43	2.8
6	1.2	3.1	1.9	8.2	2.2	5.7	5.1	3.7	3.7	1.9	20	2.6
7	1.3	2.4	1.9	10	2.2	7.6	4.1	3.1	3.0	1.5	4.5	2.4
8	1.3	2.4	1.9	8.2	2.0	4.4	7.3	2.9	3.0	1.3	3.3	5.2
9	1.3	4.5	1.8	4.1	1.8	7.8	4.6	8.5	2.9	1.1	2.9	39
10	1.3	22	1.8	3.0	1.9	7.0	3.7	4.4	2.8	1.4	2.6	10
11	1.3	4.4	1.8	2.8	2.2	5.9	3.3	3.3	2.7	23	2.5	5.5
12	1.3	3.6	1.7	5.8	2.2	4.4	3.2	2.8	6.7	46	3.0	4.9
13	1.3	4.7	1.9	3.3	2.2	3.7	3.0	4.4	3.7	2.4	2.4	4.6
14	1.4	3.0	1.8	3.8	2.1	3.6	2.8	3.0	2.6	1.8	2.1	140
15	1.5	2.8	1.7	3.2	2.2	3.4	2.6	2.5	2.2	2.1	2.3	12
16	7.6	3.7	1.8	2.7	2.3	3.1	2.3	2.3	2.0	2.1	2.2	9.4
17	15	3.4	1.7	2.7	2.4	3.0	2.8	2.2	1.9	4.1	2.2	6.1
18	15	3.3	1.6	2.6	2.3	3.2	5.2	2.0	1.8	11	2.1	4.6
19	1.9	3.9	1.6	2.5	2.3	3.0	3.5	8.0	7.0	60	2.2	3.9
20	1.5	19	1.7	2.3	2.6	17	2.7	3.8	3.4	10	8.4	3.5
21	1.7	5.5	1.7	2.3	6.9	6.0	2.5	2.4	2.5	4.0	2.0	3.2
22	1.3	3.6	2.0	2.2	3.2	3.8	2.1	73	2.2	2.8	23	3.1
23	3.8	3.1	8.9	2.2	2.7	3.2	2.0	47	2.1	11	6.4	3.0
24	1.5	2.7	4.9	2.2	2.3	3.0	2.1	8.1	1.9	3.6	6.9	2.8
25	1.3	2.3	2.2	3.1	2.1	3.0	1.9	7.1	3.3	2.7	3.3	2.7
26	1.3	2.5	2.1	6.1	2.9	3.0	1.8	90	2.5	7.0	2.8	2.7
27	1.4	3.8	6.8	3.2	2.1	3.0	10	7.7	4.0	3.3	2.5	2.7
28	1.9	2.4	17	2.7	2.0	3.9	8.8	5.5	2.6	9.2	11	2.6
29	1.3	2.3	9.2	2.5	---	5.8	11	4.8	1.9	2.6	7.0	2.4
30	1.3	2.3	3.6	2.5	---	28	5.2	4.3	2.2	3.7	3.8	2.4
31	1.2	---	3.4	2.4	---	15	---	3.8	---	2.5	2.9	---
TOTAL	80.5	160.2	98.6	108.5	67.7	183.1	199.9	336.2	106.6	258.5	184.9	343.9
MEAN	2.60	5.34	3.18	3.50	2.42	5.91	6.66	10.8	3.55	8.34	5.96	11.5
MAX	15	33	17	10	6.9	28	38	90	12	60	43	140
MIN	1.1	1.2	1.6	2.0	1.8	1.8	1.8	2.0	1.8	1.1	1.7	2.4
CFSM	.59	1.21	.72	.80	.55	1.34	1.51	2.46	.81	1.90	1.36	2.61
IN.	.68	1.35	.83	.92	.57	1.55	1.69	2.84	.90	2.19	1.56	2.91

CAL YR 1988 TOTAL 1349.09 MEAN 3.69 MAX 45 MIN .66 CFSM .84 IN. 11.41  
WTR YR 1989 TOTAL 2128.6 MEAN 5.83 MAX 140 MIN 1.1 CFSM 1.33 IN. 18.00



## 03353200 EAGLE CREEK AT ZIONSVILLE, IN

LOCATION.--Lat 39°56'56", long 86°15'22", in SW¼NW¼ sec.1, T.17 N., R.2 E., Boone County, Hydrologic Unit 05120201, on downstream side of second pier from right bank of bridge on State Highway 334 at Zionsville, 200 ft upstream from Long Branch, and at mile 24.7.

DRAINAGE AREA.--103 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1957 to current year.

REVISED RECORDS.--WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 816.85 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 9, 1957, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Oct. 10, Dec. 28 to Jan. 7, Jan. 10, 11, Feb. 5-20, Feb. 23 to Mar. 2, and Mar. 6-10. Records fair except those for estimated daily discharges, which are poor. Low flow affected by the Zionsville well field located on the right bank below the gage before 1989.

AVERAGE DISCHARGE.--32 years, 100.4 ft<sup>3</sup>/s, 13.24 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,400 ft<sup>3</sup>/s Apr. 20, 1964, gage height, 14.64 ft; no flow at times during 1959, 1963-68, 1970, 1971, 1983, 1984, and 1988.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 28, 1957, reached a stage of 19.20 ft, from floodmark.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 4	0500	2,460	8.10	Sept. 1	1800	2,450	8.18
Apr. 29	1100	*4,480	*10.50	Sept. 10	1000	2,390	8.08
May 26	0700	4,370	10.40	Sept. 14	1700	2,650	8.50

Minimum daily discharge, 0.01 ft<sup>3</sup>/s Oct. 12, 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	1.9	7.6	25	43	20	76	380	92	8.4	23	1340
2	.17	2.7	7.0	22	36	17	83	250	128	8.2	19	877
3	.14	2.8	6.4	20	35	18	577	168	227	13	16	378
4	.10	18	6.2	18	28	25	1640	144	251	15	14	201
5	.06	23	6.3	17	25	60	575	274	143	11	13	123
6	.04	14	5.4	70	22	71	374	182	100	9.5	17	85
7	.03	9.7	5.9	125	18	57	292	122	74	8.6	16	64
8	.03	6.0	5.4	341	16	48	270	96	58	7.6	11	57
9	.02	5.6	5.2	163	17	42	290	102	50	5.5	9.1	417
10	.02	17	5.2	117	18	64	202	88	40	5.2	8.0	1570
11	.02	29	5.0	58	18	253	156	72	34	5.4	6.9	594
12	.01	16	4.7	70	19	269	129	64	47	37	6.2	311
13	.01	16	4.8	79	19	157	105	63	53	25	5.6	176
14	.06	14	5.6	59	20	134	92	54	41	14	4.9	1310
15	.09	12	5.9	54	21	108	87	47	33	9.8	4.7	833
16	1.5	12	5.7	43	24	73	75	42	29	8.2	4.4	438
17	2.4	13	5.5	38	26	63	69	38	25	6.1	4.0	316
18	7.5	12	5.2	35	25	58	81	35	22	4.6	4.2	188
19	2.4	10	5.2	33	24	45	185	43	21	21	4.0	129
20	1.4	21	5.9	32	25	107	138	60	21	181	3.9	98
21	1.1	50	5.9	26	49	269	107	41	18	712	3.5	76
22	1.3	34	6.0	25	55	147	89	40	17	543	12	69
23	2.3	23	11	24	45	104	76	78	15	223	34	63
24	3.4	18	16	23	37	86	65	64	16	226	31	50
25	2.2	15	12	22	30	74	60	141	15	401	20	45
26	1.6	13	8.8	42	34	62	54	2700	12	182	13	40
27	1.0	13	15	75	28	56	346	573	11	134	10	35
28	2.0	12	110	61	23	53	436	314	11	77	49	31
29	1.5	9.8	64	54	---	50	2320	200	10	50	611	29
30	1.5	8.2	41	52	---	86	661	147	9.3	36	803	28
31	1.4	---	30	46	---	97	---	105	---	29	320	---
TOTAL	35.32	451.7	433.8	1869	780	2783	9710	6727	1623.3	3017.1	2101.4	9971
MEAN	1.14	15.1	14.0	60.3	27.9	89.8	324	217	54.1	97.3	67.8	332
MAX	7.5	50	110	341	55	269	2320	2700	251	712	803	1570
MIN	.01	1.9	4.7	17	16	17	54	35	9.3	4.6	3.5	28
CFSM	.01	.15	.14	.59	.27	.87	3.14	2.11	.53	.94	.66	3.23
IN.	.01	.16	.16	.68	.28	1.01	3.51	2.43	.59	1.09	.76	3.60

CAL YR 1988 TOTAL 18240.78 MEAN 49.8 MAX 2520 MIN .00 CFSM .48 IN. 6.59  
WTR YR 1989 TOTAL 39502.62 MEAN 108 MAX 2700 MIN .01 CFSM 1.05 IN. 14.27

## 03353450 EAGLE CREEK RESERVOIR NEAR INDIANAPOLIS, IN

LOCATION.--Lat 39°49'20", long 86°18'11"; in NW1/4 sec. 22, T.16 N., R.2 E., Marion County, Hydrologic Unit 05120201, in outlet structure of reservoir on Eagle Creek, 800 ft upstream from Interstate Highway 74, 0.5 mi downstream from School Branch, 1.0 mi northeast of Clermont, and 2 mi west of Indianapolis.

DRAINAGE AREA.--162 mi<sup>2</sup>.

PERIOD OF RECORD.--March 1970 to current year.

GAGE.--Water-stage recorder. Datum of gage is 780.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by earth-fill dam. Low flow is controlled through a 48-inch diameter conduit. Spillway elevation, 783 ft is an ogee section with 6 taintor gates, each 40 ft wide and 25 ft high. Permanent pool capacity is 24,000 acre-ft, elevation, 790.00 ft. Reservoir is used for flood control, low-flow maintenance, water supply, and recreation. Reservoir put into operation Nov. 27, 1969.

COOPERATION.--Water-stage elevations and capacity tables furnished by Indianapolis Flood Control District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 27,350 acre-ft June 26, 1978, elevation, 792.39 ft; minimum, 13,750 acre-ft Nov. 28, 1971, elevation, 781.25 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 25,390 acre-ft May 26, elevation, 790.99 ft; minimum, 16,380 acre-ft Nov. 4, elevation, 783.80 ft.

## MONTHEND ELEVATION AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	784.85	17,540	
Oct. 31.....	783.91	16,500	-1,040
Nov. 30.....	784.83	17,510	+1,010
Dec. 31.....	785.37	18,140	+630
CAL YR 1988.....			-5,990
Jan. 31.....	789.52	23,380	+5,240
Feb. 28.....	790.03	24,040	+660
Mar. 31.....	790.00	24,000	-40
Apr. 30.....	790.04	24,060	+60
May 31.....	790.60	24,840	+780
June 30.....	790.23	24,320	-520
July 31.....	790.51	24,710	+390
Aug. 31.....	790.48	24,670	-40
Sept. 30.....	790.08	24,110	-560
WTR YR 1989.....			+6,570

## 03353500 EAGLE CREEK AT INDIANAPOLIS, IN

LOCATION.--Lat 39°46'33", long 86°15'01", in NW¼ sec. 6, T.15 N., R.3 E., Marion County, Hydrologic Unit 05120201, on right bank at downstream side of bridge on Lynhurst Drive, approximately 600 ft south of intersection of West 10th Street and Lynhurst Drive, 0.5 mi downstream from West 10th Street bridge, 1.0 mi upstream from Vermont Street bridge, 3.0 mi upstream from Little Eagle Creek, and 7.1 mi upstream from mouth.

DRAINAGE AREA.--174 mi<sup>2</sup>.

PERIOD OF RECORD.--November 1938 to current year.

REVISED RECORDS.--WSP 953: 1939. WSP 1625: 1958. WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 699.00 ft above National Geodetic Vertical Datum of 1929. Aug. 8, 1957 to June 30, 1958, temporary site during reconstruction of bridge on Lynhurst Drive, a nonrecording gage on downstream side of 10th Street bridge. Mar. 10, 1966 to Aug. 16, 1967, during channelization of Eagle Creek, a nonrecording gage on downstream side of Lynhurst Drive bridge. Prior to Oct. 1, 1967, at datum 7.21 ft higher.

REMARKS.--Estimated daily discharges: Dec. 10-14, 17-19, and Feb. 6-11. Records good except for estimated daily discharges, which are poor. Flow regulated since November 1969 by Eagle Creek Reservoir, 4.7 mi upstream (see station 03353450).

AVERAGE DISCHARGE.--50 years (water years 1940 to current year), 155 ft<sup>3</sup>/s, 12.10 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,800 ft<sup>3</sup>/s June 28, 1957, gage height, 23.59 ft present datum from rating curve extended above 9,000 ft<sup>3</sup>/s on basis of a combined current-meter measurement and slope-area measurement; no flow for several days in August 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 23.2 ft present datum, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,760 ft<sup>3</sup>/s May 26, gage height, 9.48 ft; minimum daily, 1.5 ft<sup>3</sup>/s Oct. 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	4.8	4.3	7.6	14	26	40	227	134	10	14	1720
2	2.7	4.3	4.5	7.3	16	26	174	392	219	12	12	2080
3	2.6	4.3	4.5	6.8	18	23	832	248	270	40	13	494
4	2.1	44	3.9	13	17	32	3360	170	509	14	7.5	287
5	2.2	13	3.6	11	16	272	921	366	270	11	30	159
6	1.8	7.7	3.5	35	15	107	649	329	148	10	9.8	107
7	1.7	7.5	3.2	28	14	64	342	166	143	9.9	9.1	89
8	1.5	6.0	3.2	44	14	80	308	233	110	9.7	8.4	112
9	1.7	8.4	3.3	20	13	54	427	205	96	10	7.9	1340
10	2.4	33	3.3	15	14	156	255	139	38	9.3	7.6	2590
11	2.1	8.9	3.1	13	16	381	196	82	37	18	7.2	840
12	2.0	6.8	3.0	16	17	287	165	82	120	20	9.4	598
13	1.8	12	3.2	18	18	332	175	145	119	9.9	8.3	441
14	1.9	7.2	3.5	26	21	206	146	106	56	8.8	7.9	3170
15	1.7	6.2	3.6	21	29	140	140	29	51	8.4	7.9	1990
16	12	7.7	3.3	19	40	120	31	90	25	8.1	8.2	753
17	13	6.9	3.0	15	27	115	151	26	26	7.9	7.0	423
18	19	6.3	2.8	15	26	108	162	107	24	7.9	6.9	452
19	2.9	6.0	2.6	14	100	32	291	224	28	25	6.6	184
20	3.5	51	2.4	14	30	311	189	248	25	19	16	52
21	9.1	14	2.3	14	69	334	76	149	24	870	7.4	246
22	7.7	8.0	2.4	13	187	269	159	308	23	922	38	55
23	11	6.2	11	13	33	148	28	385	23	279	16	288
24	7.2	5.4	6.2	12	31	121	151	287	28	463	9.8	38
25	6.8	5.1	4.7	13	28	139	27	412	29	497	7.7	24
26	6.1	4.9	4.6	25	27	115	136	6740	22	235	7.2	19
27	5.5	5.4	9.2	61	93	33	319	771	14	137	7.2	18
28	5.5	5.0	40	159	26	121	466	535	12	140	81	16
29	5.2	4.8	14	20	---	172	3810	326	11	99	563	140
30	5.3	4.4	9.8	17	---	158	1500	241	11	12	905	16
31	5.3	---	8.5	16	---	212	---	130	---	80	349	---
TOTAL	156.8	315.2	180.5	721.7	969	4694	15626	13898	2645	4002.9	2196.0	18741
MEAN	5.06	10.5	5.82	23.3	34.6	151	521	448	88.2	129	70.8	625
MAX	19	51	40	159	187	381	3810	6740	509	922	905	3170
MIN	1.5	4.3	2.3	6.8	13	23	27	26	11	7.9	6.6	16
CFSM	.03	.06	.03	.13	.20	.87	2.99	2.58	.51	.74	.41	3.59
IN.	.03	.07	.04	.15	.21	1.00	3.34	2.97	.57	.86	.47	4.01
CAL YR 1988	TOTAL 33302.0	MEAN 91.0	MAX 4770	MIN 1.5	CFSM .52	IN. 7.12						
WTR YR 1989	TOTAL 64146.1	MEAN 176	MAX 6740	MIN 1.5	CFSM 1.01	IN. 13.71						

## 03353600 LITTLE EAGLE CREEK AT SPEEDWAY, IN

LOCATION.--Lat 39°47'15", long 86°13'41", in NE1/4 sec.32, T.16 N., R.3 E., Marion County, Hydrologic Unit 05120201, on right bank at upstream side of 16th Street bridge in Speedway, 0.6 mi upstream from Dry Run, and 2.3 mi upstream from mouth.

DRAINAGE AREA.--23.9 mi<sup>2</sup> including 5.57 mi<sup>2</sup> from Dry Run basin. Since June 1964 part of the flow from the 5.57 mi<sup>2</sup> of Dry Run basin has been diverted into Little Eagle Creek above gage.

PERIOD OF RECORD.--October 1959 to current year. Figures of runoff for June 1964 to September 1966 have been found to be in error and should not be used.

GAGE.--Water-stage recorder. Datum of gage is 707.82 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana, Department of Natural Resources). Prior to June 13, 1975, at datum 3.00 ft higher.

REMARKS.--Estimated daily discharges: Dec. 3-10, 30, 31, Jan. 4-6, Feb. 6-9, Feb. 13 to Mar. 3, Mar. 5 to Apr. 3, and May 20 to June 8. Records fair except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--25 years (water years 1965 to current year) 22.2 ft<sup>3</sup>/s, 12.61 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,330 ft<sup>3</sup>/s July 28, 1979, gage height, 12.13 ft; no flow at times in 1960-64, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 450 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 4	2300	802	5.76	Sept. 1	1015	913	6.08
Apr. 29	0900	591	5.12	Sept. 9	1845	*2,420	*9.61
May 26	----	1,200 est		Sept. 14	1130	2,210	9.18
Aug. 28	1915	553	5.01				

Minimum daily discharge, 0.26 ft<sup>3</sup>/s Oct. 11-13, 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	1.2	2.6	12	10	4.8	17	46	18	1.2	4.6	303
2	4.0	1.4	2.0	9.2	12	4.3	21	30	31	2.6	2.9	82
3	1.6	1.3	1.8	8.0	24	5.4	150	21	20	79	2.1	34
4	.80	142	1.7	9.6	12	34	343	38	66	16	1.6	17
5	.55	49	1.7	16	10	63	66	64	42	5.1	74	12
6	.38	16	1.6	39	7.6	27	41	30	19	4.2	47	7.9
7	.32	11	1.6	88	5.7	17	30	19	12	2.1	5.7	5.9
8	.32	9.9	1.4	148	4.8	12	52	16	8.2	1.7	2.9	12
9	.32	18	1.2	36	4.3	10	44	65	6.6	1.3	2.0	736
10	.31	108	1.0	23	4.5	21	27	32	5.3	1.0	1.5	289
11	.26	21	.83	17	4.7	83	22	19	4.6	57	1.1	55
12	.26	10	.81	35	5.4	58	18	14	45	125	24	27
13	.26	32	.99	23	4.8	36	15	18	15	19	7.2	17
14	.29	11	1.5	18	5.5	27	13	14	6.9	5.3	1.4	963
15	.26	6.9	1.4	16	7.6	23	14	10	4.9	2.5	12	154
16	47	16	1.1	13	12	18	11	9.0	3.8	1.5	8.0	103
17	51	11	.90	11	8.9	15	16	7.4	3.5	1.0	1.5	57
18	87	5.9	.86	10	6.7	14	41	7.1	2.9	.77	.90	30
19	11	7.1	.97	9.1	7.5	11	43	38	3.9	141	.65	22
20	4.2	154	1.3	8.1	7.1	112	20	17	6.1	108	32	16
21	5.9	42	1.3	6.3	19	48	15	11	3.1	18	4.1	13
22	4.5	18	1.4	5.5	15	23	12	58	2.6	10	104	12
23	22	11	51	5.7	9.6	17	9.7	71	2.7	9.4	64	9.5
24	15	7.9	21	5.5	8.0	13	9.0	34	2.4	56	26	7.2
25	5.2	6.0	9.4	12	6.6	11	8.4	28	1.9	52	7.6	7.1
26	2.9	7.4	5.7	62	8.5	9.3	7.1	530	1.5	16	4.5	6.1
27	2.3	11	32	29	7.2	8.3	38	94	3.5	11	3.3	5.7
28	6.6	5.7	129	18	6.4	7.6	71	54	2.7	75	151	4.9
29	3.4	3.7	47	15	---	8.9	281	38	1.4	17	134	5.1
30	2.4	3.1	23	13	---	33	83	27	1.6	17	52	5.1
31	1.9	---	15	11	---	25	---	22	---	7.4	17	---
TOTAL	287.33	748.5	363.06	732.0	245.4	799.6	1538.2	1481.5	348.1	864.07	800.55	3018.5
MEAN	9.27	24.9	11.7	23.6	8.76	25.8	51.3	47.8	11.6	27.9	25.8	101
MAX	87	154	129	148	24	112	343	530	66	141	151	963
MIN	.26	1.2	.81	5.5	4.3	4.3	7.1	7.1	1.4	.77	.65	4.9
CFSM	.39	1.04	.49	.99	.37	1.08	2.15	2.00	.49	1.17	1.08	4.21
IN.	.45	1.17	.57	1.14	.38	1.24	2.39	2.31	.54	1.34	1.25	4.70

CAL YR 1988 TOTAL 6623.76 MEAN 18.1 MAX 364 MIN .22 CFSM .76 IN. 10.31  
WTR YR 1989 TOTAL 11226.81 MEAN 30.8 MAX 963 MIN .26 CFSM 1.29 IN. 17.47

## 03353620 LICK CREEK AT INDIANAPOLIS, IN

LOCATION.--Lat 39°42'21", long 86°06'13", in NE¼NE¼ sec.32, T.15 N., R.4 E., Marion County, Hydrologic Unit 05120201, on left bank at upstream side of Sherman Drive-bridge in Indianapolis, and at mile 6.2.

DRAINAGE AREA.--15.6 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder. Datum of gage is 742.00 ft above National Geodetic Vertical Datum of 1929 (Indiana Flood Control and Water Resources Commission bench mark).

REMARKS.--Estimated daily discharges: Oct. 1-16, 26, 27, 30, 31, Nov. 1-4, 9, 17-19, Nov. 29 to Dec. 23, 30, 31, Jan. 2-7, 21-25, Feb. 5-15, 23-25, Feb. 28 to Mar. 4, Mar. 7-9, Apr. 13, 14, June 16-19, 22, 26, 27, June 30 to July 2, July 4-11, and 14-17. Records fair above 10 ft<sup>3</sup>/s, poor below.

AVERAGE DISCHARGE.--19 years, 19.2 ft<sup>3</sup>/s, 16.71 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,500 ft<sup>3</sup>/s June 25, 1978, gage height, 9.61 ft; minimum daily, 0.05 ft<sup>3</sup>/s Sept. 19, 1983.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 10	0315	510	4.09	July 19	0900	667	4.66
Apr. 3	2400	557	4.19	Aug. 5	1630	644	4.58
May 23	0015	1,130	6.13	Sept. 1	0845	608	4.45
May 26	0115	*1,370	*6.81	Sept. 14	1145	1,300	6.62

Minimum daily discharge, 0.54 ft<sup>3</sup>/s Oct. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	.84	5.0	12	8.8	6.3	39	24	10	3.9	7.5	204
2	1.6	.79	4.6	9.6	10	5.6	59	16	8.8	6.5	4.5	56
3	1.0	1.5	4.3	8.2	20	5.2	187	12	29	2.9	2.9	25
4	.82	124	4.1	7.5	12	21	193	28	20	6.6	2.2	14
5	.71	47	4.0	8.0	8.3	56	46	46	53	3.9	153	8.7
6	.65	18	3.8	23	7.2	30	27	20	20	2.4	176	7.3
7	.60	13	3.8	50	6.4	20	19	12	12	1.8	35	6.4
8	.58	13	3.6	61	5.8	14	33	9.2	8.8	1.4	18	6.6
9	.56	12	3.5	22	5.3	28	25	37	7.3	1.2	11	106
10	.54	129	3.4	16	5.0	44	16	20	6.4	1.1	5.9	59
11	.57	24	3.4	12	4.7	44	13	12	5.9	1.9	3.9	22
12	.70	14	3.1	29	4.6	30	11	9.1	22	57	3.1	13
13	.62	16	3.4	19	5.0	21	9.3	13	8.0	13	2.7	8.7
14	.58	10	3.5	18	6.0	18	8.1	9.6	6.1	6.6	1.9	560
15	.90	8.2	3.6	16	9.0	15	8.5	7.8	5.4	4.0	1.6	117
16	12	8.1	3.5	13	16	11	7.1	6.6	4.8	2.3	1.4	73
17	36	7.0	3.4	12	12	10	8.2	6.8	4.4	1.5	1.2	43
18	41	5.9	3.4	11	9.1	9.1	18	6.2	4.1	1.3	1.1	23
19	4.3	6.6	3.3	9.6	8.6	8.1	16	19	4.5	150	.92	17
20	2.6	94	3.6	8.6	16	87	9.0	21	6.8	38	23	14
21	3.0	35	3.8	8.1	50	51	7.2	12	5.5	24	5.4	11
22	2.5	18	4.1	7.8	25	26	6.4	169	4.5	11	58	9.5
23	7.1	15	22	7.4	13	19	8.5	365	9.0	33	30	8.0
24	2.6	9.9	19	7.2	9.2	14	7.5	56	6.4	20	45	6.5
25	2.0	8.3	9.9	7.8	8.0	11	5.5	36	5.9	9.4	16	6.2
26	1.5	8.7	9.2	33	13	9.7	6.9	461	4.3	33	9.3	5.6
27	1.4	14	25	20	9.6	8.9	41	59	3.8	19	6.4	4.3
28	2.3	8.3	98	15	7.5	12	42	29	5.9	23	32	3.7
29	1.1	6.2	32	13	---	15	86	19	5.5	10	47	3.7
30	.97	5.5	20	11	---	200	46	14	4.6	14	22	3.3
31	.90	---	15	9.8	---	88	---	11	---	17	11	---
TOTAL	134.60	681.83	332.3	505.6	315.1	937.9	1009.2	1566.3	302.7	563.9	738.92	1445.5
MEAN	4.34	22.7	10.7	16.3	11.3	30.3	33.6	50.5	10.1	18.2	23.8	48.2
MAX	41	129	98	61	50	200	193	461	53	150	176	560
MIN	.54	.79	3.1	7.2	4.6	5.2	5.5	6.2	3.8	1.1	.92	3.3
CFSM	.28	1.46	.69	1.05	.72	1.94	2.16	3.24	.65	1.17	1.53	3.09
IN.	.32	1.63	.79	1.21	.75	2.24	2.41	3.74	.72	1.34	1.76	3.45

CAL YR 1988 TOTAL 4479.85 MEAN 12.2 MAX 323 MIN .17 CFSM .78 IN. 10.68  
WTR YR 1989 TOTAL 8533.85 MEAN 23.4 MAX 560 MIN .54 CFSM 1.50 IN. 20.35



## 03353700 WEST FORK WHITE LICK CREEK AT DANVILLE, IN

LOCATION.--Lat: 39°45'36", long 86°30'47", in NW¼ sec.10, T.15 N., R.1 W., Hendricks County, Hydrologic Unit 05120201; on downstream side of bridge on U.S. Highway 36, 0.5 mi upstream from small left-bank tributary, and 7 mi west of Avon.

DRAINAGE AREA.--28.8 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1958 to current year.

REVISED RECORDS.--WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 828.83 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 23, 1968, nonrecording gage and crest-stage gage on upstream side of bridge at same datum. Oct. 23, 1968, to Aug. 6, 1970, water-stage recorder on upstream side of bridge at same datum.

REMARKS.--Estimated daily discharges: Oct. 8-15, Dec. 29, 30, Feb. 3-11, 23-25, and Mar. 7, 8. Records fair except for estimated daily discharges, which are poor. Low flow affected by releases from Danville Filtration Plant.

AVERAGE DISCHARGE.--31 years, 29.6 ft<sup>3</sup>/s, 13.96 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,330 ft<sup>3</sup>/s July 14, 1962, gage height, 11.32 ft; maximum gage height, 12.13 ft July 13, 1979; no flow at times during most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 28, 1957, reached a stage of 16.0 ft, from floodmarks, discharge, 6,660 ft<sup>3</sup>/s, from contracted-opening measurement.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 4	1345	886	5.78	Sept. 14	1200	*1,640	*8.71

Minimum daily discharge, 0.02 (ft<sup>3</sup>/s) Oct. 9-14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.12	.40	1.4	8.7	19	7.5	28	31	21	2.7	11	190
2	.06	.42	1.2	7.0	14	7.0	35	24	35	2.9	9.7	130
3	.03	.44	1.2	6.7	12	7.1	266	19	42	12	8.5	36
4	.03	3.0	1.2	5.8	10	10	510	19	76	8.0	7.7	18
5	.03	.68	1.1	6.9	9.0	31	144	35	62	5.2	7.8	13
6	.03	.59	1.1	134	8.3	33	78	28	47	4.0	7.8	10
7	.03	.45	1.1	157	7.6	20	56	20	28	3.3	5.9	9.0
8	.02	.34	1.0	177	6.8	18	57	16	20	3.0	5.2	8.9
9	.02	.61	.89	72	6.3	16	62	34	16	3.1	4.6	187
10	.02	2.5	.84	39	6.1	50	41	33	12	2.4	4.3	279
11	.02	.95	.73	26	6.2	97	32	23	10	3.1	4.2	128
12	.02	.73	.57	39	6.7	79	27	19	17	3.6	5.0	50
13	.02	1.1	.76	37	8.2	54	22	16	13	15	3.9	26
14	.02	.68	1.1	28	9.2	43	20	13	9.3	6.4	3.3	761
15	.05	.62	1.0	21	13	31	18	11	8.3	4.3	2.9	381
16	.62	1.0	.70	16	23	21	15	9.9	7.5	3.5	2.9	268
17	3.8	1.1	.63	15	17	20	15	8.8	6.7	2.7	2.8	229
18	.96	1.1	.64	15	15	18	20	8.4	6.3	2.2	2.7	157
19	.22	1.2	.84	13	14	13	38	13	6.1	233	2.7	113
20	.29	13	1.1	12	14	69	27	19	5.8	187	4.0	76
21	.46	16	1.2	9.4	32	87	22	11	5.7	146	2.8	50
22	.62	6.1	1.4	11	27	42	18	18	5.2	59	22	41
23	.81	4.1	3.1	9.3	14	29	15	77	4.9	32	16	26
24	.41	3.2	2.8	8.1	12	23	13	40	4.7	164	8.5	19
25	.38	2.7	2.1	8.9	11	18	12	38	4.4	353	6.2	16
26	.34	2.6	1.7	59	14	14	11	461	4.0	133	5.2	13
27	.36	2.6	3.9	60	10	13	15	146	4.0	60	4.3	8.8
28	.60	2.0	74	36	8.5	12	39	77	3.9	32	7.3	8.3
29	.43	1.7	35	29	---	13	63	53	3.3	21	23	7.9
30	.42	1.6	25	25	---	47	43	35	2.8	16	12	6.9
31	.40	---	14	22	---	39	---	23	---	13	8.0	---
TOTAL	11.64	73.51	183.30	1113.8	353.9	981.6	1762	1379.1	491.9	1568.8	222.2	3266.8
MEAN	.38	2.45	5.91	35.9	12.6	31.7	58.7	44.5	16.4	50.6	7.17	109
MAX	3.8	16	74	177	32	97	510	461	76	353	23	761
MIN	.02	.34	.57	5.8	6.1	7.0	11	8.4	2.8	2.2	2.7	6.9
CFSM	.01	.09	.21	1.25	.44	1.10	2.04	1.54	.57	1.76	.25	3.78
IN.	.02	.09	.24	1.44	.46	1.27	2.28	1.78	.64	2.03	.29	4.22

CAL YR 1988 TOTAL 6144.43 MEAN 16.8 MAX 440 MIN .00 CFSM .58 IN. 7.94  
WTR YR 1989 TOTAL 11408.55 MEAN 31.3 MAX 761 MIN .02 CFSM 1.09 IN. 14.74

## 03353800 WHITE LICK CREEK AT MOORESVILLE, IN

LOCATION.--Lat 39°36'28", long 86°22'56", in NE¼SE¼ sec.35, T.14 N., R.1 E., Morgan County, Hydrologic Unit 05120201, on right bank at downstream side of bridge on State Highway 42 at Mooresville, 0.9 mi downstream from McCracken Creek, 2.0 mi upstream from East Fork White Lick Creek, and at mile 11.4.

DRAINAGE AREA.--212 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1957 to current year.

GAGE.--Water-stage recorder. Datum of gage is 644.64 ft above National Geodetic Vertical Datum of 1929. Dec. 10, 1963 to Sept. 30, 1964, nonrecording gage at bridge 1,950 ft upstream at datum 1.39 ft higher.

REMARKS.--Estimated daily discharges: Dec. 11-13, 17-19, Dec. 29 to Jan. 5, Feb. 4-12, 22-25, Mar. 6-9, and June 15 to July 11. Records good except for estimated daily discharges and daily discharges below 20 ft<sup>3</sup>/s, which are poor. Pumpage from a well field above gage affects low flows.

AVERAGE DISCHARGE.--32 years, 218 ft<sup>3</sup>/s, 13.96 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,000 ft<sup>3</sup>/s July 13, 1979, gage height, 23.31 ft; minimum daily, 0.68 ft<sup>3</sup>/s Aug. 27, 1988 (affected by upstream pumpage).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 28, 1957, reached a stage of 22.5 ft, from levels to high-water mark by State of Indiana, Department of Natural Resources.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 4	0800	4,380	16.03	Sept. 9	2400	5,160	17.00
May 26	0800	5,880	17.67	Sept. 14	2100	*11,000	*20.55
Sept. 1	1600	3,330	14.60				

Minimum daily discharge, 4.3 ft<sup>3</sup>/s Oct. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	11	36	100	123	72	285	409	240	40	78	1210
2	6.6	11	33	80	112	68	266	305	297	39	69	849
3	7.1	10	31	70	137	67	1190	242	271	160	62	361
4	6.5	45	30	64	120	92	2930	216	615	200	57	213
5	5.7	153	28	60	95	223	1060	333	432	110	65	142
6	5.1	62	28	513	75	250	655	295	362	80	99	103
7	4.9	37	28	717	70	150	486	225	261	56	62	83
8	5.2	28	26	1030	65	130	461	188	215	47	51	75
9	5.2	24	25	432	62	140	514	286	183	42	47	1300
10	5.0	101	25	244	61	317	383	311	158	56	44	2380
11	5.1	87	22	184	62	683	314	232	140	40	46	827
12	4.8	51	20	193	63	595	280	191	151	395	48	473
13	4.7	45	22	219	67	385	250	171	154	259	43	296
14	5.2	46	24	174	79	299	225	149	129	123	40	4910
15	5.4	38	25	158	87	261	207	123	110	83	39	3010
16	10	36	23	137	115	190	186	103	100	67	38	1120
17	27	36	20	124	116	161	164	91	93	58	38	946
18	181	31	20	119	104	152	171	83	85	53	38	590
19	51	28	21	115	102	131	252	90	82	287	36	432
20	27	176	23	106	102	458	225	245	110	553	43	325
21	19	280	23	92	175	830	194	149	90	428	51	265
22	13	140	22	82	160	435	170	181	77	273	150	237
23	11	94	40	82	110	297	150	1280	65	229	260	208
24	15	70	59	78	90	240	130	447	60	303	221	180
25	15	56	53	75	100	205	117	312	55	1080	121	165
26	12	51	44	138	112	176	108	4000	52	379	73	153
27	12	51	46	265	98	156	181	1430	50	264	58	139
28	12	45	376	194	84	149	361	682	53	215	52	129
29	13	40	210	159	---	146	633	489	50	169	183	120
30	12	36	150	146	---	372	730	366	45	115	252	113
31	12	---	120	133	---	386	---	289	---	93	124	---
TOTAL	522.8	1919	1653	6283	2746	8216	13278	13913	4785	6296	2588	21354
MEAN	16.9	64.0	53.3	203	98.1	265	443	449	159	203	83.5	712
MAX	181	280	376	1030	175	830	2930	4000	615	1080	260	4910
MIN	4.3	10	20	60	61	67	108	83	45	39	36	75
CFSM	.08	.30	.25	.96	.46	1.25	2.09	2.12	.75	.96	.39	3.36
IN.	.09	.34	.29	1.10	.48	1.44	2.33	2.44	.84	1.10	.45	3.75

CAL YR 1988 TOTAL 46205.59 MEAN 126 MAX 3620 MIN .68 CFSM .60 IN. 8.11  
WTR YR 1989 TOTAL 83553.8 MEAN 229 MAX 4910 MIN 4.3 CFSM 1.08 IN. 14.66

## 03354000 WHITE RIVER NEAR CENTERTON, IN

(National stream-quality accounting network station)

LOCATION.--Lat 39°29'51", long 86°24'02", in NE¼ sec.10, T.12 N., R.1 E., Morgan County, Hydrologic Unit 05120201, on right bank at upstream side of bridge on Blue Bluff Road, 0.8 mi downstream from White Lick Creek, 1 mi south of Centerton, and at mile 199.3.

DRAINAGE AREA.--2,444 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1925 to September 1930 (gage heights only), October 1930 to March 1932, October 1946 to current year. Monthly discharge only for October and November 1946, published in WSP 1305. Published as West Fork White River at Martinsville prior to March 1932, and as West Fork White River near Centerton October 1946 to September 1948.

REVISED RECORDS.--WSP 1335: 1948-49. WSP 1909: 1931(M). WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 595.44 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark), levels by Indianapolis Power and Light Co. See WSP 1725 for history of changes prior to July 1953. July 1953 to Aug. 7, 1975, water-stage recorder at site 0.4 mi downstream at same datum.

REMARKS.--Estimated daily discharges: Dec. 29-31, Jan. 9, 10, Feb. 5-14, 16-19, 23-25, and Mar. 7-9. Records good. Flow regulated up upstream reservoirs.

AVERAGE DISCHARGE.--44 years (1930-31, 1946 to current year), 2,421 ft<sup>3</sup>/s, 13.45 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 50,500 ft<sup>3</sup>/s Apr. 22, 1964, gage height, 17.57 ft, at site 0.4 mile downstream; minimum daily, 131 ft<sup>3</sup>/s Nov. 15, 1930.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 22.8 ft at Martinsville site (from information by Indiana State Highway Commission) and 21.9 ft at site 0.4 mi downstream (from information by Corps of Engineers), discharge, 90,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 9,500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 4	1600	16,300	12.50	Sept. 5	1200	17,300	12.91
Apr. 30	1300	11,300	9.92	Sept. 10	1200	17,100	12.84
May 23	1000	10,400	9.38	Sept. 15	1200	*27,000	*15.58
May 27	1600	22,000	14.44				

Minimum daily discharge, 251 ft<sup>3</sup>/s Oct. 9.DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	288	306	722	1530	1580	1280	6230	8330	4880	786	1600	6730
2	328	296	635	1320	1490	1200	6800	6170	4140	797	1370	11300
3	289	294	579	1150	1660	1140	9720	4520	3700	1480	1230	12700
4	286	426	516	1020	1550	1220	14700	3720	5440	1460	1120	15200
5	275	2210	483	909	1300	2220	15400	4500	6330	1170	1100	16900
6	265	1110	470	2130	1150	2670	14300	4330	6140	1050	3130	9750
7	262	848	449	2990	1050	2350	13300	3870	4730	933	1540	4530
8	267	786	423	4460	950	2200	8370	3260	3640	833	1230	3490
9	251	697	413	4000	900	2100	6840	3360	2950	849	1050	5820
10	260	1630	404	3700	870	2780	5640	3530	2510	768	931	15300
11	273	1640	382	3210	860	3940	4750	2990	2130	739	873	13400
12	269	1010	374	2620	880	4210	4090	2800	2090	2710	863	12300
13	258	1020	375	2330	900	4190	3590	2470	2230	1860	909	7740
14	267	1020	368	2090	980	3670	3160	2360	2320	1270	809	10400
15	257	827	388	2210	1100	3310	2890	2110	2280	1290	784	24000
16	285	729	380	1970	1140	2760	2690	1920	1910	1110	767	18600
17	622	715	368	1780	1060	2340	2490	1730	1650	940	727	15800
18	1360	650	335	1590	1000	2100	2340	1610	1500	846	722	11600
19	840	597	342	1470	1150	1880	2990	1470	1380	1270	699	6760
20	548	1210	351	1400	1260	3150	3200	2380	1700	2790	878	5000
21	467	2260	367	1310	1880	5520	3510	2280	1370	4020	1020	4150
22	435	1410	378	1250	2040	3890	3090	2050	1320	6250	887	3620
23	374	1490	557	1190	1750	3550	2560	7660	1200	5270	2370	3070
24	455	1300	736	1140	1650	3030	2320	4550	1120	4820	2390	2780
25	396	999	680	1100	1520	2550	2080	4550	1090	6560	2100	2310
26	357	831	543	1350	1500	2260	1960	13600	1020	5190	1510	2110
27	340	786	592	1790	1480	2040	2570	21400	1010	4270	1210	1950
28	331	716	2040	1870	1410	1890	4230	19500	998	3470	1110	1800
29	321	633	1800	2140	---	1840	5240	18300	909	2640	2860	1700
30	287	672	1500	1890	---	5870	10400	10500	852	2070	4880	1700
31	282	---	1600	1710	---	4670	---	6340	---	1840	4960	---
TOTAL	11795	29118	19550	60619	36060	87820	171450	178160	74539	71351	47629	252510
MEAN	380	971	631	1955	1288	2833	5715	5747	2485	2302	1536	8417
MAX	1360	2260	2040	4460	2040	5870	15400	21400	6330	6560	4960	24000
MIN	251	294	335	909	860	1140	1960	1470	852	739	699	1700
CFSM	.16	.40	.26	.80	.53	1.16	2.34	2.35	1.02	.94	.63	3.44
IN.	.18	.44	.30	.92	.55	1.34	2.61	2.71	1.13	1.09	.72	3.84

CAL YR 1988 TOTAL 551737 MEAN 1507 MAX 18400 MIN 233 CFSM .62 IN. 8.40  
WTR YR 1989 TOTAL 1040601 MEAN 2851 MAX 24000 MIN 251 CFSM 1.17 IN. 15.84

## WABASH RIVER BASIN

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03354000 WHITE RIVER NEAR CENTERTON, IN  
(National stream-quality accounting network station)

## WATER-QUALITY RECORDS

## PERIOD OF RECORD.--

CHEMICAL ANALYSIS: October 1986 to current year.

WATER TEMPERATURE: September 1953 to April 1956, October 1966 to September 1967, May 1970 to September 1972, October 1977 to July 1980, October 1982 to June 1985.

SEDIMENT DISCHARGE: March 1965 to September 1977, October 1986 to current year (partial-record station).

EXTREMES FOR PERIOD OF RECORD.--Water temperature: Maximum, 33 °C July 3, 1970; minimum, -0.5 °C, several days during winters.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BARO- METRIC PRES- SURE (MM OF HG) (00025)
NOV 08...	1245	765	858	894	7.6	7.7	17.0	12.0	6.2	10.2	754
JAN 17...	1230	1890	849	873	7.7	7.8	9.0	4.5	6.4	12.2	753
FEB 21...	1400	2010	852	844	7.7	7.8	3.0	5.5	21	11.8	749
APR 24...	1430	2380	722	746	7.8	8.0	24.0	15.0	14	9.9	747
JUN 29...	1730	894	935	920	8.0	8.1	25.0	27.0	5.7	10.6	751
AUG 23...	1315	2330	606	612	7.2	7.6	29.5	24.0	37	4.2	743

DATE	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY WAT DIS FIX END FIELD CACO3 (MG/L) (39036)	ALKA- LITY WAT DIS TOT IT FIELD CACO3 (MG/L) (39086)
NOV 08...	K1700	140	300	89	76	26	73	5.2	200	208
JAN 17...	740	160	340	91	89	29	52	3.8	240	251
FEB 21...	760	5800	330	120	86	29	53	3.7	210	214
APR 24...	120	K60	320	110	83	27	35	3.0	210	209
JUN 29...	340	25	340	82	89	29	57	4.7	260	260
AUG 23...	4500	7600	200	51	52	18	44	4.6	150	153

DATE	ALKA- LITY LAB (MG/L AS CACO3) (90410)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)*	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)
NOV 08...	203	254	0	100	95	0.4	7.3	509	1050	0.04
JAN 17...	217	306	0	91	83	0.3	9.0	515	2630	0.06
FEB 21...	217	261	0	86	84	0.3	4.2	491	2670	0.05
APR 24...	214	255	0	77	54	0.3	4.9	447	2870	0.06
JUN 29...	256	317	0	94	80	0.4	7.7	465	1120	0.05
AUG 23...	148	187	0	56	61	0.3	5.6	339	2130	0.10

## WABASH RIVER BASIN

03354000 WHITE RIVER NEAR CENTERTON, IN --Continued  
(National stream-quality accounting network station)

## WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)
NOV 08...	4.3	0.16	0.15	1.3	0.83	0.72	0.66	10	3	49
JAN 17...	5.2	0.32	0.30	1.4	0.30	0.27	0.20	140	1	68
FEB 21...	4.9	0.26	0.23	1.6	0.76	0.61	0.54	20	1	59
APR 24...	6.2	0.08	0.07	2.0	0.46	0.33	0.28	--	--	--
JUN 29...	3.4	0.02	0.03	0.8	0.47	0.41	0.46	--	--	--
AUG 23...	1.4	0.56	0.55	2.1	0.78	0.51	0.45	360	2	51

DATE	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)
NOV 08...	<0.5	3	<1	<3	5	27	8	8	58	<0.1
JAN 17...	<0.5	<1	<1	<3	1	200	<5	11	44	<0.1
FEB 21...	<0.5	<1	<1	<3	6	29	<5	12	38	<0.1
APR 24...	--	--	--	--	--	--	--	--	--	--
JUN 29...	--	--	--	--	--	--	--	--	--	--
AUG 23...	<0.5	<1	2	<3	9	340	3	7	47	<0.1

DATE	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 08...	10	14	1	1	250	<6	21	13	27	99
JAN 17...	<10	7	2	1	310	<6	21	13	66	96
FEB 21...	<10	7	<1	<1	300	<6	19	81	440	75
APR 24...	--	--	--	--	--	--	--	41	263	92
JUN 29...	--	--	--	--	--	--	--	21	51	98
AUG 23...	<10	5	<1	<1	190	<6	26	103	648	98

\*In March 1989, the National Water-Quality Laboratory discovered a bias in the turbidimetric method for sulfate analysis, indicating that concentrations below 75 mg/L have a median positive bias of 2 mg/L above the true concentration for the period between 1982 and 1989. Sulfate concentrations in this report have not been corrected for this bias.



## 03354500 BEANBLOSSOM CREEK AT BEANBLOSSOM, IN

LOCATION.--Lat 39°15'45", long 86°14'55", in SW¼NW¼ sec.31, T.10 N., R.3 E., Brown County, Hydrologic Unit 05120202, on right bank 15 ft downstream from bridge on State Highway 135, 0.3 mi south of Beanblossom, 2.7 mi upstream from North Fork Beanblossom Creek, and at mile 42.1.

DRAINAGE AREA.--14.6 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1951 to current year. Prior to October 1965, published as Bean Blossom Creek at Bean Blossom.

REVISED RECORDS.--WSP 1555: 1952, 1953(M), 1956-57. WSP 1705: 1952(P). WDR IN-79-1: 1978.

GAGE.--Water-stage recorder. Datum of gage is 673.65 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 16 to Dec. 27, Dec. 30 to Jan. 5, Feb. 6-9, 13-15, May 28 to June 4, June 7-13, June 16 to July 2, July 7-11, 16-23, July 28 to Aug. 22, Sept. 22, and Sept. 24-30. Records poor.

AVERAGE DISCHARGE.--38 years, 15.9 ft<sup>3</sup>/s, 14.79 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,140 ft<sup>3</sup>/s June 23, 1960, gage height, 11.78 ft, from curve extended above 2,000 ft<sup>3</sup>/s on basis of contracted-opening measurement at gage height 11.78 ft; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 20	1630	872	7.46	May 26	0645	*1,170	*8.98
Mar. 30	0445	1,000	8.21	Aug. 25	1030	862	7.40

Minimum daily discharge, no flow Oct. 1-15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.27	1.3	7.0	6.0	13	80	47	4.9	1.0	1.3	151
2	.00	.24	1.2	5.4	5.9	11	62	39	4.0	3.7	1.1	45
3	.00	.21	1.1	4.6	25	9.5	176	31	5.3	34	.90	21
4	.00	.20	1.0	4.1	26	10	256	28	4.6	12	.84	15
5	.00	2.3	.98	5.9	20	76	86	42	16	8.5	1.1	12
6	.00	1.5	.95	25	12	57	61	32	14	6.1	2.5	8.0
7	.00	1.1	.93	27	8.6	36	83	26	6.2	3.2	1.7	6.2
8	.00	.92	.91	83	6.6	26	89	23	3.8	2.1	1.2	5.1
9	.00	.81	.86	26	5.0	32	83	35	2.9	1.3	.91	26
10	.00	1.4	.80	18	5.5	64	58	35	2.3	1.0	.78	92
11	.00	2.9	.73	14	5.6	77	51	26	1.9	3.3	.67	25
12	.00	2.1	.65	18	5.1	69	49	21	2.1	20	.60	17
13	.00	1.6	.56	14	4.7	48	45	19	2.7	14	.56	13
14	.00	2.0	.51	11	9.6	40	41	16	11	8.0	.51	19
15	.00	1.6	.54	18	24	52	37	14	9.2	5.8	.47	19
16	.04	1.4	.58	14	56	42	29	11	4.2	4.0	.42	15
17	.05	1.3	.61	11	43	33	25	9.7	3.0	3.1	.64	13
18	.74	1.1	.64	9.6	37	27	29	8.9	2.4	2.1	.49	9.4
19	.46	1.0	.65	7.3	30	24	43	8.8	2.8	3.0	.41	7.7
20	.28	2.0	.62	5.8	26	263	37	10	2.1	2.5	1.6	6.4
21	.36	7.2	.55	4.4	59	144	30	7.0	1.7	3.2	1.0	5.4
22	.32	5.0	.56	4.0	50	53	26	15	1.4	2.6	6.6	4.5
23	.55	3.7	.72	3.0	41	39	23	230	1.2	3.9	23	5.3
24	.78	2.8	7.8	3.7	34	36	21	45	1.0	12	16	4.4
25	.49	2.2	13	5.5	29	44	18	33	.93	22	186	3.8
26	.38	1.8	6.8	10	24	37	17	333	.82	10	33	3.1
27	.29	2.2	5.0	13	20	39	18	50	1.8	7.1	11	2.6
28	.42	1.9	24	11	17	37	102	21	2.5	4.3	23	2.3
29	.38	1.6	34	10	---	58	123	14	1.6	2.9	83	2.1
30	.33	1.5	16	9.5	---	448	71	9.8	1.3	2.1	25	1.9
31	.29	---	9.4	8.0	---	180	---	6.7	---	1.7	12	---
TOTAL	6.16	55.85	133.95	410.8	635.6	2124.5	1869	1246.9	119.65	210.5	438.30	561.2
MEAN	.20	1.86	4.32	13.3	22.7	68.5	62.3	40.2	3.99	6.79	14.1	18.7
MAX	.78	7.2	34	83	59	448	256	333	16	34	186	151
MIN	.00	.20	.51	3.0	4.7	9.5	17	6.7	.82	1.0	.41	1.9
CFSM	.01	.13	.30	.91	1.55	4.69	4.27	2.75	.27	.47	.97	1.28
IN.	.02	.14	.34	1.05	1.62	5.41	4.76	3.18	.30	.54	1.12	1.43

CAL YR 1988 TOTAL 3133.59 MEAN 8.56 MAX 321 MIN .00 CFSM .59 IN. 7.98  
WTR YR 1989 TOTAL 7812.41 MEAN 21.4 MAX 448 MIN .00 CFSM 1.47 IN. 19.91

## 03357000 WHITE RIVER AT SPENCER, IN

LOCATION.--Lat 39°16'49", long 86°45'42", 1N NE 1/4 SEC. 29, T. 10 N., R. 3 W., Owen County, Hydrologic Unit 05120202, on right bank at downstream side of county road bridge at the south edge of Spencer, 3.3 mi upstream from McBrides Creek, and at mile 165.9.

DRAINAGE AREA.--2,980 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1925 to September 1971 (discharge), October 1971 to current year (gage heights only).

GAGE.--Data-Collection Platform. Datum of gage is 526.04 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 26, 1940, nonrecording gage at same site and datum.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 23.2 ft Jan. 16, 1937; minimum gage height, 0.88 ft Sept. 25, 30, and Oct. 1, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 28.5 ft Mar. 26, 1913, from flood marks.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 19.46 ft Sept. 17; minimum gage height, 1.70 ft Oct. 10, 11.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.81	1.88	3.04	4.33	4.53	4.15	13.31	13.87	9.36	3.26	4.68	12.22
2	1.79	1.86	2.93	4.02	4.43	3.99	13.63	11.27	8.35	3.70	4.29	14.41
3	1.84	1.84	2.81	3.74	4.95	3.86	15.57	9.26	8.29	5.30	4.01	15.08
4	1.76	2.59	2.71	3.51	5.08	4.08	16.85	8.53	9.33	4.96	3.81	15.49
5	1.75	4.83	2.63	3.47	4.67	6.23	18.05	9.48	10.32	4.35	3.64	16.25
6	1.73	3.86	2.59	5.07	4.29	7.44	17.81	8.94	10.45	3.99	6.69	16.87
7	1.72	3.18	2.53	6.88	4.06	6.64	17.20	8.46	8.92	3.68	4.69	10.36
8	1.72	3.01	2.49	8.72	3.87	6.40	15.85	7.69	7.78	3.44	4.03	8.32
9	1.72	2.89	2.45	8.40	3.65	6.20	12.91	8.01	6.95	3.35	3.68	13.47
10	1.70	3.33	2.40	7.92	3.48	7.44	11.03	8.49	6.37	3.23	3.43	15.66
11	1.70	4.73	2.37	7.07	3.43	8.98	9.76	7.61	5.80	3.23	3.25	17.36
12	1.74	3.67	2.34	6.26	3.45	9.23	8.80	7.14	5.55	8.29	3.21	16.79
13	1.74	3.34	2.35	5.96	3.53	8.79	8.03	6.65	5.79	7.25	3.27	14.94
14	1.71	3.53	2.31	5.52	3.92	8.13	7.51	6.45	5.77	5.10	3.09	13.90
15	1.73	3.21	2.31	5.66	4.28	7.91	7.09	6.04	5.78	4.51	3.01	16.60
16	1.81	2.99	2.32	5.35	4.87	6.98	6.79	5.62	5.36	4.13	2.93	19.13
17	2.11	2.89	2.28	5.08	4.81	6.37	6.32	5.36	4.95	3.76	2.92	19.46
18	2.66	2.80	2.24	4.78	4.53	5.91	6.41	5.08	4.70	3.53	2.84	18.26
19	3.32	2.73	2.25	4.54	4.36	5.51	7.32	5.23	4.47	3.35	2.83	14.69
20	2.61	3.09	2.24	4.40	4.47	10.25	7.39	6.03	5.02	5.73	2.91	10.04
21	2.38	5.40	2.23	4.18	5.74	13.19	7.68	5.90	4.39	6.36	3.51	8.79
22	2.27	4.41	2.28	4.05	6.05	10.42	7.07	6.92	4.29	9.04	6.61	8.09
23	2.20	4.15	2.37	3.95	5.50	9.52	6.49	13.19	4.10	8.91	6.58	7.29
24	2.17	4.10	2.97	3.84	5.31	7.89	6.03	10.80	3.96	8.43	6.48	6.91
25	2.17	3.68	2.97	3.81	4.97	6.89	5.76	9.30	3.82	10.00	8.41	6.21
26	2.09	3.41	2.73	4.01	4.67	6.32	5.48	13.41	3.75	8.97	6.76	5.85
27	2.05	3.23	2.77	4.83	4.51	5.87	5.88	17.32	3.72	8.07	6.32	5.60
28	1.99	3.16	4.38	4.79	4.41	5.55	12.01	19.05	3.67	6.93	5.37	5.34
29	1.96	3.00	5.29	5.31	---	5.87	10.95	18.61	3.52	6.16	6.70	5.12
30	1.91	2.91	4.50	5.03	---	13.47	13.56	17.68	3.36	5.39	8.91	5.12
31	1.85	---	4.69	4.76	---	13.70	---	11.87	---	5.22	9.03	---
MEAN	1.99	3.32	2.80	5.14	4.49	7.52	10.28	9.65	5.93	5.54	4.77	12.12
MAX	3.32	5.40	5.29	8.72	6.05	13.70	18.05	19.05	10.45	10.00	9.03	19.46
MIN	1.70	1.84	2.23	3.47	3.43	3.86	5.48	5.08	3.36	3.23	2.83	5.12

WTR YR 1989 MEAN 6.12 MAX 19.46 MIN 1.70

## 03357350 PLUM CREEK NEAR BAINBRIDGE, IN

LOCATION.--Lat 39°45'42", long 86°43'46", in SW¼ sec.3, T.15 N., R.3 W., Putnam County, Hydrologic Unit 05120203, on right upstream wingwall of bridge on U.S. Highway 36, 0.5 mi west of Groveland, and 4.5 mi east of Bainbridge.

DRAINAGE AREA.--3.00 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is 828.44 ft above National Geodetic Vertical Datum of 1929 (Indiana Department of Highways bench mark).

REMARKS.--Estimated daily discharges: Dec. 28-31, Jan. 1-19, Feb. 5-13, Feb. 23 to Mar. 2, Mar. 6-9, and May 10-17. Records poor.

AVERAGE DISCHARGE.--20 years, 3.56 ft<sup>3</sup>/s, 16.11 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 940 ft<sup>3</sup>/s Sept. 14, 1989, gage height, 6.50 ft; no flow at times during 1970, 1975-77, 1983-89.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 3	2330	185	3.28	Sept. 14	1015	*940	*6.50
May 26	0045	178	3.26				

Minimum daily discharge, no flow on many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.08	.15	1.2	.55	3.0	2.4	3.0	.10	.25	34
2	.00	.00	.07	.13	1.0	.60	6.2	2.0	3.9	.10	.22	11
3	.00	.00	.07	.11	1.2	.80	52	1.7	10	.35	.20	4.9
4	.00	.08	.07	.10	1.0	1.1	50	2.3	6.6	.13	.19	3.0
5	.00	.07	.07	.11	.84	1.5	12	2.8	4.7	.10	.19	2.0
6	.00	.01	.07	6.0	.60	1.1	7.2	1.9	3.0	.10	10	1.5
7	.00	.00	.07	2.8	.47	.90	5.1	1.6	2.1	.09	.92	1.2
8	.00	.00	.06	2.6	.39	.85	6.1	1.5	1.6	.09	.46	5.8
9	.00	.00	.06	2.0	.35	1.2	5.4	4.2	1.3	.09	.27	46
10	.00	.11	.06	1.4	.43	4.4	4.0	2.9	.99	.09	.21	24
11	.00	.07	.05	.95	.54	6.8	3.5	2.2	.86	.10	.20	8.5
12	.00	.06	.04	1.0	.50	5.1	3.2	1.8	1.3	.35	.18	4.6
13	.00	.10	.06	.90	.70	4.0	2.6	1.5	.88	.11	.16	3.4
14	.00	.08	.08	.90	1.0	3.5	2.4	1.3	.64	.09	.16	166
15	.00	.06	.07	.85	1.3	2.3	2.2	1.1	.58	.09	.15	21
16	.00	.10	.05	.76	1.5	1.8	1.8	.96	.47	.09	.15	15
17	.01	.09	.05	.68	1.3	1.8	1.8	.88	.37	.09	.15	8.0
18	.00	.07	.06	.63	1.2	1.6	2.8	.82	.33	.09	.15	4.7
19	.00	.08	.06	.61	1.2	1.5	3.5	1.7	.60	.26	.15	3.5
20	.00	.29	.08	.58	1.4	9.4	2.6	1.9	.34	4.5	.16	2.9
21	.00	.19	.06	.42	2.0	7.7	2.2	1.1	.26	2.5	.15	2.4
22	.00	.14	.07	.46	1.5	4.1	1.9	2.1	.19	1.5	15	2.2
23	.00	.11	.11	.45	.90	3.3	1.6	4.1	.15	6.2	18	1.6
24	.00	.10	.10	.45	.80	2.7	1.4	2.3	.14	6.3	5.2	1.4
25	.00	.09	.09	.57	.98	2.2	1.3	11	.13	3.7	2.4	1.3
26	.00	.09	.09	2.9	1.2	1.8	1.2	49	.12	1.5	1.5	1.1
27	.00	.08	.19	2.6	.80	1.7	2.1	10	.12	.90	.96	.87
28	.00	.08	.45	1.8	.64	1.7	8.2	6.3	.12	.72	8.4	.87
29	.00	.08	.32	1.7	---	1.9	4.6	4.7	.10	.44	11	.82
30	.00	.08	.24	1.5	---	5.5	3.1	3.3	.10	.35	6.6	.73
31	.00	---	.19	1.4	---	3.9	---	2.4	---	.30	3.0	---
TOTAL	0.01	2.31	3.19	37.51	26.94	87.30	205.0	133.76	44.99	57.16	86.73	384.29
MEAN	.000	.077	.10	1.21	.96	2.82	6.83	4.31	1.50	1.84	2.80	12.8
MAX	.01	.29	.45	6.0	2.0	9.4	52	49	10	26	18	166
MIN	.00	.00	.04	.10	.35	.55	1.2	.82	.10	.09	.15	.73
CFSM	.00	.03	.03	.40	.32	.94	2.28	1.44	.50	.61	.93	4.27
IN.	.00	.03	.04	.47	.33	1.08	2.54	1.66	.56	.71	1.08	4.77

CAL YR 1988 TOTAL 600.82 MEAN 1.64 MAX 92 MIN .00 CFSM .55 IN. 7.45  
WTR YR 1989 TOTAL 1069.19 MEAN 2.93 MAX 166 MIN .00 CFSM .98 IN. 13.26

## 03357500 BIG WALNUT CREEK NEAR REELSVILLE, IN

LOCATION.--Lat 39°32'11", long 86°58'35", in NW¼SW¼ sec.28, T.13 N., R.5 W., Putnam County, Hydrologic Unit 05120203, on left bank at downstream side of county highway bridge, 1.5 mi southwest of Reelsville, and 4.1 mi upstream from Mill Creek.

DRAINAGE AREA.--326 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1949 to current year. Published as Eel River near Reelsville, October 1952 to September 1956.

REVISED RECORDS.--WSP 1335: 1950. WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 588.24 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana, Department of Natural Resources). Prior to Dec. 10, 1949, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Oct. 7-17, Dec. 11-13, 16-19, Dec. 29 to Jan. 6, Jan. 10, 11, Feb. 5 to Mar. 4, Mar. 6-9, June 22 to July 2, and Aug. 30 to Sept. 5. Records good except for May 15 to Sept. 5, which are fair, and Oct. 7-17, Dec. 11-13, 16-19, Feb. 5 to Mar. 4, which are poor. Flow partly regulated by Soil Conservation Service control structures on tributaries to Little Walnut Creek beginning in 1971.

AVERAGE DISCHARGE.--40 years, 349 ft<sup>3</sup>/s, 14.54 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,400 ft<sup>3</sup>/s June 28, 1957, gage height, 18.63 ft, from rating curve extended above 18,000 ft<sup>3</sup>/s on basis of slope-conveyance method; minimum daily, 1.4 ft<sup>3</sup>/s Sept. 8, 1954.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,800 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 4	0700	5,420	12.44	Sept. 10	0300	3,530	10.10
May 26	1300	6,170	13.26	Sept. 15	0200	*9,190	*15.60
Aug. 23	1900	4,400	11.23				

Minimum daily discharge, 2.2 ft<sup>3</sup>/s Oct. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	12	60	140	187	90	360	557	414	65	148	580
2	5.3	12	53	120	169	90	387	446	487	65	127	2100
3	5.9	12	48	105	210	90	1470	373	422	94	109	1300
4	3.3	38	45	90	185	95	4580	342	588	103	96	690
5	2.6	187	41	95	160	152	1890	415	484	86	87	345
6	2.4	107	39	500	125	160	1080	375	429	70	280	376
7	2.4	66	38	682	110	150	805	322	353	62	180	333
8	2.4	41	36	694	100	150	747	287	306	57	111	316
9	2.3	31	34	467	98	155	738	518	276	55	88	1720
10	2.3	122	32	300	98	273	591	488	249	51	76	2530
11	2.2	84	29	260	100	443	502	379	224	50	69	1390
12	2.3	57	25	284	105	507	447	320	229	125	79	858
13	2.5	70	26	273	110	433	403	291	228	183	70	620
14	2.7	66	30	232	115	372	360	268	202	115	68	4770
15	3.0	50	31	222	120	342	342	238	183	84	61	8270
16	7.0	226	28	194	130	276	313	213	169	67	59	2620
17	18	184	24	169	130	239	282	194	158	58	57	1800
18	143	123	24	155	130	223	288	175	148	52	52	1160
19	49	87	25	143	120	198	346	228	146	243	48	869
20	24	236	28	132	120	566	320	334	143	798	48	711
21	22	309	31	116	150	768	289	315	131	1440	245	606
22	19	218	32	101	170	544	265	255	120	947	601	541
23	19	159	62	99	150	423	240	385	110	524	2330	488
24	25	125	82	101	125	356	215	385	103	546	1180	434
25	19	102	81	98	125	312	197	353	97	712	697	397
26	14	91	66	266	130	278	184	4910	91	466	419	369
27	12	107	82	350	125	253	450	3770	87	381	296	343
28	13	92	200	295	110	236	988	1300	86	332	262	319
29	13	77	280	254	---	230	717	868	80	290	607	303
30	13	66	250	228	---	384	789	642	72	221	550	289
31	12	---	200	206	---	426	---	502	---	179	420	---
TOTAL	467.2	3157	2062	7371	3707	9214	20585	20448	6815	8521	9520	37447
MEAN	15.1	105	66.5	238	132	297	686	660	227	275	307	1248
MAX	143	309	280	694	210	768	4580	4910	588	1440	2330	8270
MIN	2.2	12	24	90	98	90	184	175	72	50	48	289
CFSM	.05	.32	.20	.73	.41	.91	2.10	2.02	.70	.84	.94	3.83
IN.	.05	.36	.24	.84	.42	1.05	2.35	2.33	.78	.97	1.09	4.27

CAL YR 1988 TOTAL 76247.6 MEAN 208 MAX 5840 MIN 2.2 CFSM .64 IN. 8.70  
WTR YR 1989 TOTAL 129314.2 MEAN 354 MAX 8270 MIN 2.2 CFSM 1.09 IN. 14.76

## 03358000 MILL CREEK NEAR CATARACT, IN

LOCATION.--Lat 39°26'00", long 86°45'48", in NE¼SE¼ sec.32, T.12 N., R.3 W., Owen County, Hydrologic Unit 05120203, on left bank at downstream side of bridge on U.S. Highway 231, 3 mi east of Cataract, and at mile 17.5.

DRAINAGE AREA.--245 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1949 to current year.

REVISED RECORDS.--WSP 1505: 1956(P). WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 706.40 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 8, 1949, nonrecording gage, and Nov. 8, 1949, to Sept. 22, 1968, water-stage recorder at site 100 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Oct. 1 to Dec. 18, Dec. 27 to Mar. 10, and Sept. 14-30. Records fair except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--40 years, 262 ft<sup>3</sup>/s, 14.52 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,400 ft<sup>3</sup>/s June 24, 1960, gage height, 22.58 ft; minimum daily, 0.1 ft<sup>3</sup>/s Sept. 7, 28, 1954.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 4	2100	2,860	12.97	Sept. 10	0400	3,460	14.01
May 23	1500	2,630	12.53	Sept. 16	1600	*3,560	*14.17
Sept. 1	2400	2,780	12.81				

Minimum daily discharge, 2.6 ft<sup>3</sup>/s Oct. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	12	42	130	135	74	445	449	170	25	32	1460
2	5.0	11	38	110	120	76	399	340	156	26	29	2490
3	6.0	11	33	94	110	100	2110	262	226	93	25	740
4	4.5	50	32	86	100	120	2760	233	502	84	23	319
5	3.6	140	30	80	92	160	2210	493	401	77	21	209
6	3.4	80	28	330	85	200	765	325	341	49	418	152
7	3.2	50	26	450	78	150	663	239	204	34	218	118
8	3.1	36	25	1100	73	140	689	195	154	28	81	99
9	3.0	26	24	1000	69	160	714	501	130	27	48	2560
10	2.9	120	22	500	70	360	431	587	107	36	34	3300
11	2.8	100	21	250	72	1010	334	333	92	25	27	2440
12	2.7	70	20	210	73	634	283	253	99	84	30	871
13	2.7	60	20	220	80	389	243	207	118	270	31	438
14	2.6	54	19	230	84	304	212	178	88	99	23	1120
15	6.0	50	18	200	94	250	198	153	75	54	20	2900
16	20	44	17	175	100	180	176	135	68	38	17	3460
17	60	40	16	150	100	162	157	118	63	30	17	2130
18	200	36	16	130	96	154	155	107	58	25	16	614
19	80	32	18	120	92	125	197	133	60	225	15	357
20	40	100	22	115	92	800	163	440	58	380	18	267
21	25	400	21	104	115	1910	151	241	52	126	52	216
22	18	200	19	98	130	671	134	357	48	76	218	188
23	13	150	42	96	100	410	123	2390	43	93	777	180
24	19	110	89	96	92	314	114	1590	39	245	1080	162
25	25	90	80	96	85	261	107	590	36	304	651	150
26	19	74	59	150	100	218	101	1590	34	140	265	137
27	13	82	140	250	90	193	227	2120	32	84	150	126
28	15	62	300	290	82	181	1720	616	35	64	115	116
29	14	54	220	200	---	171	1340	353	33	59	493	108
30	13	50	180	170	---	724	901	270	28	43	597	100
31	12	---	150	150	---	609	---	210	---	36	245	---
TOTAL	641.5	2394	1787	7380	2609	11210	18222	16008	3550	2979	5786	27527
MEAN	20.7	79.8	57.6	238	93.2	362	607	516	118	96.1	187	918
MAX	200	400	300	1100	135	1910	2760	2390	502	380	1080	3460
MIN	2.6	11	16	80	69	74	101	107	28	25	15	99
CFSM	.08	.33	.24	.97	.38	1.48	2.48	2.11	.48	.39	.76	3.75
IN.	.10	.36	.27	1.12	.40	1.70	2.77	2.43	.54	.45	.88	4.18

CAL YR 1988 TOTAL 61500.2 MEAN 168 MAX 4040 MIN 1.9 CFSM .69 IN. 9.34  
WTR YR 1989 TOTAL 100093.5 MEAN 274 MAX 3460 MIN 2.6 CFSM 1.12 IN. 15.20



## 03359000 MILL CREEK NEAR MANHATTAN, IN

LOCATION.--Lat 39°29'16", long 86°55'30", in SE1/4 sec.11, T.12 N., R.5 W., Putnam County, Hydrologic Unit 05120203, on left bank 0.3 mi upstream from Cagles Mill dam, 0.4 mi downstream from Cagles Mill Lake, 1.3 mi upstream from Deer Creek, 5.0 mi south of Manhattan, and at mile 2.3.

DRAINAGE AREA.--294 mi<sup>2</sup>.

PERIOD OF RECORD.--May to September 1931 (fragmentary), October 1938 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 1335: 1940-41. WSP 2109: Drainage area.

GAGE.--Data-Collection Platform. Datum of gage is 581.83 ft above National Geodetic Vertical Datum of 1929. May 12, 1941 to Sept. 30, 1974, water-stage recorder at site 0.3 mi downstream. Data-Collection Platform installed on Apr. 22, 1986. See WSP 1725 for history of changes prior to May 12, 1941.

REMARKS.--Flow regulated by Cagles Mill Lake since July 1953. Daily discharge computed from relation between discharge head, and gate openings for Cagles Mill Lake beginning Oct. 1, 1974.

COOPERATION.--Records of daily discharge provided by U.S. Army Corps of Engineers beginning Oct. 1, 1976.

AVERAGE DISCHARGE.--51 years (1938 to current year), 310 ft<sup>3</sup>/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,960 ft<sup>3</sup>/s Jan. 5, 1950, gage height, 18.38 ft; no flow Aug. 7, 1953.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 1,870 ft<sup>3</sup>/s Sept. 28; minimum daily, 7.0 ft<sup>3</sup>/s Nov. 9.

## PROVISIONAL DATA

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

SUBJECT TO REVISION

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	46	9.0	17	153	136	107	113	111	33	53	163
2	19	35	9.0	17	169	80	107	240	274	33	33	83
3	19	27	9.0	17	169	81	110	754	482	33	33	85
4	19	12	9.0	18	171	82	115	930	482	260	33	85
5	19	172	9.0	18	208	176	118	618	482	172	33	85
6	19	213	9.0	260	270	259	120	739	483	33	33	86
7	19	175	9.0	441	225	346	121	891	782	33	93	86
8	19	63	9.0	448	153	461	122	1040	1260	33	139	506
9	19	7.0	9.0	453	152	457	123	1030	1390	33	139	87
10	19	9.0	9.0	551	116	457	123	874	1370	33	138	91
11	19	20	9.0	664	53	772	370	1290	1360	33	138	93
12	19	32	9.0	659	89	993	896	1480	1050	33	70	94
13	19	124	10	729	113	984	1340	955	1180	69	39	94
14	19	176	10	856	113	643	1490	258	1450	310	42	95
15	19	175	10	846	136	198	1610	164	1490	149	42	97
16	165	175	10	466	153	198	1630	209	1190	33	42	99
17	407	175	10	504	189	461	1610	162	339	33	32	101
18	585	105	10	898	253	651	1580	138	60	33	27	101
19	578	37	10	492	198	653	1470	166	70	199	27	101
20	565	12	10	89	153	356	1450	197	82	165	27	101
21	551	16	10	90	204	37	1220	322	90	92	27	407
22	538	22	10	91	347	119	1060	684	90	93	27	848
23	521	25	10	91	453	343	913	334	82	93	63	1010
24	511	17	10	120	205	541	619	104	69	356	101	830
25	497	8.0	11	169	138	647	186	105	69	512	222	1370
26	480	8.0	11	211	181	643	117	107	62	361	300	1630
27	273	8.0	11	255	181	638	297	109	50	90	525	1840
28	64	8.0	13	336	180	633	194	110	50	106	774	1870
29	65	8.0	15	414	---	628	110	111	44	107	444	1850
30	52	8.0	16	238	---	501	112	111	33	78	219	1830
31	53	---	16	114	---	237	---	111	---	69	220	---
TOTAL	6190	1918.0	321.0	10572	5125	13411	19440	14456	16026	3710	4135	15818
MEAN	200	63.9	10.4	341	183	433	648	466	534	120	133	527
MAX	585	213	16	898	453	993	1630	1480	1490	512	774	1870
MIN	19	7.0	9.0	17	53	37	107	104	33	33	27	83

CAL YR 1988 TOTAL 84394.0 MEAN 231 MAX 1750 MIN 7.0  
WTR YR 1989 TOTAL 111122.0 MEAN 304 MAX 1870 MIN 7.0

## 03360000 EEL RIVER AT BOWLING GREEN, IN

LOCATION.--Lat 39°22'58", long 87°01'14", in NE¼NE¼ sec.24, T.11 N., R.6 W., Clay County, Hydrologic Unit 05120203, on left bank 500 ft downstream from bridge on State Highway 46 at Bowling Green, 0.2 mi downstream from Jordan Creek, and at mile 38.4.

DRAINAGE AREA.--830 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1931 to current year. Prior to October 1934, published as "near Centerpoint".

REVISED RECORDS.--WSP 893: 1935, 1937-39. WSP 973: 1937-38, 1939(M). WSP 1335: 1931(M). WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 548.02 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). See WSP 1725 for history of changes prior to Dec. 1, 1949.

REMARKS.--Estimated daily discharges: Dec. 11-13, 16-18, Dec.29 to Jan. 5, Feb. 5-16, Feb. 23 to Mar. 3, Mar. 7-9, and Apr. 28 to May 2. Records good except for estimated daily discharges, which are poor. Flow regulated by Cagles Mill Lake.

AVERAGE DISCHARGE.--58 years, 879 ft<sup>3</sup>/s, 14.38 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 34,000 ft<sup>3</sup>/s Jan. 4, 1950, gage height, 23.53 ft; minimum daily, 11 ft<sup>3</sup>/s Oct. 7, 8, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, about 30.0 ft in 1875, present datum, from information by U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,740 ft<sup>3</sup>/s Sept. 16, gage height, 19.72 ft; minimum daily, 23 ft<sup>3</sup>/s Oct. 8, 12-14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	79	116	260	406	270	842	1200	771	153	242	2830
2	27	71	109	220	411	230	787	1020	777	151	201	3660
3	26	63	102	200	546	230	3310	1140	1160	376	179	1430
4	26	87	95	180	517	283	6090	1520	1300	529	164	889
5	24	277	92	190	420	462	5180	1720	1320	505	152	662
6	24	433	88	1280	450	663	2250	1300	1220	186	200	597
7	24	282	84	1760	360	500	1760	1470	1150	155	439	573
8	23	231	81	2360	300	620	1690	1390	1500	140	362	681
9	24	117	77	1370	260	800	1760	2020	1710	130	249	5060
10	24	197	74	1010	230	1070	1310	2070	1650	124	229	5220
11	24	245	67	1090	200	1410	1160	1760	1610	120	216	2750
12	23	176	70	1100	190	1790	1410	1980	1480	233	205	1580
13	23	175	70	1110	240	1650	1850	1740	1320	238	207	1130
14	23	280	70	1190	270	1460	1960	960	1590	289	149	3650
15	24	270	69	1170	310	745	2010	569	1670	424	133	8420
16	30	326	60	1060	420	622	2050	605	1580	147	124	8600
17	238	476	64	519	439	529	1970	552	923	127	118	4330
18	554	333	66	1080	476	421	1950	473	362	115	104	2090
19	768	187	66	1050	457	388	1990	498	340	246	98	1490
20	657	363	64	341	382	1550	1970	1300	320	1310	101	1190
21	633	609	62	303	526	2630	1800	796	310	1440	144	1060
22	621	375	62	281	620	1180	1480	1250	288	1420	443	1570
23	619	276	96	267	650	1040	1380	3300	271	874	2650	1570
24	613	222	127	263	400	1100	1130	1120	243	832	2810	1700
25	592	170	135	324	270	1160	736	822	229	1310	1290	1800
26	572	150	120	557	370	1100	480	2940	214	1190	961	1850
27	548	158	124	885	360	1050	1010	6060	201	544	800	2060
28	174	154	685	764	330	1020	3510	2870	193	475	1070	2100
29	133	138	500	812	---	1000	4660	1560	186	443	1630	2070
30	93	125	350	710	---	1540	2320	1170	166	342	1090	2030
31	83	---	300	426	---	1280	---	931	---	277	796	---
TOTAL	7293	7045	4145	24132	10810	29793	61805	48106	26054	14845	17556	74642
MEAN	235	235	134	778	386	961	2060	1552	868	479	566	2488
MAX	768	609	685	2360	650	2630	6090	6060	1710	1440	2810	8600
MIN	23	63	60	180	190	230	480	473	166	115	98	573
CFSM	.28	.28	.16	.94	.47	1.16	2.48	1.87	1.05	.58	.68	3.00
IN.	.33	.32	.19	1.08	.48	1.34	2.77	2.16	1.17	.67	.79	3.35

CAL YR 1988 TOTAL 221042 MEAN 604 MAX 9940 MIN 23 CFSM .73 IN. 9.91  
WTR YR 1989 TOTAL 326226 MEAN 894 MAX 8600 MIN 23 CFSM 1.08 IN. 14.62

## 03360500 WHITE RIVER AT NEWBERRY, IN

LOCATION.--Lat 38°55'39", long 87°00'41", in NE¼NW¼ sec.30, T.6 N., R.5 W., Greene County, Hydrologic Unit 05120202, on left bank 0.4 mi upstream from bridge on State Highway 57 at Newberry, 1.9 mi downstream from Doans Creek, and at mile 113.0.

DRAINAGE AREA.--4,688 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1928 to current year. Prior to October 1948, published as West Fork White River at Newberry.

REVISED RECORDS.--WSP 873: 1937(M). WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 465.59 ft above National Geodetic Vertical Datum of 1929. Nonrecording gage prior to Oct. 21, 1928. Prior to Aug. 5, 1982, recording gage 0.3 mi downstream at same datum.

REMARKS.--Estimated daily discharges: Oct. 16-25, Nov. 3-8, Dec. 30 to Jan. 31, and Feb. 5 to Mar. 29. Records good except estimated daily discharges, which are poor. Flow regulated by upstream reservoirs.

AVERAGE DISCHARGE.--61 years, 4,745 ft<sup>3</sup>/s, 13.75 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 76,900 ft<sup>3</sup>/s May 21, 1943, gage height, 24.19 ft; minimum daily, 200 ft<sup>3</sup>/s Oct. 1, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1875, 27.5 ft Mar. 27, 1913, from floodmarks by Indiana Department of Highways, discharge, 130,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 25,900 ft<sup>3</sup>/s Sept. 19, gage height, 18.30 ft; minimum daily, 362 ft<sup>3</sup>/s Oct. 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	394	624	1160	2200	3220	2800	18200	14100	17900	1730	3650	8640
2	420	585	1130	2150	2910	2500	15000	13400	10400	1720	3100	13700
3	406	560	1120	2100	4470	2400	17100	11600	7310	2970	2760	14700
4	395	700	1060	1500	4650	2500	20900	9130	7560	4040	2480	15000
5	408	1500	1000	1600	3600	4000	22300	9340	8040	4060	2290	13800
6	393	2000	941	3500	3000	6400	23000	9300	9340	3010	2180	13300
7	384	1800	911	5400	2600	5800	23500	8500	9150	2440	2760	13800
8	379	1550	878	7000	2400	5500	22600	7910	7990	2060	3330	13000
9	379	1330	842	7300	2200	5000	21400	7410	6960	1850	2650	9510
10	374	1380	808	6900	2100	5800	18800	8270	6160	1700	2300	13600
11	377	1640	770	6200	2000	7400	13300	8430	5400	1630	2070	16600
12	363	2080	704	5600	2000	9200	10000	7390	4960	3030	1920	18400
13	362	2010	691	4900	2100	9000	8690	6910	4650	5940	1830	19300
14	365	1540	722	4500	2300	8000	8100	6230	4710	5650	1810	18300
15	373	1470	736	4300	2600	7400	7620	5150	4630	3670	1770	17700
16	410	1490	686	4200	3200	6400	7070	4380	4650	2860	1640	18100
17	500	1450	659	3700	3400	5400	6650	4040	4410	2420	1650	20100
18	800	1420	648	3400	3200	4900	6290	3750	3750	2040	1590	22600
19	1700	1360	642	3200	2900	4500	6840	3520	3100	2060	1500	25400
20	1600	1430	639	2900	3000	7000	6920	5320	2780	2220	1460	25100
21	1400	1700	655	2700	3700	15000	7030	5320	2690	3230	1690	18700
22	1300	2420	652	2600	5000	13000	6910	4700	2650	4150	2050	9620
23	1250	2840	666	2400	4600	10000	6530	11200	2450	6120	2670	7550
24	1200	2210	881	2300	4200	8000	6430	14300	2330	6800	6490	6610
25	1170	2060	1080	2300	3800	6500	5330	13000	2200	6360	7360	6120
26	1130	1840	1170	2600	3400	5200	4660	12100	2080	7150	7610	5680
27	1080	1600	1110	3000	3200	4700	4490	13200	2020	7330	5760	5270
28	1060	1470	2100	3500	3000	4500	5750	15200	2140	6210	4700	5180
29	942	1350	3390	3700	---	5600	12700	18000	1940	5170	5320	5010
30	723	1260	3200	3700	---	15400	15000	19900	1830	4540	5700	4800
31	676	---	2700	3500	---	19700	---	20200	---	4270	6620	---
TOTAL	22713	46669	34351	114850	88750	219500	359110	301200	156180	118430	100710	405190
MEAN	733	1556	1108	3705	3170	7081	11970	9716	5206	3820	3249	13510
MAX	1700	2840	3390	7300	5000	19700	23500	20200	17900	7330	7610	25400
MIN	362	560	639	1500	2000	2400	4490	3520	1830	1630	1460	4800
CFSM	.16	.33	.24	.79	.68	1.51	2.55	2.07	1.11	.81	.69	2.88
IN.	.18	.37	.27	.91	.70	1.74	2.85	2.39	1.24	.94	.80	3.22

CAL YR 1988 TOTAL 1122436 MEAN 3067 MAX 23200 MIN 362 CFSM .65 IN. 8.91  
WTR YR 1989 TOTAL 1967653 MEAN 5391 MAX 25400 MIN 362 CFSM 1.15 IN. 15.61

## 03361000 BIG BLUE RIVER AT CARTHAGE, IN

LOCATION.--Lat 39°44'38", long 85°34'33", in SW¼SW¼ sec.18, T.15 N., R.9 E., Rush County, Hydrologic Unit 05120204, on right bank 300 ft upstream from highway bridge, 0.5 mi northwest of Carthage, 2.2 mi downstream from Three Mile Creek, and at mile 50.7.

DRAINAGE AREA.--184 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1950 to current year. Prior to October 1961, published as Blue River at Carthage.

REVISED RECORDS.--WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 859.33 ft above National Geodetic Vertical Datum of 1929. Prior to July 19, 1951, nonrecording gage at site 300 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Feb. 6-10. Records good. Flow partly regulated by Big Blue River Conservancy District control structures on tributaries to Big Blue River beginning in 1969.

AVERAGE DISCHARGE.--39 years, 197 ft<sup>3</sup>/s, 14.54 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,900 ft<sup>3</sup>/s Mar. 4, 1963, gage height, 14.62 ft, from floodmarks, from rating curve extended above 6,200 ft<sup>3</sup>/s; minimum daily, 17 ft<sup>3</sup>/s Jan. 18, Aug. 5, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 4	1300	3,270	8.91	May 26	1900	*4,490	*10.09
May 23	1500	2,040	6.86	Sept. 15	0500	3,790	9.44

Minimum daily discharge, 31 ft<sup>3</sup>/s Oct. 4-7, 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	41	79	125	137	116	821	447	311	101	87	694
2	39	40	73	112	126	110	586	351	294	104	82	673
3	33	40	71	105	137	110	1010	287	297	219	81	341
4	31	79	68	98	124	120	2400	253	365	168	79	217
5	31	162	65	93	121	287	1050	392	391	134	92	166
6	31	97	65	275	110	410	619	351	368	119	129	139
7	31	80	64	476	100	237	504	276	276	109	95	121
8	32	74	62	817	90	182	464	236	232	102	82	111
9	31	67	60	427	80	175	441	374	208	97	77	131
10	33	193	59	276	90	287	366	453	185	95	75	386
11	33	128	56	212	96	413	319	325	171	92	73	277
12	32	92	57	284	93	355	287	261	204	112	75	182
13	32	92	58	300	96	267	257	236	201	119	75	144
14	33	82	57	226	112	231	233	212	178	99	72	1080
15	33	74	56	208	119	223	222	198	163	91	71	2800
16	42	85	52	181	150	187	204	192	154	87	69	1050
17	55	89	52	173	138	172	194	176	145	84	69	765
18	87	76	54	167	126	161	223	165	137	82	75	501
19	57	71	51	163	120	143	346	166	188	154	71	370
20	47	168	53	158	121	224	269	192	335	375	88	291
21	45	228	54	139	279	367	229	162	190	180	88	237
22	46	139	52	131	281	258	207	168	156	135	128	212
23	46	110	67	126	190	209	189	1610	139	137	159	186
24	51	95	73	122	154	186	177	835	130	235	114	161
25	46	85	70	118	141	169	171	546	123	173	97	149
26	44	82	64	177	147	154	168	2790	117	129	87	140
27	42	114	67	248	136	147	497	2080	115	114	80	130
28	44	109	260	192	126	156	441	680	119	105	98	124
29	42	94	242	169	---	203	763	530	107	95	260	118
30	41	85	174	157	---	1180	672	458	104	96	180	115
31	40	---	141	145	---	1180	---	371	---	92	123	---
TOTAL	1262	2971	2476	6600	3740	8619	14329	15773	6103	4034	3031	12011
MEAN	40.7	99.0	79.9	213	134	278	478	509	203	130	97.8	400
MAX	87	228	260	817	281	1180	2400	2790	391	375	260	2800
MIN	31	40	51	93	80	110	168	162	104	82	69	111
CFSM	.22	.54	.43	1.16	.73	1.51	2.60	2.77	1.11	.71	.53	2.18
IN.	.26	.60	.50	1.33	.76	1.74	2.90	3.19	1.23	.82	.61	2.43

CAL YR 1988 TOTAL 39623 MEAN 108 MAX 1370 MIN 22 CFSM .59 IN. 8.01  
WTR YR 1989 TOTAL 80949 MEAN 222 MAX 2800 MIN 31 CFSM 1.21 IN. 16.37

## 03361500 BIG BLUE RIVER AT SHELBYVILLE, IN

LOCATION.--Lat 39°31'45", long 85°46'55", in SE¼SE¼ sec.31, T.13 N., R.7 E., Shelby County, Hydrologic Unit 05120204, on left bank 0.2 mi downstream from bridge on State Highway 9 in Shelbyville, 0.6 mi downstream from Little Blue River, and at mile 23.9.

DRAINAGE AREA.--421 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1943 to current year. Prior to October 1961, published as Blue River at Shelbyville.

REVISED RECORDS.--WSP 1505: 1944. WSP 1909: 1959(M). WSP 2109: Drainage area. WDR IN-79-1: 1975.

GAGE.--Water-stage recorder. Datum of gage is 737.67 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1953, nonrecording gage at bridge 0.2 mi upstream at datum 3.5 ft higher.

REMARKS.--Estimated daily discharges: Feb. 6-12. Records good.

AVERAGE DISCHARGE.--46 years, 463 ft<sup>3</sup>/s, 14.93 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,800 ft<sup>3</sup>/s Mar. 5, 1963, gage height, 17.70 ft; minimum daily, 27 ft<sup>3</sup>/s Jan. 18, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of about 20.2 ft from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,400 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 31	1700	3,860	11.55	May 27	0400	*6,090	*13.89
Apr. 5	1000	5,310	13.11	Sept. 16	1400	4,880	12.67

Minimum daily discharge, 43 ft<sup>3</sup>/s Oct. 1, 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	64	189	341	357	286	2580	1240	711	205	210	1070
2	46	63	162	287	322	262	1700	907	619	239	191	2500
3	51	63	147	257	343	257	2510	698	563	659	180	1350
4	46	103	137	229	351	266	3860	588	695	676	173	818
5	44	398	126	215	324	636	4950	789	696	480	426	558
6	43	361	125	616	294	1220	2010	853	836	365	906	430
7	44	246	122	1310	271	796	1440	678	620	301	449	353
8	44	191	116	2130	264	553	1260	571	525	266	291	303
9	44	158	108	1520	218	481	1270	601	463	242	229	313
10	44	343	104	936	269	794	1020	954	414	224	200	866
11	45	532	99	663	240	1260	847	759	378	231	184	935
12	45	305	90	800	220	1140	731	604	392	320	174	611
13	44	234	106	970	208	842	640	536	433	496	168	439
14	45	232	100	743	235	681	571	482	396	317	166	1220
15	45	190	99	647	266	687	538	435	366	250	163	3650
16	58	186	89	571	381	589	495	411	341	220	157	4310
17	71	240	87	528	375	498	454	383	319	203	150	2400
18	294	195	91	497	333	451	460	355	299	191	149	1360
19	245	159	94	464	308	386	568	352	291	210	149	922
20	140	299	92	433	305	560	573	382	440	421	196	701
21	108	706	93	379	693	1330	497	358	384	403	276	564
22	91	489	89	344	885	1010	451	338	322	299	227	488
23	86	344	95	324	605	718	415	1550	288	307	603	428
24	80	267	127	303	440	572	388	2670	267	581	1260	362
25	82	218	153	298	392	489	368	1370	262	589	926	328
26	76	195	137	374	377	429	356	4550	251	400	486	307
27	71	261	137	632	360	391	681	5830	241	309	345	277
28	72	320	538	547	324	372	995	3600	248	282	281	256
29	68	263	819	460	---	422	1580	1450	230	257	852	244
30	66	218	566	419	---	1780	1840	1120	214	231	835	240
31	65	---	421	384	---	3470	---	871	---	240	537	---
TOTAL	2346	7843	5458	18621	9960	23628	36048	36285	12504	10414	11539	28603
MEAN	75.7	261	176	601	356	762	1202	1170	417	336	372	953
MAX	294	706	819	2130	885	3470	4950	5830	836	676	1260	4310
MIN	43	63	87	215	208	257	356	338	214	191	149	240
CFSM	.18	.62	.42	1.43	.84	1.81	2.85	2.78	.99	.80	.88	2.26
IN.	.21	.69	.48	1.65	.88	2.09	3.19	3.21	1.10	.92	1.02	2.53

CAL YR 1988 TOTAL 98723 MEAN 270 MAX 3720 MIN 36 CFSM .64 IN. 8.72  
WTR YR 1989 TOTAL 203249 MEAN 557 MAX 5830 MIN 43 CFSM 1.32 IN. 17.96



## 03361650 SUGAR CREEK AT NEW PALESTINE, IN

LOCATION.--Lat 39°42'51", long 85°53'08", in SE¼SW¼ sec.29, T.15 N., R.6 E., Hancock County, Hydrologic Unit 05120204, on left bank 10 ft downstream from bridge on County Road 450 West, 0.5 mi south of New Palestine, 3.1 mi upstream from Little Sugar Creek, and 37.3 mi upstream from mouth.

DRAINAGE AREA.--93.9 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1967 to current year.

REVISED RECORDS.--WDR IN-76-1: 1975.

GAGE.--Water-stage recorder. Datum of gage is 786.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 11-13, 15-19, Jan. 5,6, and Feb. 7-12. Records good except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--22 years, 100.3 ft<sup>3</sup>/s, 14.51 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,880 ft<sup>3</sup>/s Feb. 24, 1985, and Oct. 4, 1986; maximum gage height, 10.34 ft Feb. 23, 1979 (ice jam); minimum daily discharge, 2.4 ft<sup>3</sup>/s Oct. 3, 1983.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 950 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 4	1000	991	7.06	Sept. 15	0100	1,370	8.18
May 23	0400	982	7.03	Sept. 16	2300	*1,520	*8.59
May 28	0400	1,130	7.49				

Minimum daily discharge, 2.9 ft<sup>3</sup>/s Oct. 6 and 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	4.3	26	67	69	53	817	303	136	24	42	423
2	4.1	4.4	23	51	63	49	540	199	113	30	37	695
3	3.9	4.3	21	45	62	47	606	150	103	59	32	734
4	3.7	21	19	38	57	50	919	127	104	73	29	304
5	3.3	58	18	36	54	105	897	181	124	67	29	179
6	2.9	40	17	60	50	178	724	180	129	46	51	128
7	3.0	26	17	281	48	143	341	143	108	37	50	96
8	3.0	20	15	369	45	105	270	115	86	31	34	79
9	3.1	16	15	271	41	89	249	131	74	27	27	102
10	3.1	60	14	166	34	155	206	167	66	24	23	217
11	3.2	57	11	114	36	280	169	154	59	23	21	233
12	2.9	41	12	120	37	305	145	121	63	54	19	149
13	3.4	33	13	121	38	231	126	107	62	69	18	102
14	3.5	25	13	114	40	175	110	94	57	46	18	627
15	3.8	21	11	97	44	147	102	83	51	41	17	1150
16	6.1	19	9.6	85	56	112	92	76	47	33	17	1250
17	8.1	17	10	76	60	93	84	70	44	27	16	1090
18	10	15	11	73	57	83	82	66	41	25	17	511
19	5.3	14	12	70	54	73	103	84	39	68	16	295
20	3.3	42	12	66	54	117	120	167	45	136	20	211
21	3.3	72	12	59	117	208	103	117	41	107	18	160
22	3.4	68	11	55	167	195	90	156	37	73	23	130
23	3.9	52	14	51	132	141	81	792	35	102	46	105
24	4.3	40	17	49	88	111	74	540	33	167	46	85
25	4.5	33	19	47	77	94	69	393	30	311	37	74
26	4.2	29	18	58	73	81	67	810	63	220	30	67
27	3.9	32	21	108	66	72	199	877	43	137	24	62
28	4.3	31	114	137	60	70	258	993	35	102	24	56
29	4.7	29	141	102	---	75	258	351	29	74	368	51
30	4.4	29	119	86	---	668	402	223	26	57	659	49
31	4.0	---	90	76	---	684	---	170	---	48	438	---
TOTAL	128.2	953.0	875.6	3148	1779	4989	8303	8140	1923	2338	2246	9414
MEAN	4.14	31.8	28.2	102	63.5	161	277	263	64.1	75.4	72.5	314
MAX	10	72	141	369	167	684	919	993	136	311	659	1250
MIN	2.9	4.3	9.6	36	34	47	67	66	26	23	16	49
CFSM	.04	.34	.30	1.08	.68	1.71	2.95	2.80	.68	.80	.77	3.34
IN.	.05	.38	.35	1.25	.70	1.98	3.29	3.22	.76	.93	.89	3.73

CAL YR 1988 TOTAL 18908.1 MEAN 51.7 MAX 782 MIN 2.5 CFSM .55 IN. 7.49  
WTR YR 1989 TOTAL 44236.8 MEAN 121 MAX 1250 MIN 2.9 CFSM 1.29 IN. 17.53

## 03361850 BUCK CREEK AT ACTON, IN

LOCATION.--Lat 39°39'25", long 85°57'27", in NW¼SE¼ sec.15, T.14 N., R.5 E., Marion County, Hydrologic Unit 05120204, on left bank 30 ft downstream from McGregor Road bridge, 0.5 mi east of Acton, and 4.1 mi upstream from mouth.

DRAINAGE AREA.--78.8 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1967 to current year.

REVISED RECORDS.--WDR IN-79-1: 1969 (M).

GAGE.--Water-stage recorder. Datum of gage is 757.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 15-19, Jan. 3-6, Feb. 6-14, 23-28, Mar. 7-9, and Aug. 28 to Sept. 30. Records poor. Low flow is affected by regulation.

AVERAGE DISCHARGE.--22 years, 90.0 ft<sup>3</sup>/s, 15.51 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,140 ft<sup>3</sup>/s July 20, 1969, gage height, 14.99 ft; minimum daily, 0.60 ft<sup>3</sup>/s Oct. 1, 4, 1967.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 30	1300	1,960	10.04	May 26	1300	2,110	10.28
Apr. 4	1000	1,370	8.70	Sept. 1	----	1,000	7.48
May 23	1400	1,980	10.08	Sept. 14	----	*2,190	*10.40

Minimum daily discharge, 1.5 ft<sup>3</sup>/s Oct. 15, 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	4.2	29	53	59	43	364	162	74	24	33	540
2	2.5	2.1	22	42	52	40	285	115	67	26	25	280
3	2.4	5.7	23	35	64	37	746	86	78	60	21	150
4	3.4	38	24	29	63	50	1090	79	125	48	20	92
5	3.4	139	22	27	58	177	415	199	165	36	160	68
6	2.5	45	21	200	45	189	236	144	128	26	531	52
7	1.9	28	24	307	42	90	168	97	86	25	112	41
8	2.5	20	23	388	38	70	166	76	68	23	58	34
9	3.0	18	21	196	35	80	174	114	59	18	37	86
10	2.3	181	17	122	31	228	127	137	49	16	28	300
11	2.0	89	23	90	32	340	104	95	43	27	23	145
12	2.5	49	23	145	33	254	89	72	55	98	21	107
13	2.2	40	24	139	33	165	77	71	51	92	18	87
14	1.6	34	23	104	35	127	69	60	42	50	17	1150
15	1.5	27	21	97	47	100	66	53	37	31	16	550
16	3.8	23	18	86	69	77	58	51	34	22	16	330
17	18	16	17	81	60	67	55	47	31	21	16	230
18	58	14	19	77	52	62	58	45	29	21	15	155
19	2.0	17	21	68	49	53	79	63	28	119	15	102
20	1.5	119	22	60	50	190	69	171	29	110	31	78
21	1.7	164	32	55	194	321	66	105	28	63	24	66
22	1.9	93	35	52	163	162	55	113	27	47	31	58
23	4.1	68	48	49	80	111	51	1480	25	79	99	51
24	6.5	55	57	47	60	86	47	472	24	125	153	42
25	3.0	44	58	41	55	72	45	236	25	95	87	38
26	2.9	37	47	80	54	61	44	1570	23	102	51	36
27	3.2	47	49	129	51	55	98	493	25	118	32	31
28	6.8	42	220	94	47	54	162	232	29	63	28	28
29	6.4	34	143	78	---	70	229	153	25	41	180	27
30	5.2	32	91	70	---	1450	269	114	24	44	140	25
31	6.8	---	67	64	---	687	---	90	---	56	66	---
TOTAL	168.8	1525.0	1284	3105	1651	5568	5561	6995	1533	1726	2104	4979
MEAN	5.45	50.8	41.4	100	59.0	180	185	226	51.1	55.7	67.9	166
MAX	58	181	220	388	194	1450	1090	1570	165	125	531	1150
MIN	1.5	2.1	17	27	31	37	44	45	23	16	15	25
CFSM	.07	.65	.53	1.27	.75	2.28	2.35	2.86	.65	.71	.86	2.11
IN.	.08	.72	.61	1.47	.78	2.63	2.63	3.30	.72	.81	.99	2.35
CAL YR 1988	TOTAL 20534.5	MEAN 56.1	MAX 1660	MIN 1.3	CFSM .71	IN. 9.69						
WTR YR 1989	TOTAL 36199.8	MEAN 99.2	MAX 1570	MIN 1.5	CFSM 1.26	IN. 17.09						

## 03362000 YOUNGS CREEK NEAR EDINBURGH, IN

LOCATION.--Lat 39°25'08", long 86°00'18", in SE1SW1 sec.5, T.11 N., R.5 E., Johnson County, Hydrologic Unit 05120204, on left bank at upstream side of county highway bridge, 0.5 mi southwest of Amity, 2.0 mi upstream from mouth, and 5 mi northwest of Edinburgh.

DRAINAGE AREA.--107 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1942 to current year. Prior to December 1942 monthly discharge only, published in WSP 1305. Prior to October 1977, published as "near Edinburg".

REVISED RECORDS.--WSP 1335: 1944. WSP 1909: 1958. WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 670.20 ft above National Geodetic Vertical Datum of 1929. Prior to June 30, 1955, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Oct. 9-15, Oct. 26 to Nov. 4, and Feb. 6-11. Records good except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--47 years, 106 ft<sup>3</sup>/s, 13.45 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,700 ft<sup>3</sup>/s Jan. 27, 1952, gage height, 13.4 ft; minimum daily, 0.5 ft<sup>3</sup>/s Sept. 29, Oct. 20, 21, 1953.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,300 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 31	0045	2,450	9.00	May 26	1330	*2,680	*9.28
Apr. 4	1300	1,550	7.39				

Minimum daily discharge, 2.0 ft<sup>3</sup>/s Oct. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	2.5	16	41	58	53	697	261	90	21	40	436
2	2.4	2.5	15	35	51	50	428	184	79	23	32	612
3	2.2	2.5	14	31	71	50	1130	134	73	175	29	213
4	2.2	10	13	29	81	54	1400	125	94	222	26	113
5	2.3	91	12	26	72	171	573	341	129	114	26	80
6	2.5	39	12	126	55	255	349	255	156	76	468	63
7	2.9	22	12	226	48	150	342	164	97	56	181	52
8	2.9	15	12	426	41	109	359	124	77	45	73	43
9	2.5	12	11	204	38	109	361	163	67	39	48	177
10	2.5	56	10	122	36	291	240	186	56	36	36	1130
11	2.6	89	9.7	92	35	648	188	132	49	32	30	459
12	2.6	44	9.7	120	36	473	154	107	57	377	27	210
13	2.5	34	9.8	150	37	128	95	62	282	23	23	129
14	2.8	32	10	109	53	209	113	84	56	123	20	498
15	7.0	26	10	99	59	276	102	75	49	77	19	1000
16	10	22	9.9	89	112	174	90	68	43	58	17	382
17	7.4	18	9.0	86	96	138	81	62	39	47	19	291
18	26	15	8.5	80	81	115	82	57	36	39	16	184
19	24	13	8.5	73	74	92	103	63	35	39	14	130
20	7.1	32	9.6	66	75	518	87	79	56	42	48	101
21	4.2	99	10	55	287	1020	79	62	56	50	114	85
22	3.6	60	9.3	50	244	397	72	70	42	40	59	76
23	3.2	41	9.8	48	138	247	66	624	36	45	140	68
24	4.3	32	16	45	98	187	62	302	41	71	363	55
25	4.7	26	16	46	87	145	59	186	59	223	242	50
26	3.5	23	14	60	83	117	57	1990	37	99	95	47
27	2.9	25	13	86	72	103	81	906	31	143	58	41
28	3.3	23	106	75	63	96	443	306	29	84	45	37
29	3.0	20	117	68	---	113	674	205	26	56	108	36
30	2.7	18	73	66	---	1590	536	148	22	52	181	34
31	2.6	---	56	60	---	1670	---	111	---	64	89	---
TOTAL	154.4	944.5	661.8	2889	2281	9892	9136	7669	1779	2850	2686	6832
MEAN	4.98	31.5	21.3	93.2	81.5	319	305	247	59.3	91.9	86.6	228
MAX	26	99	117	426	287	1670	1400	1990	156	377	468	1130
MIN	2.0	2.5	8.5	26	35	50	57	57	22	21	14	34
CFSM	.05	.29	.20	.87	.76	2.98	2.85	2.31	.55	.86	.81	2.13
IN.	.05	.33	.23	1.00	.79	3.44	3.18	2.67	.62	.99	.93	2.38

CAL YR 1988 TOTAL 25612.3 MEAN 70.0 MAX 1910 MIN 1.9 CFSM .65 IN. 8.90  
WTR YR 1989 TOTAL 47774.7 MEAN 131 MAX 1990 MIN 2.0 CFSM 1.22 IN. 16.61

## 03362500 SUGAR CREEK NEAR EDINBURGH, IN

LOCATION.--Lat 39°21'39", long 85°59'51", in SW¼SE¼ sec.29, T.11 N., R.5 E., Johnson County, Hydrologic Unit 05120204, on left bank 50 ft upstream from highway bridge in Camp Atterbury, 1.3 mi upstream from confluence with Blue River, 1.5 mi northwest of Edinburgh, and at mile 1.3.

DRAINAGE AREA.--474 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1942 to current year. Prior to February 1943 monthly discharge only, published in WSP 1305. Prior to October 1977, published as "near Edinburgh".

REVISED RECORDS.--WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 646.23 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1952, nonrecording gage on downstream side of old highway bridge, 100 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Dec. 11, 12, 16-18, 30, 31, and Feb. 6-12. Records good.

AVERAGE DISCHARGE.--47 years, 490 ft<sup>3</sup>/s, 14.04 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,600 ft<sup>3</sup>/s May 29, 1956, gage height, 18.38 ft; minimum daily, 9.2 ft<sup>3</sup>/s Sept. 19, 1954.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 31	1900	6,020	11.85	May 27	0700	*6,310	*12.08
Apr. 4	2200	5,280	11.23	Sept. 16	1900	5,170	11.13

Minimum daily discharge, 17 ft<sup>3</sup>/s Oct. 9, 10, 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	37	181	392	326	283	4380	1430	624	130	297	967
2	22	37	164	329	297	256	2480	1020	514	132	230	2370
3	21	36	148	284	300	247	3510	758	446	315	196	2380
4	19	50	143	266	350	249	5050	616	737	616	173	1470
5	18	399	137	236	327	469	4690	1070	701	422	157	829
6	18	483	131	464	280	1190	2810	1140	1030	319	1480	568
7	19	273	128	1420	260	863	1840	837	675	242	1700	427
8	19	199	125	2020	230	597	1430	644	503	202	659	329
9	17	153	120	1540	210	490	1520	634	414	176	401	410
10	17	260	115	911	200	894	1200	869	351	157	287	2700
11	18	942	108	628	190	2030	977	752	308	144	230	1890
12	18	468	110	591	190	1970	825	605	299	894	199	1050
13	17	327	116	891	198	1370	713	511	329	1220	177	683
14	18	294	109	668	217	1040	618	458	304	658	158	1160
15	21	250	107	580	243	1030	557	397	271	392	146	3950
16	26	217	105	500	363	749	500	358	248	284	137	4830
17	34	188	100	471	406	603	450	330	229	229	132	4100
18	83	157	100	442	352	523	434	306	213	195	126	2860
19	374	137	106	413	320	431	484	308	202	188	120	1330
20	136	154	101	366	305	879	493	502	212	349	119	903
21	86	746	101	325	741	2720	464	598	226	374	327	684
22	63	577	98	293	1130	1640	420	442	201	292	261	553
23	53	393	101	279	774	1100	379	1960	181	263	309	462
24	47	305	121	263	529	833	351	3320	171	559	683	372
25	47	253	142	253	431	672	333	2000	235	935	1220	323
26	51	222	151	262	391	551	314	4140	208	754	669	294
27	44	211	140	425	361	471	344	6070	192	926	405	264
28	41	230	397	494	319	428	1090	3940	178	629	283	242
29	39	216	1040	442	---	481	1850	2000	159	423	295	228
30	39	191	690	386	---	2840	2080	1080	140	308	1150	217
31	38	---	510	351	---	5690	---	796	---	355	1330	---
TOTAL	1482	8405	5945	17185	10240	33589	42586	39891	10501	13082	14056	38845
MEAN	47.8	280	192	554	366	1084	1420	1287	350	422	453	1295
MAX	374	942	1040	2020	1130	5690	5050	6070	1030	1220	1700	4830
MIN	17	36	98	236	190	247	314	306	140	130	119	217
CFSM	.10	.59	.40	1.17	.77	2.29	2.99	2.71	.74	.89	.96	2.73
IN.	.12	.66	.47	1.35	.80	2.64	3.34	3.13	.82	1.03	1.10	3.05

CAL YR 1988 TOTAL 114911 MEAN 314 MAX 5220 MIN 17 CFSM .66 IN. 9.02  
WTR YR 1989 TOTAL 235807 MEAN 646 MAX 6070 MIN 17 CFSM 1.36 IN. 18.51

## 03363000 DRIFTWOOD RIVER NEAR EDINBURGH, IN

LOCATION.--Lat 39°20'21", long 85°59'11", in NW¼SW¼ sec.4, T.10 N., R.5 E., Bartholomew County, Hydrologic Unit 05120204, on left bank at downstream side of highway bridge, 0.8 mi downstream from confluence of Big Blue River and Sugar Creek, 1.5 mi southwest of Edinburgh, and at mile 14.1.

DRAINAGE AREA.--1,060 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1940 to current year. Prior to July 1941 monthly discharge only, published in WSP 1305. Prior to October 1977, published as "near Edinburg".

REVISED RECORDS.--WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 636.99 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 7, 1941, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Dec. 30, 31, and Feb. 6-13. Records good.

AVERAGE DISCHARGE.--49 years, 1,153 ft<sup>3</sup>/s, 14.77 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,500 ft<sup>3</sup>/s Mar. 6, 1963, gage height, 16.97 ft; minimum daily, 38 ft<sup>3</sup>/s Sept. 23, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 20.3 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 1	0100	9,570	12.71	May 27	2300	*13,000	*13.95
Apr. 5	1600	9,750	12.81	Sept. 17	0300	9,880	12.88
May 24	2400	7,020	10.78				

Minimum daily discharge, 89 ft<sup>3</sup>/s Oct. 12-14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	95	143	488	875	819	699	8820	3890	1890	479	649	2160
2	99	141	444	742	752	628	6380	2660	1610	478	547	5460
3	98	141	404	640	736	598	6490	1990	1440	818	496	5150
4	99	169	383	579	825	597	8840	1630	1710	1590	461	3190
5	93	551	363	527	777	930	9590	2110	1740	1250	440	1900
6	92	1010	345	769	690	2480	8260	2470	2280	990	2980	1410
7	94	671	336	2540	590	2090	5060	1970	1760	770	2600	1120
8	94	507	327	4020	550	1460	3740	1590	1420	650	1220	921
9	93	418	311	4340	470	1190	3700	1510	1240	581	836	953
10	92	445	297	2590	460	1670	3030	1980	1090	533	647	3800
11	90	1550	283	1740	460	3570	2440	1940	978	501	551	3690
12	89	1040	253	1520	470	3830	2070	1580	946	1320	500	2310
13	89	745	279	2130	480	2840	1810	1370	1000	2030	464	1600
14	89	653	279	1780	516	2160	1600	1240	977	1390	436	1970
15	90	584	270	1530	573	2030	1460	1110	892	918	420	6480
16	104	513	259	1350	773	1690	1350	1010	824	708	404	8740
17	118	486	245	1240	917	1390	1230	938	766	599	391	9380
18	172	471	219	1150	826	1230	1180	869	715	536	377	7190
19	714	413	254	1080	751	1060	1270	856	684	524	368	3580
20	389	423	250	986	712	1600	1390	1050	700	720	374	2410
21	277	1290	247	887	1270	4680	1280	1180	843	979	699	1880
22	224	1380	241	790	2220	3520	1170	990	718	782	638	1580
23	200	996	246	736	1720	2370	1060	2980	647	698	923	1380
24	181	772	273	688	1230	1800	980	6210	606	1130	1920	1170
25	172	632	317	660	1010	1490	921	5560	640	1670	3080	1030
26	172	552	342	680	926	1280	877	6970	626	1500	1560	938
27	162	526	327	1040	876	1120	916	11900	582	1480	1050	853
28	157	618	579	1260	785	1030	2340	10600	568	1130	802	783
29	151	612	1860	1110	---	1070	3990	6450	542	867	1090	735
30	148	533	1520	976	---	4410	5090	3170	503	700	2790	696
31	146	---	1140	894	---	8490	---	2370	---	754	2400	---
TOTAL	4883	18985	13381	41849	23184	65002	98334	92143	30937	29075	32113	84459
MEAN	158	633	432	1350	828	2097	3278	2972	1031	938	1036	2815
MAX	714	1550	1860	4340	2220	8490	9590	11900	2280	2030	3080	9380
MIN	89	141	219	527	460	597	877	856	503	478	368	696
CFSM	.15	.60	.41	1.27	.78	1.98	3.09	2.80	.97	.88	.98	2.66
IN.	.17	.67	.47	1.47	.81	2.28	3.45	3.23	1.09	1.02	1.13	2.96

CAL YR 1988 TOTAL 270149 MEAN 738 MAX 9100 MIN 89 CFSM .70 IN. 9.48  
WTR YR 1989 TOTAL 534345 MEAN 1464 MAX 11900 MIN 89 CFSM 1.38 IN. 18.75



## 03363500 FLATROCK RIVER AT ST. PAUL, IN

LOCATION.--Lat 39°25'03", long 85°38'03", in SE¼ sec.9, T.11 N., R.8 E., Shelby County, Hydrologic Unit 05120205, on right bank 500 ft downstream from highway bridge, 0.8 mi southwest of St. Paul, 1.5 mi downstream from Mill Creek, and at mile 34.4.

DRAINAGE AREA.--303 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1930 to current year. Prior to October 1958, published as Flatrock Creek at St. Paul.

REVISED RECORDS.--WSP 853: 1934-36. WSP 973: 1942. WSP 1335: 1933, 1936. WSP 1725: 1957(M). WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 764.84 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana, Department of Natural Resources). Prior to Oct. 21, 1938, nonrecording gage at site 500 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Dec. 11-13, 15-19, and Feb. 6-12, 23-25. Records good except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--59 years, 319 ft<sup>3</sup>/s, 14.30 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,500 ft<sup>3</sup>/s Jan. 5, 1949, gage height, 10.60 ft; maximum recorded gage height, 12.37 ft May 24, 1968; minimum daily discharge, 0.6 ft<sup>3</sup>/s Aug. 7, 1931.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of approximately 20.5 ft, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 30	1700	3,530	5.07	Apr. 29	2000	3,450	5.01
Apr. 4	0600	3,450	5.01	May 26	1800	*8,680	*8.39

Minimum daily discharge, 1.9 ft<sup>3</sup>/s Oct. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	11	155	310	279	239	2650	1470	448	108	84	554
2	3.6	11	129	259	254	221	1910	955	405	111	70	1050
3	4.6	11	113	228	277	214	2110	666	367	682	62	671
4	3.5	20	108	204	284	215	3070	514	430	405	56	349
5	3.3	71	98	180	264	886	2590	723	384	285	396	252
6	2.8	129	92	479	230	1360	1960	883	455	213	925	196
7	2.6	99	91	960	215	923	1180	705	388	171	221	155
8	2.8	75	87	1660	195	556	1000	514	312	142	125	130
9	3.3	61	78	1390	180	477	1070	543	283	126	91	169
10	3.0	123	74	955	170	813	829	907	252	114	74	450
11	2.4	295	70	544	160	1240	633	799	229	144	65	504
12	2.2	203	66	726	160	1110	521	543	237	560	62	346
13	2.0	142	68	1010	161	830	449	436	255	209	86	243
14	2.0	164	71	779	232	643	389	372	331	172	70	372
15	1.9	145	67	685	285	669	360	323	283	123	65	1040
16	2.7	119	64	611	511	575	324	297	253	104	54	1340
17	4.9	109	60	534	401	462	290	275	229	92	50	1150
18	32	100	54	484	320	415	298	257	206	83	47	542
19	96	91	57	437	283	345	397	255	203	88	45	378
20	47	113	60	403	274	839	418	280	236	95	54	296
21	30	292	60	339	728	1620	359	262	186	120	71	249
22	22	298	57	299	859	1120	317	260	169	107	66	229
23	19	221	62	276	560	747	288	1190	156	131	660	204
24	16	174	98	253	340	566	263	1560	149	235	1260	166
25	14	143	163	245	330	469	250	1520	142	334	726	147
26	12	131	141	310	325	406	245	5840	134	157	328	138
27	11	187	125	438	310	364	363	5780	129	127	209	125
28	13	274	594	408	275	341	1180	2660	130	167	152	114
29	12	234	804	354	---	529	2320	1400	125	102	273	110
30	12	184	564	326	---	3190	2130	776	115	85	251	106
31	11	---	396	298	---	3180	---	574	---	112	178	---
TOTAL	397.3	4230	4726	16384	8862	25564	30163	33539	7621	5704	6876	11775
MEAN	12.8	141	152	529	316	825	1005	1082	254	184	222	392
MAX	96	298	804	1660	859	3190	3070	5840	455	682	1260	1340
MIN	1.9	11	54	180	160	214	245	255	115	83	45	106
CFSM	.04	.47	.50	1.74	1.04	2.72	3.32	3.57	.84	.61	.73	1.30
IN.	.05	.52	.58	2.01	1.09	3.14	3.70	4.12	.94	.70	.84	1.45

CAL YR 1988 TOTAL 70265.9 MEAN 192 MAX 4390 MIN 1.1 CFSM .63 IN. 8.63  
WTR YR 1989 TOTAL 155841.3 MEAN 427 MAX 5840 MIN 1.9 CFSM 1.41 IN. 19.13

## 03363900 FLATROCK RIVER AT COLUMBUS, IN

LOCATION.--Lat 39°14'06", long 85°55'36", in NE¼SW¼ sec.12, T.9 N., R.5 E., Bartholomew County, Hydrologic Unit 05120205, on left bank at downstream side of bridge on U.S. Highway 31, 0.2 mi northwest of Columbus city limits, and 2.6 mi upstream from mouth.

DRAINAGE AREA.--534 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 610.14 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Feb. 7, 8, and 11-15. Records good except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--22 years, 587 ft<sup>3</sup>/s, 14.93 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,000 ft<sup>3</sup>/s May 25, 1968, gage height, 15.87 ft; minimum daily, 22 ft<sup>3</sup>/s Oct. 5, 1967.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 31	0900	5,980	11.01	Apr. 30	1400	5,220	10.38
Apr. 3	2100	4,050	9.33	May 27	1200	*11,400	*13.68
Apr. 4	2300	5,680	10.80	Aug. 6	2300	3,510	8.99

Minimum daily discharge, 23 ft<sup>3</sup>/s Oct. 14, 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	34	291	603	494	449	5320	2650	1090	254	335	495
2	27	33	246	496	458	402	3570	1730	913	249	252	1770
3	26	33	210	424	455	384	3420	1300	802	827	210	1630
4	26	43	187	384	535	380	4670	1060	795	1200	186	972
5	25	56	174	343	501	714	4750	1080	762	783	178	689
6	25	123	159	492	449	2000	3530	1340	791	550	2180	545
7	25	202	153	1380	350	1620	2230	1210	785	439	2080	453
8	24	163	148	2300	320	1070	1720	1010	660	375	723	389
9	24	132	138	2330	309	838	1720	935	582	333	454	360
10	24	128	127	1720	295	1100	1510	1170	535	298	338	888
11	24	267	119	1110	275	1850	1230	1240	491	270	268	1290
12	24	436	103	985	278	1790	1060	1020	470	858	227	957
13	24	316	106	1470	282	1400	940	872	481	1160	200	670
14	23	249	114	1300	320	1110	841	782	571	705	201	565
15	23	278	113	1130	390	1030	777	697	593	468	177	1830
16	25	248	102	1090	766	984	719	639	518	369	166	2050
17	25	223	98	993	809	814	666	595	471	309	151	2080
18	26	219	88	888	645	715	648	553	437	270	138	1370
19	25	193	95	801	554	621	724	530	410	270	127	950
20	96	181	98	717	508	712	785	542	418	441	129	751
21	89	268	101	636	844	2710	738	529	399	343	136	634
22	69	517	98	553	1380	2170	672	496	372	312	177	559
23	59	439	100	508	1060	1450	621	1190	354	286	617	519
24	52	348	108	467	754	1090	581	1950	334	311	2170	461
25	47	282	178	438	621	893	554	1810	319	572	2650	413
26	42	243	258	465	573	758	531	3330	305	500	1480	388
27	38	236	223	686	554	661	537	9890	291	377	790	363
28	38	374	385	730	504	600	925	7400	285	349	531	338
29	36	435	1270	639	---	643	2540	3200	276	420	504	316
30	36	352	1080	576	---	2700	4520	1780	265	285	684	303
31	35	---	783	532	---	5710	---	1360	---	377	545	---
TOTAL	1110	7051	7453	27186	15283	39368	53049	53890	15775	14560	19004	25098
MEAN	35.8	235	240	877	546	1270	1768	1738	526	470	613	837
MAX	96	517	1270	2330	1380	5710	5320	9890	1090	1200	2650	2080
MIN	23	33	88	343	275	380	531	496	265	249	127	303
CFSM	.07	.44	.45	1.64	1.02	2.38	3.31	3.26	.98	.88	1.15	1.57
IN.	.08	.49	.52	1.89	1.06	2.74	3.70	3.75	1.10	1.01	1.32	1.75

CAL YR 1988 TOTAL 125858 MEAN 344 MAX 6200 MIN 23 CFSM .64 IN. 8.77  
WTR YR 1989 TOTAL 278827 MEAN 764 MAX 9890 MIN 23 CFSM 1.43 IN. 19.42

## 03364000 EAST FORK WHITE RIVER AT COLUMBUS, IN

LOCATION.--Lat 39°12'00", long 85°55'32", in NE¼NW¼ sec.25, T.9 N., R.5 E., Bartholomew County, Hydrologic Unit 05120205, on left bank at abutment of abandoned bridge at west end of Second Street in Columbus, 0.6 mi downstream from confluence of Driftwood River and Flatrock River, 1.3 mi upstream from Haw Creek, and at mile 238.7.

DRAINAGE AREA.--1,707 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1947 to current year. Prior to January 1948 monthly discharge only, published in WSP 1305.

REVISED RECORDS.--WSP 1335: 1948-49. WSP 2109: Drainage area.

GAGE.--Water-stage recorder above concrete control. Datum of gage is 603.12 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 22, 1952, nonrecording gage 600 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Feb. 11,12. Records good.

AVERAGE DISCHARGE.--42 years, 1,833 ft<sup>3</sup>/s, 14.58 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 52,300 ft<sup>3</sup>/s Mar. 6, 1963, gage height, 16.23 ft; minimum daily, 87 ft<sup>3</sup>/s Sept. 29, 1954.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 1	1000	16,000	8.21	May 27	2300	*22,300	*10.38
Apr. 5	0400	15,700	8.09	Sept. 17	1700	12,500	6.60
Apr. 30	1600	10,200	5.43				

Minimum daily discharge, 122 ft<sup>3</sup>/s Oct. 13, 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	131	200	865	1620	1380	1270	15500	6850	2890	690	1140	2920
2	135	198	781	1370	1290	1150	11600	4820	2390	690	925	5770
3	134	195	704	1180	1340	1090	9630	3540	2090	1500	809	6330
4	129	296	650	1070	1450	1080	13600	2800	2160	2600	735	4560
5	128	446	618	989	1390	2030	15200	3130	2390	2100	695	2960
6	124	1110	581	1290	1260	4920	13500	3960	2800	1620	3620	2200
7	124	977	565	3680	1070	4490	8620	3400	2490	1280	4900	1770
8	125	777	548	5800	1010	2990	5620	2720	1990	1080	2230	1490
9	126	646	527	6410	872	2320	5480	2620	1710	957	1500	1460
10	124	656	502	4880	849	3000	4830	3210	1530	874	1160	3950
11	125	1440	477	3160	830	5440	3830	3390	1380	817	970	5270
12	123	1580	425	2670	840	5840	3200	2730	1330	1790	859	3720
13	122	1150	448	3720	883	4930	2780	2290	1370	3170	780	2610
14	123	966	468	3430	1100	3790	2410	2060	1680	2320	745	2510
15	122	943	457	2950	1300	3590	2190	1840	1480	1530	695	6470
16	138	865	430	2650	1860	3120	2000	1660	1310	1190	664	9710
17	145	788	409	2340	1900	2490	1830	1540	1200	1010	680	12000
18	170	768	361	2130	1630	2170	1760	1430	1120	891	656	10500
19	591	697	398	1950	1440	1880	2020	1400	1050	863	628	5250
20	610	696	413	1780	1370	2930	2130	1560	1050	1120	651	3480
21	457	1230	414	1600	2260	7490	2000	1720	1170	1320	908	2710
22	351	1970	403	1410	3940	6230	1810	1540	1060	1200	1040	2250
23	299	1540	421	1310	3220	4480	1660	4560	981	1070	1600	1950
24	264	1230	470	1230	2240	3340	1530	6850	913	1280	3990	1690
25	241	1020	572	1170	1790	2620	1440	7470	904	2090	5790	1480
26	233	902	674	1200	1630	2210	1370	9870	906	2120	3580	1370
27	222	863	637	1600	1550	1930	1400	19300	832	1760	2180	1250
28	219	1010	1020	2020	1410	1770	3070	20800	805	1660	1600	1150
29	211	1120	2970	1830	---	2350	7530	12500	786	1390	1760	1080
30	204	970	2760	1620	---	7790	9520	5250	732	1120	3340	1030
31	202	---	2060	1490	---	13700	---	3720	---	1190	3220	---
TOTAL	6452	27249	23028	71549	43104	114430	159060	150530	44499	44292	54050	110890
MEAN	208	908	743	2308	1539	3691	5302	4856	1483	1429	1744	3696
MAX	610	1970	2970	6410	3940	13700	15500	20800	2890	3170	5790	12000
MIN	122	195	361	989	830	1080	1370	1400	732	690	628	1030
CFSM	.12	.53	.44	1.35	.90	2.16	3.11	2.84	.87	.84	1.02	2.17
IN.	.14	.59	.50	1.56	.94	2.49	3.47	3.28	.97	.97	1.18	2.42

CAL YR 1988 TOTAL 408304 MEAN 1116 MAX 16100 MIN 122 CFSM .65 IN. 8.90  
WTR YR 1989 TOTAL 849133 MEAN 2326 MAX 20800 MIN 122 CFSM 1.36 IN. 18.50

## 03364200 HAW CREEK NEAR CLIFFORD, IN

LOCATION.--Lat 39°16'04", long 85°51'22", in NW¼SW¼ sec.34, T.10 N., R.6 E., Bartholomew County, Hydrologic Unit 05120205, on left bank 20 ft downstream from bridge on County Road 450 North, 1.2 mi southeast of Clifford, 5.8 mi northeast of Columbus, and 7.6 mi upstream from mouth.

DRAINAGE AREA.--47.5 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1967 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 643.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 17-26, Dec. 9-12, 16-18, Feb. 6-11, Mar. 10 to Apr. 5 and May 19 to July 26. Records good except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--22 years, 49.2 ft<sup>3</sup>/s, 14.07 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,560 ft<sup>3</sup>/s May 24, 1968, gage height, 13.9 ft, from floodmark; no flow at times during September and October 1967 due to diversion for irrigation.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 31	UNKNOWN	1,580	11.24	May 26	UNKNOWN	*2,060	*12.72
Apr. 29	0600	1,880	12.18	July 12	UNKNOWN	1,310	10.30

Minimum daily discharge, 0.33 ft<sup>3</sup>/s Oct. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.41	1.9	9.1	32	29	40	600	146	47	13	17	141
2	.47	1.9	7.8	26	26	38	270	103	43	15	15	124
3	.44	1.9	7.0	24	48	37	580	79	40	80	14	64
4	.44	5.4	5.9	22	55	35	800	69	50	120	13	47
5	.44	26	5.6	20	43	303	290	91	66	80	51	39
6	.44	14	5.4	129	35	237	120	71	50	60	141	33
7	.44	9.3	4.7	141	28	117	112	62	40	42	42	26
8	.44	7.0	5.0	357	22	87	125	54	35	28	26	21
9	.34	5.6	4.6	129	20	116	114	83	31	23	20	54
10	.33	19	4.4	83	18	230	87	96	28	19	17	269
11	.86	21	4.0	65	17	500	75	70	25	17	16	101
12	.97	12	3.8	148	17	350	66	58	28	600	15	58
13	.76	10	3.8	125	20	200	59	50	32	150	13	42
14	.61	8.3	3.6	94	77	130	55	44	28	80	13	142
15	.47	6.9	3.6	112	132	200	52	40	25	45	12	154
16	.54	7.4	3.5	117	202	110	46	36	24	30	12	91
17	.80	9.3	3.3	90	107	90	42	33	22	22	11	70
18	1.5	8.5	3.3	73	81	70	47	30	21	18	11	53
19	8.0	7.6	3.3	63	69	58	99	29	20	17	11	43
20	5.5	10	3.1	54	70	230	69	35	27	19	62	36
21	4.2	17	3.1	43	256	600	58	27	23	25	38	28
22	3.5	15	3.1	40	141	250	50	31	21	18	50	29
23	2.7	11	3.8	36	86	170	44	260	19	22	177	26
24	2.2	9.3	13	32	65	130	40	120	20	50	125	23
25	2.8	7.9	24	30	58	100	38	84	23	150	329	22
26	2.4	7.5	14	34	57	80	35	1400	20	30	130	21
27	2.3	11	11	46	53	70	40	400	18	22	83	19
28	3.1	17	113	41	47	60	141	180	16	19	57	18
29	4.0	14	92	36	---	70	1240	100	15	18	113	17
30	2.2	11	56	34	---	600	367	80	14	16	91	17
31	1.9	---	40	31	---	1000	---	60	---	20	56	---
TOTAL	55.50	313.7	467.8	2307	1879	6308	5761	4021	871	1868	1781	1828
MEAN	1.79	10.5	15.1	74.4	67.1	203	192	130	29.0	60.3	57.5	60.9
MAX	8.0	26	113	357	256	1000	1240	1400	66	600	329	269
MIN	.33	1.9	3.1	20	17	35	35	27	14	13	11	17
CFSM	.04	.22	.32	1.57	1.41	4.28	4.04	2.73	.61	1.27	1.21	1.28
IN.	.04	.25	.37	1.81	1.47	4.94	4.51	3.15	.68	1.46	1.39	1.43

CAL YR 1988 TOTAL 9915.23 MEAN 27.1 MAX 1100 MIN .32 CFSM .57 IN. 7.77  
WTR YR 1989 TOTAL 27461.00 MEAN 75.2 MAX 1400 MIN .33 CFSM 1.58 IN. 21.51

## 03364500 CLIFTY CREEK AT HARTSVILLE, IN

LOCATION.--Lat 39°16'25", long 85°42'10", in NW¼ sec.36, T.10 N., R.7 E., Bartholomew County, Hydrologic Unit 05120206, at downstream side of left abutment of county highway bridge, 0.2 mi north of Hartsville, 5.9 mi upstream from Duck Creek, and at mile 20.0.

DRAINAGE AREA.--91.4 mi<sup>2</sup>.

PERIOD OF RECORD.--February 1948 to current year.

REVISED RECORDS.--WSP 1335: 1950. WSP 1725: 1949(M). WSP 2109: Drainage area. WDR IN-74-1: 1973.

GAGE.--Water-stage recorder. Datum of gage is 677.34 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 24, 1952, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Dec. 12-14, 17, Feb. 8, 10, 11 and Feb. 26, 27. Records fair.

AVERAGE DISCHARGE.--41 years, 96.8 ft<sup>3</sup>/s, 14.38 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,300 ft<sup>3</sup>/s Jan. 21, 1959, gage height, 14.29 ft; no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1913 reached an elevation of 702.4 ft National Geodetic Vertical Datum of 1929, from floodmarks, upstream from bridge.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,300 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 20	2400	1,820	5.62	May 26	0410	2,700	6.98
Mar. 30	0500	*3,180	*7.66	June 14	1000	1,440	4.97
Apr. 4	0900	2,020	5.93	Aug. 6	1000	1,420	4.93
Apr. 28	2200	3,000	7.41	Aug. 25	1100	1,530	5.12
Apr. 29	1700	2,140	6.12				

No flow, Oct. 1 to Nov. 1

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	17	49	68	72	716	368	95	10	23	315
2	.00	.01	13	38	60	65	429	226	140	13	8.2	517
3	.00	.04	10	32	94	64	756	154	140	452	4.2	210
4	.00	.33	8.3	28	118	63	1430	125	245	273	3.1	99
5	.00	2.4	7.1	23	94	640	510	164	143	92	140	60
6	.00	23	6.1	245	75	630	306	155	132	45	946	38
7	.00	22	5.5	435	61	294	236	139	84	30	228	26
8	.00	13	5.2	821	47	183	227	106	62	22	71	21
9	.00	7.8	4.6	358	41	189	244	159	52	18	33	74
10	.00	9.2	3.8	198	39	412	175	227	43	15	19	642
11	.00	42	2.8	138	39	536	137	142	35	12	13	337
12	.00	29	2.4	275	40	336	115	106	39	45	10	145
13	.00	19	2.2	332	45	219	97	92	49	84	30	76
14	.00	15	2.3	207	135	172	84	78	894	25	26	166
15	.00	15	3.3	223	233	272	77	67	358	16	11	357
16	.00	14	2.1	221	439	181	68	61	194	11	7.7	214
17	.00	11	2.0	186	229	137	62	54	118	8.2	6.0	151
18	.00	12	2.0	154	153	116	73	50	80	6.5	6.0	103
19	.00	11	2.2	129	122	88	174	50	63	5.6	5.7	62
20	.00	16	2.5	112	121	598	125	57	59	6.0	46	46
21	.00	56	3.2	88	492	1060	95	53	46	6.7	34	40
22	.00	46	3.3	79	395	422	78	50	38	6.6	72	44
23	.00	27	4.1	71	202	254	67	496	31	6.8	183	58
24	.00	19	8.7	64	133	180	59	354	27	6.2	440	36
25	.00	14	51	61	113	139	53	193	23	6.4	595	27
26	.00	12	35	74	98	110	49	2030	21	7.8	183	24
27	.00	24	24	110	90	94	57	563	19	7.6	79	21
28	.00	52	261	99	88	89	425	267	18	5.7	47	19
29	.00	33	234	86	---	591	1420	180	16	6.0	52	18
30	.00	22	103	81	---	2570	978	137	12	5.7	73	17
31	.00	---	67	73	---	1520	---	108	---	27	42	---
TOTAL	0.00	566.78	898.7	5090	3864	12296	9322	7011	3276	1281.8	3436.9	3963
MEAN	.00	18.9	29.0	164	138	397	311	226	109	41.3	111	132
MAX	.00	56	261	821	492	2570	1430	2030	894	452	946	642
MIN	.00	.00	2.0	23	39	63	49	50	12	5.6	3.1	17
CFSM	.00	.21	.32	1.80	1.51	4.34	3.40	2.47	1.19	.45	1.21	1.45
IN.	.00	.23	.37	2.07	1.57	5.00	3.79	2.85	1.33	.52	1.40	1.61

CAL YR 1988 TOTAL 19097.06 MEAN 52.2 MAX 2590 MIN .00 CFSM .57 IN. 7.77  
WTR YR 1989 TOTAL 51006.18 MEAN 140 MAX 2570 MIN .00 CFSM 1.53 IN. 20.76



## 03365500 EAST FORK WHITE RIVER AT SEYMOUR, IN

LOCATION.--Lat 38°58'57", long 85°53'57", in NW¼NE¼ sec.7, T.6 N., R.6 E., Jackson County, Hydrologic Unit 05120206, on left bank 1,700 ft downstream from highway bridge, 1 mi north of Seymour, 9.5 mi downstream from Sand Creek, and at mile 214.6.

DRAINAGE AREA.--2,341 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1927 to current year. Yearly maximum discharge only for water years 1924-27 published in WSP 1305. Daily gage heights from May 1923 to September 1927 are available in the district office.

REVISED RECORDS.--WSP 743: 1928-29, 1931-32. WSP 783: 1934. WSP 873: 1938. WSP 1335: 1928(M), 1929-30, 1932-33(M), 1937(M), 1942. WSP 1435: 1949. WSP 1705: 1958. WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 550.67 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1927 to July 2, 1931, nonrecording gage 1,700 ft upstream at datum 7.61 ft higher. July 3, 1931 to July 16, 1934, nonrecording gage at site 100 ft downstream at present datum.

REMARKS.--Estimated daily discharges: Feb. 8-13. Records good.

AVERAGE DISCHARGE.--62 years, 2,465 ft<sup>3</sup>/s, 14.30 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 78,500 ft<sup>3</sup>/s Jan. 5, 1949, gage height, 19.67 ft; minimum daily, 86 ft<sup>3</sup>/s Sept. 28, 30, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 26, 1913, reached a stage of 21.0 ft, from information by Corps of Engineers and Indiana Department of Highways, discharge, 120,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 12,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 21	1900	15,300	15.15	Apr. 30	0800	22,500	16.37
Mar. 30	2300	25,400	16.71	May 24	0200	14,400	14.93
Apr. 4	2200	25,000	16.67	May 28	1900	*26,700	*16.85

Minimum daily discharge, 155 ft<sup>3</sup>/s Oct. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	176	237	1130	2520	1910	2020	23300	13600	4760	1230	1490	3210
2	176	225	1020	2480	1800	1820	18900	9140	3980	1200	1340	5250
3	171	223	925	1910	1990	1690	14000	6230	3610	1410	1180	7190
4	170	256	836	1680	2490	1630	19100	4710	3380	3110	1080	6860
5	167	420	778	1510	2200	3370	22200	4480	3740	3160	1010	4440
6	166	689	732	2700	1960	7810	18100	5090	3850	2460	1680	3040
7	166	1070	693	4350	1690	7520	14600	5020	3890	2020	5860	2410
8	165	958	666	7720	1400	5250	10200	4260	3290	1700	4030	2030
9	164	796	644	9710	1250	4060	8500	4040	2850	1510	2300	1770
10	163	748	617	8050	1210	4820	7550	5390	2560	1380	1740	2710
11	162	1070	579	5350	1170	5840	6160	4990	2340	1280	1430	5960
12	159	1760	542	4550	1160	7350	5120	4340	2190	1510	1260	5380
13	157	1520	511	5390	1220	7090	4470	3670	2140	1600	1170	3650
14	155	1240	524	5050	2880	5510	4000	3270	2670	3610	1080	2780
15	157	1130	530	5180	3320	5360	3630	2970	3640	2430	1030	4230
16	164	1070	513	4690	5810	5150	3360	2720	2630	1850	970	7310
17	178	987	492	3950	4250	3990	3100	2520	2260	1560	927	9360
18	203	947	465	3410	3150	3380	2920	2360	2020	1380	886	11100
19	202	906	439	3040	2600	2940	3300	2240	1880	1290	848	10700
20	515	886	460	2750	2320	3350	3570	2330	1790	1480	838	5950
21	532	1200	470	2470	3640	12300	3320	2510	1810	1570	963	3800
22	440	1870	462	2200	5620	12400	3020	2400	1800	1590	1210	3060
23	374	1930	481	2010	5110	8540	2780	7290	1660	1440	1320	2610
24	334	1580	501	1880	3770	5650	2590	11500	1560	1400	3410	2310
25	298	1320	641	1760	2920	4310	2450	9490	1500	1860	5300	2060
26	276	1150	787	1710	2560	3590	2340	10200	1480	2360	7050	1880
27	265	1120	812	1820	2410	3110	2280	21000	1440	2030	3790	1730
28	262	1270	1200	2340	2230	2790	2670	25400	1390	2000	2470	1610
29	251	1360	3050	2410	---	3980	12000	22600	1350	1720	2050	1500
30	241	1300	3580	2210	---	17100	21100	12500	1290	1540	2780	1430
31	235	---	2920	2050	---	23700	---	6660	---	1440	3720	---
TOTAL	7244	31238	28000	108850	74040	187420	250630	224920	74750	58120	66212	127320
MEAN	234	1041	903	3511	2644	6046	8354	7255	2492	1875	2136	4244
MAX	532	1930	3580	9710	5810	23700	23300	25400	4760	3610	7050	11100
MIN	155	223	439	1510	1160	1630	2280	2240	1290	1200	838	1430
CFSM	.10	.44	.39	1.50	1.13	2.58	3.57	3.10	1.06	.80	.91	1.81
IN.	.12	.50	.44	1.73	1.18	2.98	3.98	3.57	1.19	.92	1.05	2.02

CAL YR 1988 TOTAL 622276 MEAN 1700 MAX 27200 MIN 155 CFSM .73 IN. 9.89  
WTR YR 1989 TOTAL 1238744 MEAN 3394 MAX 25400 MIN 155 CFSM 1.45 IN. 19.68

## 03366200 HARBERTS CREEK NEAR MADISON, IN

LOCATION.--Lat 38°46'55", long 85°29'08". in SW¼ sec.14, T.4 N., R.9 E., Jefferson County, Hydrologic Unit 05120207, attached to left downstream wingwall of bridge on County Road 533 West, 0.2 mi west of Smyrna, 3.7 mi upstream from Big Creek, and 4 mi northwest of Madison.

DRAINAGE AREA.--9.31 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 725.75 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Feb. 7-9, 23, 24, and Sept. 22-30. Records fair except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--21 years, 12.8 ft<sup>3</sup>/s, 18.67 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,540 ft<sup>3</sup>/s Apr. 2, 1970, gage height, 7.89 ft; no flow at times many years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 4	0315	*700	*6.16

Minimum daily discharge, no flow Oct. 13-17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	.31	3.3	47	4.3	5.9	42	11	2.5	.36	.34	13
2	2.6	.25	2.6	22	4.4	5.2	22	7.7	2.0	.77	.43	8.3
3	.70	.24	2.3	14	82	4.9	57	5.7	8.2	21	.10	2.5
4	.26	23	2.0	10	24	4.5	239	5.0	15	9.7	.08	1.4
5	.15	30	1.9	11	14	97	34	8.0	92	4.1	6.5	.93
6	.10	6.1	1.9	72	9.6	87	19	6.0	26	2.3	6.9	.71
7	.08	2.6	1.8	25	7.0	25	19	4.6	9.4	1.5	.91	.57
8	.06	1.4	1.6	81	5.8	21	47	3.6	5.7	1.1	.29	.51
9	.04	.87	1.4	19	4.5	22	27	117	5.3	.83	.17	8.7
10	.03	2.8	1.3	12	4.2	16	14	41	3.8	.67	.09	48
11	.02	2.6	1.1	14	3.5	13	9.8	14	2.6	.56	.09	6.6
12	.01	1.1	.98	74	2.8	10	7.8	9.1	2.3	.97	.07	3.1
13	.00	2.6	1.2	26	76	8.3	6.2	6.7	2.0	1.2	.06	2.0
14	.00	2.1	1.1	69	245	8.3	5.3	5.4	14	.67	.04	2.1
15	.00	1.2	.90	65	189	30	4.7	4.8	9.4	.41	.03	2.9
16	.00	1.2	.70	24	110	12	4.1	4.7	5.2	.29	.02	3.6
17	.0	1.3	.73	15	32	8.4	3.6	3.6	2.9	.22	.05	4.0
18	.99	.98	.64	11	20	7.0	19	2.9	2.1	.21	.06	1.8
19	.17	14	.74	8.7	15	5.4	51	2.7	1.8	1.2	.07	1.2
20	.04	82	.77	7.1	23	181	13	3.4	1.6	1.4	6.9	.93
21	.07	17	2.6	5.5	128	92	8.1	2.6	1.3	.45	5.9	.78
22	.64	8.4	2.7	4.7	35	26	5.9	2.5	1.1	.38	2.4	.62
23	.77	5.7	4.1	4.1	17	16	4.8	55	.85	.37	11	.50
24	2.1	4.2	6.7	3.8	12	12	4.2	13	.72	.29	27	.40
25	1.0	3.2	5.4	3.6	10	9.4	3.7	7.3	.60	.19	6.2	.32
26	.39	5.3	3.0	14	12	7.6	3.4	177	.50	.13	2.1	.27
27	.26	30	3.0	15	9.9	6.7	4.5	24	.48	.09	1.2	.22
28	.32	9.2	119	8.6	7.6	7.0	8.8	10	.72	.09	.74	.18
29	.57	5.3	25	6.5	---	230	124	6.7	.49	.06	2.9	.15
30	.55	4.1	14	5.8	---	122	22	4.9	.39	.07	7.5	.12
31	.36	---	12	5.0	---	200	---	3.5	---	.08	1.7	---
TOTAL	13.78	269.05	226.46	703.4	1107.6	1300.6	833.9	573.4	220.95	51.66	91.84	116.41
MEAN	.44	8.97	7.31	22.7	39.6	42.0	27.8	18.5	7.36	1.67	2.96	3.88
MAX	2.6	.82	119	81	245	230	239	177	92	21	27	48
MIN	.00	.24	.64	3.6	2.8	4.5	3.4	2.5	.39	.06	.02	.12
CFSM	.05	.96	.78	2.44	4.25	4.51	2.99	1.99	.79	.18	.32	.42
IN.	.06	1.08	.90	2.81	4.43	5.20	3.33	2.29	.88	.21	.37	.47

CAL YR 1988 TOTAL 2690.34 MEAN 7.35 MAX 348 MIN .00 CFSM .79 IN. 10.75  
WTR YR 1989 TOTAL 5509.05 MEAN 15.1 MAX 245 MIN .00 CFSM 1.62 IN. 22.01

## 03366500 MUSCATATUCK RIVER NEAR DEPUTY, IN

LOCATION.--Lat 38°48'15", long 85°40'26", in SW1/4 sec.7, T.4 N., R.8 E., Jefferson County, Hydrologic Unit 05120207, on left bank at downstream side of highway bridge, 1.4 mi northwest of Deputy, 1.9 mi upstream from Coffee Creek, 2.4 mi downstream from confluence of Graham Creek and Big Creek, and at mile 50.0.

DRAINAGE AREA.--293 mi<sup>2</sup>.

PERIOD OF RECORD.--November 1947 to current year.

REVISED RECORDS.--WSP 1335: 1948. WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 540.00 ft above National Geodetic Vertical Datum of 1929. Prior to June 22, 1955, nonrecording gage at same site. Prior to Aug. 25, 1983, at datum 1.17 ft higher.

REMARKS.--Estimated daily discharges: Feb. 6-11, 23-25. Records fair.

AVERAGE DISCHARGE.--41 years (water years 1949 to current year), 346 ft<sup>3</sup>/s, 16.04 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 52,200 ft<sup>3</sup>/s Jan. 21, 1959, from rating curve extended above 25,000 ft<sup>3</sup>/s on basis of contracted-opening measurement of peak flow, gage height, 34.3 ft, present datum, from floodmarks; no flow at times many years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Feb. 14	1100	7,970	20.38	Mar. 30	0900	*12,100	*22.83
Mar. 21	0500	9,230	21.21	Apr. 4	1200	10,400	21.90

Minimum daily discharge, 0.68 ft<sup>3</sup>/s Oct. 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	3.6	87	946	85	157	2710	545	105	30	425	134
2	2.6	3.4	65	1070	78	126	990	318	87	30	143	744
3	2.8	3.7	52	533	1190	111	1430	228	80	194	72	280
4	3.9	17	45	335	1250	102	7580	180	319	584	47	126
5	3.5	404	38	240	507	1020	2170	184	1100	232	35	81
6	2.5	222	33	1460	250	3200	878	219	1260	123	73	59
7	2.0	114	29	1300	190	1190	669	204	431	78	185	46
8	1.6	65	26	2970	140	625	765	162	218	57	97	36
9	1.3	42	24	1250	116	748	1080	1320	164	46	52	52
10	1.2	41	20	508	98	723	601	2330	133	39	35	1470
11	.89	215	18	314	80	534	406	721	101	29	26	423
12	.77	111	14	1700	68	366	317	388	87	310	22	179
13	.68	74	16	1490	232	264	261	267	79	102	18	104
14	.74	76	15	944	5960	224	219	208	490	58	15	77
15	.87	79	15	2700	4140	370	192	198	603	37	13	72
16	1.0	56	12	1200	5330	320	169	222	304	28	11	97
17	1.4	43	11	632	1590	195	150	206	189	22	10	100
18	2.4	33	10	390	788	152	190	155	130	18	11	79
19	9.7	66	9.9	270	525	123	847	127	105	17	11	63
20	5.1	1320	9.4	199	395	2010	594	119	100	29	25	50
21	3.2	942	10	149	2440	6260	310	110	80	31	191	41
22	2.7	332	11	118	1780	1460	222	105	67	23	213	35
23	2.5	166	16	101	700	688	178	1540	59	22	355	29
24	3.6	108	224	91	450	435	152	1140	51	24	962	25
25	3.9	80	807	83	290	304	138	369	43	22	1130	22
26	4.6	67	238	92	273	228	125	1430	38	16	324	21
27	4.5	478	118	197	272	177	134	1250	34	13	145	19
28	4.5	523	2100	157	213	154	167	389	33	11	91	17
29	4.3	200	1890	123	---	1840	2530	224	34	8.8	67	15
30	3.9	121	565	104	---	8690	1350	165	31	8.1	150	15
31	3.6	---	345	94	---	5210	---	129	---	872	295	---
TOTAL	88.15	6005.7	6873.3	21760	29430	38006	27524	15152	6555	3113.9	5249	4511
MEAN	2.84	200	222	702	1051	1226	917	489	218	100	169	150
MAX	9.7	1320	2100	2970	5960	8690	7580	2330	1260	872	1130	1470
MIN	.68	3.4	9.4	83	68	102	125	105	31	8.1	10	15
CFSM	.01	.68	.76	2.40	3.59	4.18	3.13	1.67	.75	.34	.58	.51
IN.	.01	.76	.87	2.76	3.74	4.83	3.49	1.92	.83	.40	.67	.57

CAL YR 1988 TOTAL 86947.15 MEAN 238 MAX 12800 MIN .68 CFSM .81 IN. 11.04  
WTR YR 1989 TOTAL 164268.05 MEAN 450 MAX 8690 MIN .68 CFSM 1.54 IN. 20.86

## 03368000 BRUSH CREEK NEAR NEBRASKA, IN

LOCATION.--Lat 39°04'13", long 85°29'10" in NW¼NE¼ sec.11, T.7 N., R.9 E., Jennings County, Hydrologic Unit 05120207, on right bank at downstream side of county road-bridge, 1.5 mi northwest of Nebraska, 2.9 mi northeast of Butleville, and 3.6 mi upstream from Brush Creek Dam.

DRAINAGE AREA.--11.4 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1955 to current year.

REVISED RECORDS.--WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 717.17 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana, Department of Natural Resources).

REMARKS.--Estimated daily discharges: Dec. 16, 17 and Feb. 6-11. Records fair.

AVERAGE DISCHARGE.--34 years, 13.1 ft<sup>3</sup>/s, 15.61 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,360 ft<sup>3</sup>/s June 10, 1981, gage height, 12.99 ft, from rating curve extended above 550 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow and a contracted-opening measurement at gage height, 10.20 ft; no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 950 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 8	0100	1,540	8.48	Apr. 4	0330	1,450	8.26
Mar. 20	1415	1,340	7.97	Apr. 29	0400	1,470	8.32
Mar. 29	1815	1,410	8.15				

Minimum daily discharge, no flow on many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.43	1.5	2.2	64	3.9	5.5	39	18	2.7	.48	.00	17
2	1.0	1.4	1.9	21	6.1	5.1	20	12	2.4	1.1	.00	5.1
3	.52	1.3	1.7	15	81	5.1	103	8.3	2.2	4.6	.00	1.5
4	.27	4.0	1.6	11	16	5.1	355	8.4	2.0	1.9	.00	.82
5	.15	12	1.5	25	10	177	29	15	13	1.3	.69	.59
6	.06	4.3	1.5	92	7.0	64	16	8.8	4.3	.86	7.2	.42
7	.03	2.3	1.4	71	5.4	18	12	6.5	2.5	.64	.70	.35
8	.02	1.8	1.3	287	3.8	24	36	4.9	1.9	.44	.15	.27
9	.01	1.5	1.2	19	2.7	47	17	59	1.9	.36	.02	.26
10	.00	5.7	1.1	12	2.8	29	9.8	21	1.6	.32	.0	6.9
11	.00	3.3	1.0	13	3.0	16	7.7	12	1.4	.24	.00	1.4
12	.00	2.0	.77	123	3.2	11	6.5	7.7	1.6	.30	.00	.63
13	.00	7.5	.98	24	49	8.3	5.6	6.4	1.5	.40	.00	.35
14	.00	3.7	1.2	71	163	7.3	4.9	4.9	103	.29	.00	2.7
15	.00	2.3	1.2	66	197	67	4.5	7.6	15	.17	.00	3.2
16	.01	2.2	.78	26	78	13	4.1	8.8	7.2	.10	.00	1.6
17	.01	2.2	.76	13	22	8.8	3.7	4.4	4.1	.05	.00	1.2
18	.13	1.8	.76	10	14	7.1	16	3.6	3.0	.02	.00	.68
19	.52	1.8	.87	7.9	11	5.7	36	3.2	2.6	.02	.00	.46
20	.44	36	1.1	6.7	38	387	8.9	3.8	2.1	.03	.03	.37
21	.55	11	1.1	5.5	108	98	6.4	3.2	1.8	.03	1.3	.30
22	1.1	4.4	.98	4.9	24	22	5.2	3.4	1.6	.01	.32	.32
23	1.2	3.0	3.8	4.7	12	13	4.5	151	1.3	.00	1.9	.33
24	1.9	2.4	118	4.5	8.9	9.6	4.0	16	1.1	.00	10	.21
25	1.7	2.0	15	4.3	8.3	7.5	3.7	8.8	.99	.00	2.1	.16
26	1.5	5.9	7.4	6.0	11	6.1	3.3	179	.88	.00	.70	.15
27	1.3	27	6.6	6.8	8.2	5.3	4.0	19	.82	.00	.36	.10
28	1.7	5.8	147	5.1	6.6	4.9	101	10	1.1	.00	.22	.05
29	1.9	3.4	21	4.6	---	384	471	6.5	.72	.00	14	.03
30	1.7	2.7	11	4.4	---	204	44	4.4	.60	.00	8.6	.03
31	1.6	---	8.6	4.1	---	217	---	3.3	---	.00	1.2	---
TOTAL	19.75	166.2	365.30	1032.5	903.9	1882.4	1381.8	628.9	186.91	13.66	49.49	47.48
MEAN	.64	5.54	11.8	33.3	32.3	60.7	46.1	20.3	6.23	.44	1.60	1.58
MAX	1.9	36	147	287	197	387	471	179	103	4.6	14	17
MIN	.00	1.3	.76	4.1	2.7	4.9	3.3	3.2	.60	.00	.00	.03
CFSM	.06	.49	1.03	2.92	2.83	5.33	4.04	1.78	.55	.04	.14	.14
IN.	.06	.54	1.19	3.37	2.95	6.14	4.51	2.05	.61	.04	.16	.15

CAL YR 1988 TOTAL 3000.41 MEAN 8.20 MAX 500 MIN .00 CFSM .72 IN. 9.79  
WTR YR 1989 TOTAL 6678.29 MEAN 18.3 MAX 471 MIN .00 CFSM 1.60 IN. 21.79

## 03369000 VERNON FORK MUSCATATUCK RIVER NEAR BUTLERVILLE, IN

LOCATION.--Lat 39°02'55", long 85°32'40", in NW¼ sec.17, T.7 N., R.9 E., Jennings County, Hydrologic Unit 05120207, on left bank 0.3 mi downstream from Muscatatuck State School dam, 1.1 mi downstream from Brush Creek, 2 mi northwest of Butlerville, and at mile 50.6.

DRAINAGE AREA.--85.9 mi<sup>2</sup>.

PERIOD OF RECORD.--February 1942 to current year. Prior to October 1960, published as North Fork of Vernon Fork near Butlerville, and as Vernon Fork near Butlerville, October 1960 to September 1979.

REVISED RECORDS.--WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 669.40 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 19, 1942, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. Water supply for the Muscatatuck State School is diverted and the sewage effluent returned above station. Flow regulated by Brush Creek Reservoir.

AVERAGE DISCHARGE.--47 years, 93.6 ft<sup>3</sup>/s, 14.80 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,200 ft<sup>3</sup>/s Jan. 21, 1959, gage height, 25.41 ft, from rating curve extended above 10,000 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 25.41 ft; no flow at times during 1944, 1945, 1949, and 1968.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 8	0600	4,350	11.31	Apr. 4	0600	*5,220	*12.46
Mar. 30	0100	4,870	12.00	May 23	1000	4,310	11.25

Minimum daily discharge, 0.10 ft<sup>3</sup>/s Oct. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	6.1	23	401	30	44	379	199	29	4.4	5.1	84
2	4.3	5.8	18	239	31	40	204	117	34	6.0	3.0	118
3	1.8	6.2	15	130	326	38	609	77	24	31	2.2	36
4	1.0	15	14	113	164	39	2130	61	29	25	2.0	20
5	1.1	88	14	72	88	1050	322	133	82	14	2.4	14
6	.79	40	11	866	59	617	166	101	57	9.6	208	10
7	.46	18	10	338	42	207	114	68	31	7.2	31	8.2
8	.39	11	9.5	1810	37	145	192	52	23	5.6	8.9	6.7
9	.48	6.4	8.3	265	29	296	176	353	21	4.6	4.9	7.6
10	.73	57	7.1	152	28	338	100	233	18	4.0	3.4	100
11	31	56	5.9	110	27	228	74	108	14	3.4	2.7	37
12	3.4	21	4.8	827	25	143	61	69	14	3.7	2.2	17
13	.11	42	4.8	289	57	97	53	56	15	23	1.8	11
14	.10	40	5.5	313	958	78	46	47	563	12	1.7	12
15	.11	22	7.0	514	1020	396	43	45	144	5.2	1.7	31
16	.50	17	5.5	284	748	149	39	44	102	3.6	1.4	20
17	1.0	15	4.7	169	231	94	35	36	48	3.0	1.5	14
18	3.7	13	3.9	112	148	74	46	31	33	2.5	1.5	10
19	1.5	12	3.8	83	107	57	257	28	28	2.4	1.5	7.5
20	1.7	157	4.5	66	116	1360	95	43	22	2.3	2.4	5.7
21	3.1	113	6.8	52	862	1110	62	32	18	2.1	26	4.6
22	2.9	44	7.3	45	255	258	49	28	14	2.1	9.6	4.0
23	4.4	30	15	43	128	156	41	1800	12	2.4	48	3.8
24	4.6	22	283	39	80	106	36	220	9.1	2.3	248	4.8
25	4.8	18	152	36	68	78	33	107	8.4	2.2	373	3.7
26	4.7	18	58	39	87	61	30	1010	7.2	4.5	106	2.9
27	4.4	170	41	49	75	52	33	224	7.4	2.9	27	1.9
28	6.4	68	674	41	55	48	261	101	8.6	2.5	15	1.6
29	5.4	39	246	37	---	1600	2480	61	6.6	2.9	22	1.6
30	6.2	29	118	35	---	2120	642	47	5.1	5.5	56	1.8
31	5.8	---	74	33	---	1310	---	36	---	5.4	23	---
TOTAL	111.07	1199.5	1855.4	7602	5881	12389	8808	5567	1427.4	207.3	1242.9	600.4
MEAN	3.58	40.0	59.9	245	210	400	294	180	47.6	6.69	40.1	20.0
MAX	31	170	674	1810	1020	2120	2480	1800	563	31	373	118
MIN	.10	5.8	3.8	33	25	38	30	28	5.1	2.1	1.4	1.6
CFSM	.04	.47	.70	2.85	2.45	4.65	3.42	2.09	.55	.08	.47	.23
IN.	.05	.52	.80	3.29	2.55	5.37	3.81	2.41	.62	.09	.54	.26

CAL YR 1988 TOTAL 22532.16 MEAN 61.6 MAX 3330 MIN .10 CFSM .72 IN. 9.76  
WTR YR 1989 TOTAL 46890.97 MEAN 128 MAX 2480 MIN .10 CFSM 1.50 IN. 20.31



## 03369500 VERNON FORK MUSCATATUCK RIVER AT VERNON, IN

LOCATION.--Lat 38°58'34", long 85°37'13", in NW¼SE¼ sec.10, T.6 N., R.8 E., Jennings County, Hydrologic Unit 05120207, at downstream end of left bank bridge pier, 1 mi southwest of Vernon, 3.1 mi downstream from Otter Creek, and at mile 36.4.

DRAINAGE AREA.--198 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1939 to current year. Monthly discharge only for some periods, published in WSP 1305. Prior to October 1979, published as Vernon Fork at Vernon.

REVISED RECORDS.--WSP 1335: 1940, 1953. WSP 1909: 1952-53. WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 585.00 ft above National Geodetic Vertical Datum of 1929, (levels by State of Indiana, Department of Natural Resources). Prior to Jan. 14, 1940, and June 23 to Nov. 13, 1967, nonrecording gage, and Jan. 14, 1940, to June 22, 1967, water-stage recorder at site on right bank. Prior to Aug. 8, 1983, datum 2.30 ft higher.

REMARKS.--Estimated daily discharges: Nov. 3-7, 11, 12. Records good except for Oct. 1 to Nov. 14, which are poor. Diversion above station for municipal water supply of North Vernon and Vernon. Part of this diversion returned above gage as sewage effluent by North Vernon Sewage Treatment Plant. Some regulation at times at low flow by Old Timbers Lake on Jefferson Proving Grounds.

AVERAGE DISCHARGE.--50 years, 221 ft<sup>3</sup>/s, 15.16 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 56,800 ft<sup>3</sup>/s Jan. 21, 1959, from rating curve extended above 24,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow, gage height, 35.13 ft, present datum, from high-water mark. No flow at times in 1940, 1943-44.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 8	0900	8,530	15.56	Apr. 4	1000	9,020	16.03
Mar. 20	2400	8,600	15.63	Apr. 29	0900	7,840	14.89
Mar. 30	0300	*12,000	*18.69	May 23	1100	6,380	13.38

Minimum daily discharge, 0.9 ft<sup>3</sup>/s Oct. 11,12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	9.4	54	624	80	126	1070	423	72	16	39	298
2	5.0	9.4	45	564	78	111	502	275	67	18	17	503
3	4.7	12	39	274	736	105	1370	200	77	133	10	178
4	3.0	40	34	240	419	102	4590	160	96	211	5.6	80
5	2.0	120	32	163	220	1800	839	236	318	105	3.3	51
6	1.6	80	30	1540	163	1560	437	231	272	54	279	37
7	1.5	55	28	661	118	480	311	172	115	36	206	29
8	1.5	38	26	3750	105	328	391	136	75	26	51	23
9	1.4	28	26	571	83	456	451	666	66	20	22	20
10	1.2	40	21	286	81	766	257	672	55	16	12	192
11	.90	150	20	201	75	440	213	270	47	13	7.3	191
12	.90	54	18	1480	71	294	173	174	45	14	4.4	74
13	6.1	62	17	714	125	219	149	130	45	19	3.0	40
14	12	83	17	534	2430	190	130	104	1480	68	1.9	31
15	8.0	58	18	1350	2050	765	116	128	455	34	1.6	41
16	7.5	46	18	646	2270	329	104	149	266	18	1.4	80
17	8.5	44	17	339	576	221	95	98	169	12	1.1	55
18	12	35	15	232	343	183	102	74	102	8.8	1.3	41
19	16	34	14	183	255	146	472	65	85	8.3	1.2	30
20	13	239	13	150	230	2730	238	72	80	7.3	2.8	21
21	15	282	16	124	1710	3390	165	78	59	6.2	44	17
22	15	121	17	108	669	635	135	62	49	6.4	66	14
23	16	70	43	102	315	356	114	3170	42	6.3	34	12
24	14	54	1040	99	207	256	100	554	34	7.9	971	9.7
25	13	44	458	91	181	202	91	272	28	4.8	509	8.2
26	12	40	176	91	194	168	85	2110	24	3.1	460	8.5
27	11	266	109	112	195	147	90	564	22	2.4	118	6.7
28	13	187	1530	105	150	135	200	263	44	1.9	55	4.1
29	12	94	594	92	---	1970	4080	177	38	1.6	41	3.5
30	10	65	259	88	---	5510	1780	123	20	2.0	162	2.8
31	10	---	179	84	---	3220	---	90	---	158	124	---
TOTAL	251.20	2459.8	4923	15598	14129	27340	18850	11898	4347	1038.0	3254.9	2101.5
MEAN	8.10	82.0	159	503	505	882	628	384	145	33.5	105	70.0
MAX	16	282	1530	3750	2430	5510	4590	3170	1480	211	971	503
MIN	.90	9.4	13	84	71	102	85	62	20	1.6	1.1	2.8
CFSM	.04	.41	.80	2.54	2.55	4.45	3.17	1.94	.73	.17	.53	.35
IN.	.05	.46	.92	2.93	2.65	5.14	3.54	2.24	.82	.20	.61	.39

CAL YR 1988 TOTAL 51635.60 MEAN 141 MAX 7700 MIN .30 CFSM .71 IN. 9.70  
WTR YR 1989 TOTAL 106190.40 MEAN 291 MAX 5510 MIN .90 CFSM 1.47 IN. 19.95

## 03371500 EAST FORK WHITE RIVER NEAR BEDFORD, IN

LOCATION.--Lat 38°46'10", long 86°24'30", in SW¼ sec. 21, T.4 N., R.1 E., Lawrence County, Hydrologic Unit 05120208, on downstream side of center pier of bridge on county road, 0.4 mi upstream from Mill Creek, 2.9 mi downstream from Sugar Creek, 3.9 mi northeast of Mitchell, 7.8 mi southeast of Bedford, and at mile 153.3.

DRAINAGE AREA.--3,861 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1939 to current year (high-water records only October 1943 to September 1957).

REVISED RECORDS.--WSP 2109: Drainage area. WDR IN-73-1: 1972.

GAGE.--Water-stage recorder. Datum of gage is 473.59 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 6, 1940, nonrecording gage, and Feb. 6, 1940, to Sept. 24, 1957, water-stage recorder, at site 9.8 mi downstream at datum 4.39 ft lower.

REMARKS.--Estimated daily discharges: Feb. 6-11, and Mar. 9-28. Records good.

AVERAGE DISCHARGE.--36 years (1939-43, 1957 to current year), 3,974 ft<sup>3</sup>/s, 13.98 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 75,700 ft<sup>3</sup>/s Mar. 12, 1964; maximum gage height, 35.97 ft May 11, 1961; minimum daily discharge, 138 ft<sup>3</sup>/s Sept. 7, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 47.5 ft, from floodmark determined by U.S. Army Corps of Engineers, discharge, 155,000 ft<sup>3</sup>/s, at former site.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 13,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Feb. 19	1000	14,400	17.78	May 3	0200	19,500	21.20
Apr. 4	0800	*36,500	*27.93	May 31	0500	22,600	22.78

Minimum daily discharge, 265 ft<sup>3</sup>/s Oct. 13-15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	285	392	2310	6960	3000	4480	23800	12100	17900	1540	2030	4320
2	284	383	1990	6780	2810	3890	32500	18300	10700	1630	2780	5020
3	280	382	1740	6510	3160	3440	35700	18800	6280	3090	2700	5560
4	278	495	1560	6000	4650	3130	36100	15700	5330	4190	2120	6940
5	272	886	1410	4930	5920	4960	34000	12100	6000	4730	1780	7360
6	270	919	1300	4620	5960	8550	33600	8850	7110	5140	1650	6870
7	267	1120	1200	5770	4900	10200	34000	7130	7490	4290	1550	5130
8	266	1330	1130	8770	3790	11700	32300	6740	7310	3430	3370	3850
9	268	1380	1060	9620	3040	12500	29100	6500	6080	2850	4930	3200
10	272	1290	1010	10300	2530	12100	24100	7510	4700	2450	3850	3080
11	269	1210	972	11400	2320	10800	19200	8390	3940	2190	2820	3850
12	266	1160	931	12100	2220	10200	15200	8930	3550	2100	2290	6130
13	265	1500	887	11300	2280	9820	11800	8670	3220	2410	1970	7240
14	265	1890	840	10400	6340	9190	9080	7370	3660	3530	1770	6320
15	265	1760	802	10900	8960	8670	6950	5720	5320	4420	1610	4820
16	274	1640	780	10900	11400	8260	5780	4810	6380	3820	1490	4600
17	273	1580	770	10600	12000	8060	5110	4290	6140	3020	1470	5980
18	297	1490	766	10200	13500	7760	4810	3920	4730	2500	1360	7160
19	294	1410	727	9510	14300	7560	5260	3610	3630	2190	1280	8130
20	308	1910	708	8440	13700	8520	5780	3360	3010	2290	1220	8910
21	335	2770	684	6760	12600	11700	6320	3270	2640	2390	1240	9420
22	475	3180	679	4970	11400	12700	5940	3290	2440	2310	1310	7730
23	561	3460	719	4020	10900	14700	5150	5350	2350	2240	1580	5140
24	542	3250	994	3510	11000	18300	4580	7520	2210	2120	2030	4010
25	509	2710	1790	3180	10300	19000	4160	9710	2040	2010	3430	3450
26	480	2260	2490	2970	8840	15600	3830	12900	1890	2040	6090	3060
27	456	2100	2720	2830	7210	12200	4090	13900	1770	2500	7300	2740
28	441	2270	3200	2800	5510	8980	1350	14000	1860	2620	6960	2500
29	422	2560	4500	3120	---	7610	5190	16800	2000	2410	4860	2320
30	409	2610	5560	3360	---	14500	7700	21000	1690	2320	3620	2170
31	399	---	6570	3220	---	17700	---	22000	---	2120	3340	---
TOTAL	10547	51297	52799	216750	204540	316780	455480	302540	143370	86890	85800	157010
MEAN	340	1710	1703	6992	7305	10220	15180	9759	4779	2803	2768	5234
MAX	561	3460	6570	12100	14300	19000	36100	22000	17900	5140	7300	9420
MIN	265	382	679	2800	2220	3130	3830	3270	1690	1540	1220	2170
CFSM	.09	.44	.44	1.81	1.89	2.65	3.93	2.53	1.24	.73	.72	1.36
IN.	.10	.49	.51	2.09	1.97	3.05	4.39	2.91	1.38	.84	.83	1.51

CAL YR 1988 TOTAL 1007528 MEAN 2753 MAX 23200 MIN 265 CFSM .71 IN. 9.71  
WTR YR 1989 TOTAL 2083803 MEAN 5709 MAX 36100 MIN 265 CFSM 1.48 IN. 20.08

## 03371520 BACK CREEK AT LEESVILLE, IN

LOCATION.--Lat 38°50'48", long 86°18'06", in SW¼ sec.21, T.5 N., R.2 E., Lawrence County, Hydrologic Unit 05120208, on left bank at downstream-side of county road bridge, 0.9 mi west of Leesville, 2.5 mi upstream from Jones Defeat Hollow, and 7 mi above mouth.

DRAINAGE AREA.--24.1 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1970 to current year.

REVISED RECORDS.--WRD IN-72-1: 1971.

GAGE.--Water-stage recorder. Datum of gage is 575.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 1 to Feb. 15, 23, 24, and Feb. 28 to March 4. Records poor prior to March, fair thereafter.

AVERAGE DISCHARGE.--19 years, 33.1 ft<sup>3</sup>/s, 18.65 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,300 ft<sup>3</sup>/s July 21, 1973, gage height, 14.0 ft, from floodmarks, from rating extended above 550 ft<sup>3</sup>/s on basis of step-backwater analysis and contracted-opening and flow-over-road measurement of peak flow; no flow at times during 1971, 1975, 1976, 1981, 1984, 1987, and 1988.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1913 reached a stage of 18.1 ft from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 4	1645	1,030	4.76	Apr. 27	0445	1,650	5.54
Mar. 20	1705	*2,310	*6.20	May 23	0130	1,810	5.71
Mar. 29	1710	2,150	6.05	June 5	0730	1,550	5.43
Apr. 26	2100	1,480	5.35				

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	9.1	35	26	19	101	44	10	12	1.8	58
2	.00	.00	7.7	27	24	16	64	32	13	72	1.3	15
3	.00	.00	7.1	22	175	15	190	24	79	94	.89	7.8
4	.00	200	6.6	20	76	19	300	28	38	52	.72	5.2
5	.00	128	6.1	18	37	297	140	37	323	29	.75	3.7
6	.00	25	5.6	66	19	137	72	27	76	18	18	2.7
7	.00	17	5.0	410	13	101	53	22	38	13	4.6	1.9
8	.00	12	4.4	286	9.0	67	80	19	25	9.9	2.4	1.2
9	.00	14	4.1	160	11	69	58	136	18	8.5	1.5	7.7
10	.00	52	3.5	93	12	81	42	79	13	7.3	.94	19
11	.00	38	2.9	64	11	66	33	45	11	6.1	.56	7.3
12	.00	22	2.2	144	9.0	51	27	32	12	7.6	.36	4.8
13	.00	37	1.8	85	8.0	45	23	25	9.9	7.3	.26	3.4
14	.00	25	1.5	63	15	41	19	19	33	5.7	.15	4.0
15	.00	18	1.8	68	321	127	15	16	16	4.3	.09	6.0
16	.00	13	2.0	106	182	50	13	13	14	3.5	.04	8.9
17	.00	10	2.1	74	107	43	13	10	11	2.8	.02	9.0
18	.00	8.7	2.2	55	68	36	17	8.9	9.4	2.2	.01	6.6
19	.00	7.8	2.3	46	49	31	24	9.6	28	11	.00	4.8
20	.00	128	2.2	39	50	1170	20	21	15	11	.03	3.6
21	.00	76	1.9	33	169	203	17	11	11	6.0	.26	3.0
22	.00	48	2.0	27	82	80	15	17	8.7	7.4	.50	2.5
23	.00	26	2.4	23	44	57	15	298	7.2	12	.31	2.0
24	.00	18	48	21	26	42	16	54	6.0	7.8	14	1.4
25	.00	13	30	18	35	32	15	33	5.0	6.7	6.4	1.3
26	.00	11	23	51	36	29	164	104	4.1	4.9	3.2	1.0
27	.00	32	20	42	32	22	355	42	9.2	3.6	2.0	.71
28	.00	19	153	37	23	20	103	27	8.6	2.7	1.5	.45
29	.00	13	100	33	---	1150	159	21	5.5	2.0	1.6	.39
30	.00	11	70	31	---	617	67	16	3.8	1.9	1.1	.36
31	.00	---	51	28	---	472	---	12	---	1.8	.63	---
TOTAL	0.00	1022.50	581.5	2225	1669.0	5205	2230	1282.5	861.4	434.0	65.92	193.71
MEAN	.00	34.1	18.8	71.8	59.6	168	74.3	41.4	28.7	14.0	2.13	6.46
MAX	.00	200	153	410	321	1170	355	298	323	94	18	58
MIN	.00	.00	1.5	18	8.0	15	13	8.9	3.8	1.8	.00	.36
CFSM	.00	1.41	.78	2.98	2.47	6.97	3.08	1.72	1.19	.58	.09	.27
IN.	.00	1.58	.90	3.43	2.58	8.03	3.44	1.98	1.33	.67	.10	.30

CAL YR 1988 TOTAL 6515.48 MEAN 17.8 MAX 603 MIN .00 CFSM .74 IN. 10.06  
WTR YR 1989 TOTAL 15770.53 MEAN 43.2 MAX 1170 MIN .00 CFSM 1.79 IN. 24.34

## 03372300 STEPHENS CREEK NEAR BLOOMINGTON, IN

LOCATION.--Lat 39°10'11", long 86°25'07", in NE¼ sec.4, T.8 N., R.1 E., Monroe County, Hydrologic Unit 05120208, on downstream side of right pier of bridge on State Highway 46, 0.2 mi downstream from Kerr Creek, 4.0 mi west of Belmont, and 6.1 mi east of Bloomington.

DRAINAGE AREA.--10.9 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder. Datum of gage is 550.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 23 to Nov. 3, Dec. 12-18, Dec. 29 to Jan. 2, Jan. 5-7, Feb. 6-15 and 23-25. Records fair.

AVERAGE DISCHARGE.--19 years, 13.9 ft<sup>3</sup>/s, 17.32 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,400 ft<sup>3</sup>/s July 13, 1979, gage height, 13.18 ft from rating curve extended above 1,200 ft<sup>3</sup>/s on basis of contracted-opening measurements at gage heights of 11.52 ft and 13.18 ft; no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 350 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 7	2145	359	7.03	May 23	0030	683	8.60
Mar. 20	1345	964	9.66	May 26	0415	883	9.41
Mar. 30	0100	783	9.05	July 11	2245	991	9.74
Apr. 3	2215	*1,040	*9.88	Aug. 25	0745	456	7.54
Apr. 28	1245	637	8.38	Sept. 1	1100	994	9.75

Minimum daily discharge, no flow Oct. 1-15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.0	.22	1.3	5.8	3.7	6.5	57	31	2.6	.55	.83	181
2	.00	.21	1.1	4.0	4.4	5.5	48	22	2.1	13	.66	42
3	.00	.32	1.0	3.3	25	5.1	216	18	2.3	17	.56	13
4	.00	10	.93	2.9	18	6.4	198	23	2.4	5.6	.52	7.1
5	.00	19	.86	2.6	13	53	53	36	5.1	3.3	2.1	4.6
6	.00	7.6	.80	9.4	8.6	46	31	29	3.5	2.1	2.9	3.3
7	.00	4.0	.72	32	6.4	25	23	23	2.5	1.4	1.4	2.6
8	.00	2.6	.64	72	4.5	20	29	20	1.9	1.0	.97	2.0
9	.00	1.8	.58	20	3.3	25	28	37	1.5	.86	.74	6.5
10	.00	7.6	.51	12	3.8	49	21	36	1.2	.68	.54	43
11	.00	5.7	.43	9.2	3.4	66	16	26	1.0	70	.43	12
12	.00	3.5	.32	11	3.1	53	13	20	1.1	118	.38	6.9
13	.00	4.9	.25	9.5	2.8	31	11	17	1.4	25	.36	4.5
14	.00	3.9	.22	9.2	5.0	22	9.1	14	5.5	7.6	.35	10
15	.00	2.9	.26	11	11	25	7.8	12	2.9	3.9	.32	10
16	.03	2.2	.29	10	56	18	6.7	11	2.2	2.6	.30	12
17	.04	1.7	.31	9.1	27	15	6.0	9.1	1.6	1.8	.34	11
18	.57	1.4	.31	7.9	18	13	7.0	8.0	1.3	1.3	.29	6.9
19	.34	1.3	.32	6.6	14	11	11	8.2	1.3	1.4	.26	4.7
20	.21	7.7	.32	5.4	17	235	9.7	11	1.0	1.3	.43	3.4
21	.22	11	.27	4.2	50	123	8.8	8.5	.90	1.7	.37	2.8
22	.24	6.3	.28	3.7	32	41	7.5	36	.77	1.2	5.7	2.4
23	.71	4.1	.35	3.3	15	24	6.7	179	.62	4.4	33	2.7
24	.82	2.9	3.9	2.9	9.0	17	6.1	40	.54	34	45	2.4
25	.50	2.2	4.4	2.8	11	14	5.5	24	.48	22	74	2.0
26	.28	1.9	3.4	4.2	11	12	5.0	177	.43	6.3	14	1.7
27	.24	2.2	3.0	5.4	9.0	11	5.6	24	.99	3.5	5.8	1.4
28	.32	2.0	23	5.0	7.8	10	133	11	1.9	2.3	3.4	1.3
29	.28	1.8	14	4.7	---	54	96	7.4	.91	1.6	5.0	1.0
30	.25	1.6	10	4.5	---	315	50	5.1	.69	1.2	5.5	1.0
31	.23	---	8.3	4.0	---	113	---	3.5	---	.98	3.3	---
TOTAL	5.28	124.55	82.37	297.6	392.8	1464.5	1125.5	926.8	52.63	357.57	209.75	405.2
MEAN	.17	4.15	2.66	9.60	14.0	47.2	37.5	29.9	1.75	11.5	6.77	13.5
MAX	.82	19	23	72	56	315	216	179	5.5	118	74	181
MIN	.00	.21	.22	2.6	2.8	5.1	5.0	3.5	.43	.55	.26	1.0
CFSM	.02	.38	.24	.88	1.29	4.33	3.44	2.74	.16	1.06	.62	1.24
IN.	.02	.43	.28	1.02	1.34	5.00	3.84	3.16	.18	1.22	.72	1.38

CAL YR 1988 TOTAL 2770.55 MEAN 7.57 MAX 277 MIN .00 CFSM .69 IN. 9.46  
WTR YR 1989 TOTAL 5444.55 MEAN 14.9 MAX 315 MIN .00 CFSM 1.37 IN. 18.58



## 03372500 SALT CREEK NEAR HARRODSBURG, IN

LOCATION.--Lat 39°00'16", long 86°30'31", in NE¼NW¼ sec.34, T.7 N., R.1 W., Monroe County, Hydrologic Unit 05120208, on right bank 0.35 mi downstream from Monroe Lake, 0.9 mi upstream from Clear Creek, 2.2 mi southeast of Harrodsburg, and 25.7 mi upstream from mouth.

DRAINAGE AREA.--432 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1955 to current year.

REVISED RECORDS.--WSP 1705: 1959. WSP 1725: 1956(M). WSP 2109: Drainage area.

GAGE.--Data-Collection Platform installed on May 13, 1988. Datum of gage was 480.00 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Oct. 1, 1960, to Sept. 30, 1974, water-stage recorder at site described in "LOCATION" paragraph. Prior to Oct. 1, 1960, nonrecording gage at site 0.7 mi upstream at datum 2.41 ft higher.

REMARKS.--Flow regulated by Monroe Lake since April 1966. Daily discharge computed from relation between discharge, head, and gate openings for Monroe Lake beginning Oct. 1, 1974.

COOPERATION.--Records of daily discharge provided by U.S. Army Corps of Engineers beginning Oct. 1, 1976.

AVERAGE DISCHARGE.--34 years, 487 ft<sup>3</sup>/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,000 ft<sup>3</sup>/s June 25, 1960, gage height, 32.76 ft site and datum then in use; maximum gage height at present site and datum, 35.35 ft May 9, 1961; no flow Sept. 29 to Dec. 2, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 2,230 ft<sup>3</sup>/s Apr. 18-19; minimum daily, 32 ft<sup>3</sup>/s July 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	49	49	279	49	202	61	1560	229	969	200	59
2	51	49	49	185	49	202	62	995	229	519	129	59
3	51	49	49	258	50	202	62	1300	229	377	58	59
4	51	49	49	331	50	202	62	1520	229	569	58	156
5	50	49	49	330	50	203	63	1520	229	759	58	204
6	50	130	49	500	50	207	63	1520	230	623	58	204
7	201	182	49	672	50	209	63	1690	360	272	58	204
8	276	182	49	680	50	432	63	2010	745	210	58	204
9	276	182	49	689	50	904	151	2150	1320	134	58	204
10	276	182	49	993	50	1080	535	2150	1510	32	58	205
11	275	182	49	1290	50	1080	922	2150	1510	58	58	151
12	275	182	49	1290	50	1080	1360	2140	1260	72	58	97
13	275	182	49	1280	50	1080	1910	2140	1340	391	58	97
14	275	182	49	1280	51	1080	2100	2130	1500	587	58	97
15	274	182	49	1280	51	1080	2100	2120	1490	586	58	97
16	274	182	49	1280	52	1390	2090	2110	1490	584	58	97
17	274	182	49	1270	53	1570	2180	2100	1490	583	58	97
18	421	182	49	1580	53	1560	2230	1760	1480	257	58	97
19	420	182	49	1830	53	1560	2230	1210	1760	94	58	97
20	419	182	49	1700	53	1150	2220	952	1960	94	58	127
21	418	182	49	1210	53	441	2210	950	1950	165	58	284
22	417	182	49	469	54	215	2200	949	1940	200	58	439
23	416	182	49	49	146	477	2200	494	2130	201	58	495
24	415	182	49	49	201	913	2190	225	2220	201	58	495
25	414	182	49	49	201	1120	2180	226	2210	201	58	247
26	413	182	49	49	201	1120	2180	177	2200	201	58	59
27	268	182	49	49	202	1120	2170	102	2190	201	58	59
28	141	75	49	49	202	1110	2170	103	1850	201	58	189
29	182	49	126	49	---	826	2170	103	1280	201	58	438
30	182	49	239	49	---	231	2180	103	1090	200	58	490
31	115	---	330	49	---	61	---	187	---	200	58	---
TOTAL	7896	4370	2067	21117	2274	24107	42377	38846	39650	9942	2011	5807
MEAN	255	146	66.7	681	81.2	778	1413	1253	1322	321	64.9	194
MAX	421	182	330	1830	202	1570	2230	2150	2220	969	200	495
MIN	50	49	49	49	49	61	61	102	229	32	58	59

CAL YR 1988 TOTAL 114337 MEAN 312 MAX 2060 MIN 49  
WTR YR 1989 TOTAL 200464 MEAN 549 MAX 2230 MIN 32



## 03373500 EAST FORK WHITE RIVER AT SHOALS, IN

LOCATION.--Lat 38°40'02", long 86°47'31", in SW¼NW¼ sec.30, T.3 N., R.3 W., Martin County, Hydrologic Unit 05120208, at left downstream side of U.S. Highway 50 bridge at Shoals, 340 ft upstream from Baltimore and Ohio Railroad bridge, 0.9 mi upstream from Beaver Creek, 6.6 mi downstream from Indian Creek, and at mile 105.3.

DRAINAGE AREA.--4,927 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1903 to July 1906, October 1908 to September 1916, June 1923 to current year. Monthly discharge only for some periods, published in WSP 1305. Published as East Branch White River at Shoals, 1903-06, 1908-16. Gage-height records collected at same site since May 1908 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 353: 1912. WSP 1335: 1903-6. WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 442.25 ft above National Geodetic Vertical Datum of 1929. See WSP 1725 for history of changes prior to Oct. 26, 1932.

REMARKS.--Estimated daily discharges: July 13 to Aug. 24. Records good except estimated daily discharges, which are poor. Flow partially regulated by upstream reservoirs.

AVERAGE DISCHARGE.--75 years (1903-5, 1909-16, 1923 to current year), 5,444 ft<sup>3</sup>/s, 15.00 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 160,000 ft<sup>3</sup>/s Mar. 28, 1913, gage height, 42.2 ft, from rating curve extended above 100,000 ft<sup>3</sup>/s; minimum daily, 64 ft<sup>3</sup>/s Oct. 6, 1935, as a result of filling Williams Reservoir.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 20,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 22	0200	21,900	14.68	May 3	1900	20,500	13.47
Apr. 5	1600	*40,400	*24.14	June 1	0700	21,900	14.62

Minimum daily discharge, 353 ft<sup>3</sup>/s Oct. 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	372	590	2670	7500	3860	5800	30600	12500	21600	3000	2400	3660
2	377	523	2370	8150	3640	5070	30400	17200	18100	2960	2800	6240
3	372	468	2090	7420	4280	4610	33300	20100	10200	3590	3200	5880
4	365	522	1870	7020	6100	3860	37300	20200	6660	5790	2900	6150
5	360	1160	1700	6350	6640	5310	40100	18500	7600	6380	2300	7070
6	358	1880	1570	6750	6990	11200	39600	14900	9300	6080	2000	7280
7	356	1520	1460	8430	6470	14100	37800	10900	8970	5640	1900	6390
8	353	1500	1360	11000	5410	13600	36800	9170	8700	4580	1900	4940
9	406	1590	1270	14000	4410	14500	35800	9090	8230	3720	2500	3950
10	476	1680	1190	12500	3690	15300	33200	10700	7110	3140	3600	4010
11	501	1840	1130	13100	3280	15000	28300	11700	6140	2670	4000	3980
12	496	1770	1070	14200	3080	14000	22700	12500	5500	2690	3400	4860
13	492	1620	1020	14700	3000	13300	18500	12600	4890	4200	2900	6580
14	486	1900	989	13700	6620	13100	14900	11500	5080	4900	2600	6960
15	486	2140	946	13900	12800	13000	11600	9340	6800	4800	2300	5840
16	517	2070	901	14200	15700	12100	9150	7700	7670	4100	2100	4950
17	534	2020	875	13700	16200	10900	7800	6920	8220	3600	2000	5420
18	602	1950	849	13100	15300	10700	7370	6470	7330	3100	1800	6490
19	617	1850	836	12500	15600	9220	7760	5920	6020	2800	1800	7530
20	734	2090	830	11700	15500	10400	8220	5760	5360	2700	1700	8540
21	758	3180	827	10100	15200	20200	8620	5240	5100	2800	1600	9300
22	768	3730	792	7630	14600	21400	8750	4880	4800	2800	1600	9190
23	864	3820	816	5800	14000	18800	8000	9740	4640	2700	1700	6810
24	938	3840	955	4670	13000	19100	7300	13600	4650	2500	1900	5160
25	922	3460	1510	4180	12200	20600	6690	11500	4590	2400	2900	4290
26	879	2980	2240	3910	11500	20400	6210	14600	4470	2500	4500	3630
27	853	2650	2920	3830	9610	18000	6370	18100	4300	3000	6410	3060
28	826	2580	3640	3750	7430	14100	7170	17000	4200	3100	7010	2710
29	723	2730	5440	3700	---	13100	8000	17000	4140	2900	6060	2580
30	648	2820	5870	3950	---	22100	9830	19400	3530	2700	4420	2730
31	610	---	6660	4010	---	28900	---	21300	---	2600	3520	---
TOTAL	18049	62473	58666	279450	256110	431770	568140	386030	213900	110440	91720	166180
MEAN	582	2082	1892	9015	9147	13930	18940	12450	7130	3563	2959	5539
MAX	938	3840	6660	14700	16200	28900	40100	21300	21600	6380	7010	9300
MIN	353	468	792	3700	3000	3860	6210	4880	3530	2400	1600	2580
CFSM	.12	.42	.38	1.83	1.86	2.83	3.84	2.53	1.45	.72	.60	1.12
IN.	.14	.47	.44	2.11	1.93	3.26	4.29	2.91	1.61	.83	.59	1.25

CAL YR 1988 TOTAL 1286629 MEAN 3515 MAX 29200 MIN 353 CFSM .71 IN. 9.71  
WTR YR 1989 TOTAL 2642928 MEAN 7241 MAX 40100 MIN 353 CFSM 1.47 IN. 19.95

## 03373700 LOST RIVER NEAR WEST BADEN SPRINGS, IN

LOCATION.--Lat 38°35'10", long 86°38'03", in SW¼ sec.21, T.2 N., R.2 W., Orange County, Hydrologic Unit 05120208, on left bank 20 ft downstream from bridge on U.S. Highway 150, 1.7 mi northwest of West Baden Springs, 3.8 mi downstream from Lick Creek, and at mile 34.8.

DRAINAGE AREA.--287 mi<sup>2</sup>.

PERIOD OF RECORD.--December 1964 to current year. Prior to October 1965, published as Lost River near West Baden.

GAGE.--Water-stage recorder. Datum of gage is 457.92 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana, Department of Natural Resources).

REMARKS.--Estimated daily discharges: Oct. 1-24, Oct. 26 to Nov. 4, Mar. 10-14, and Aug. 16 to Sept. 30. Records poor.

AVERAGE DISCHARGE.--24 years, 365 ft<sup>3</sup>/s, 17.27 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,100 ft<sup>3</sup>/s May 1, 1983, gage height, 26.55 ft; minimum daily, 5.9 ft<sup>3</sup>/s Sept. 9, 11, 1988.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1964 reached a stage of 28.1 ft, from floodmarks, discharge, 14,500 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base discharge of 2,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Feb. 16	0700	4,010	23.08	Mar. 31	1600	*4,630	*23.54
Mar. 6	2000	2,650	21.77	Apr. 4	1600	2,910	22.06
Mar. 22	0100	2,520	21.60				

Minimum daily discharge, 7.0 ft<sup>3</sup>/s Oct. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	31	279	956	202	369	3650	395	128	72	244	350
2	20	31	233	1230	186	326	2500	330	113	149	218	220
3	17	30	203	967	767	296	2120	271	125	702	140	150
4	15	220	184	691	1100	276	2590	243	389	619	111	105
5	14	960	166	542	812	1270	2600	263	638	775	92	85
6	12	672	153	773	603	2400	2150	259	779	481	84	70
7	11	390	145	987	475	2470	1740	231	484	298	83	58
8	10	235	135	1480	377	1980	1510	210	329	220	70	46
9	9.0	171	122	1570	295	1470	1510	242	252	175	60	43
10	8.5	161	110	1150	247	1040	1280	447	192	145	53	490
11	8.0	248	102	735	225	900	1010	391	157	124	48	200
12	7.6	219	95	644	201	790	822	287	138	446	44	155
13	7.2	179	90	720	347	680	713	239	145	689	41	120
14	7.0	196	93	696	2290	563	639	212	694	447	38	94
15	7.5	183	89	1240	3250	632	546	193	909	280	35	72
16	8.8	212	81	1180	3870	612	484	176	611	191	34	115
17	9.4	376	74	863	2980	520	434	159	429	148	32	200
18	9.8	304	71	662	2140	460	476	146	327	125	36	98
19	30	313	69	549	1610	386	796	140	264	183	40	72
20	24	1090	71	464	1180	880	671	156	220	554	45	56
21	20	1160	70	380	1190	2300	543	166	179	375	160	48
22	21	739	68	318	1260	2430	466	143	153	224	200	44
23	38	523	74	277	1020	1920	418	771	131	165	120	40
24	56	425	345	245	786	1400	422	738	115	157	100	35
25	66	337	595	225	652	908	403	448	107	179	87	31
26	56	285	408	246	564	630	359	351	94	132	77	29
27	46	437	264	346	497	516	335	385	85	107	68	28
28	41	535	1000	319	430	454	315	289	111	92	61	27
29	36	437	1420	268	---	876	362	210	108	80	57	25
30	42	340	1020	240	---	3120	484	175	85	261	70	24
31	37	---	655	220	---	4400	---	149	---	304	52	---
TOTAL	704.8	11439	8484	21183	29556	37274	32348	8815	8491	8899	2600	3130
MEAN	22.7	381	274	683	1056	1202	1078	284	283	287	83.9	104
MAX	66	1160	1420	1570	3870	4400	3650	771	909	775	244	490
MIN	7.0	30	68	220	186	276	315	140	85	72	32	24
CFSM	.08	1.33	.95	2.38	3.68	4.19	3.76	.99	.99	1.00	.29	.36
IN.	.09	1.48	1.10	2.75	3.83	4.83	4.19	1.14	1.10	1.15	.34	.41

CAL YR 1988 TOTAL 86426.7 MEAN 236 MAX 5620 MIN 5.9 CFSM .82 IN. 11.20  
WTR YR 1989 TOTAL 172923.8 MEAN 474 MAX 4400 MIN 7.0 CFSM 1.65 IN. 22.41

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LOCATION (Revised).---Lat 38°31'42", long 87°15'12", in NE¼SW¼ sec.12, T.1 N., R.8 W., Pike County, Hydrologic Unit 05120202, on left bank 300 ft upstream from intake structure of Indianapolis Power and Light Company's generating plant, 1.5 mi downstream from East Fork White River, 2.2 mi upstream from State Highway 61, 2.9 mi northeast of Petersburg, and at mile 48.0.

REMARKS.--Discharges below 1,500 ft<sup>3</sup>/s only published. Records good. For a complete record of White River in this vicinity use records of White River at Petersburg, IN (sta. 03374000), 2.3 mi downstream.

[illegible]



## 03374455 PATOKA RIVER NEAR HARDINSBURG, IN

LOCATION.--Lat 38°26'41", long 86°23'14", in NW1/4 sec.10, T.1 S., R.1 E., Orange County, Hydrologic Unit 05120209, on downstream edge of center pier of county road bridge, 0.3 mi downstream from Fudge Creek, 0.7 mi northeast of Valeene, 6.0 mi southwest of Hardinsburg, and at mile 158.0.

DRAINAGE AREA.--12.8 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 606.89 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 1-23, Nov. 11-19, Feb. 8-10, June 15 to July 1, July 8-10, 23-29, and Aug. 3-15. Records good except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--21 years, 24.5 ft<sup>3</sup>/s, 25.99 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,270 ft<sup>3</sup>/s July 26, 1979, gage height, 11.35 ft; no flow for several days in 1971, 1972, 1975, 1983, 1984, 1987, and 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 800 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Feb. 14	0115	*1,320	*7.13	Apr. 4	0145	1,240	6.95
Mar. 29	2330	826	5.80	July 11	2200	1,070	6.50

Minimum daily discharge, 0.12 ft<sup>3</sup>/s Oct. 8, 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.60	.17	8.0	96	8.8	13	104	15	5.6	3.0	21	39
2	.40	.29	6.4	52	9.3	11	60	13	5.4	26	6.7	17
3	.25	.30	5.8	34	164	11	158	11	5.2	63	4.6	5.9
4	.19	6.5	5.2	22	62	10	443	9.9	12	22	4.0	3.9
5	.16	28	4.6	18	39	168	89	9.8	69	13	3.3	3.0
6	.14	11	4.3	75	27	236	56	9.5	36	9.1	3.0	2.3
7	.13	7.8	4.1	72	20	71	50	9.2	18	6.2	2.7	1.9
8	.12	7.0	3.6	210	15	49	80	8.9	11	4.6	2.3	1.6
9	.12	6.5	3.2	56	12	37	65	14	9.1	4.0	2.0	7.9
10	.14	9.5	3.0	39	10	36	50	28	7.5	3.4	1.8	42
11	.15	7.6	2.8	27	9.9	32	39	18	6.0	129	1.6	10
12	.15	6.8	2.7	57	9.1	27	30	13	8.0	209	1.5	5.9
13	.15	7.8	2.6	49	238	23	25	11	20	81	1.4	4.4
14	.17	6.7	2.6	78	485	25	21	9.0	75	47	1.2	4.6
15	.22	6.2	2.3	100	344	25	18	8.7	45	28	1.1	4.7
16	.30	8.0	2.1	48	210	21	16	8.2	25	14	1.1	38
17	.40	8.7	2.0	34	77	18	14	7.7	16	9.1	1.1	24
18	1.1	6.4	2.0	26	53	17	19	7.4	12	6.5	1.0	11
19	.70	46	1.9	19	43	14	44	7.1	9.1	17	.90	7.0
20	.30	194	1.8	15	37	296	34	7.1	7.4	27	2.3	5.6
21	.40	46	1.8	12	112	188	25	7.2	6.3	9.7	3.9	4.6
22	.60	24	1.7	10	61	69	20	6.8	5.5	6.3	3.1	4.3
23	.80	14	2.1	9.3	44	51	17	9.2	4.8	5.4	1.9	3.9
24	1.1	10	19	8.7	32	38	19	11	4.3	4.9	1.4	3.2
25	.99	7.9	17	8.0	24	29	18	9.0	3.9	4.4	1.2	3.0
26	.79	12	9.8	11	22	23	16	8.4	3.6	3.9	.97	2.6
27	.61	51	8.3	17	18	19	15	7.2	7.0	3.6	.78	2.1
28	.59	25	188	14	15	17	13	6.5	10	3.3	.94	1.9
29	.43	14	57	12	---	287	16	6.2	6.4	3.1	1.0	1.8
30	.30	11	33	11	---	296	17	5.9	3.6	8.1	.61	1.8
31	.21	---	24	9.7	---	347	---	5.7	---	6.1	.35	---
TOTAL	12.71	590.16	432.7	1249.7	2201.1	2504	1591	308.6	457.7	780.7	80.75	268.9
MEAN	.41	19.7	14.0	40.3	78.6	80.8	53.0	9.95	15.3	25.2	2.60	8.96
MAX	1.1	194	188	210	485	347	443	28	75	209	21	42
MIN	.12	.17	1.7	8.0	8.8	10	13	5.7	3.6	3.0	.35	1.6
CFSM	.03	1.54	1.09	3.15	6.14	6.31	4.14	.78	1.19	1.97	.20	.70
IN.	.04	1.72	1.26	3.63	6.40	7.28	4.62	.90	1.33	2.27	.23	.79

CAL YR 1988 TOTAL 5418.40 MEAN 14.8 MAX 587 MIN .06 CFSM 1.16 IN. 15.75  
WTR YR 1989 TOTAL 10478.02 MEAN 28.7 MAX 485 MIN .12 CFSM 2.24 IN. 30.45



## 03374500 PATOKA RIVER NEAR CUZCO, IN

LOCATION.--Lat 38°26'30", long 86°43'01", in SW¼SW¼ sec.11, T.1 S., R.3 W., Dubois County, Hydrologic Unit 05120209, on right bank 20 ft upstream from bridge on Cuzco Road South, 2.3 mi south of Cuzco, 0.7 mi downstream from Patoka Lake, 4.5 mi upstream from Dillon Creek, and at mile 117.8.

DRAINAGE AREA.--170 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1961 to current year.

GAGE.--Data-Collection Platform. Datum of gage is 477.00 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana, Department of Natural Resources). Prior to Oct. 1, 1961, nonrecording gage on downstream side of bridge, 1.7 mi downstream at same datum. Oct. 1, 1961 to Sept. 30, 1981, water-stage recorder at site described above. Prior to October 1979, published as "near Ellsworth". Data-Collection Platform installed on July 25, 1985.

REMARKS.--Flow regulated by Patoka Lake since February 1978. Daily discharge computed from relation between discharge, head, and gate openings for Patoka Lake beginning Oct. 1, 1981.

COOPERATION.--Records of daily discharge provided by U.S. Army Corps of Engineers beginning Oct. 1, 1981.

AVERAGE DISCHARGE.--28 years, 219 ft<sup>3</sup>/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,700 ft<sup>3</sup>/s Mar. 10, 1964, gage height, 20.02 ft; no flow Oct. 30, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 19.1 ft according to information by local resident, discharge, 12,300 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 1200 ft<sup>3</sup>/s Apr. 16; minimum daily, 22 ft<sup>3</sup>/s Oct. 27 through Dec. 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	22	22	23	601	504	111	498	297	151	49	99
2	31	22	22	23	600	504	111	498	297	151	74	99
3	31	22	22	68	243	330	118	497	297	83	99	99
4	31	22	22	162	49	99	189	406	297	49	99	99
5	31	22	22	199	215	100	315	252	173	49	99	99
6	31	22	22	199	524	101	465	198	99	49	99	99
7	31	22	22	199	604	101	660	198	167	82	99	99
8	31	22	22	129	603	214	720	198	198	99	99	99
9	31	22	22	159	602	518	720	198	198	99	41	99
10	31	22	22	260	602	847	719	198	198	99	42	99
11	31	22	22	296	601	915	780	198	197	99	99	99
12	31	22	22	296	600	913	881	198	197	99	99	99
13	31	22	22	297	254	783	977	198	197	99	99	99
14	31	22	22	297	49	882	1080	198	198	99	99	99
15	31	22	22	298	49	995	1170	198	129	99	78	163
16	31	22	22	298	49	994	1200	198	99	99	74	197
17	31	22	22	298	50	992	1190	124	99	99	99	197
18	31	22	22	361	50	990	1190	49	99	99	99	197
19	31	22	22	462	143	988	1190	49	135	99	99	197
20	31	22	22	500	161	429	1190	49	152	66	99	264
21	31	22	22	500	100	109	1180	49	151	49	99	296
22	31	22	22	499	158	109	1180	49	151	49	99	232
23	31	22	22	557	265	373	1180	152	151	49	99	197
24	31	22	22	605	362	824	1180	198	151	49	99	197
25	31	22	22	605	471	996	1170	198	151	49	99	197
26	25	22	22	604	505	994	1060	198	151	513	99	196
27	22	22	22	604	505	883	1000	143	151	40	99	196
28	22	22	22	603	504	572	819	50	151	99	99	196
29	22	22	22	603	---	374	696	149	151	99	99	196
30	22	22	22	602	---	110	566	229	151	74	99	196
31	22	---	22	588	---	111	---	281	---	49	99	---
TOTAL	910	660	682	11194	9519	17654	25007	6296	5233	2987	2833	4700
MEAN	29.4	22.0	22.0	361	340	569	834	203	174	96.4	91.4	157
MAX	31	22	22	605	604	996	1200	498	297	513	99	296
MIN	22	22	22	23	49	99	111	49	99	40	41	99

CAL YR 1988 TOTAL 32462 MEAN 88.7 MAX 817 MIN 22  
WTR YR 1989 TOTAL 87675 MEAN 240 MAX 1200 MIN 22

## 03375500 PATOKA RIVER AT JASPER, IN

LOCATION.--Lat 38°24'49", long 86°52'36", in NW¼SE¼ sec.20, T.1 S., R.4 W., Dubois County, Hydrologic Unit 05120209, on left bank 0.3 mi upstream from unnamed outlet of Jasper Lake, 1.0 mi downstream from Coon Seitz bridge, 1.2 mi downstream from Beaver Creek, 3.3 mi northeast of Jasper, and at mile 91.5.

DRAINAGE AREA.--262 mi<sup>2</sup>.

PERIOD OF RECORD.--November 1947 to current year.

REVISED RECORDS.--WSP 1909: 1958. WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 446.00 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana, Department of Natural Resources). Nonrecording gage at bridge 5.6 mi downstream, used for high-water periods when flow exceeds about 2,500 ft<sup>3</sup>/s, at datum 0.34 ft lower. Prior to Sept. 18, 1956, nonrecording gage at bridge 5.6 mi downstream at datum 0.34 ft lower.

REMARKS.--No estimated daily discharges. Records fair. Flow regulated by Beaver Creek Reservoir beginning Oct. 11, 1955, and by Patoka Lake beginning Feb. 13, 1978.

AVERAGE DISCHARGE.--41 years (water years 1949 to current year), 362 ft<sup>3</sup>/s, 18.76 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,100 ft<sup>3</sup>/s Mar. 11, 1964, gage height, 15.17 ft at downstream gage; maximum gage height at upstream gage, 21.20 ft Mar. 11, 1964, from floodmarks; no flow at times during 1948, 1952-56, 1963-65.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 15.9 ft at downstream site, from floodmark furnished by local residents, discharge, 16,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,050 ft<sup>3</sup>/s Feb. 15, gage height, 14.69 ft; minimum daily, 23 ft<sup>3</sup>/s Aug. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	37	101	743	672	577	1890	727	227	114	308	129
2	48	35	86	706	680	571	1600	638	244	214	118	194
3	46	36	78	371	1140	570	1270	617	247	589	108	135
4	44	384	71	296	1110	380	1720	607	269	203	121	118
5	44	1240	64	334	448	988	1780	441	332	119	117	115
6	44	783	62	691	430	1600	1590	251	268	75	121	114
7	44	269	60	692	663	1730	1210	191	122	60	112	113
8	44	158	57	1060	687	1310	1190	186	148	78	108	112
9	45	116	54	745	663	629	1290	201	170	84	106	113
10	45	120	52	426	654	848	1280	255	165	82	51	162
11	45	146	50	430	650	1060	1160	226	159	91	23	157
12	45	107	49	506	645	1140	1100	204	170	198	105	128
13	45	100	59	548	863	1160	1120	195	192	264	109	121
14	45	105	61	634	1580	1160	1170	191	293	136	110	120
15	46	90	60	1110	1870	1180	1230	191	336	103	111	125
16	48	192	57	825	1950	1260	1270	186	187	91	88	228
17	48	361	55	559	1690	1290	1290	181	127	85	71	387
18	51	200	54	488	875	1280	1320	121	109	81	118	270
19	53	322	55	520	334	1250	1360	51	101	441	119	230
20	49	1150	56	591	361	1380	1390	50	122	1010	145	220
21	49	1090	55	594	749	1630	1410	48	127	319	234	260
22	50	416	54	584	573	1720	1400	46	123	111	214	306
23	61	200	73	580	411	1100	1380	129	121	129	122	262
24	79	145	247	648	431	800	1360	202	119	108	113	201
25	62	119	400	679	503	1030	1350	198	118	87	112	199
26	53	135	197	733	600	1160	1330	190	117	64	109	198
27	48	320	147	802	610	1190	1310	185	118	43	107	195
28	45	244	924	737	594	1170	1240	134	146	38	105	194
29	45	153	1070	706	---	1210	1100	50	121	90	105	197
30	42	121	451	694	---	1570	896	112	116	541	103	194
31	39	---	272	683	---	1880	---	190	---	982	103	---
TOTAL	1498	8894	5131	19715	22436	35823	40006	7194	5214	6630	3696	5497
MEAN	48.3	296	166	636	801	1156	1334	232	174	214	119	183
MAX	79	1240	1070	1110	1950	1880	1890	727	336	1010	308	387
MIN	39	35	49	296	334	380	896	46	101	38	23	112
CFSM	.18	1.13	.63	2.43	3.06	4.41	5.09	.89	.66	.82	.46	.70
IN.	.21	1.26	.73	2.80	3.19	5.09	5.68	1.02	.74	.94	.52	.78

CAL YR 1988 TOTAL 74035 MEAN 202 MAX 2360 MIN 35 CFSM .77 IN. 10.51  
WTR YR 1989 TOTAL 161734 MEAN 443 MAX 1950 MIN 23 CFSM 1.69 IN. 22.96

## 03375800 HALL CREEK NEAR ST. ANTHONY, IN

LOCATION.--Lat 38°21'45", long 86°49'43", in NW¼NW¼ sec.11, T.2 S., R.4 W., Dubois County, Hydrologic Unit 05120209, on downstream side of right pier of bridge on County Road 125 South, 0.7 mi upstream from Grassy Fork, 3.3 mi north of St. Anthony, and at mile 4.1.

DRAINAGE AREA.--21.8 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1970 to current year.

REVISED RECORDS.--WDR IN-75-1: 1971-74.

GAGE.--Water-stage recorder. Datum of gage is 459.22 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana, Department of Natural Resources).

REMARKS.--Estimated daily discharges: Oct. 1 to Dec. 14, Feb. 9, 10, Apr. 4 to Aug. 24, and Sept. 25-30. Records good except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--19 years, 33.2 ft<sup>3</sup>/s, 20.68 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,500 ft<sup>3</sup>/s July 26, 1979, gage height, 15.30 ft from contracted-opening and flow-over-the-road measurements at gage height of 15.30 ft; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 950 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 20	unknown	1,350	10.93	Mar. 20	1700	1,080	10.37
Dec. 28	0500	976	9.96	Mar. 29	0400	1,150	10.58
Jan. 8	0100	1,210	10.72	Mar. 31	0300	1,420	11.01
Feb. 14	0200	2,290	11.66	Apr. 4	0100	*4,100	*12.39
Mar. 6	0300	1,330	10.90				

Minimum daily discharge, 0.20 ft<sup>3</sup>/s Oct. 14, 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.35	.55	14	219	9.4	13	85	2.7	1.7	.70	5.2	47
2	.50	.50	12	66	83	13	67	2.5	1.4	90	4.8	9.2
3	.40	1.0	10	46	419	13	572	2.2	1.2	32	3.5	4.7
4	.35	10	9.0	28	76	14	908	2.0	1.0	12	3.5	3.6
5	.32	60	8.0	51	43	637	84	3.5	35	15	3.5	2.6
6	.30	25	7.0	181	24	487	56	2.8	5.6	12	4.0	2.0
7	.28	13	6.5	139	17	69	48	2.3	2.3	9.4	3.3	1.6
8	.26	10	6.0	300	13	43	144	2.7	2.1	7.4	2.7	1.4
9	.25	7.0	5.5	54	11	36	47	4.4	2.7	5.8	2.6	86
10	.24	21	5.0	34	9.6	32	34	10	2.3	4.4	2.6	53
11	.23	10	4.6	26	7.9	29	23	6.0	2.0	4.0	2.5	9.6
12	.22	7.0	4.3	85	6.9	26	23	4.8	198	15	2.2	5.5
13	.21	12	4.0	45	584	43	20	3.7	18	16	2.0	4.1
14	.20	8.0	3.7	252	808	38	12	3.7	99	9.2	1.8	5.0
15	.20	6.0	3.2	118	610	29	10	6.4	23	6.0	1.8	5.5
16	.80	40	2.7	52	229	25	8.9	3.2	11	5.6	1.7	56
17	1.0	25	2.7	33	67	24	7.1	3.0	7.6	4.0	2.3	17
18	.70	18	2.5	24	45	24	9.7	2.7	4.8	3.5	1.7	8.8
19	.60	70	2.8	18	36	23	11	2.9	3.8	56	33	6.1
20	.50	500	3.0	14	81	436	7.9	14	3.3	10	122	4.7
21	.70	100	3.0	11	154	159	6.7	3.3	2.6	4.0	557	3.7
22	.60	50	2.7	9.9	53	51	5.2	30	2.2	3.2	33	3.4
23	1.0	30	4.3	9.1	35	35	5.2	53	1.8	3.5	7.6	3.4
24	2.0	23	27	8.6	28	30	5.8	22	1.5	5.0	6.7	2.3
25	1.0	17	11	8.1	25	29	4.8	8.9	1.2	5.2	4.0	2.1
26	.60	13	8.4	35	23	29	4.0	11	1.0	5.0	3.1	1.8
27	.40	90	10	26	19	29	4.0	5.2	5.2	4.8	2.6	1.5
28	1.0	50	396	18	16	29	3.3	3.2	9.4	3.8	2.1	1.3
29	.80	25	69	15	---	636	6.9	2.5	3.0	3.7	1.6	1.1
30	.70	20	44	13	---	369	3.0	2.0	1.3	49	1.4	.98
31	.60	---	36	11	---	620	---	3.3	---	6.9	1.2	---
TOTAL	17.31	1262.05	727.9	1949.7	3532.2	4070	2226.5	229.9	455.0	412.10	827.0	354.98
MEAN	.56	42.1	23.5	62.9	126	131	74.2	7.42	15.2	13.3	26.7	11.8
MAX	2.0	500	396	300	808	637	908	53	198	90	557	86
MIN	.20	.50	2.5	8.1	6.9	13	3.0	2.0	1.0	.70	1.2	.98
CFSM	.03	1.93	1.08	2.89	5.79	6.02	3.40	.34	.70	.61	1.22	.54
IN.	.03	2.15	1.24	3.33	6.03	6.95	3.80	.39	.78	.70	1.41	.61

CAL YR 1988 TOTAL 7601.17 MEAN 20.8 MAX 1380 MIN .00 CFSM .95 IN. 12.97  
WTR YR 1989 TOTAL 16064.64 MEAN 44.0 MAX 908 MIN .20 CFSM 2.02 IN. 27.41

## 03376300 PATOKA RIVER AT WINSLOW, IN

LOCATION.--Lat 38°22'48", long 87°13'00", in SW¼ sec.32, T.1 S., R.7 W., Pike County, Hydrologic Unit 05120209, on right bank at abandoned bridge abutment, 65 ft upstream from bridge on State Highway 61, 100 ft downstream from dam of Winslow Water Company, and 41.3 mi above mouth.

DRAINAGE AREA.--603 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1963 to September 1974, May 1986 to current year. Discharge measurements and gage readings June 1961 to September 1963, obtained by State of Indiana, Department of Natural Resources, are available in the district office.

GAGE.--Water-stage recorder. Datum of gage is 400.00 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana, Department of Natural Resources). Prior to Nov. 21, 1963, nonrecording gage on downstream side of bridge 65 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Nov. 29 to Dec. 13, Jan. 6-26, Mar. 7-15, and Mar. 31 to Apr. 5. Records good except for estimated daily discharges, which are poor. An average 0.13 ft<sup>3</sup>/s is diverted for municipal water supply 100 ft above gage.

AVERAGE DISCHARGE.--14 years (1964-74, 1987 to current year), 669 ft<sup>3</sup>/s, 15.07 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,500 ft<sup>3</sup>/s Mar. 13, 1964, gage height, 28.84 ft; minimum daily, 0.5 ft<sup>3</sup>/s Aug. 5, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in January 1937 reached a stage of 28.9 ft, from floodmarks, information from State of Indiana, Department of Natural Resources.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,070 ft<sup>3</sup>/s Apr. 6, gage height, 25.92 ft; minimum daily, 44 ft<sup>3</sup>/s Oct. 8, 13, 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	61	630	1860	878	1250	4200	1240	204	197	613	159
2	62	51	440	1900	841	1080	6000	1100	256	322	592	239
3	66	47	350	1850	1770	975	7100	938	284	1570	325	289
4	66	231	290	1770	1900	909	7500	821	307	1660	179	220
5	55	1560	240	1620	1840	1790	7670	830	507	1380	148	172
6	48	1570	210	1690	1840	2740	7910	729	765	924	151	152
7	45	1560	180	1800	1850	2680	7250	535	580	558	144	145
8	44	1530	160	1780	1770	2600	6200	387	352	348	140	143
9	45	1290	140	1770	1600	2450	5260	389	243	214	133	147
10	45	913	125	1710	1370	2200	4400	562	251	178	127	219
11	46	603	115	1680	1170	2400	3640	547	249	170	123	367
12	45	416	105	1640	1020	2420	3040	436	235	481	98	265
13	44	328	98	1570	1270	2360	2640	355	334	710	64	188
14	45	282	96	1540	2950	2250	2310	317	775	568	91	163
15	44	258	107	1690	3060	2190	2110	299	907	388	112	157
16	52	264	111	1700	3530	2080	1940	294	707	249	112	411
17	56	520	104	1680	4440	1970	1800	282	464	190	112	715
18	70	613	89	1610	5510	1870	1700	266	302	168	101	614
19	74	732	99	1520	5400	1780	1640	253	231	165	89	414
20	74	1760	94	1430	4910	2050	1580	253	207	516	118	303
21	66	1820	93	1340	4400	2500	1530	278	194	897	682	262
22	62	1760	99	1230	3800	2350	1500	251	198	798	1290	259
23	79	1780	125	1130	3170	2320	1470	727	192	454	1170	294
24	107	1770	247	1050	2710	2380	1450	970	185	277	826	290
25	141	1590	477	970	2350	2420	1430	704	178	335	482	240
26	121	1220	539	885	2020	2380	1410	499	173	321	284	215
27	93	1160	461	1110	1710	2240	1390	410	174	194	200	210
28	82	1130	1360	1140	1470	2100	1360	352	473	141	171	208
29	73	1050	1750	1080	---	2380	1360	308	387	110	182	206
30	75	900	1690	1010	---	2990	1320	224	256	93	157	207
31	69	---	1690	943	---	3450	---	161	---	204	152	---
TOTAL	2051	28769	12314	45698	70549	67554	100110	15717	10570	14780	9168	7873
MEAN	66.2	959	397	1474	2520	2179	3337	507	352	477	296	262
MAX	141	1820	1750	1900	5510	3450	7910	1240	907	1660	1290	715
MIN	44	47	89	885	841	909	1320	161	173	93	64	143
CFSM	.11	1.59	.66	2.44	4.18	3.61	5.53	.84	.58	.79	.49	.44
IN.	.13	1.77	.76	2.82	4.35	4.17	6.18	.97	.65	.91	.57	.49

CAL YR 1988 TOTAL 179732 MEAN 491 MAX 5460 MIN 42 CFSM .81 IN. 11.09  
WTR YR 1989 TOTAL 385153 MEAN 1055 MAX 7910 MIN 44 CFSM 1.75 IN. 23.76



## 03376500 PATOKA RIVER NEAR PRINCETON, IN

LOCATION.--Lat 38°23'25", long 87°32'55", in Location 107, T.1 S., R.10 W., Gibson County, Hydrologic Unit 05120209, on right downstream side of bridge on State Highway 65, 0.5 mi downstream from Indian Creek, 2 mi northeast of Princeton, and at mile 21.4.

DRAINAGE AREA.--822 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1934 to current year. Published as "at Patoka" August 1934 to September 1940. Records published for both sites October 1939 to September 1940 (monthly discharge only at present site, for October, November 1939, published in WSP 1305).

REVISED RECORDS.--WSP 1275: 1952. WSP 1335: 1935-36, 1938-39, 1949(M), 1940-50. WSP 1385: 1951-52. WSP 2109: Drainage area.

GAGE.--Water-stage recorder and Data-Collection Platform. Datum of gage is 390.00 ft above National Geodetic Vertical Datum of 1929. Jan. 21, 1941 to Oct. 23, 1986, water-stage recorder at dam 0.1 mi downstream and at datum 4.14 ft higher. See WSP 1725 for history of changes prior to Jan. 21, 1941.

REMARKS.--Estimated daily discharges: Nov. 11-20, Dec. 1-12, and 16-18. Records good except for estimated daily discharges, which are fair. Flow regulated by Patoka Lake.

AVERAGE DISCHARGE.--55 years, 1,028 ft<sup>3</sup>/s, 16.98 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,700 ft<sup>3</sup>/s Jan. 26, 1937, gage height, 26.80 ft, site and datum then in use; no flow Aug. 29 to Sept. 12, 1936.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,200 ft<sup>3</sup>/s Apr. 8, gage height, 23.07 ft; minimum daily, 55 ft<sup>3</sup>/s Oct. 14, 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61	90	900	1850	1290	3310	4270	1710	254	412	543	280
2	70	83	700	1960	1240	2920	4460	1640	328	918	833	362
3	77	75	550	2070	1840	2600	4990	1540	367	2380	629	381
4	76	304	425	2130	1890	2320	6360	1440	432	2240	336	336
5	75	1220	350	2170	1940	2460	8200	1450	789	2270	206	244
6	66	1370	285	2380	2010	2610	9530	1330	1000	2190	261	195
7	60	1420	245	2320	2060	2640	10000	1160	973	1970	197	177
8	57	1450	220	2330	2080	2780	9940	875	702	1440	180	167
9	57	1450	200	2350	2070	2920	9350	771	431	834	171	276
10	57	1430	185	2380	2030	3030	8370	910	340	488	161	358
11	58	960	170	2390	1940	3110	7030	903	340	321	153	390
12	58	710	155	2400	1780	3160	5860	783	326	873	142	397
13	57	570	151	2380	1910	3230	5330	614	459	1060	112	272
14	55	470	147	2380	2620	3250	4840	499	1930	983	91	217
15	55	420	145	2400	2790	3240	4410	448	1340	747	127	196
16	59	400	143	2400	3170	3180	3970	423	1190	487	137	917
17	85	660	141	2390	3470	3070	3590	409	945	326	139	1120
18	80	730	139	2380	3790	2910	3260	382	616	255	139	1020
19	91	840	139	2340	4080	2770	2980	367	427	235	122	756
20	90	1470	143	2280	4390	2890	2740	657	353	365	172	494
21	92	1550	138	2200	4780	2990	2560	446	300	891	1280	371
22	89	1610	136	2060	4950	2960	2400	479	280	1040	1880	328
23	88	1650	158	1870	4950	2970	2260	1300	276	1050	1820	336
24	134	1670	264	1590	4860	2950	2110	1280	258	1030	1760	350
25	139	1690	535	1390	4710	2900	1990	1240	243	650	1470	316
26	159	1720	665	1410	4380	2850	1900	1050	232	508	995	264
27	136	1700	666	1460	4040	2820	1820	759	228	368	607	243
28	111	1600	1290	1450	3670	2780	1780	583	1480	242	363	236
29	104	1470	1560	1440	---	2890	1850	496	1190	185	564	235
30	95	1240	1670	1410	---	3420	1770	405	746	149	309	234
31	93	---	1730	1360	---	4140	---	284	---	199	228	---
TOTAL	2584	32022	14345	63320	84730	92070	139920	26633	18775	27106	16127	11468
MEAN	83.4	1067	463	2043	3026	2970	4664	859	626	874	520	382
MAX	159	1720	1730	2400	4950	4140	10000	1710	1930	2380	1880	1120
MIN	55	75	136	1360	1240	2320	1770	284	228	149	91	167
CFSM	.10	1.30	.56	2.48	3.68	3.61	5.67	1.05	.76	1.06	.63	.47
IN.	.12	1.45	.65	2.87	3.83	4.17	6.33	1.21	.85	1.23	.73	.52

CAL YR 1988 TOTAL 225946 MEAN 617 MAX 4430 MIN 48 CFSM .75 IN. 10.23  
WTR YR 1989 TOTAL 529100 MEAN 1450 MAX 10000 MIN 55 CFSM 1.76 IN. 23.94



## 03377500 WABASH RIVER AT MOUNT CARMEL, IL

LOCATION.--Lat 38°24'07", long 87°45'10", in SE¼NW¼ sec.28, T.1 S., R.12 W., Wabash County, Illinois, Hydrologic Unit 05120113, on right bank on downstream side of Southern Railway bridge at Mount Carmel, 0.2 mi downstream from Patoka River, and at mile 94.4.

DRAINAGE AREA.--28,635 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1908 to September 1913 (gage heights only), October 1927 to current year. Gage-height records collected in this vicinity November 1874 to December 1878, are contained in files of Louisville office of the U.S. Army Corps of Engineers and since June 1884, are contained in reports of National Weather Service.

REVISED RECORDS.--WDR IN-73-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 369.46 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1949, to Feb. 8, 1977, at datum 2.00 ft higher. See WSP 1725 for history of changes prior to Sept. 30, 1949.

REMARKS.--No estimated daily discharges. Records good. Flow partially regulated by upstream reservoirs.

AVERAGE DISCHARGE.--62 years, 27,569 ft<sup>3</sup>/s, 13.07 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 305,000 ft<sup>3</sup>/s May 25, 1943; maximum gage height, 30.62 ft Feb. 5, 6, 1969, present datum; minimum daily discharge, 1,650 ft<sup>3</sup>/s Sept. 27, 28, 1941.

EXTREMES OUTSIDE THE PERIOD OF RECORD.--(1874-78, 1884 to 1985) Maximum discharge, 428,000 ft<sup>3</sup>/s Mar. 30, 1913, from rating curve extended above 310,000 ft<sup>3</sup>/s, gage height, 33.0 ft, present site and datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 128,000 ft<sup>3</sup>/s Apr. 10, gage height, 25.84 ft; minimum daily, 3,100 ft<sup>3</sup>/s Oct. 9, 11, 12.

## PROVISIONAL DATA

## SUBJECT TO REVISION

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3350	4630	14100	24400	27000	28600	74200	48700	69000	20400	23900	33400
2	3340	4440	13200	26900	26300	25300	76900	53100	76400	19500	19500	37100
3	3260	4330	12300	28000	28400	22700	82600	55000	82000	25500	16500	41000
4	3290	4530	11400	27800	31600	21200	94800	54400	83300	32700	14600	45200
5	3220	5760	10700	26400	30800	23800	105000	54400	78400	31500	13600	47700
6	3210	7340	9960	28200	28800	33100	112000	54000	69800	29300	13000	49000
7	3190	7710	9410	33300	26400	39800	118000	51400	63900	26700	11500	50000
8	3170	8210	8900	40500	24200	41000	123000	46400	59800	22900	10500	50300
9	3100	8100	8400	44100	21800	40800	127000	40200	56500	19000	9900	50000
10	3180	8350	8020	46500	19500	41000	127000	36500	53800	15800	10400	51000
11	3100	8280	7620	48600	17700	43400	125000	36000	51800	13600	11100	53000
12	3100	8500	7360	49400	16200	45600	120000	37500	50200	12800	11100	54500
13	3150	9520	7090	49600	15700	46200	112000	37300	48200	21900	9680	56800
14	3150	9160	6860	48900	24900	46100	99500	35800	48800	24200	8430	59600
15	3120	9010	6490	47000	34600	45000	83700	34000	45500	24000	7550	63600
16	3210	9380	6330	44700	40900	43100	67700	31700	41500	22400	7010	68200
17	3260	10000	6140	42800	42800	41100	53600	28600	39700	19400	6850	71500
18	3370	13300	6090	41100	42000	38500	43900	25600	37900	17000	6660	73800
19	3360	15100	6060	38800	40400	35500	40300	23600	35600	16000	6370	74500
20	3530	16400	5880	36000	39100	35400	38600	24300	32600	15500	6610	74300
21	3780	19100	5540	33700	40500	51300	37000	28500	29800	16600	8230	72900
22	4070	20200	5450	31400	42700	61400	35700	34400	28300	19500	12500	69500
23	4710	21200	5680	28300	42500	63400	34500	40200	27900	26600	10000	61300
24	5100	21600	6050	25000	40300	64500	33900	45800	27600	29500	9140	52700
25	5420	22100	6970	22200	37500	64300	34600	48800	26800	29800	15600	43300
26	5400	21500	8310	20800	35100	60300	34000	49400	25700	28300	19200	30800
27	5320	20000	10200	21000	33400	55100	30800	52300	24600	27600	18600	24800
28	5170	18300	12600	21600	31400	50900	28900	58100	25700	26200	18400	22000
29	4970	16600	16200	22700	---	48500	33000	62000	25800	24800	19800	19900
30	4830	15200	18900	24200	---	58300	42100	64300	22400	23300	23700	18500
31	4730	---	20400	26200	---	69700	---	66000	---	26100	30100	---
TOTAL	118160	367850	288610	1050100	882500	1384900	2169300	1358300	1389300	708400	410030	1520200
MEAN	3812	12260	9310	33870	31520	44670	72310	43820	46310	22850	12320	50670
MAX	5420	22100	20400	49600	42800	69700	127000	66000	83300	32700	30100	74500
MIN	3100	4330	5450	20800	15700	21200	28900	23600	22400	12800	6370	18500
CFSM	.13	.43	.33	1.18	1.10	1.56	2.53	1.53	1.62	.80	.46	1.77
IN.	.15	.48	.37	1.36	1.15	1.80	2.82	1.76	1.80	.92	.53	1.97

CAL YR 1988 TOTAL 6883800 MEAN 18810 MAX 96600 MIN 2990 CFSM .66 IN. 8.94  
WTR YR 1989 TOTAL 11647650 MEAN 31910 MAX 127000 MIN 3100 CFSM 1.11 IN. 15.13

## 03378500 WABASH RIVER AT NEW HARMONY, IN

LOCATION.--Lat 38°07'55", long 87°56'25" in SE1/4 sec. 35, T.4S., R.14W., Posey County, Hydrologic Unit 05120113, at bridge on U.S. Highway 460 at New Harmony, at Indiana-Illinois state line, and at mile 51.5.

DRAINAGE AREA.--29,234 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1988 to current year. Water discharge published October 1938 to September 1947.

GAGE.--Water-stage recorder. Datum of gage is 353.30 ft. above National Geodetic Vertical Datum of 1929. (Furnished by National Weather Service).

REMARKS.--Estimated 2400 hr. gage height: Oct. 1-3, Nov. 5-6, April 19, May 13, June 22, and July 1. Records good except for estimated periods which are fair. Water-quality data collected October 1974 to September 1986.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 23.84 ft. May, 26, 1943. Minimum gage height was not published prior to August 1988.

EXTREMED OUTSIDE PERIOD OF RECORD.--Flood of March 1913 reached a stage of 27.7 ft. Flood of Jan. 31, 1937, reached a stage of 24.4 ft.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 17.80 ft. April 10; Minimum gage height, 0.45 ft., Oct. 12.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.60	1.17	3.26	5.19	5.71	6.51	14.95	10.26	14.07	4.85	5.44	7.38
2	.59	1.11	3.09	5.71	5.77	5.70	15.23	11.21	14.57	5.16	4.61	8.18
3	.58	1.05	2.91	5.99	6.50	5.05	15.95	11.60	15.04	6.48	4.05	8.83
4	.57	1.37	2.77	6.00	6.93	4.87	16.57	11.64	15.33	7.49	3.67	9.56
5	.54	1.60	2.62	5.80	6.77	5.82	16.88	11.61	15.14	7.02	3.48	10.00
6	.54	1.97	2.49	6.44	6.29	7.58	17.22	11.53	14.22	6.63	3.43	10.31
7	.54	2.04	2.36	7.35	5.70	8.66	17.43	11.10	13.27	6.02	3.09	10.51
8	.51	2.15	2.27	8.80	5.22	8.91	17.64	10.11	12.59	5.26	2.91	10.50
9	.49	2.13	2.15	9.56	4.73	8.84	17.77	8.81	12.03	4.50	2.79	10.47
10	.49	2.18	2.05	10.03	4.29	8.89	17.80	7.91	11.55	3.91	2.85	10.91
11	.47	2.19	1.97	10.43	3.93	9.34	17.77	7.69	11.13	3.49	2.97	11.18
12	.46	2.25	1.93	10.57	3.65	9.75	17.52	7.95	10.83	3.40	2.98	11.51
13	.51	2.42	1.83	10.55	4.11	9.93	17.25	7.93	10.69	5.23	2.73	11.92
14	.49	2.35	1.75	10.43	6.09	9.97	16.65	7.66	10.97	5.57	2.49	12.44
15	.47	2.26	1.69	10.10	8.21	9.71	15.83	7.31	10.14	5.51	2.31	13.09
16	.51	2.35	1.66	9.60	9.24	9.25	14.52	6.87	9.18	5.14	2.19	13.56
17	.59	2.46	1.59	9.12	9.57	8.76	12.48	6.27	8.68	4.58	2.17	14.05
18	.58	3.06	1.59	8.74	9.37	8.14	10.25	5.67	8.32	4.15	2.13	14.33
19	.57	3.56	1.55	8.27	8.98	7.51	9.55	5.45	7.90	4.02	2.06	14.51
20	.65	3.83	1.54	7.66	8.77	7.82	8.57	5.66	7.31	4.00	2.14	14.51
21	.74	4.25	1.45	7.18	9.19	10.91	8.11	6.28	6.83	4.17	2.63	14.46
22	.85	4.41	1.47	6.71	9.65	12.70	7.81	7.43	6.48	4.94	3.38	14.11
23	1.13	4.59	1.46	6.09	9.69	13.22	7.55	8.85	6.35	6.25	2.91	13.19
24	1.27	4.67	1.56	5.43	9.69	13.41	7.40	9.90	6.27	6.77	2.66	11.60
25	1.41	4.75	1.76	4.89	8.72	13.39	7.49	10.41	6.10	6.64	3.84	9.67
26	1.41	4.73	2.06	4.69	8.14	12.80	7.35	10.55	5.87	6.27	4.49	7.16
27	1.44	4.42	2.51	4.71	7.72	11.88	6.73	11.25	5.65	6.10	4.39	5.82
28	1.37	4.07	3.05	4.73	7.21	11.08	6.40	12.28	5.87	5.84	4.42	5.17
29	1.31	3.75	3.65	4.91	---	11.12	6.98	12.91	5.87	5.57	4.74	4.71
30	1.27	3.46	4.12	5.16	---	13.12	8.92	13.32	5.23	5.29	5.46	4.43
31	1.21	---	4.71	5.57	---	14.47	---	13.62	---	5.85	6.66	---
MEAN	.78	2.89	2.29	7.30	7.14	9.65	12.75	9.39	9.78	5.36	3.42	10.60
MAX	1.44	4.75	4.71	10.57	9.69	14.47	17.80	13.62	15.33	7.49	6.66	14.51
MIN	.46	1.05	1.45	4.69	3.65	4.87	6.40	5.45	5.23	3.40	2.06	4.43

WTR YR 1989 MEAN 6.75 MAX 17.80 MIN .46

## 03378550 BIG CREEK NEAR WADESVILLE, IN

LOCATION.--Lat 38°04'58", long 87°46'10", in SW¼SW¼ sec.16, T.5 S., R.12 W., Posey County, Hydrologic Unit 05120113, on left bank at downstream side of bridge on State Highway 66, 0.6 mi northwest of Blairsville, and 1.6 mi southeast of Wadesville.

DRAINAGE AREA.--104 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 370.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Feb. 9-12. Records good.

AVERAGE DISCHARGE.--24 years, 115 ft<sup>3</sup>/s, 15.02 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,880 ft<sup>3</sup>/s May 1, 1983; maximum gage height, 19.72 ft Apr. 24, 1975; no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,400 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 4	1910	3,510	17.68	Mar. 31	0745	4,560	18.33
Feb. 3	0700	3,840	17.90	Apr. 4	0445	*6,560	*19.19
Feb. 14	0600	4,660	18.39	July 3	0015	3,270	17.51
Mar. 6	0430	3,810	17.88	Aug. 21	1445	4,540	18.32

No flow, Oct. 7-16, 19,20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.27	.60	13	198	54	40	586	9.3	11	2.6	20	173
2	.28	.61	10	218	265	41	251	9.4	17	732	3.3	197
3	.20	.69	9.5	190	2650	43	1600	8.5	10	1860	1.6	11
4	.12	1250	8.1	101	406	44	5350	14	9.4	279	1.1	4.5
5	.06	985	6.6	130	135	1920	2270	40	520	60	.97	2.7
6	.02	31	6.7	1030	89	2370	371	17	67	34	56	1.7
7	.00	9.9	6.3	339	69	332	135	11	25	20	13	1.3
8	.00	6.0	5.0	1110	56	133	121	9.4	16	13	2.4	1.0
9	.00	3.7	4.1	129	45	108	85	25	13	9.5	1.2	1.1
10	.00	5.8	4.0	88	38	114	68	34	9.1	7.0	.93	14
11	.00	7.0	4.0	73	31	101	61	13	6.9	39	.74	6.2
12	.00	3.9	3.0	218	27	80	56	9.6	18	240	.64	2.2
13	.00	8.2	3.2	138	1570	89	49	8.6	89	71	.58	1.3
14	.00	3.8	4.0	320	3640	98	45	7.5	889	14	.55	2.1
15	.00	2.9	3.6	538	2660	84	43	6.7	58	7.8	.49	3.2
16	.00	3.1	2.5	144	1270	58	37	5.8	30	5.5	.50	118
17	.01	4.0	2.2	101	227	56	33	5.2	18	4.0	.71	27
18	.02	3.7	2.2	82	141	50	30	4.9	53	3.0	.61	6.7
19	.00	346	2.6	66	113	41	27	6.3	37	2.6	.56	3.4
20	.00	1400	3.0	55	297	336	25	880	14	2.6	.84	2.2
21	.04	103	2.8	43	831	430	24	54	10	2.8	2990	1.6
22	.04	38	2.3	41	178	125	22	116	7.6	3.1	1220	2.1
23	.26	23	4.6	38	96	91	22	541	5.9	2.6	63	1.9
24	.91	16	57	35	70	73	20	58	5.1	1.6	73	1.3
25	1.3	12	29	36	65	61	18	37	4.2	3.1	11	1.1
26	2.3	84	11	227	66	52	16	195	3.5	1.5	5.8	.60
27	1.4	173	15	150	58	47	14	41	3.1	1.1	31	.35
28	1.3	43	1050	87	50	52	13	23	199	1.0	7.9	.25
29	.90	24	158	76	---	1300	12	24	15	25	41	.24
30	.74	18	85	73	---	2560	12	18	4.4	13	4.9	.37
31	.66	---	69	62	---	3660	---	13	---	24	2.6	---
TOTAL	10.83	4609.90	1587.3	6136	15197	14589	11416	2245.2	2168.2	3485.4	4556.92	589.41
MEAN	.35	154	51.2	198	543	471	381	72.4	72.3	112	147	19.6
MAX	2.3	1400	1050	1110	3640	3660	5350	880	889	1860	2990	197
MIN	.00	.60	2.2	35	27	40	12	4.9	3.1	1.0	.49	.24
CFSM	.00	1.48	.49	1.90	5.22	4.53	3.66	.70	.69	1.08	1.41	.19
IN.	.00	1.65	.57	2.19	5.44	5.22	4.08	.80	.78	1.25	1.63	.21

CAL YR 1988 TOTAL 24198.92 MEAN 66.1 MAX 3710 MIN .00 CFSM .64 IN. 8.66  
WTR YR 1989 TOTAL 66591.16 MEAN 182 MAX 5350 MIN .00 CFSM 1.75 IN. 23.82

## 04093000 DEEP RIVER AT LAKE GEORGE OUTLET AT HOBART, IN

LOCATION.--Lat 41°32'10", long 87°15'25", in NW¼NW¼ sec.32, T.36 N., R.7 W., Lake County, Hydrologic Unit 04040001, on left bank at upstream side of bridge on Center Street in Hobart, 300 ft upstream from Duck Creek, and 400 ft downstream from Lake George Dam.

DRAINAGE AREA.--124 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1947 to current year.

REVISED RECORDS.--WSP 1337: 1953. WSP 1507: 1956. WDR IN-72-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 588.17 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana, Department of Natural Resources). Prior to July 29, 1952, nonrecording gage, and July 30, 1952, to July 20, 1955, water-stage recorder at site 400 ft upstream at datum 11.80 ft higher.

REMARKS.--Estimated daily discharges: Dec. 28 to Jan. 5, Jan. 9-11, Feb. 6-13, and Feb. 23 to Mar. 11. Records fair except for estimated daily discharges, which are poor. Flows subject to regulation by operation of Lake George dam.

AVERAGE DISCHARGE.--42 years, 109 ft<sup>3</sup>/s, 11.94 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,000 ft<sup>3</sup>/s June 14, 1981; maximum gage height, 19.48 ft, Oct. 11, 1954, present datum, site then in use; no flow Nov. 5, 1978, due to regulation of Lake George Dam.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
June 2	0100	*3,530	*16.30

Minimum daily discharge, 12 ft<sup>3</sup>/s Oct. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	23	66	115	83	38	250	50	2420	52	37	132
2	35	24	62	95	80	36	182	49	3280	47	30	207
3	47	25	57	75	73	40	237	48	2290	43	25	125
4	31	31	56	65	70	48	409	45	1550	41	22	67
5	21	48	54	55	64	100	405	48	1080	36	23	47
6	17	51	53	134	57	210	295	47	832	33	20	45
7	16	44	49	238	53	190	212	50	635	31	20	78
8	15	41	49	476	51	145	167	48	452	29	21	72
9	14	41	47	540	48	130	143	48	273	28	33	75
10	14	270	45	420	42	140	118	47	187	26	49	112
11	12	318	43	250	42	200	98	45	169	24	40	87
12	13	178	43	148	42	291	88	42	182	36	32	56
13	13	193	43	127	44	240	84	41	245	42	27	45
14	14	167	44	105	52	190	78	40	213	36	28	51
15	15	111	43	93	56	171	72	39	161	31	49	59
16	22	206	40	83	56	145	70	37	135	28	53	50
17	67	260	40	76	55	121	66	37	121	27	41	41
18	269	154	39	73	54	159	72	36	103	29	33	35
19	186	146	38	73	53	192	77	42	92	61	31	31
20	69	262	41	73	53	173	70	62	84	82	37	29
21	42	365	42	72	55	156	63	61	78	88	35	26
22	34	244	47	68	56	131	59	50	72	69	38	23
23	37	162	153	64	47	111	55	43	67	50	46	21
24	42	120	225	63	43	99	53	39	62	40	42	20
25	39	97	170	64	46	90	51	60	57	33	35	19
26	32	88	122	73	48	86	49	87	56	30	31	16
27	30	94	120	82	47	81	47	70	154	28	27	17
28	27	88	250	80	44	118	54	56	144	23	28	17
29	23	78	245	80	---	350	65	187	88	23	29	15
30	23	72	185	87	---	513	59	651	62	34	26	15
31	25	---	140	92	---	388	---	653	---	44	27	---
TOTAL	1257	4001	2651	4139	1514	5082	3748	2858	15344	1224	1015	1633
MEAN	40.5	133	85.5	134	54.1	164	125	92.2	511	39.5	32.7	54.4
MAX	269	365	250	540	83	513	409	653	3280	88	53	207
MIN	12	23	38	55	42	36	47	36	56	23	20	15
CFSM	.33	1.08	.69	1.08	.44	1.32	1.01	.74	4.12	.32	.26	.44
IN.	.38	1.20	.80	1.24	.45	1.52	1.12	.86	4.60	.37	.30	.49

CAL YR 1988 TOTAL 31701.2 MEAN 86.6 MAX 892 MIN 3.9 CFSM .70 IN. 9.51  
WTR YR 1989 TOTAL 44466 MEAN 122 MAX 3280 MIN 12 CFSM .98 IN. 13.34

## 04093200 LITTLE CALUMET RIVER AT GARY, IN

LOCATION.--Lat 41°34'19", long 87°19'13", in NE¼SE¼ sec.15, T.36 N., R.8 W., Lake County, Hydrologic Unit 04040001, on right bank 100 ft upstream of Pennsylvania Railroad bridge, 800 ft upstream of Martin Luther King Avenue bridge at Gary, 1.3 mi downstream of highway 53, and 1.5 mi upstream from confluence with Deep River.

DRAINAGE AREA.--5.8 mi<sup>2</sup>, approximately.

PERIOD OF RECORD.--June 1958 to September 1967, October 1968 to September 30, 1971 (discharge), December 13, 1984 to current year (gage heights only).

GAGE.--Water-stage recorder. Wooden control since Dec. 13, 1984. Datum of gage is 580.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Stage affected by backwater from Deep River during times of flood. Minimum gage height for the period of record may have been lower prior to December 13, 1984.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 13.21 ft, Jun. 3, 1989; minimum gage height, 5.71 ft, July 17, 18, 28-30, 1988. Minimum gage height was not published prior to December 13, 1984.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in October 1954 reached a stage of 13.09 ft, from flood mark.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 13.21 ft, Jun. 3; minimum gage height, 5.96 ft, Oct. 1.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.96	6.42	7.83	8.26	8.08	7.20	8.30	6.90	10.71	6.92	6.84	8.19
2	7.02	6.40	7.73	8.13	8.01	7.08	8.22	6.86	12.74	6.76	6.73	8.34
3	6.58	6.36	7.66	8.01	7.92	7.72	8.32	6.86	13.21	6.65	6.66	8.31
4	6.31	7.03	7.61	7.83	7.63	8.15	8.45	7.16	13.17	6.56	6.57	8.12
5	6.17	6.63	7.59	8.25	7.78	8.40	8.57	7.52	12.65	6.48	6.59	7.90
6	6.28	6.88	7.54	8.49	7.74	8.42	8.58	7.63	11.92	6.42	6.58	7.94
7	6.12	6.84	7.48	8.68	7.66	8.36	8.49	7.79	11.21	6.37	6.45	7.98
8	6.08	6.61	7.40	8.81	7.56	8.35	8.27	7.81	10.88	6.34	6.35	7.98
9	6.07	7.87	7.28	8.86	7.36	8.41	8.18	7.84	10.58	6.31	7.14	8.03
10	6.04	8.59	7.19	8.91	7.21	8.56	7.92	7.83	10.38	6.28	6.68	8.06
11	6.02	8.72	7.06	8.85	7.11	8.69	7.79	7.79	10.20	6.28	6.60	8.02
12	5.99	8.83	6.95	8.75	7.18	8.81	7.62	7.71	10.08	6.58	6.93	7.98
13	5.99	8.87	6.97	8.52	7.16	8.81	7.52	7.64	9.94	6.42	7.11	7.93
14	5.98	8.86	7.29	8.33	7.26	8.77	7.44	7.54	9.80	6.33	8.10	7.94
15	6.01	8.76	7.19	8.16	7.43	8.69	7.29	7.41	9.66	6.28	7.76	7.93
16	6.16	8.82	6.99	8.01	7.34	8.57	7.20	7.31	9.52	6.24	7.45	7.88
17	8.43	8.75	6.86	7.89	7.27	8.49	7.22	7.26	9.33	6.20	7.18	7.80
18	8.58	8.65	6.75	7.86	7.21	8.53	7.38	7.18	9.15	7.61	7.03	7.63
19	8.56	8.74	6.82	7.85	7.18	8.52	7.32	7.77	8.96	8.09	6.87	7.44
20	8.40	8.81	7.16	7.79	7.15	8.47	7.26	8.64	8.76	8.36	7.05	7.21
21	8.16	8.83	7.19	7.73	7.23	8.36	7.17	8.80	8.52	8.46	6.81	7.01
22	7.80	8.81	8.10	7.66	7.13	8.08	7.10	8.78	8.29	8.49	6.77	6.79
23	7.82	8.73	8.43	7.68	7.01	7.87	7.02	8.64	7.91	8.33	6.77	6.56
24	7.35	8.59	8.55	7.68	7.03	7.76	7.06	8.48	7.49	8.02	6.70	6.41
25	7.04	8.40	8.56	7.80	7.11	7.63	6.94	8.81	7.18	7.65	6.56	6.34
26	6.85	8.27	8.52	7.96	7.18	7.54	6.89	8.92	6.98	7.31	6.45	6.25
27	6.77	8.21	8.72	7.99	7.23	7.53	6.83	8.85	7.25	7.06	6.35	6.18
28	6.56	8.11	8.77	8.01	7.22	8.19	6.92	8.68	7.37	6.90	6.41	6.16
29	6.49	8.02	8.71	8.04	---	8.32	7.02	9.06	7.30	6.78	6.33	6.14
30	6.48	7.95	8.54	8.07	---	8.43	6.99	9.16	7.11	7.07	6.28	6.11
31	6.44	---	8.42	8.11	---	8.44	---	9.42	---	6.94	6.56	---
MEAN	6.79	8.05	7.67	8.16	7.37	8.23	7.58	8.00	9.61	6.98	6.80	7.42
MAX	8.58	8.87	8.77	8.91	8.08	8.81	8.58	9.42	13.21	8.49	8.10	8.34
MIN	5.96	6.36	6.75	7.66	7.01	7.08	6.83	6.86	6.98	6.20	6.28	6.11

WTR YR 1989 MEAN 7.72 MAX 13.21 MIN 5.96



## 04093500 BURNS DITCH AT GARY, IN

LOCATION.--Lat 41°34'30", long 87°17'20", in SE1/4 sec.13, T.36 N., R.8 W., Lake County, Hydrologic Unit 04040001, on left bank at downstream side of bridge on Central Avenue, 0.4 mi east of Gary, and 0.4 mi downstream from confluence of Deep River and Little Calumet River.

DRAINAGE AREA.--160 mi<sup>2</sup>. During times of floods flow may leave the basin by flowing west through Little Calumet River into the western portion of Calumet River basin; or during times of floods on Hart ditch, flow may enter the basin from western portion of the Little Calumet River basin.

PERIOD OF RECORD.--October 1943 to current year (since 1951 water year, backwater free periods only).

REVISED RECORDS.--WSP 1034: 1944. WSP 1337: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 577.04 ft above National Geodetic Vertical Datum of 1929. Prior to July 28, 1955, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Feb. 6 to Mar. 4, Apr. 20 to May 10, July 5-8, and Sept. 4-23. Records fair except estimated daily discharges, which are poor. Burns ditch is an artificial channel which reverses the direction of flow of part of Little Calumet River and flows into Lake Michigan at Ogden Dunes. During high levels on Lake Michigan, only periods free from backwater are shown.

AVERAGE DISCHARGE.--30 years (1943-50, 1955-73, 1977, 1978, 1982, 1988, 1989), 141 ft<sup>3</sup>/s, 11.97 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,430 ft<sup>3</sup>/s Oct. 11, 1954; maximum gage height, 16.44 ft Mar. 16, 1944, from graph based on gage readings.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,970 ft<sup>3</sup>/s Jun. 2, gage height, 15.58 ft; minimum daily 15 ft<sup>3</sup>/s Oct. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	41	104	168	156	62	436	78	1660	86	66	199
2	68	44	93	136	139	56	326	75	2750	77	52	278
3	80	47	91	116	126	62	360	72	2890	73	41	209
4	69	56	82	107	107	76	506	70	2430	72	36	100
5	51	83	81	102	101	235	563	73	1950	64	42	63
6	30	100	74	209	94	381	487	72	1570	55	45	60
7	26	95	73	344	89	358	390	75	1240	50	29	98
8	25	86	71	505	82	239	312	74	951	46	24	95
9	24	84	67	551	75	195	259	73	704	44	36	120
10	22	339	67	543	68	250	215	71	501	32	76	150
11	21	446	66	394	66	384	174	68	433	36	61	100
12	19	323	66	289	66	451	153	63	421	65	46	70
13	18	314	65	239	70	417	137	61	447	62	42	60
14	20	302	68	189	80	349	124	59	411	51	60	70
15	20	236	64	157	86	315	116	57	336	39	87	75
16	34	300	58	132	86	268	107	55	277	34	88	62
17	109	397	61	113	85	232	106	52	232	30	73	50
18	370	299	54	105	83	270	110	51	192	36	55	43
19	312	281	54	103	82	321	119	61	164	116	42	39
20	172	401	60	109	82	307	106	89	143	169	55	36
21	113	497	66	102	85	281	98	106	127	184	50	33
22	89	436	75	97	86	236	91	99	113	166	44	30
23	79	320	200	99	80	200	84	87	107	136	55	28
24	87	242	333	100	68	172	81	77	97	107	59	26
25	76	194	288	102	73	153	78	104	87	85	50	26
26	63	168	217	117	76	138	76	133	82	69	39	24
27	54	164	217	132	74	128	74	132	174	60	33	20
28	50	156	318	132	68	182	86	108	203	58	32	20
29	41	131	346	134	---	397	98	228	145	45	36	18
30	42	116	266	148	---	585	87	627	105	61	33	18
31	40	---	210	156	---	568	---	764	---	72	28	---
TOTAL	2239	6698	3955	5930	2433	8268	5959	3814	20942	2280	1515	2220
MEAN	72.2	223	128	191	86.9	267	199	123	698	73.5	48.9	74.0
MAX	370	497	346	551	156	585	563	764	2890	184	88	278
MIN	15	41	54	97	66	56	74	51	82	30	24	18
CFSM	.45	1.40	.80	1.20	.54	1.67	1.24	.77	4.36	.46	.31	.46
IN.	.52	1.56	.92	1.38	.57	1.92	1.39	.89	4.87	.53	.35	.52

CAL YR 1988 TOTAL 44236.0 MEAN 121 MAX 1000 MIN 7.3 CFSM .76 IN. 10.28  
WTR YR 1989 TOTAL 66253 MEAN 182 MAX 2890 MIN 15 CFSM 1.13 IN. 15.40

## 04094000 LITTLE CALUMET RIVER AT PORTER, IN

LOCATION.--Lat 41°37'18", long 87°05'13", in NE1/4 sec.34, T.37 N., R.6 W., Porter County, Hydrologic Unit 04040001, on right bank at downstream end of county road bridge, 200 ft upstream from bridge on U.S. Highway 20, 0.8 mi northwest of Porter, and 4.5 mi upstream from Salt Creek.

DRAINAGE AREA.--66.2 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1945 to current year.

REVISED RECORDS.--WSP 1084: 1945. WSP 1337: 1946-47. WDR IN-72-1: Drainage area. WDR IN-83-1: 1982.

GAGE.--Water-stage recorder. Datum of gage is 603.48 ft above National Geodetic Vertical Datum of 1929. Prior to June 26, 1952, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Oct. 31 to Nov. 21, Dec. 29 to Jan. 4, Jan. 9-11, Feb. 5-12, 23-25, Mar. 2, 3, and Aug. 28, 29. Records good except for Oct. 31 to Nov. 21, which are poor.

AVERAGE DISCHARGE.--44 years, 74.4 ft<sup>3</sup>/s, 15.26 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,110 ft<sup>3</sup>/s Oct. 10, 1954, gage height, 11.66 ft; minimum daily, 17 ft<sup>3</sup>/s Aug. 24, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
June 2	0100	*2,270	*9.63

Minimum daily discharge, 23 ft<sup>3</sup>/s Oct. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	47	63	72	80	48	87	44	1150	40	32	136
2	58	46	59	66	69	43	77	43	1630	35	29	136
3	49	46	58	60	61	44	156	42	589	34	28	63
4	32	70	55	56	57	67	205	40	402	33	28	43
5	38	115	53	56	53	148	156	44	250	32	32	35
6	57	105	51	134	52	124	109	43	176	31	31	38
7	40	97	51	176	50	89	88	41	133	30	29	50
8	33	88	48	295	47	73	76	40	102	29	28	42
9	30	86	45	290	40	70	69	41	82	32	28	56
10	28	330	44	150	45	109	63	40	69	33	27	65
11	27	380	42	90	45	189	60	38	58	30	27	50
12	26	210	40	91	46	196	57	37	69	31	26	40
13	26	230	43	86	50	147	55	39	85	31	28	37
14	26	160	43	72	51	127	53	39	65	29	26	44
15	26	120	46	66	54	170	52	39	56	28	28	54
16	34	230	39	62	54	138	49	37	54	28	29	44
17	71	240	42	60	51	106	49	36	52	27	28	38
18	253	150	39	60	50	187	53	34	46	27	27	35
19	221	170	39	64	50	177	57	39	43	43	26	33
20	103	250	46	70	50	129	52	53	40	37	33	32
21	77	275	53	66	53	120	49	44	38	37	29	31
22	72	173	52	62	51	94	47	39	36	45	27	31
23	69	116	206	61	48	81	45	36	34	36	28	31
24	94	92	248	63	47	75	43	34	33	32	28	35
25	75	79	151	69	47	71	42	51	32	34	27	34
26	66	71	101	94	53	67	41	48	32	43	26	30
27	58	95	122	94	53	64	40	39	126	68	26	28
28	53	93	226	77	51	105	51	35	96	43	52	28
29	51	76	150	79	---	223	56	93	61	33	85	27
30	49	69	100	96	---	163	49	161	46	34	43	27
31	48	---	84	90	---	110	---	123	---	33	34	---
TOTAL	1913	4309	2439	2927	1458	3554	2086	1512	5685	1078	975	1373
MEAN	61.7	144	78.7	94.4	52.1	115	69.5	48.8	189	34.8	31.5	45.8
MAX	253	380	248	295	80	223	205	161	1630	68	85	136
MIN	23	46	39	56	40	43	40	34	32	27	26	27
CFSM	.93	2.17	1.19	1.43	.79	1.73	1.05	.74	2.86	.53	.48	.69
IN.	1.07	2.42	1.37	1.64	.82	2.00	1.17	.85	3.19	.61	.55	.77

CAL YR 1988 TOTAL 27005 MEAN 73.8 MAX 714 MIN 20 CFSM 1.11 IN. 15.18  
WTR YR 1989 TOTAL 29309 MEAN 80.3 MAX 1630 MIN 23 CFSM 1.21 IN. 16.47

## 04094500 SALT CREEK NEAR MCCOOL, IN

LOCATION.--Lat 41°35'48", long 87°08'40", in SE1/4 sec. 6, T.36 N., R.6 W., Porter County, Hydrologic Unit 04040001, on left bank on downstream side of highway bridge, 50 ft downstream from Conrail Railroad bridge, 1.2 mi north of McCool, and 1.6 mi upstream from Little Calumet River.

DRAINAGE AREA.--74.6 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1945 to current year.

REVISED RECORDS.--WSP 1337: 1946-48(M), 1950(M). WSP 1911: 1958. WDR IN-72-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 594.10 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana, Department of Natural Resources). Prior to July 25, 1955, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records poor.

AVERAGE DISCHARGE.--44 years, 75.5 ft<sup>3</sup>/s, 13.74 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,180 ft<sup>3</sup>/s Oct. 11, 1954, gage height, 14.12 ft; minimum daily, 10 ft<sup>3</sup>/s Aug. 26, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharges of 600 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
June 1	1700	*2,000	*10.74

Minimum daily discharge, 21 ft<sup>3</sup>/s, Oct. 1 and Aug. 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	39	59	71	74	46	110	49	1280	32	34	170
2	84	39	55	64	67	44	99	49	1470	28	27	112
3	69	39	54	60	60	45	203	49	809	27	24	67
4	46	54	52	56	57	77	255	46	565	32	24	46
5	37	98	51	57	56	166	183	53	305	35	24	38
6	54	88	50	155	55	111	131	53	133	34	22	54
7	46	86	49	187	53	80	108	48	99	33	21	81
8	36	76	47	314	49	69	96	47	82	32	26	65
9	34	70	45	204	40	68	87	47	71	42	35	81
10	31	281	45	133	46	101	78	46	64	53	35	90
11	29	324	42	89	45	145	73	43	63	49	35	68
12	27	172	39	88	46	136	71	42	83	66	32	51
13	28	193	46	80	48	108	68	45	106	70	25	46
14	27	140	46	67	53	98	64	44	84	59	25	56
15	27	99	48	62	54	115	63	43	66	52	32	67
16	39	192	40	57	53	93	60	42	61	50	32	54
17	103	206	41	55	49	82	60	41	58	48	30	46
18	314	121	40	57	48	163	72	40	48	51	25	40
19	179	142	40	60	48	145	72	52	44	90	24	38
20	90	212	46	61	49	128	62	77	40	81	34	35
21	74	252	49	56	52	121	59	58	39	73	30	34
22	64	153	51	53	52	94	55	42	34	76	28	33
23	64	108	225	52	49	81	52	43	31	60	39	31
24	82	87	227	53	48	76	50	38	29	50	36	35
25	66	76	130	57	48	72	50	69	26	41	32	31
26	54	73	95	74	53	68	50	78	27	27	29	29
27	49	87	121	75	52	65	48	54	98	30	28	28
28	44	80	218	67	49	108	56	41	71	26	40	28
29	42	70	146	73	---	265	59	148	48	24	45	28
30	41	64	105	83	---	234	53	406	36	31	35	28
31	40	---	80	81	---	141	---	418	---	35	33	---
TOTAL	1941	3721	2382	2701	1453	3345	2547	2351	5970	1437	942	1610
MEAN	62.6	124	76.8	87.1	51.9	108	84.9	75.8	199	46.4	30.4	53.7
MAX	314	324	227	314	74	265	255	418	1470	90	45	170
MIN	21	39	39	52	40	44	48	38	26	24	21	28
CFSM	.84	1.66	1.03	1.17	.70	1.45	1.14	1.02	2.67	.62	.41	.72
IN.	.97	1.86	1.19	1.35	.72	1.67	1.27	1.17	2.98	.72	.47	.80

CAL YR 1988 TOTAL 25335 MEAN 69.2 MAX 726 MIN 10 CFSM .93 IN. 12.63  
WTR YR 1989 TOTAL 30400 MEAN 83.3 MAX 1470 MIN 21 CFSM 1.12 IN. 15.16

## 04095300 TRAIL CREEK AT MICHIGAN CITY, IN

LOCATION.--Lat 41°43'00", long 86°51'34", in NE¼SE¼ sec.27, T.38 N., R.4 W., LaPorte County, Hydrologic Unit 04040001, on right upstream side of bridge on Springland Avenue in Michigan City, 1.0 mi upstream from Otter Creek, and 4.2 mi upstream from mouth.

DRAINAGE AREA.--54.1 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is 584.02 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Jan. 26-30 and Feb. 4-14. Records good except those for estimated daily discharges, which are fair.

AVERAGE DISCHARGE.--20 years, 72.6 ft<sup>3</sup>/s, 18.22 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,430 ft<sup>3</sup>/s July 15, 1986, gage height, 11.88 ft; minimum daily, 20 ft<sup>3</sup>/s Aug. 1, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 10	1300	597	7.46	June 1	1900	*1,890	*11.38

Minimum daily discharge, 27 ft<sup>3</sup>/s Aug. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	51	62	55	70	50	66	56	1190	34	30	234
2	67	51	55	52	62	48	66	53	777	33	28	88
3	38	51	55	49	58	49	158	49	260	33	28	44
4	32	78	51	47	56	79	155	46	186	33	27	38
5	72	91	50	53	53	126	95	51	110	32	37	36
6	58	112	49	142	52	77	75	47	79	31	30	41
7	39	124	48	173	51	58	67	45	65	29	31	43
8	36	83	45	374	49	54	62	45	59	29	31	39
9	34	73	43	139	48	57	58	46	54	95	33	56
10	33	495	42	81	47	77	55	45	51	43	32	48
11	31	263	42	65	47	109	54	43	49	36	30	39
12	31	137	40	70	47	102	53	43	56	36	30	36
13	31	179	44	63	49	82	51	47	64	34	29	36
14	31	108	46	55	52	82	51	45	54	32	29	45
15	31	78	49	52	59	136	51	44	50	30	31	46
16	47	205	42	50	57	84	49	43	48	30	30	39
17	136	131	40	49	54	79	50	43	46	29	29	36
18	324	77	41	51	52	185	56	42	44	30	29	35
19	103	125	41	54	52	107	58	51	43	46	28	34
20	66	188	53	57	53	92	52	55	42	37	46	32
21	65	182	53	50	56	91	50	45	42	66	33	32
22	61	99	66	48	55	72	49	42	39	104	35	32
23	75	75	328	49	51	67	47	41	39	46	40	31
24	86	65	145	51	51	63	47	40	38	37	37	33
25	66	59	84	55	51	61	48	85	37	35	31	32
26	58	60	64	63	55	58	48	50	36	33	30	31
27	56	114	153	77	54	57	46	42	46	32	29	31
28	53	84	226	60	52	142	110	39	40	32	99	32
29	52	70	108	59	---	199	75	76	37	30	55	31
30	50	68	70	92	---	100	60	66	35	32	36	30
31	50	---	60	77	---	75	---	109	---	31	33	---
TOTAL	1940	3576	2295	2412	1493	2718	1962	1574	3716	1210	1076	1360
MEAN	62.6	119	74.0	77.8	53.3	87.7	65.4	50.8	124	39.0	34.7	45.3
MAX	324	495	328	374	70	199	158	109	1190	104	99	234
MIN	28	51	40	47	47	48	46	39	35	29	27	30
CFSM	1.16	2.20	1.37	1.44	.99	1.62	1.21	.94	2.29	.72	.64	.84
IN.	1.33	2.46	1.58	1.66	1.03	1.87	1.35	1.08	2.56	.83	.74	.94

CAL YR 1988 TOTAL 25381 MEAN 69.3 MAX 495 MIN 26 CFSM 1.28 IN. 17.45  
WTR YR 1989 TOTAL 25332 MEAN 69.4 MAX 1190 MIN 27 CFSM 1.28 IN. 17.42

## 04096100 GALENA RIVER NEAR LAPORTE, IN

LOCATION.--Lat 41°44'54", long 86°40'30", in SE¼NW¼ sec.17, T.38 N., R.2 W., LaPorte County, Hydrologic Unit 04040001, on left bank at downstream side of bridge on County Road 125 East, 1.3 mi upstream from Indiana-Michigan State line, and 9.8 mi north of Courthouse in LaPorte.

DRAINAGE AREA.--17.2 mi<sup>2</sup>, of which 2.30 mi<sup>2</sup> does not contribute directly to surface runoff.

PERIOD OF RECORD.--October 1969 to current year.

REVISED RECORDS.--WDR IN-80-1: 1970, 1971(P), 1972, 1973, 1974(P), 1975 (M), 1976 (P), and 1978 (P).

GAGE.--Water-stage recorder. Datum of gage is 625.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 1, Feb. 5-11, May 11-18, 22-23, June 18 to July 8, July 13-18, and July 28 to Sept. 1. Records good except for estimated daily discharges, which are fair.

AVERAGE DISCHARGE.--20 years, 26.0 ft<sup>3</sup>/s, 20.05 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 650 ft<sup>3</sup>/s Mar. 4, 1979, gage height, 7.02 ft; minimum daily, 6.7 ft<sup>3</sup>/s Sept. 13, 1973.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 18	0900	148	4.39	Jan. 8	0600	116	3.87
Nov. 10	0300	179	5.07	June 1	1000	*240	*5.53
Dec. 23	1000	100	3.59				

Minimum daily discharge, 11.0 ft<sup>3</sup>/s Aug. 8, 12, 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	18	36	26	29	22	24	19	195	17	17	59
2	27	18	35	26	27	21	23	18	159	16	14	74
3	21	18	33	26	25	21	43	17	59	16	12	40
4	15	36	31	25	24	26	45	16	42	16	14	21
5	22	35	30	24	23	32	34	18	34	16	15	18
6	25	48	29	46	23	27	28	17	28	15	15	17
7	18	42	28	56	23	26	25	16	23	17	12	15
8	16	35	27	89	23	23	24	16	21	18	11	18
9	15	79	26	43	22	23	23	16	21	47	12	16
10	14	131	25	33	22	26	22	16	20	25	12	23
11	14	46	25	32	22	30	21	16	20	19	12	20
12	14	45	25	32	23	33	19	15	19	18	11	17
13	15	43	25	31	24	31	19	15	20	16	11	16
14	14	36	24	28	25	30	19	15	21	16	13	17
15	14	36	25	28	26	38	18	15	22	15	14	21
16	16	60	25	27	25	30	18	14	22	15	13	21
17	40	37	25	27	24	28	18	15	21	15	12	17
18	127	34	23	27	23	50	20	16	19	17	12	15
19	42	45	23	29	23	36	21	16	17	20	12	14
20	30	49	24	30	23	33	19	17	16	19	14	14
21	32	41	26	28	24	33	19	16	16	28	15	13
22	34	36	28	27	24	29	18	16	15	42	15	12
23	44	33	83	27	27	27	17	16	15	26	15	12
24	35	30	47	27	27	26	17	17	15	18	14	13
25	32	27	40	28	22	25	17	18	15	17	14	13
26	29	27	27	35	23	24	16	17	15	17	14	12
27	25	42	48	30	23	24	16	16	16	16	14	13
28	24	36	64	28	22	34	29	16	17	15	17	13
29	21	33	39	31	---	51	25	17	17	15	22	13
30	20	31	31	34	---	31	21	18	17	15	30	12
31	19	---	28	31	---	26	---	25	---	16	45	---
TOTAL	838	1227	1005	1011	671	916	678	515	957	598	473	599
MEAN	27.0	40.9	32.4	32.6	24.0	29.5	22.6	16.6	31.9	19.3	15.3	20.0
MAX	127	131	83	89	29	51	45	25	195	47	45	74
MIN	14	18	23	24	22	21	16	14	15	15	11	12
CFSM	1.57	2.38	1.88	1.90	1.39	1.72	1.31	.97	1.85	1.12	.89	1.16
IN.	1.81	2.65	2.17	2.19	1.45	1.98	1.47	1.11	2.07	1.29	1.02	1.30

CAL YR 1988 TOTAL 9076.6 MEAN 24.8 MAX 131 MIN 8.4 CFSM 1.44 IN. 19.63  
WTR YR 1989 TOTAL 9488 MEAN 26.0 MAX 195 MIN 11 CFSM 1.51 IN. 20.52



## 04099000 ST. JOSEPH RIVER AT MOTTVILLE, MI

LOCATION.--41°48'03", long 85°45'22", in SW¼ sec.6, T.8 S., R.12 W., Michigan Meridian, St. Joseph County, Hydrologic Unit 04050001, on right bank 500 ft upstream from bridge on U.S. Highway 12 at Mottville, 0.4 mi downstream from Michigan Power Co. hydroelectric plant, 4 mi upstream from Pigeon River, and at mile 96.

DRAINAGE AREA.--1,866 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1923 to current year. Monthly discharge only for some periods, published in WSP 1307.

REVISED RECORDS.--WSP 1387: 1930, 1932, 1938, 1940-42, 1945. WSP 1911: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 755.3 ft, Michigan Power Co. datum. Prior to Oct. 1, 1951, at site 0.4 mi upstream at datum 4.2 ft higher.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by powerplants upstream from station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--66 years, 1,608 ft<sup>3</sup>/s, 11.70 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,400 ft<sup>3</sup>/s June 4, 1989, gage height, 10.41 ft; maximum gage height, 10.76 ft, Apr. 27, 1950, present datum; minimum daily discharge, 39 ft<sup>3</sup>/s Oct. 19, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,400 ft<sup>3</sup>/s June 4, gage height, 10.41 ft; minimum daily, 753 ft<sup>3</sup>/s Oct. 16.

FROM MICHIGAN  
DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	910	1570	3030	2600	2420	1510	2970	1890	5020	2120	1210	1240
2	1060	1530	2980	2600	2500	1510	2970	1880	8410	2050	1330	1800
3	1070	1520	2880	2320	2430	1520	2990	1880	10100	1900	1190	1860
4	1090	1430	2670	2240	2310	1560	3190	1810	10700	1810	1350	1880
5	1100	1400	2660	2220	2210	1690	3320	1770	10200	1630	1420	1940
6	1040	1440	2470	2360	2110	1540	3560	1720	9450	1510	1580	1970
7	820	1620	2420	2330	1820	936	3800	1450	8510	1430	1520	1850
8	1020	1760	2500	2350	1800	1830	3590	1550	7560	1280	1410	1680
9	868	1820	2380	2410	1860	1950	3350	1600	7030	1240	1160	1750
10	755	2290	2280	2430	1770	1710	3220	1590	6080	1380	1290	1750
11	882	2720	2180	2790	1690	1670	3230	1610	5470	1520	1020	1430
12	903	2890	1860	3030	1850	1810	3030	1600	4990	1300	1030	1740
13	854	3450	1990	2930	2060	1880	2670	1460	4770	1470	821	1510
14	823	3470	2050	2800	1870	1930	2670	1190	4410	1440	866	1700
15	797	2990	2140	2830	1860	2110	2810	1470	4000	1200	1080	1610
16	753	3250	1880	2610	1940	2430	2620	1640	3960	892	868	1550
17	786	3210	1810	2610	1780	2450	2360	1400	3740	1550	1040	1570
18	1920	3090	1830	2500	1680	2660	2410	1520	3390	1020	851	1680
19	1790	3010	1800	2460	1730	2720	2280	1560	3200	1200	898	1520
20	1660	3030	1980	2430	1710	2820	2220	1590	3130	1210	913	1440
21	1830	3240	2020	2380	1750	2870	2220	1650	2990	1210	1360	1550
22	1880	3350	1960	2130	1700	2730	2180	1790	2590	1550	1120	1130
23	1940	3400	2140	2280	1670	2680	2000	1820	2800	1520	1140	866
24	1920	3510	2460	2200	1660	2620	2120	1740	2800	1730	1200	1210
25	1880	3380	2170	2190	1620	2450	2010	1650	2550	1630	1160	1350
26	1860	3080	2470	2230	1570	2450	2090	1770	2700	1670	1160	1390
27	1910	3230	2510	2140	1560	2370	2020	1780	2400	1560	1050	1210
28	1820	3220	2550	2220	1600	2370	2090	1610	2290	1560	829	1050
29	1740	3150	2580	2250	---	2660	2080	1670	2510	1520	1050	976
30	1730	2930	2630	2280	---	2830	1920	1560	2350	1470	1070	984
31	1690	---	2530	2200	---	2750	---	2190	---	1390	966	---
TOTAL	41101	79980	71810	75350	52530	67016	79990	51410	150100	45962	34952	45186
MEAN	1326	2666	2316	2431	1876	2162	2666	1658	5003	1483	1127	1506
MAX	1940	3510	3030	3030	2500	2870	3800	2190	10700	2120	1580	1970
MIN	753	1400	1800	2130	1560	936	1920	1190	2290	892	821	866
CFSM	.71	1.43	1.24	1.30	1.01	1.16	1.43	.89	2.68	.79	.60	.81
IN.	.82	1.59	1.43	1.50	1.05	1.34	1.59	1.02	2.99	.92	.70	.90

CAL YR 1988 TOTAL 591113 MEAN 1615 MAX 4160 MIN 222 CFSM .87 IN. 11.78  
WTR YR 1989 TOTAL 795387 MEAN 2179 MAX 10700 MIN 753 CFSM 1.17 IN. 15.86

## STREAMS TRIBUTARY TO LAKE MICHIGAN

## 04099510 PIGEON CREEK NEAR ANGOLA, IN

LOCATION.--Lat 41°38'04", long 85°06'35", in NW¼SE¼ sec.26, T.37 N., R.12 E., Steuben County, Hydrologic Unit 04050001, on left bank 5 ft upstream from bridge on U.S. Highway 20, 1.3 mi downstream from outlet of Hogback Lake, 1.3 mi southeast of Flint, and 5.8 mi west of Angola.

DRAINAGE AREA.--106 mi<sup>2</sup>, of which 22.5 mi<sup>2</sup> does not contribute directly to surface runoff.

PERIOD OF RECORD.--October 1945 to current year. Prior to October 1947, published as "near Flint". Published as Pigeon Creek at Hogback Lake Outlet near Angola, October 1947 to September 1971, and Pigeon Creek and Hogback Lake near Angola, October 1971 to September 1974.

REVISED RECORDS.--WSP 1144: 1948. WSP 2111: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 940.00 ft above National Geodetic Vertical Datum of 1929. Prior to October 1947, nonrecording gage at site 0.3 mi downstream at different datum. Oct. 1947 to Aug. 3, 1953, nonrecording gage at site 1.2 mi upstream at same datum. Aug. 4, 1953, to Apr. 3, 1974, recording gage at site 1.3 mi upstream at same datum. Apr. 18, 1974, to Sept. 2, 1974, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good.

AVERAGE DISCHARGE.--44 years, 80.3 ft<sup>3</sup>/s, 10.29 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 795 ft<sup>3</sup>/s Mar. 22, 1982, gage height, 13.90 ft; minimum daily, 3.4 ft<sup>3</sup>/s Oct. 25-27, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 445 ft<sup>3</sup>/s June 5, gage height, 10.31 ft; minimum daily, 13 ft<sup>3</sup>/s Oct. 13-16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	45	167	159	121	57	102	81	163	77	52	120
2	18	42	157	147	125	55	101	80	277	71	49	159
3	17	40	147	135	125	55	113	78	360	67	46	191
4	17	38	137	125	123	55	140	76	417	63	44	204
5	16	39	128	116	117	57	172	73	443	59	48	195
6	16	40	121	111	111	62	195	70	442	56	49	178
7	15	43	114	111	104	65	199	66	422	53	49	168
8	14	50	107	138	98	65	192	64	388	50	49	156
9	14	61	102	181	92	63	180	62	348	51	48	146
10	14	81	97	211	87	61	165	60	307	49	45	135
11	14	123	92	217	83	60	151	56	273	52	42	124
12	14	148	87	207	79	60	138	55	242	59	41	113
13	13	166	84	191	78	60	127	56	219	61	44	103
14	13	170	80	176	76	62	118	55	197	64	48	101
15	13	165	77	161	74	64	109	54	179	66	56	102
16	13	170	75	147	74	68	101	53	163	64	61	107
17	16	204	72	134	72	72	95	52	148	61	62	110
18	33	237	70	124	71	81	91	51	136	57	60	109
19	51	253	68	117	69	93	87	51	131	54	56	105
20	73	253	67	111	68	108	84	56	138	52	55	99
21	86	256	65	108	68	116	82	61	145	52	59	93
22	89	263	66	103	68	117	80	66	151	59	64	86
23	87	257	74	99	66	114	77	69	149	58	68	80
24	83	243	92	95	64	106	73	68	138	56	70	74
25	78	222	110	92	62	100	73	71	127	54	68	67
26	73	203	121	92	60	95	75	77	115	56	65	62
27	69	190	128	96	60	91	74	84	106	57	60	57
28	63	185	140	100	59	91	76	87	97	56	60	53
29	58	183	158	103	---	95	81	87	89	55	78	50
30	53	176	170	108	---	100	82	85	83	55	95	48
31	49	---	168	114	---	102	---	103	---	54	99	---
TOTAL	1198	4546	3341	4129	2355	2450	3433	2107	6593	1798	1790	3395
MEAN	38.6	152	108	133	84.1	79.0	114	68.0	220	58.0	57.7	113
MAX	89	263	170	217	126	117	199	103	443	77	99	204
MIN	13	38	65	92	59	55	73	51	83	49	41	48
CFSM	.46	1.81	1.29	1.60	1.01	.95	1.37	.81	2.63	.69	.69	1.36
IN.	.53	2.03	1.49	1.84	1.05	1.09	1.53	.94	2.94	.80	.80	1.51

CAL YR 1988 TOTAL 25575 MEAN 69.9 MAX 263 MIN 11 CFSM .84 IN. 11.39  
WTR YR 1989 TOTAL 37135 MEAN 102 MAX 443 MIN 13 CFSM 1.22 IN. 16.54

STREAMS TRIBUTARY TO LAKE MICHIGAN

195

04099750 PIGEON RIVER NEAR SCOTT, IN

LOCATION.--Lat 41°44'56", long 85°34'35", in SE¼NW¼ sec.14, T.38 N., R.8 E., Lagrange County, Hydrologic Unit 04050001, on right bank 20 ft downstream from bridge on County Road 750 North, 1,200 ft downstream from Page ditch, 0.7 mi south of Indiana-Michigan State line, and 1.2 mi northwest of Scott.

DRAINAGE AREA.--361 mi<sup>2</sup>, of which 53.9 mi<sup>2</sup> does not contribute directly to surface runoff.

PERIOD OF RECORD.--June 1968 to current year.

REVISED RECORDS.--WSP 2111: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 815.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 12, 13, 16, 17, Dec. 30 to Jan. 6, Jan. 9, 10, Feb. 6-13, 23-26, and Mar. 8, 9. Records good except for estimated daily discharges, which are fair.

AVERAGE DISCHARGE.--21 years, 366 ft<sup>3</sup>/s, 13.77 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,370 ft<sup>3</sup>/s Mar. 21, 1982, gage height, 7.85 ft; minimum daily, 42 ft<sup>3</sup>/s Oct. 21, 1971.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 989 ft<sup>3</sup>/s June 5, gage height, 5.45 ft, maximum gage height, 5.76 ft Feb. 10, backwater from ice; minimum daily discharge, 114 ft<sup>3</sup>/s Oct. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	124	271	588	445	432	249	376	364	579	280	204	314
2	142	263	564	428	431	247	372	362	805	268	190	425
3	150	255	543	412	419	232	454	375	863	263	180	379
4	136	253	519	400	405	257	556	357	926	251	178	391
5	128	268	491	392	397	315	556	341	983	243	184	406
6	122	279	449	415	330	296	543	325	980	230	187	415
7	119	285	423	458	295	258	544	312	968	220	181	441
8	117	296	423	591	298	248	564	299	940	208	172	450
9	120	305	406	670	302	256	559	299	916	231	168	423
10	129	403	388	690	306	262	525	302	853	245	164	392
11	125	520	355	648	310	268	499	275	800	217	162	366
12	124	580	345	655	316	276	472	272	746	233	159	342
13	119	569	352	653	325	273	445	289	725	256	192	303
14	116	581	338	621	323	275	421	292	678	277	199	311
15	114	530	331	588	312	287	400	287	614	256	196	341
16	121	636	300	550	307	326	380	282	571	230	210	333
17	155	716	305	512	298	310	362	275	545	217	204	341
18	499	739	309	486	289	385	385	268	503	189	197	323
19	745	734	304	470	266	445	381	280	465	202	190	308
20	600	769	294	455	277	417	359	348	458	217	215	296
21	489	856	301	430	291	414	339	341	481	218	272	284
22	438	912	299	407	287	411	326	314	477	216	231	244
23	411	852	377	391	265	401	314	301	469	216	235	240
24	419	810	420	379	242	389	302	293	451	218	231	240
25	398	770	399	373	246	381	351	304	425	213	221	234
26	366	738	397	381	254	375	395	327	399	220	213	226
27	343	719	428	393	259	368	360	322	388	217	206	217
28	325	682	530	365	254	373	366	311	371	218	222	209
29	307	641	540	386	---	434	397	311	343	204	260	202
30	291	609	510	417	---	418	381	316	318	206	267	197
31	280	---	470	430	---	392	---	414	---	213	265	---
TOTAL	8072	16841	12698	14891	8736	10238	12684	9758	19040	7092	6355	9593
MEAN	260	561	410	480	312	330	423	315	635	229	205	320
MAX	745	912	588	690	432	445	564	414	983	280	272	450
MIN	114	253	294	365	242	232	302	268	318	189	159	197
CFSM	.85	1.83	1.33	1.56	1.02	1.08	1.38	1.03	2.07	.75	.67	1.04
IN.	.98	2.04	1.54	1.80	1.06	1.24	1.54	1.18	2.31	.86	.77	1.16

CAL YR 1988 TOTAL 115412 MEAN 315 MAX 912 MIN 68 CFSM 1.03 IN. 13.98  
WTR YR 1989 TOTAL 135998 MEAN 373 MAX 983 MIN 114 CFSM 1.21 IN. 16.48

## 04099808 LITTLE ELKHART RIVER AT MIDDLEBURY, IN

LOCATION.--Lat 41°40'31", long 85°42'01", in NE1/4 sec.10, T.37 N., R.7 E., Elkhart County, Hydrologic Unit 04050001, on left bank 15 ft downstream from bridge on County Road 16, 0.1 mi east of Middlebury, and 1.7 mi downstream from Rowe Eden ditch.

DRAINAGE AREA.--97.6 mi<sup>2</sup>, of which 5.89 mi<sup>2</sup> does not contribute directly to surface runoff.

PERIOD OF RECORD.--October 1979 to current year.

REVISED RECORDS.--WRD IN-82-1: 1980, 1981.

GAGE.--Water-stage recorder. Datum of gage is 810.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Feb. 5-11, 17-19, 23, 24, and Mar. 1, 2, 7, 8. Records fair.

AVERAGE DISCHARGE.--10 years, 101 ft<sup>3</sup>/s, 14.05 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,470 ft<sup>3</sup>/s, Feb. 24, 1985, gage height, 10.52 ft; minimum daily, 24 ft<sup>3</sup>/s July 9, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 18	1100	*1,530	*9.35	Jan. 8	0700	663	7.78
Nov. 10	1500	506	7.37				

Minimum daily discharge, 39 ft<sup>3</sup>/s Oct. 1, Aug. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	118	142	123	130	66	85	81	261	56	47	68
2	47	112	137	117	116	63	87	82	372	55	46	65
3	47	107	133	112	104	66	218	80	263	56	47	55
4	44	107	126	106	97	112	231	77	310	53	47	50
5	43	114	123	103	89	150	186	76	200	49	48	47
6	42	119	120	136	85	103	161	74	164	46	49	48
7	41	126	116	177	81	80	144	72	140	44	48	52
8	40	142	111	470	79	77	133	70	123	43	45	59
9	42	141	107	226	78	77	123	72	112	70	44	56
10	43	347	104	176	79	80	115	69	103	68	43	51
11	44	278	101	155	81	86	111	66	96	62	39	49
12	44	206	97	153	81	88	108	66	100	74	40	47
13	43	227	98	144	82	83	103	69	102	67	43	47
14	42	194	97	135	82	86	101	67	94	63	45	53
15	42	175	94	127	86	111	98	65	89	60	47	57
16	51	252	91	120	83	93	94	64	85	58	47	53
17	97	260	90	115	78	87	96	62	82	56	45	50
18	1080	196	88	115	76	201	99	61	80	53	43	48
19	464	182	88	121	75	146	96	67	80	61	42	46
20	264	217	95	118	77	134	92	72	86	60	52	44
21	209	352	96	109	78	131	88	66	78	58	49	44
22	190	224	95	105	75	116	85	62	74	56	48	43
23	183	194	223	102	70	107	83	60	71	54	48	44
24	195	178	172	100	67	102	80	59	68	53	47	45
25	167	167	148	100	70	99	98	67	65	50	45	44
26	153	162	132	116	72	95	94	69	64	54	44	43
27	147	169	144	114	70	93	86	63	66	54	44	43
28	144	159	210	106	69	96	95	59	64	52	59	42
29	135	152	163	118	---	112	94	60	60	50	66	41
30	127	147	144	142	---	99	86	60	57	51	55	41
31	122	---	132	137	---	91	---	66	---	50	50	---
TOTAL	4371	5524	3817	4298	2310	3130	3370	2103	3609	1736	1462	1475
MEAN	141	184	123	139	82.5	101	112	67.8	120	56.0	47.2	49.2
MAX	1080	352	223	470	130	201	231	82	372	74	66	68
MIN	39	107	88	100	67	63	80	59	57	43	39	41
CFSM	1.54	2.01	1.34	1.51	.90	1.10	1.23	.74	1.31	.61	.51	.54
IN.	1.77	2.24	1.55	1.74	.94	1.27	1.37	.85	1.46	.70	.59	.60

CAL YR 1988 TOTAL 34525 MEAN 94.3 MAX 1080 MIN 24 CFSM 1.03 IN. 14.01  
WTR YR 1989 TOTAL 37205 MEAN 102 MAX 1080 MIN 39 CFSM 1.11 IN. 15.09

## 04099850 PINE CREEK NEAR ELKHART, IN

LOCATION.--Lat 41°40'53", long 85°52'57", in NE¼NW¼ sec.7, T.37 N., R.6 E., Elkhart County, Hydrologic Unit 04050001, on right bank 50 ft upstream from bridge on County Road 14, 0.3 mi east of the intersection of County Roads 17 and 14, and 3.1 mi east of Elkhart.

DRAINAGE AREA.--31.0 mi<sup>2</sup>, of which 8.75 mi<sup>2</sup> does not contribute directly to surface runoff.

PERIOD OF RECORD.--October 1979 to current year.

GAGE.--Water-stage recorder. Datum of gage is 755.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 21 to Nov 22. Records good except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--10 years, 18.6 ft<sup>3</sup>/s, 8.15 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 577 ft<sup>3</sup>/s Feb. 24, 1985, gage height, 7.45 ft; maximum gage height, 9.74 ft July 26, 1981; minimum daily discharge, 3.8 ft<sup>3</sup>/s July 26, 1980, and July 6, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 170 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
June 3	2200	*96	*4.18

Minimum daily discharge, 5.1 ft<sup>3</sup>/s Oct. 1, 7, 8, 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	8.7	18	16	18	11	16	15	58	13	10	17
2	5.9	8.3	17	16	17	11	16	15	61	13	9.3	13
3	5.9	8.2	17	15	16	11	46	14	62	12	9.1	9.7
4	5.6	8.4	16	15	15	16	57	14	62	12	8.9	8.7
5	5.5	9.0	16	15	15	19	35	14	33	12	10	7.9
6	5.3	9.7	16	18	14	15	27	13	26	11	9.4	7.8
7	5.1	10	15	28	14	13	24	13	22	12	9.1	9.2
8	5.1	11	15	71	13	13	22	13	20	11	8.5	11
9	5.3	12	15	32	13	12	20	13	19	34	7.7	11
10	5.3	32	14	24	14	14	19	13	18	18	7.2	10
11	5.2	26	14	21	13	15	19	12	17	14	7.8	8.9
12	5.3	22	14	21	13	16	18	12	18	20	8.2	8.3
13	5.2	27	14	19	13	15	17	13	18	17	8.6	8.5
14	5.2	21	14	18	13	15	17	12	17	14	8.2	9.7
15	5.1	18	13	18	13	23	16	12	16	13	7.9	10
16	5.5	22	13	17	13	18	16	12	16	12	8.3	9.3
17	11	22	13	17	13	16	16	12	16	11	7.7	8.7
18	57	18	13	17	12	23	18	12	15	11	7.4	8.1
19	28	18	13	17	12	19	18	12	15	13	7.5	7.8
20	18	34	14	17	12	18	17	13	15	13	9.0	7.5
21	14	54	14	16	13	18	16	12	15	13	8.6	7.3
22	13	32	14	16	12	16	15	12	14	12	8.3	7.2
23	12	26	44	15	12	15	15	11	14	12	13	7.1
24	13	23	26	15	11	15	15	11	14	12	12	7.1
25	12	21	20	16	12	14	17	13	14	12	9.0	7.0
26	11	20	18	18	12	14	16	12	14	14	8.2	6.9
27	10	22	20	17	12	14	15	12	15	13	7.7	6.9
28	9.8	21	31	16	11	15	18	12	15	11	16	6.8
29	9.5	20	22	18	---	26	17	12	14	11	20	6.7
30	9.3	19	19	20	---	19	16	12	13	12	12	6.6
31	9.0	---	17	19	---	17	---	12	---	11	9.7	---
TOTAL	322.2	603.3	539	618	371	496	614	390	686	419	294.3	261.7
MEAN	10.4	20.1	17.4	19.9	13.2	16.0	20.5	12.6	22.9	13.5	9.49	8.72
MAX	57	54	44	71	18	26	57	15	62	34	20	17
MIN	5.1	8.2	13	15	11	11	15	11	13	11	7.2	6.6
CFSM	.34	.65	.56	.64	.43	.52	.66	.41	.74	.44	.31	.28
IN.	.39	.72	.65	.74	.45	.60	.74	.47	.82	.50	.35	.31

CAL YR 1988 TOTAL 5099.5 MEAN 13.9 MAX 108 MIN 3.8 CFSM .45 IN. 6.12  
WTR YR 1989 TOTAL 5614.5 MEAN 15.4 MAX 71 MIN 5.1 CFSM .50 IN. 6.74



## 04100222 NORTH BRANCH ELKHART RIVER AT COSPERVILLE, IN

LOCATION.--Lat 41°28'54", long 85°28'32", in NE¼NW¼ sec.22, T.35 N., R.9 E., Noble County, Hydrologic Unit 04050001, on right bank at downstream side of bridge on County Road 900 North at Cosperville, 1,300 ft downstream from Boyd ditch, 1.7 mi upstream from Hustin ditch, and 3.1 mi downstream from Waldron Lake.

DRAINAGE AREA.--142 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1971 to current year.

GAGE.--Water-stage recorder. Datum of gage is 880.12 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana, Department of Natural Resources).

REMARKS.--Estimated daily discharges: Jan. 4-6, Feb. 6-13, Feb. 22 to Mar. 4, and Mar. 6-8. Records good for Oct. 1 to June 5, and poor thereafter. Flow regulated at times by dam at Waldron Lake.

AVERAGE DISCHARGE.--18 years, 138 ft<sup>3</sup>/s, 13.20 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 919 ft<sup>3</sup>/s Mar. 23, 1982, gage height, 8.12 ft; minimum daily, 2.2 ft<sup>3</sup>/s July 7, 1988 (regulation).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 365 ft<sup>3</sup>/s Nov. 22 and June 5; maximum gage height, 5.69 ft Nov. 22; minimum discharge, 24 ft<sup>3</sup>/s Aug. 8 (regulation).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	100	254	196	179	95	136	124	214	104	68	88
2	52	96	240	189	181	94	136	124	277	98	65	98
3	75	93	227	183	176	95	161	125	323	92	63	99
4	67	91	214	174	170	96	185	125	353	86	60	99
5	60	93	202	169	164	105	196	122	362	81	59	97
6	53	96	192	165	152	96	201	120	357	78	53	94
7	48	99	183	181	147	88	200	116	349	75	26	96
8	43	105	174	204	137	97	197	113	336	72	24	99
9	40	109	165	295	132	100	190	115	320	76	27	101
10	37	145	157	317	127	99	185	114	304	76	27	101
11	36	171	149	320	122	99	179	111	289	90	37	100
12	34	185	141	316	117	101	172	108	278	108	71	97
13	32	194	135	309	117	102	166	110	268	107	78	94
14	30	197	129	296	124	104	159	93	256	105	78	98
15	29	196	124	281	123	110	155	64	244	102	81	102
16	30	236	120	267	122	117	148	77	230	98	85	104
17	52	279	114	252	120	119	144	84	220	94	81	104
18	117	304	108	240	117	131	143	87	214	90	77	104
19	142	310	103	230	115	137	139	99	209	88	72	102
20	151	326	103	223	114	141	135	137	213	86	71	98
21	151	356	103	216	114	143	132	155	207	83	71	95
22	148	362	103	205	112	142	129	155	197	81	71	92
23	147	356	125	194	105	141	124	152	187	79	71	89
24	145	343	143	186	104	139	119	148	177	77	71	85
25	141	327	150	179	102	136	121	148	167	75	69	81
26	135	315	154	176	102	136	124	155	156	74	65	77
27	130	303	164	178	100	134	123	158	144	74	62	73
28	122	291	187	178	96	135	127	156	133	74	63	69
29	117	281	202	175	---	142	129	155	121	73	67	65
30	111	267	203	176	---	144	126	153	112	73	70	63
31	106	---	202	179	---	140	---	152	---	71	71	---
TOTAL	2615	6626	4970	6849	3591	3658	4581	3855	7217	2640	1954	2764
MEAN	84.4	221	160	221	128	118	153	124	241	85.2	63.0	92.1
MAX	151	362	254	320	181	144	201	158	362	108	85	104
MIN	29	91	103	165	96	88	119	64	112	71	24	63
CFSM	.59	1.56	1.13	1.56	.90	.83	1.08	.88	1.69	.60	.44	.65
IN.	.69	1.74	1.30	1.79	.94	.96	1.20	1.01	1.89	.69	.51	.72

CAL YR 1988 TOTAL 39031.2 MEAN 107 MAX 369 MIN 2.2 CFSM .75 IN. 10.23  
WTR YR 1989 TOTAL 51320 MEAN 141 MAX 362 MIN 24 CFSM .99 IN. 13.44

## 04100252 FORKER CREEK NEAR BURR OAK, IN

LOCATION.--Lat 41°19'58", long 85°25'25", in SE 1/4 sec. 12, T. 33 N., R. 9 E., Noble County, Hydrologic Unit 04050001, on right bank 300 ft downstream from bridge on State Highway 9, 400 ft downstream from Miller Lake Outlet, 0.8 mi northeast of Burr Oak, and 4.5 mi south of Albion.

DRAINAGE AREA.--19.2 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is 889.00 ft above National Geodetic Vertical Datum of 1929 (Indiana Department of Highways bench mark).

REMARKS.--Estimated daily discharges: Dec. 8-12, Feb. 5-18, and Feb. 26 to March 6. Records good except those for estimated daily discharges, which are poor. Occasional regulation at Miller Lake Outlet.

AVERAGE DISCHARGE.--20 years, 17.8 ft<sup>3</sup>/s, 12.63 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 480 ft<sup>3</sup>/s Feb. 24, 1985, gage height, 7.00 ft; minimum daily, 0.13 ft<sup>3</sup>/s Sept. 10, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 134 ft<sup>3</sup>/s June 4, gage height, 4.69 ft; minimum daily, 0.67 ft<sup>3</sup>/s Oct. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	6.0	25	37	23	8.7	21	13	48	12	2.9	3.1
2	1.6	5.3	22	30	23	8.6	21	12	71	11	2.7	3.8
3	1.6	4.8	19	24	20	8.5	41	12	91	11	2.4	3.8
4	1.5	5.8	18	21	18	8.7	62	12	128	11	2.3	3.7
5	1.4	9.3	17	18	15	9.2	66	12	123	10	2.3	3.6
6	1.2	10	15	24	13	9.6	59	11	99	9.6	2.1	3.4
7	1.1	12	14	37	12	10	49	10	80	8.8	1.8	3.6
8	1.0	14	12	76	11	10	41	9.8	67	8.0	1.5	4.8
9	.96	20	11	94	10	10	33	10	57	7.9	1.4	4.8
10	.94	42	10	78	9.7	10	28	10	49	7.7	1.2	4.8
11	.88	72	9.6	62	9.4	9.8	23	9.8	42	8.6	1.2	4.6
12	.83	79	8.8	51	9.2	9.7	19	9.7	38	11	1.2	4.4
13	.74	71	10	42	9.1	9.7	17	9.7	34	11	1.5	4.0
14	.69	60	10	35	9.0	9.7	16	9.7	33	10	1.4	4.3
15	.67	49	10	27	9.2	11	15	9.7	30	8.6	1.8	4.8
16	.75	72	9.5	22	9.5	12	14	9.9	26	7.8	2.1	5.1
17	1.2	114	9.1	19	9.7	12	13	10	24	6.8	1.9	5.2
18	5.2	116	8.7	17	9.9	15	14	9.8	23	6.3	1.7	5.1
19	15	94	8.6	16	10	18	13	11	23	6.0	1.6	5.0
20	22	83	8.4	15	10	22	12	13	23	5.6	1.8	4.8
21	25	91	8.4	14	10	22	12	16	23	5.1	1.8	4.4
22	23	87	8.6	14	10	21	12	18	22	4.9	1.9	4.2
23	22	73	14	13	9.8	19	11	17	21	4.6	1.9	3.6
24	20	58	29	12	9.7	15	11	17	20	4.6	1.9	3.3
25	17	47	39	12	9.7	15	11	20	18	4.6	1.8	3.1
26	15	37	38	15	9.3	15	12	30	17	4.5	1.6	3.1
27	13	35	38	19	9.0	14	12	41	16	4.2	1.5	2.8
28	11	35	52	23	8.8	15	13	44	15	3.9	1.6	2.2
29	9.9	33	58	23	---	19	13	42	14	3.6	1.7	2.0
30	8.3	29	53	23	---	22	13	39	13	3.5	1.6	1.9
31	7.0	---	44	22	---	22	---	34	---	3.2	1.5	---
TOTAL	231.56	1464.2	637.7	935	326.0	421.2	697	532.1	1288	225.4	55.6	117.3
MEAN	7.47	48.8	20.6	30.2	11.6	13.6	23.2	17.2	42.9	7.27	1.79	3.91
MAX	25	116	58	94	23	22	66	44	128	12	2.9	5.2
MIN	.67	4.8	8.4	12	8.8	8.5	11	9.7	13	3.2	1.2	1.9
CFSM	.39	2.54	1.07	1.57	.61	.71	1.21	.89	2.24	.38	.09	.20
IN.	.45	2.84	1.24	1.81	.63	.82	1.35	1.03	2.50	.44	.11	.23

CAL YR 1988 TOTAL 5669.87 MEAN 15.5 MAX 116 MIN .18 CFSM .81 IN. 10.99  
WTR YR 1989 TOTAL 6931.06 MEAN 19.0 MAX 128 MIN .67 CFSM .99 IN. 13.43

## 04100295 RIMMELL BRANCH NEAR ALBION, IN

LOCATION.--Lat 41°23'07", long 85°22'14", in NE1/4 sec.21, T.34 N., R.10 E., Noble County, Hydrologic Unit 04050001, on right bank 900 ft downstream from culvert on County Road 300 East, 0.75 mi south of State Highway 8, 3.0 mi east of intersection of State Highway 9 and State Highway 8 in Albion.

DRAINAGE AREA.--10.7 mi<sup>2</sup>.

PERIOD OF RECORD.--November 1979 to current year.

GAGE.--Water-stage recorder. Datum of gage is 935.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 12, 16, Jan. 1-5, Feb. 6-12, 17, 18, and Feb. 23 to Apr. 18. Records good except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--9 years, 11.0 ft<sup>3</sup>/s, 13.96 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 418 ft<sup>3</sup>/s July 16, 1986, gage height, 11.55 ft; maximum gage height, 12.82 ft, Apr. 14, 1981, minimum daily discharge, 0.14 ft<sup>3</sup>/s, many days during 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 10	0700	170	8.64	Jan. 8	0145	158	8.46
Nov. 16	1200	*242	*9.62	June 1	1300	168	8.61
Nov. 20	1945	107	7.61				

Minimum daily, 0.33 ft<sup>3</sup>/s Sept.30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.64	2.0	10	8.9	14	3.5	8.3	5.1	98	2.0	.69	2.5
2	1.5	1.8	8.8	7.5	11	3.3	22	5.7	93	1.8	.64	1.7
3	1.8	1.7	8.1	6.7	8.6	6.3	46	5.8	81	1.8	.62	.79
4	1.3	2.0	7.2	6.3	7.1	17	40	5.1	86	1.7	.65	.60
5	1.0	5.4	6.7	6.5	6.6	11	28	4.9	40	1.5	.68	.54
6	.88	6.6	6.3	26	5.7	8.0	19	4.4	26	1.4	.60	.53
7	.80	8.4	5.9	48	5.2	6.6	15	4.1	19	1.3	.55	.71
8	.77	12	5.2	106	4.8	5.7	12	3.9	14	1.2	.55	1.1
9	.77	11	4.6	41	4.4	5.1	9.8	5.7	12	1.4	.59	.83
10	.91	111	4.2	21	4.2	5.3	8.9	5.7	9.6	1.3	.58	.70
11	.94	64	3.7	15	4.0	6.3	8.0	4.8	7.4	1.5	.55	.59
12	.95	32	3.2	17	4.2	6.0	7.3	4.3	7.1	1.9	.68	.55
13	.96	29	3.4	13	4.9	6.4	6.6	4.8	7.8	1.5	.56	.55
14	1.1	19	3.3	10	5.1	12	6.1	4.5	6.5	1.3	.48	1.4
15	1.2	14	3.1	8.5	5.6	11	5.7	4.1	5.5	1.2	.50	1.9
16	1.4	131	2.9	7.2	5.1	9.0	5.4	3.8	5.0	1.0	.53	1.3
17	5.0	108	2.7	6.7	4.8	26	5.7	3.4	5.7	.95	.49	1.0
18	54	50	2.9	6.8	4.4	22	6.2	3.1	8.6	.94	.45	.81
19	20	30	2.5	7.4	4.2	16	6.3	10	14	.96	.44	.69
20	9.6	55	3.0	7.7	4.1	13	5.7	23	20	1.1	.53	.64
21	6.7	64	4.2	7.1	5.1	11	5.3	12	12	1.1	.50	.59
22	5.8	33	4.5	5.9	5.3	9.8	4.9	8.6	8.3	4.2	.47	.61
23	6.6	22	52	5.5	4.8	9.2	4.5	6.7	6.3	1.7	.47	.56
24	9.4	18	25	5.4	4.3	8.8	4.2	5.6	5.0	1.2	.47	.54
25	6.5	15	17	6.0	3.9	8.6	7.4	31	4.0	1.0	.43	.59
26	4.5	14	11	21	4.3	9.1	7.1	43	3.4	.93	.40	.55
27	3.6	28	25	15	4.0	11	5.9	20	3.1	.93	.39	.47
28	3.1	20	65	11	3.7	14	6.9	12	3.0	.87	.66	.39
29	2.6	14	29	13	---	12	6.8	9.7	2.4	.77	1.2	.36
30	2.3	13	18	18	---	10	5.7	9.0	2.2	.82	.68	.33
31	2.1	---	13	15	---	9.2	---	7.6	---	.80	.50	---
TOTAL	158.72	934.9	361.4	500.1	153.4	312.2	330.7	281.4	615.9	42.07	17.53	24.42
MEAN	5.12	31.2	11.7	16.1	5.48	10.1	11.0	9.08	20.5	1.36	.57	.81
MAX	54	131	65	106	14	26	46	43	98	4.2	1.2	2.5
MIN	.64	1.7	2.5	5.4	3.7	3.3	4.2	3.1	2.2	.77	.39	.33
CFSM	.48	2.91	1.09	1.51	.51	.94	1.03	.85	1.92	.13	.05	.08
IN.	.55	3.25	1.26	1.74	.53	1.09	1.15	.98	2.14	.15	.06	.08

CAL YR 1988 TOTAL 3257.11 MEAN 8.90 MAX 131 MIN .15 CFSM .83 IN. 11.32  
WTR YR 1989 TOTAL 3732.74 MEAN 10.2 MAX 131 MIN .33 CFSM .96 IN. 12.98

## 04100377 SOLOMON CREEK NEAR SYRACUSE, IN

LOCATION.--Lat 41°27'30", long 85°43'12", in NW¼SE¼ sec.28, T.35 N., R.7 E., Elkhart County, Hydrologic Unit 04050001, on right bank 40 ft upstream from County Road 52 East bridge over Solomon Creek, and 2.5 mi northeast of Syracuse.

DRAINAGE AREA.--36.1 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1987 to current year.

GAGE.--Water-stage recorder. Datum of gage is 840.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimates daily discharges: Feb. 5-11, and May 1 to June 2. Records fair, except those for estimated daily discharges, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 126 ft<sup>3</sup>/s Apr. 6, 1988, gage height, 4.78 ft; minimum daily, 7.9 ft<sup>3</sup>/s Aug. 9, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 80 ft<sup>3</sup>/s (revised) and maximum(\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 16	2400	85	3.86	Jan. 8	1000	99	4.19
Nov. 21	0600	80	3.77	June 1	----	*123	a*4.73

a - From PSI.

Minimum daily discharge, 13 ft<sup>3</sup>/s Oct. 1, 13-15, and Aug. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	24	48	46	45	27	32	30	115	25	21	25
2	14	23	46	44	43	26	33	29	112	26	19	25
3	15	23	45	42	41	26	61	28	106	26	17	23
4	14	23	43	40	39	30	67	27	108	25	18	22
5	14	25	42	39	36	33	61	27	94	26	20	22
6	14	26	41	49	34	30	54	26	86	24	19	22
7	14	26	40	55	33	27	49	26	80	21	18	22
8	14	29	38	92	32	28	46	25	75	20	17	23
9	14	29	37	80	32	27	42	25	70	26	16	23
10	15	59	37	69	33	27	39	25	66	26	15	22
11	15	63	35	62	33	27	38	24	62	26	13	22
12	14	57	34	59	33	27	37	24	60	32	14	21
13	13	58	35	56	33	27	35	25	59	29	14	21
14	13	55	34	54	33	28	34	24	54	26	17	23
15	13	52	33	52	32	32	34	23	50	25	24	24
16	14	68	32	49	32	31	33	23	47	24	24	23
17	19	80	31	47	31	30	33	22	44	23	23	22
18	58	70	31	46	31	37	33	22	41	22	22	21
19	47	64	30	45	31	36	32	25	39	23	22	20
20	39	67	30	45	31	35	32	24	38	23	22	19
21	35	78	30	43	31	35	31	23	36	23	22	19
22	34	72	30	42	30	33	31	22	35	24	21	19
23	32	66	50	41	29	32	30	21	34	23	21	18
24	34	62	51	41	28	32	29	22	34	22	21	18
25	31	59	47	41	29	31	31	26	33	27	21	18
26	30	57	43	45	29	31	31	25	32	25	21	18
27	28	56	47	47	28	31	31	23	32	24	20	17
28	27	54	63	45	27	33	33	22	31	23	19	17
29	25	51	58	45	---	36	33	22	29	22	23	17
30	24	50	54	47	---	35	31	22	26	22	22	17
31	24	---	50	46	---	34	---	24	---	21	21	---
TOTAL	710	1526	1265	1554	919	954	1136	756	1728	754	607	623
MEAN	22.9	50.9	40.8	50.1	32.8	30.8	37.9	24.4	57.6	24.3	19.6	20.8
MAX	58	80	63	92	45	37	67	30	115	32	24	25
MIN	13	23	30	39	27	26	29	21	26	20	13	17
CFSM	.63	1.41	1.13	1.39	.91	.85	1.05	.68	1.60	.67	.54	.58
IN.	.73	1.57	1.30	1.60	.95	.98	1.17	.78	1.78	.78	.63	.64

CAL YR 1988 TOTAL 10479.4 MEAN 28.6 MAX 113 MIN 7.9 CFSM .79 IN. 10.80  
WTR YR 1989 TOTAL 12532 MEAN 34.3 MAX 115 MIN 13 CFSM .95 IN. 12.91

## 04100500 ELKHART RIVER AT GOSHEN, IN

LOCATION.--Lat 41°35'36", long 85°50'55", in NE1/4 sec. 8, T. 36 N., R. 6 E., Elkhart County, Hydrologic Unit 04050001, on right bank 20 ft downstream from River Avenue bridge at Goshen, 0.4 mi upstream from Rock Run, and at mile 16.1.

DRAINAGE AREA.--594 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1931 to current year.

REVISED RECORDS.--WSP 1337: 1939(M). WSP 1557: 1954. WSP 2111: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 769.43 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 20, 1931, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Jan. 9, 10, Feb. 5-13, 23-26, and Mar. 1, 2, 6-8. Records good except for estimated daily discharges, which are fair. Occasional low-flow regulation at Goshen Dam, 3.4 mi upstream.

AVERAGE DISCHARGE.--58 years, 524 ft<sup>3</sup>/s, 11.98 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,360 ft<sup>3</sup>/s Feb. 24, 1985; maximum gage height, 11.94 ft Mar. 14, 1982; minimum daily discharge, 7.0 ft<sup>3</sup>/s Aug. 11, 1964, result of extreme regulation.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,800 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 19	0800	1,900	5.52	June 2	0900	*3,720	*8.40
Nov. 22	0500	1,850	5.44				

Minimum daily discharge, 161 ft<sup>3</sup>/s Oct. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	176	396	1020	791	770	410	592	465	1790	404	284	306
2	194	379	957	760	756	390	571	442	3530	384	267	335
3	206	360	907	744	748	401	796	445	2610	369	245	314
4	221	349	864	702	727	448	1290	435	2080	351	243	295
5	226	355	822	673	670	658	1290	432	1860	332	266	287
6	218	366	789	773	610	490	1010	413	1590	313	256	285
7	208	387	755	903	510	410	899	397	1390	297	240	304
8	199	417	719	1490	520	400	872	384	1270	276	222	391
9	193	455	677	1560	550	453	858	387	1220	340	203	413
10	187	715	657	1370	560	452	842	384	1160	364	189	351
11	180	1130	622	1260	570	455	821	367	1100	315	175	327
12	175	1020	542	1200	570	472	797	358	1090	356	211	313
13	173	930	574	1180	570	462	774	360	1070	424	250	305
14	168	965	563	1140	577	456	745	347	1000	395	224	330
15	161	894	539	1110	576	552	714	341	946	345	226	373
16	178	944	495	1050	567	565	674	300	895	327	247	365
17	364	1180	457	989	547	516	635	286	846	319	260	349
18	1290	1210	462	943	528	750	618	282	811	301	237	337
19	1690	1140	458	906	517	917	593	297	784	340	217	324
20	952	1250	479	874	513	726	565	341	933	337	246	315
21	714	1630	471	823	518	720	547	381	818	335	240	301
22	638	1800	472	769	508	674	524	395	741	337	228	290
23	620	1580	727	740	420	621	505	396	689	339	224	281
24	658	1430	979	713	390	598	486	388	623	332	226	271
25	635	1350	811	693	430	587	495	420	575	327	219	268
26	561	1290	709	721	470	573	493	459	533	335	208	262
27	523	1280	707	775	481	560	470	447	560	350	201	249
28	489	1250	888	731	466	555	520	424	516	323	216	244
29	459	1150	952	727	---	647	543	440	463	301	238	237
30	435	1070	865	783	---	708	501	473	431	310	249	226
31	414	---	803	789	---	631	---	477	---	309	236	---
TOTAL	13505	28672	21742	28682	15639	17257	21040	12163	33924	10487	7193	9248
MEAN	436	956	701	925	559	557	701	392	1131	338	232	308
MAX	1690	1800	1020	1560	770	917	1290	477	3530	424	284	413
MIN	161	349	457	673	390	390	470	282	431	276	175	226
CFSM	.73	1.61	1.18	1.56	.94	.94	1.18	.66	1.90	.57	.39	.52
IN.	.85	1.80	1.36	1.80	.98	1.08	1.32	.76	2.12	.66	.45	.58

CAL YR 1988 TOTAL 184507 MEAN 504 MAX 3010 MIN 88 CFSM .85 IN. 11.55  
WTR YR 1989 TOTAL 219552 MEAN 602 MAX 3530 MIN 161 CFSM 1.01 IN. 13.75



## 04101000 ST. JOSEPH RIVER AT ELKHART, IN

LOCATION.--Lat 41°41'30", long 85°58'30", in SW¼NE¼ sec.5, T.37 N., R.5 E., Elkhart County, Hydrologic Unit 04050001, on left bank 200 ft downstream from Elkhart River, 200 ft upstream from Main Street bridge in Elkhart, 2,000 ft downstream from Christiana Creek, 0.5 mi downstream from Elkhart Hydroelectric Plant, and at mile 76.5.

DRAINAGE AREA.--3,370 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1947 to current year. Gage heights at site 0.8 mi downstream at different datum from September 1924 to March 1926 are available from the district office.

REVISED RECORDS.--WSP 2111: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 700.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. The flow is regulated by Elkhart Hydroelectric Plant.

AVERAGE DISCHARGE.--42 years, 3,218 ft<sup>3</sup>/s, 12.97 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,800 ft<sup>3</sup>/s Feb. 27, 1985; maximum gage height, 27.91 ft Mar. 21, 1982; minimum daily discharge, 336 ft<sup>3</sup>/s Aug. 5, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,600 ft<sup>3</sup>/s June 4, gage height, 26.16 ft; minimum daily, 1,400 ft<sup>3</sup>/s Oct. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1440	2840	5360	4650	4160	2800	4630	3460	6900	3460	2160	2460
2	1820	2650	5310	4710	4400	2790	4570	3390	11900	3270	2260	2790
3	1850	2810	5220	4540	4200	2800	5310	3390	14400	3160	2140	3040
4	1820	2590	4890	3940	4080	2840	6090	3340	15000	2950	2130	2930
5	1850	2560	4480	3950	4020	3420	6120	3270	14400	2780	2280	2990
6	1830	2640	4800	4460	3720	3170	5850	3110	13400	2580	2380	3090
7	1620	2820	4080	4420	3260	2090	6110	3060	12300	2540	2510	3120
8	1630	2940	4240	5480	3020	2940	5660	2770	11100	2300	2220	3090
9	1720	3260	4310	5160	3210	3390	5680	2950	10100	2670	2040	3000
10	1400	4210	4030	5320	3660	2940	5220	2940	9350	2570	2010	3120
11	1490	5270	3950	5380	3570	3020	5400	2920	8420	2700	1830	2730
12	1700	5270	3350	5910	3690	3210	4990	2790	7730	2630	1760	2760
13	1580	5490	3560	5650	3800	3260	4710	2850	7640	2590	1860	2780
14	1510	5680	3660	5190	3600	3420	4520	2510	7020	2750	1540	2780
15	1470	5470	3770	5320	3370	3640	4480	2620	6560	2440	1940	2880
16	1520	5320	3770	5140	3380	3990	4610	2850	6020	1890	1830	2750
17	1840	5710	3350	4770	3530	3800	3950	2700	6060	2510	1930	2730
18	4140	5860	3160	4650	3160	4430	4010	2520	5390	2160	1630	2860
19	5030	5510	3160	4680	3060	4910	4140	2780	5020	2210	1730	2660
20	4000	5830	3410	4420	3160	4620	3740	2840	5150	2350	1900	2460
21	3850	6650	3670	4410	3100	4880	3840	2900	4920	2280	2120	2710
22	3680	6610	3530	4090	3310	4500	3720	3020	4380	2440	2270	2340
23	3780	6490	4050	3890	2960	4400	3590	3050	4280	2650	1990	1810
24	3530	6420	4830	4260	2950	4330	3520	2910	4710	2950	2100	2090
25	3750	6340	4480	3650	2920	3960	3560	2940	3980	2480	2040	2270
26	3320	5910	3980	4100	2970	4230	3630	2950	4330	2810	2020	2420
27	3360	5930	4530	4040	2960	3920	3620	3160	4190	2700	1950	2170
28	3290	5970	4680	3920	3010	4050	3650	2870	3660	2600	1960	2030
29	3130	5850	4780	4070	---	4340	3830	2840	3970	2520	2010	1820
30	2910	5450	4480	4300	---	4630	3530	2910	3760	2440	2080	1920
31	3020	---	4620	4300	---	4510	---	3120	---	2440	1950	---
TOTAL	78880	146350	129490	142770	96230	115230	136280	91730	226040	80820	62570	78600
MEAN	2545	4878	4177	4605	3437	3717	4543	2959	7535	2607	2018	2620
MAX	5030	6650	5360	5910	4400	4910	6120	3460	15000	3460	2510	3120
MIN	1400	2560	3160	3650	2920	2090	3520	2510	3660	1890	1540	1810
CFSM	.76	1.45	1.24	1.37	1.02	1.10	1.35	.88	2.24	.77	.60	.78
IN.	.87	1.62	1.43	1.58	1.06	1.27	1.50	1.01	2.50	.89	.69	.87

CAL YR 1988 TOTAL 1111917 MEAN 3038 MAX 8550 MIN 613 CFSM .90 IN. 12.27  
WTR YR 1989 TOTAL 1384990 MEAN 3794 MAX 15000 MIN 1400 CFSM 1.13 IN. 15.29

## 04101500 ST. JOSEPH RIVER AT MILES, MI

LOCATION.--Lat 41°49'45", long 86°15'35", in SW 1/4 sec. 26, T.7 S., R.17 W., Berrien County, Hydrologic Unit 04050001, on right bank 100 ft upstream from Main Street bridge in Miles, 0.6 mi downstream from dam at French Paper Co., 1 mi upstream from Dowagiac River, and at mile 44.

DRAINAGE AREA.--3,666 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1930 to current year. Monthly discharge only for some periods, published in WSP 1307.

REVISED RECORDS.--WSP 1387: 1931, 1933-36, 1940-43, 1945-46(M). WSP 1911: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 633.02 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1968, at datum 2.00 ft higher. Oct. 1, 1930, to Feb. 11, 1931, nonrecording gage on Main Street bridge, and Feb. 12 to June 30, 1931, nonrecording gage 50 ft upstream from present site (gage heights referred to NGVD). Since Apr. 13, 1970, auxiliary water-stage recorder at sewage-treatment plant, 1.1 mi downstream from base gage at same datum. Oct. 1, 1943, to Apr. 12, 1970, auxiliary gage was headwater gage at hydroelectric plant at Buchanan Dam, 8 mi downstream from base gage at different datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by powerplants upstream from station.

AVERAGE DISCHARGE.--59 years, 3,318 ft<sup>3</sup>/s, 12.29 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,200 ft<sup>3</sup>/s Apr. 5, 1950, gage height, 15.10 ft, present datum; minimum daily, 420 ft<sup>3</sup>/s Aug. 30, 1931.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,300 ft<sup>3</sup>/s June 4, gage height, 13.33 ft; minimum daily, 1,640 ft<sup>3</sup>/s Oct. 1, 11.

FROM MICHIGAN  
DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1640	3430	5490	4940	4570	3360	4900	3810	6940	3820	2670	2970
2	2000	2730	5750	5010	4770	3110	4950	3680	12500	3810	2500	3050
3	2000	3080	5480	5000	4670	3150	5640	3710	15600	3590	2580	3390
4	1970	3110	5530	4660	4580	3270	7130	3720	16000	3420	2380	3520
5	2010	3020	4850	4310	4500	3650	7110	3520	15300	3070	2740	3250
6	1960	2990	5020	4650	4090	4040	6700	3710	14100	2980	2650	3470
7	1770	3090	4870	5100	3700	2870	6490	3270	13100	2870	2870	3580
8	1690	3290	4340	6500	3400	2790	6310	3070	11900	2770	2600	3560
9	1870	3660	4680	6170	3540	3660	5930	3390	10900	3830	2540	3690
10	1670	4910	4360	5860	3370	3740	5950	3200	10200	3080	2290	3560
11	1640	6500	4320	5900	3900	3360	5610	3260	9360	3140	2170	3270
12	1770	6190	4020	6240	3750	3680	5700	3190	8870	3180	2090	3030
13	1890	5910	3510	6210	4110	3630	5060	3140	8100	2930	2110	3310
14	1810	6540	3980	6080	4100	3760	4940	2960	7800	3100	1980	3150
15	1710	5910	4110	5310	3890	4040	4880	2880	7220	3020	2000	3280
16	1700	5780	3870	5680	3710	4410	5070	2930	6540	2660	2220	3200
17	2170	6260	3950	5190	3730	4220	4790	3190	6390	2280	2010	3140
18	4810	6280	3710	5040	4150	4870	4340	2850	6360	2930	2170	3100
19	6060	6380	3450	4960	3260	5260	4520	3240	5460	2450	1700	3180
20	4850	6290	3510	4950	3260	5420	4210	3130	5490	2700	2210	2950
21	4380	7660	3800	4820	3830	5040	4180	3170	5530	2810	2310	2840
22	4200	7460	4250	4600	3550	5160	4100	3430	5040	2840	2570	3000
23	4190	7250	4300	4270	3610	4630	4060	3440	4620	2890	2280	2500
24	4200	7010	5530	1480	3370	4850	3850	3430	4850	3110	2470	2020
25	4160	6640	5690	4330	3210	4400	3980	3350	4840	3420	2360	2550
26	4000	6630	4470	4190	3170	4400	3900	3320	4480	2840	2300	2720
27	3620	6230	4710	4620	3450	4510	4060	3250	5220	3210	2320	2580
28	3730	6350	5370	4220	3300	4400	4190	3370	4030	2990	2490	2420
29	3470	6330	5320	4420	---	4770	4080	3290	4180	2910	2460	2280
30	3340	6110	5200	4620	---	5040	4070	3390	4370	2870	2380	2070
31	3510	---	4910	4870	---	4940	---	3480	---	2830	2360	---
TOTAL	89790	163020	142350	157200	106540	128430	150700	102770	245290	94350	72780	90630
MEAN	2896	5434	4592	5071	3805	4143	5023	3315	8176	3044	2348	3021
MAX	6060	7660	5750	6500	4770	5420	7130	3810	16000	3830	2870	3690
MIN	1640	2730	3450	4190	3170	2790	3850	2850	4030	2280	1700	2020
CFSM	.79	1.48	1.25	1.38	1.04	1.13	1.37	.90	2.23	.83	.64	.82
IN.	.91	1.65	1.44	1.60	1.08	1.30	1.53	1.04	2.49	.96	.74	.92

CAL YR 1988 TOTAL 1236084 MEAN 3377 MAX 9790 MIN 843 CFSM .92 IN. 12.54  
WTR YR 1989 TOTAL 1543850 MEAN 4230 MAX 16000 MIN 1640 CFSM 1.15 IN. 15.67

## 04177720 FISH CREEK AT HAMILTON, IN

LOCATION.--Lat 41°31'55", long 84°54'12", in SE¼SW¼ sec.34, T.36 N., R.14 E., Steuben County, Hydrologic Unit 04100003, on left bank 6 ft upstream from bridge on County Road 775 South, 0.5 mi downstream from Hamilton Lake outlet, and 0.5 mi southeast of Hamilton.

DRAINAGE AREA.--37.5 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is 876.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 30 to Jan. 6, and Feb. 5-11. Records good, except those for estimated daily discharges which are poor.

AVERAGE DISCHARGE.--20 years, 32.6 ft<sup>3</sup>/s, 11.80 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 654 ft<sup>3</sup>/s Feb. 24, 1985, gage height, 11.95 ft; minimum daily, 0.52 ft<sup>3</sup>/s Aug. 31, 1971.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 140 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 10	1700	157	5.76	Apr. 4	0700	146	5.64
Nov. 16	2400	264	6.76	June 2	0100	*444	*8.10
Nov. 21	0400	204	6.23	June 4	0200	441	8.08
Jan. 8	1000	364	7.54				

REVISIONS.--The peak discharges and annual maximum (\*) reported for water year 1988 have been revised as shown in the following table. They supersede figures published in IN-88-1:

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 15	2200	173	5.76	Mar. 25	1600	295	7.01
Dec. 20	1600	185	6.04	Apr. 7	1100	*392	*7.74

Minimum daily discharge, 1.2 ft<sup>3</sup>/s Oct. 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	6.1	47	38	59	13	25	25	344	5.1	3.9	81
2	4.6	5.7	40	31	52	12	28	24	393	4.7	3.5	84
3	3.4	5.5	36	27	43	12	120	23	326	5.3	3.0	57
4	2.2	7.4	31	24	35	23	140	18	405	5.6	3.3	41
5	1.5	18	28	23	26	32	113	20	264	4.5	5.0	31
6	1.2	24	25	33	22	23	85	17	169	4.2	4.5	25
7	1.3	29	24	68	19	18	67	16	116	4.0	2.3	29
8	1.5	36	22	334	17	15	57	13	87	3.3	1.6	27
9	2.0	31	19	230	16	14	46	14	69	6.8	1.8	23
10	2.6	127	18	146	16	15	36	15	51	5.9	2.0	21
11	2.0	133	16	102	17	17	30	12	38	5.0	2.1	16
12	1.9	94	14	86	17	20	27	11	36	9.8	2.6	13
13	1.7	87	15	72	18	19	24	18	38	8.1	5.2	11
14	1.8	71	15	59	20	22	22	18	33	5.9	5.1	41
15	1.8	55	14	51	22	41	22	16	29	4.2	11	57
16	2.5	160	13	43	21	34	21	15	24	3.7	14	46
17	9.3	225	12	37	19	31	21	13	20	3.3	9.6	36
18	60	150	12	36	18	61	23	12	19	3.0	7.2	28
19	32	105	12	37	17	52	22	20	21	4.2	5.7	22
20	17	124	14	37	18	45	19	52	25	4.5	14	18
21	12	188	18	32	24	41	18	39	22	4.2	20	15
22	9.8	134	18	29	24	34	15	28	19	5.9	17	14
23	9.7	98	91	27	20	30	14	22	17	4.5	16	11
24	12	76	88	26	17	27	12	17	15	4.0	12	6.7
25	9.7	62	71	26	16	27	25	26	13	3.9	9.2	6.3
26	7.3	58	55	52	17	27	28	59	11	5.4	7.2	6.1
27	6.1	86	66	51	16	29	24	41	10	5.9	6.5	4.0
28	6.0	77	123	42	15	34	42	25	10	5.4	24	3.8
29	4.4	62	95	48	---	38	44	20	7.0	3.1	52	3.6
30	4.6	54	70	62	---	37	34	20	5.5	5.2	36	3.3
31	5.8	---	49	60	---	32	---	149	---	4.9	24	---
TOTAL	239.1	2388.7	1171	1969	641	875	1204	818	2636.5	153.5	331.3	780.8
MEAN	7.71	79.6	37.8	63.5	22.9	28.2	40.1	26.4	87.9	4.95	10.7	26.0
MAX	60	225	123	334	59	61	140	149	405	9.8	52	84
MIN	1.2	5.5	12	23	15	12	12	11	5.5	3.0	1.6	3.3
CFSM	.21	2.12	1.01	1.69	.61	.75	1.07	.70	2.34	.13	.28	.69
IN.	.24	2.37	1.16	1.95	.64	.87	1.19	.81	2.62	.15	.33	.77
CAL YR 1988	TOTAL	9986.5	MEAN	27.3	MAX	285	MIN	1.0	CFSM	.73	IN.	9.91
WTR YR 1989	TOTAL	13207.9	MEAN	36.2	MAX	405	MIN	1.2	CFSM	.96	IN.	13.10

## 04178000 ST. JOSEPH RIVER NEAR NEWVILLE, IN

LOCATION.--Lat 41°23'08", long 84°48'06", in SW1/4 sec.18, T.5 N., R.1 E., Defiance County, Ohio, Hydrologic Unit 04100003, on left bank at bridge on Ohio State Highway 249, 3.5 mi northeast of Newville, 6.5 mi northwest of Hicksville, Ohio, and at mile 42.3.

DRAINAGE AREA.--610 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1946 to current year. Monthly discharge only for some periods, published in WSP 1307.

REVISED RECORDS.--WSP 2112: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 795.40 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 22, 1947, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Dec. 16, 17, Dec. 30 to Jan. 7, Feb. 6-13, Mar. 8-11 and May 15-19. Records good, except for estimated daily discharges, which are fair.

AVERAGE DISCHARGE.--43 years, 529 ft<sup>3</sup>/s, 11.78 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,710 ft<sup>3</sup>/s Apr. 6, 1950, gage height, 17.05 ft; maximum gage height, 17.96 ft Mar. 17, 1982; minimum daily discharge, 14 ft<sup>3</sup>/s Sept. 10, 16, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,040 ft<sup>3</sup>/s June 4, gage height, 16.57 ft; minimum daily, 30 ft<sup>3</sup>/s Oct. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	137	847	700	968	182	678	403	1770	255	161	199
2	41	126	691	590	907	168	652	355	3360	231	156	404
3	49	145	575	450	797	163	1250	326	6680	216	141	774
4	56	286	489	350	626	193	1720	306	7700	223	128	628
5	63	372	424	330	463	339	1830	293	6420	225	128	366
6	61	552	377	330	345	377	1840	281	5020	206	126	268
7	52	770	345	410	270	376	1780	270	3790	180	155	257
8	46	897	316	1660	235	294	1680	253	2910	163	164	482
9	40	927	290	2050	218	242	1430	244	2320	152	140	778
10	39	1250	266	2160	212	222	1060	235	1910	143	118	1080
11	36	1650	213	2160	215	214	791	227	1460	142	106	737
12	34	1670	202	1820	222	262	648	217	1080	139	98	476
13	33	1700	219	1660	238	294	560	228	890	157	100	319
14	34	1640	234	1490	252	305	497	257	794	236	111	458
15	35	1420	215	1040	263	436	449	270	723	205	128	880
16	36	1140	198	692	278	577	413	295	680	181	117	936
17	46	963	187	526	269	560	389	285	627	159	118	842
18	614	1030	182	448	251	799	381	270	547	140	103	641
19	917	1130	183	436	242	1030	399	260	467	133	97	474
20	962	1110	180	475	226	1040	462	310	440	127	94	353
21	888	1640	172	465	236	1100	471	459	646	133	98	284
22	638	1770	168	377	293	1070	422	419	912	150	127	238
23	405	1750	327	338	268	922	379	345	1100	375	135	204
24	350	1580	692	311	252	781	350	291	1040	531	128	182
25	332	1350	970	299	238	684	330	273	728	387	118	163
26	322	1050	898	548	240	625	368	492	532	260	102	145
27	265	1060	761	745	216	598	401	666	423	220	91	135
28	220	1160	1300	697	202	591	439	605	360	242	89	126
29	190	1140	1450	652	---	566	523	446	318	207	119	116
30	171	1020	1010	826	---	561	475	356	288	175	203	109
31	152	---	900	976	---	632	---	644	---	162	204	---
TOTAL	7157	32435	15281	26011	9442	16203	23067	10581	55935	6455	3903	13054
MEAN	231	1081	493	839	337	523	769	341	1864	208	126	435
MAX	962	1770	1450	2160	968	1100	1840	666	7700	531	204	1080
MIN	30	126	168	299	202	163	330	217	288	127	89	109
CFSM	.38	1.77	.81	1.38	.55	.86	1.26	.56	3.06	.34	.21	.71
IN.	.44	1.98	.93	1.59	.58	.99	1.41	.65	3.41	.39	.24	.80

CAL YR 1988 TOTAL 164831 MEAN 450 MAX 3370 MIN 22 CFSM .74 IN. 10.05  
WTR YR 1989 TOTAL 219524 MEAN 601 MAX 7700 MIN 30 CFSM .99 IN. 13.39

## 04180000 CEDAR CREEK NEAR CEDARVILLE, IN

LOCATION.--Lat 41°13'08", long 85°04'35", in NW¼ sec.19, T.32 N., R.13 E., Allen County, Hydrologic Unit 04100003, on left bank at downstream side of bridge on State Highway 427, 3 mi northwest of Cedarville, 5.8 mi upstream from mouth, and 10 mi south of Auburn.

DRAINAGE AREA.--270 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1946 to current year.

REVISED RECORDS.--WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 780.09 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 4, 1947, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Dec. 11-13, 16-18, Jan. 3-6, Feb. 5-7, 17-19, 22-24, Feb. 27 to Mar. 3, and Mar. 7-9. Records good except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--43 years, 247 ft<sup>3</sup>/s, 12.42 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,340 ft<sup>3</sup>/s Mar. 14, 1982, gage height, 12.98 ft; minimum daily, 13 ft<sup>3</sup>/s Oct. 3, 1949.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 8	2400	3,380	9.43	June 4	1500	*3,500	*9.67
June 2	1100	2,260	6.91				

Minimum daily discharge, 24 ft<sup>3</sup>/s Oct. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	78	284	303	356	102	203	133	1120	84	61	182
2	78	74	248	253	306	100	190	129	2110	78	57	243
3	77	70	228	190	253	100	1080	132	1850	75	54	140
4	51	72	205	172	211	196	1320	123	3230	76	52	99
5	37	117	188	165	175	393	917	121	2430	70	57	83
6	31	187	178	300	155	219	599	114	1260	69	50	74
7	28	226	167	613	142	160	438	104	771	66	44	70
8	26	298	154	2450	132	130	348	101	541	62	45	106
9	24	282	143	2890	125	122	293	121	419	88	45	113
10	25	901	136	1530	120	125	244	129	327	108	49	147
11	26	1340	120	880	120	132	210	118	267	90	55	104
12	28	755	115	667	120	152	188	111	244	307	47	85
13	26	695	110	573	126	147	169	131	243	167	50	72
14	26	567	117	416	142	154	151	139	224	132	54	174
15	26	402	115	346	153	286	144	127	238	102	52	438
16	26	676	97	286	151	267	132	128	201	85	71	257
17	67	1850	95	258	135	213	129	117	175	75	64	193
18	1210	1190	93	245	125	609	146	111	209	71	53	143
19	862	752	97	263	125	521	138	142	179	83	48	116
20	445	789	101	275	130	358	134	425	236	86	50	99
21	295	1840	102	225	150	362	124	372	192	76	53	84
22	226	1220	100	202	160	318	116	277	160	76	53	77
23	185	735	490	185	135	271	110	201	140	82	55	69
24	241	518	635	176	129	243	109	156	133	75	55	62
25	195	405	457	173	128	227	131	210	116	76	50	57
26	150	346	321	495	132	213	151	598	108	73	45	56
27	125	546	376	583	118	205	132	430	105	104	40	51
28	111	535	1400	380	108	212	162	258	105	84	39	50
29	100	392	1000	355	---	238	199	186	95	70	97	48
30	88	330	575	439	---	251	157	167	88	66	101	46
31	80	---	396	416	---	236	---	169	---	65	76	---
TOTAL	4942	18188	8843	16704	4362	7262	8564	5780	17516	2821	1722	3538
MEAN	159	606	285	539	156	234	285	186	584	91.0	55.5	118
MAX	1210	1850	1400	2890	356	609	1320	598	3230	307	101	438
MIN	24	70	93	165	108	100	109	101	88	62	39	46
CFSM	.59	2.25	1.06	2.00	.58	.87	1.06	.69	2.16	.34	.21	.44
IN.	.68	2.51	1.22	2.30	.60	1.00	1.18	.80	2.41	.39	.24	.49

CAL YR 1988 TOTAL 84188 MEAN 230 MAX 2720 MIN 20 CFSM .85 IN. 11.60  
WTR YR 1989 TOTAL 100242 MEAN 275 MAX 3230 MIN 24 CFSM 1.02 IN. 13.81



## 04180500 ST. JOSEPH RIVER NEAR FORT WAYNE, IN

LOCATION.--Lat 41°10'41", long 85°03'19", in NW¼NE¼ sec.3, T.31 N., R.13 E., Allen County, Hydrologic Unit 04100003, on left bank 0.8 mi downstream from Ely Run, 1.3 mi upstream from Ely Bridge and Mayhew Road, 8.0 mi northeast of the Fort Wayne Court House.

DRAINAGE AREA.--1,060 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1983 to current year. July 1941 to September 1955 gage located 1.3 mi downstream at Ely Bridge.

GAGE.--Water-stage recorder. Datum of gage is 750.00 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana).

REMARKS.--Estimated daily discharges: Dec. 8-12, Dec. 30 to Jan. 4, Jan. 21-24, and Feb. 3-13. Records good except for estimated daily discharges, which are fair. Flow regulated by Cedarville Reservoir and some flow diverted into storage of Hurshtown Reservoir.

AVERAGE DISCHARGE.--6 years, 1,046 ft<sup>3</sup>/s, 13.40 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,200 ft<sup>3</sup>/s Feb. 26, 1985 and June 5, 1989; maximum gage height, 17.86 ft, June 5, 1989; minimum daily discharge, 45 ft<sup>3</sup>/s Aug. 4, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,200 ft<sup>3</sup>/s June 5, gage height, 17.86 ft; minimum daily, 66 ft<sup>3</sup>/s Oct. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71	256	1330	1020	1760	273	1070	749	2870	420	247	482
2	108	196	1210	860	1480	315	1020	705	5010	340	228	771
3	153	184	1130	700	1000	324	2960	426	6630	353	240	633
4	132	248	923	780	760	402	3780	410	11900	327	234	1090
5	136	541	713	841	640	898	3250	559	12500	344	230	587
6	128	856	814	1090	540	832	3010	467	9450	343	232	464
7	102	1080	657	1880	470	545	2620	383	6970	214	211	390
8	96	1470	570	5260	440	462	2420	379	5270	352	212	433
9	95	1350	500	5940	445	717	2240	404	3870	298	230	891
10	91	2480	430	4190	450	573	1680	393	2860	256	228	1810
11	88	3110	270	3340	455	509	1340	349	2380	282	233	1380
12	88	2720	260	3140	460	537	1100	370	1520	640	198	918
13	85	2680	293	2900	465	455	860	393	1220	436	263	660
14	79	2570	443	2430	469	556	813	428	1250	347	206	571
15	66	2160	512	2040	502	921	903	452	1280	425	172	1810
16	70	2030	321	1470	528	1130	658	548	926	359	268	1470
17	141	2970	256	1170	552	1080	670	532	1030	255	262	1250
18	2760	2370	331	961	509	2560	688	473	919	224	184	1070
19	2340	2010	322	984	490	2080	662	482	702	323	139	846
20	1590	2160	338	983	500	1860	654	858	792	287	200	635
21	1340	4000	371	880	528	1830	696	895	823	231	227	568
22	1150	3390	312	790	659	1600	776	857	1050	259	208	429
23	801	2840	845	730	673	1630	665	713	1110	266	212	325
24	669	2450	1670	710	374	1290	460	547	1260	593	218	254
25	711	2160	1750	696	425	1110	521	528	1090	741	224	251
26	489	1740	1660	1790	537	1090	704	1160	649	457	202	247
27	568	1900	1530	2210	502	921	524	1250	726	335	193	224
28	365	1970	3310	1630	314	970	864	969	402	347	168	194
29	292	1810	3160	1470	---	1040	750	880	553	332	193	196
30	304	1620	1700	1610	---	966	816	624	430	308	243	194
31	273	---	1400	1770	---	916	---	545	---	305	346	---
TOTAL	15381	57321	29331	56185	16927	30392	39174	18728	87442	10999	6851	21043
MEAN	496	1911	946	1812	605	980	1306	604	2915	355	221	701
MAX	2760	4000	3310	5940	1760	2560	3780	1250	12500	741	346	1810
MIN	66	184	256	696	314	273	460	349	402	214	139	194
CFSM	.47	1.80	.89	1.71	.57	.92	1.23	.57	2.75	.33	.21	.66
IN.	.54	2.01	1.03	1.97	.59	1.07	1.37	.66	3.07	.39	.24	.74

CAL YR 1988 TOTAL 304496 MEAN 832 MAX 7440 MIN 45 CFSM .78 IN. 10.69  
WTR YR 1989 TOTAL 389774 MEAN 1068 MAX 12500 MIN 66 CFSM 1.01 IN. 13.68

## 04181500 ST. MARYS RIVER AT DECATUR, IN

LOCATION.--Lat 40°50'55", long 84°56'16", in SW1SW1sec.27, T.28 N., R.14 E., Adams County, Hydrologic Unit 04100004, on right bank 10 ft downstream from bridge on U.S. Highway 27, 0.5 mi upstream from Holthouse ditch, 1.3 mi north of Decatur, and at mile 29.1.

DRAINAGE AREA.--621 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1946 to current year. Monthly discharge only for some periods, published in WSP 1307. Gage-height records collected at site 0.5 mi upstream January 1932 to November 1954, and at present site thereafter are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 1174: 1948. WSP 1337: 1947. WSP 1627: 1950. WSP 1912: 1955, drainage area.

GAGE.--Water-stage recorder. Datum of gage is 760.44 ft above National Geodetic Vertical Datum of 1929. Prior to July 27, 1948, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Dec. 12-19, Dec. 30 to Jan. 7, Feb. 6 to Mar. 9, and Aug. 20 to Sept. 30. Records good except for estimated daily discharges, which are poor. Flow regulated by Grand Lake. Slight diversion from or into Wabash River basin and into Miami and Erie Canals.

AVERAGE DISCHARGE.--43 years, 489 ft<sup>3</sup>/s, 10.69 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,300 ft<sup>3</sup>/s Feb. 10, 11, 1959; maximum gage height, 24.40 ft Mar. 14, 1982; minimum daily discharge, 5.4 ft<sup>3</sup>/s Oct. 18, 1960.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,900 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 5	1400	4,540	19.05	June 4	2400	3,010	15.93
May 26	2000	*5,690	*20.32				

Minimum daily discharge, 13 ft<sup>3</sup>/s Oct. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	16	190	280	490	190	1170	1150	2010	185	309	130
2	26	15	149	250	360	160	1060	1040	1130	151	225	480
3	23	15	121	225	282	150	2370	914	1070	116	177	420
4	21	27	102	210	227	145	3670	769	2800	95	142	320
5	21	53	87	200	187	180	4450	812	2870	84	142	330
6	22	67	76	300	150	390	4320	586	2190	84	140	310
7	22	73	69	1200	120	300	3870	409	1820	114	163	200
8	22	92	64	2620	92	250	3210	356	1580	106	334	130
9	21	111	59	2300	78	270	2260	367	1210	83	391	100
10	20	185	45	1790	70	395	1350	514	785	69	310	950
11	18	329	36	1950	68	315	918	523	484	90	182	1200
12	16	268	34	2000	70	293	699	480	394	445	104	600
13	15	254	35	1820	80	309	554	518	523	296	90	350
14	14	252	37	1250	100	344	422	567	340	184	105	280
15	13	199	37	898	140	362	347	468	270	143	90	700
16	15	144	35	713	230	312	292	436	226	115	102	840
17	20	128	33	580	260	261	258	390	183	90	94	830
18	46	114	33	489	265	278	243	320	147	73	67	730
19	16	103	34	489	270	243	229	273	128	72	53	640
20	17	236	41	489	280	212	216	270	116	73	57	580
21	14	448	44	414	320	374	240	235	106	119	52	400
22	14	475	38	355	450	528	296	192	133	248	50	250
23	19	434	82	304	360	520	283	182	224	359	54	150
24	26	434	73	249	290	513	239	181	132	453	100	110
25	27	391	67	220	420	458	238	567	264	514	230	90
26	26	296	52	786	480	359	2340	4950	257	398	240	80
27	22	238	59	1610	330	292	2230	5150	179	317	190	70
28	22	208	320	1010	250	347	1430	4290	142	699	170	60
29	17	193	632	820	---	340	1480	3960	121	530	250	54
30	15	204	470	772	---	439	1310	3670	167	466	250	50
31	16	---	350	640	---	856	---	3040	---	461	135	---
TOTAL	632	6002	3504	27233	6719	10385	41994	37579	22001	7232	4998	11434
MEAN	20.4	200	113	878	240	335	1400	1212	733	233	161	381
MAX	46	475	632	2620	490	856	4450	5150	2870	699	391	1200
MIN	13	15	33	200	68	145	216	181	106	69	50	50
CFSM	.03	.32	.18	1.41	.39	.54	2.25	1.95	1.18	.38	.26	.61
IN.	.04	.36	.21	1.63	.40	.62	2.52	2.25	1.32	.43	.30	.68

CAL YR 1988 TOTAL 85054 MEAN 232 MAX 2610 MIN 13 CFSM .37 IN. 5.10  
WTR YR 1989 TOTAL 179713 MEAN 492 MAX 5150 MIN 13 CFSM .79 IN. 10.77

## 04182000 ST. MARYS RIVER NEAR FORT WAYNE, IN

LOCATION.--Lat 40°59'16", long 85°06'03", in A. LaFontaine Reserve, T.29 N., R.12 E., Allen County, Hydrologic Unit 04100004, on left bank 130 ft downstream from Anthony Boulevard Extension, 0.8 mi downstream from Houk ditch, 5 mi south of Fort Wayne, and 10.8 mi upstream from mouth.

DRAINAGE AREA.--762 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1930 to current year. Monthly discharge only for some periods, published in WSP 1307. Fragmentary gage-height records for period November 1924 to October 1927 are available from the District Office.

REVISED RECORDS.--WSP 974: 1942. WSP 1337: 1933, 1947. WSP 1912: 1954, 1955, 1960, drainage area. WDR IN-82-1: 1973, 1974, 1978, 1979.

GAGE.--Water-stage recorder. Datum of gage is 748.97 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana, Department of Natural Resources). Prior to Apr. 13, 1939, nonrecording gage on upstream highway bridge at same datum.

REMARKS.--Estimated daily discharges: Dec. 10-19, Dec. 30 to Jan. 7, Feb. 5 to Mar. 4, and Mar. 7-9. Records good except for estimated daily discharges, which are poor. The flow is sometimes regulated by Grand Lake. Slight diversion from or into Wabash River basin and into Miami and Erie Canal. During extreme floods, some water bypasses gage and flows through Houk ditch and Paul Trier ditch into the Maumee River.

AVERAGE DISCHARGE.--59 years, 577 ft<sup>3</sup>/s, 10.28 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,600 ft<sup>3</sup>/s Feb. 11, 1959; maximum gage height, 19.66 ft, Mar. 14, 1982; minimum daily discharge, 3.4 ft<sup>3</sup>/s Oct. 19, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 6	1200	5,150	11.82	June 3	2300	4,870	11.45
May 27	0800	*7,000	*14.07				

Minimum daily discharge, 13 ft<sup>3</sup>/s Oct. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	21	233	350	617	210	1160	1460	2960	189	391	137
2	34	19	197	310	467	190	1130	1320	1470	185	268	545
3	34	17	162	280	361	185	2440	1210	2430	149	201	459
4	29	20	136	260	288	180	4020	1030	4450	120	167	356
5	24	52	116	240	210	199	4750	1010	3890	101	174	369
6	24	113	100	330	170	470	5110	798	2980	89	180	337
7	28	127	89	1700	130	320	4870	546	2090	94	154	229
8	27	148	82	3520	110	290	4260	432	1760	120	202	144
9	27	147	73	2930	90	310	3120	420	1410	107	342	113
10	29	441	57	1900	82	459	1720	546	992	85	338	1070
11	26	418	45	1860	80	365	1110	615	634	73	236	1340
12	19	376	43	2140	85	328	830	544	448	265	142	661
13	16	339	44	2070	100	322	661	558	813	379	97	358
14	14	348	47	1530	140	352	519	614	592	252	99	301
15	13	298	47	1060	190	392	423	606	363	170	104	785
16	17	228	46	829	280	368	363	578	289	140	95	936
17	22	175	42	675	310	310	320	493	234	112	105	920
18	87	148	42	565	320	324	306	411	192	91	91	813
19	74	130	44	531	330	329	277	372	162	78	69	725
20	30	400	55	566	340	267	253	618	142	78	59	630
21	20	956	54	502	400	382	245	401	128	81	62	451
22	19	676	70	422	550	553	302	291	117	167	58	277
23	23	531	113	373	420	571	334	244	362	303	59	174
24	46	493	180	313	340	562	297	227	216	388	130	121
25	42	463	133	264	480	529	258	515	225	458	254	100
26	35	395	96	1060	580	446	2270	5800	314	454	266	84
27	31	346	97	1980	350	357	3200	6890	246	313	212	74
28	32	305	597	1380	260	368	2110	6030	181	514	183	68
29	27	247	756	989	---	395	1860	5020	147	611	277	60
30	22	230	550	910	---	416	1720	4530	137	463	277	54
31	22	---	420	785	---	723	---	4070	---	504	150	---
TOTAL	925	8607	4766	32624	8080	11472	50238	48199	30374	7133	5442	12691
MEAN	29.8	287	154	1052	289	370	1675	1555	1012	230	176	423
MAX	87	956	756	3520	617	723	5110	6890	4450	611	391	1340
MIN	13	17	42	240	80	180	245	227	117	73	58	54
CFSM	.04	.38	.20	1.38	.38	.49	2.20	2.04	1.33	.30	.23	.56
IN.	.05	.42	.23	1.59	.39	.56	2.45	2.35	1.48	.35	.27	.62

CAL YR 1988 TOTAL 114554 MEAN 313 MAX 3560 MIN 13 CFSM .41 IN. 5.59  
WTR YR 1989 TOTAL 220551 MEAN 604 MAX 6890 MIN 13 CFSM .79 IN. 10.77

## 04182590 HARBER DITCH AT FORT WAYNE, IN

LOCATION.--Lat 41°00'27", long 85°10'58", in NE1SW1 sec.33, T.30 N., R.12 E., Allen County, Hydrologic Unit 04100004, on left bank 50 ft upstream from bridge on Baer Road in Fort Wayne, 3.2 mi upstream from mouth. The stream name changes to Fairfield ditch 0.7 mi downstream at bridge on Lower Huntington Road.

DRAINAGE AREA.--21.9 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1964 to current year. Discharge measurements available October 1960 to May 1964 and gage heights January 1961 to May 1964 at site 0.7 mi downstream.

REVISED RECORDS.--WDR IN-82-1: 1980 (P), 1981 (P).

GAGE.--Water-stage recorder. Datum of gage is 757.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 10, 11, 13-15, Jan. 5, 6, Feb. 5-8, and 11-26. Records fair except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--25 years, 18.2 ft<sup>3</sup>/s, 11.29 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,040 ft<sup>3</sup>/s June 3, 1989 gage height, 13.70 ft; minimum daily, 0.04 ft<sup>3</sup>/s June 29, July 4-7, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 8	0200	454	8.15	June 3	1915	*1040	a*13.70
May 26	0645	470	8.30	June 19	1345	330	6.99

a--HWM

Minimum daily discharge, 0.28 ft<sup>3</sup>/ Oct. 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	.77	7.2	9.9	13	2.2	2.5	13	54	1.4	2.1	17
2	5.7	.90	5.8	8.0	9.5	1.8	7.4	11	19	1.4	1.6	3.3
3	.87	.70	5.1	5.8	7.6	2.1	132	8.1	472	1.6	1.6	2.6
4	.37	7.7	4.3	4.8	4.9	5.0	120	9.1	540	1.6	2.4	1.6
5	.29	16	3.5	4.5	4.1	8.0	44	14	104	1.5	10	1.3
6	.28	20	3.5	17	3.4	4.5	24	9.6	49	1.3	4.0	1.4
7	.29	22	3.6	164	2.9	2.8	17	6.8	23	1.2	2.1	4.1
8	.30	24	2.8	268	2.6	1.9	13	5.7	13	1.0	1.6	7.6
9	.30	19	1.7	58	2.7	1.9	9.2	8.6	9.8	1.1	1.4	31
10	.32	87	1.4	21	2.8	2.2	7.2	8.0	7.0	1.2	5.5	24
11	.33	47	1.2	13	2.5	2.2	6.2	7.1	5.3	1.2	12	10
12	.33	21	1.0	34	2.3	2.2	6.1	6.5	11	1.3	25	5.0
13	.35	27	.85	26	3.3	2.2	5.5	8.1	9.3	1.6	7.7	3.1
14	.32	19	.68	16	5.2	4.0	5.0	5.5	7.1	1.5	2.3	27
15	.32	13	.62	12	9.0	6.4	5.6	4.8	6.5	1.5	7.1	15
16	4.6	12	.59	8.2	5.8	3.6	4.6	4.6	5.0	1.4	3.8	15
17	14	8.7	.59	7.5	4.6	3.0	6.8	4.4	4.2	1.3	1.7	8.8
18	39	6.1	.59	7.6	3.9	18	7.3	4.0	3.6	1.2	1.1	5.7
19	18	5.2	.70	9.3	3.4	8.2	6.2	15	40	5.3	.92	3.8
20	9.0	86	1.4	12	3.2	11	5.7	56	6.6	4.0	1.8	3.1
21	7.1	110	1.5	8.5	4.3	19	5.3	21	3.6	4.1	1.1	2.5
22	5.9	36	2.0	7.8	5.7	11	4.6	12	2.9	2.8	1.3	2.2
23	14	21	20	6.9	4.1	8.5	4.2	9.2	2.6	1.6	1.6	1.7
24	14	15	15	6.4	3.3	6.7	4.6	6.9	2.4	1.2	2.7	1.2
25	9.0	12	9.4	12	3.1	6.0	16	32	2.2	.98	1.7	1.1
26	5.6	12	5.1	169	5.1	4.8	132	374	2.3	2.9	1.3	.82
27	3.8	18	32	83	4.4	3.7	40	110	2.8	2.6	1.3	.72
28	4.3	14	129	36	3.4	3.2	46	43	2.6	4.2	3.5	.38
29	2.8	9.9	48	26	---	3.2	33	25	1.8	1.2	2.4	.33
30	1.2	9.1	22	22	---	3.4	17	20	1.5	5.9	1.4	.33
31	.70	---	13	17	---	3.7	---	40	---	3.0	1.2	---
TOTAL	167.87	699.07	344.12	1101.2	130.1	166.4	738.0	903.0	1414.1	64.08	115.22	201.68
MEAN	5.42	23.3	11.1	35.5	4.69	5.37	24.6	29.1	47.1	2.07	3.72	6.72
MAX	39	110	129	268	13	19	132	374	540	5.9	25	31
MIN	.28	.70	.59	4.5	2.3	1.8	2.5	4.0	1.5	.98	.92	.33
CFSM	.25	1.06	.51	1.62	.21	.25	1.12	1.33	2.15	.09	.17	.31
IN.	.29	1.19	.58	1.87	.22	.28	1.25	1.53	2.40	.11	.20	.34

CAL YR 1988 TOTAL 4946.31 MEAN 13.5 MAX 346 MIN .04 CFSM .62 IN. 8.40  
WTR YR 1989 TOTAL 6044.84 MEAN 16.6 MAX 540 MIN .28 CFSM .76 IN. 10.27

## 04182810 SPY RUN CREEK AT FORT WAYNE, IN

LOCATION.--Lat 41°06'18", long 85°09'12", in SW¼SW¼ sec.26, T.31 N., R.12 E., Allen County, Hydrologic Unit 04100004, on right bank 50 ft upstream from Sherman Boulevard bridge in Fort Wayne, and at mile 2.2.

DRAINAGE AREA.--14.0 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1983 to current year.

GAGE.--Water-stage recorder. Datum of gage is 760.00 ft above National Geodetic Vertical Datum of 1929 (levels by City of Fort Wayne).

REMARKS.--Estimated daily discharges: Dec. 12-17, Jan. 1, 2, 5, 6, Feb. 5-17, and 20-24. Records fair except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--6 years, 16.7 ft<sup>3</sup>/s, 16.20 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,270 ft<sup>3</sup>/s July 16, 1986, gage height, 10.32 ft; minimum daily, 1.1 ft<sup>3</sup>/s Aug. 14, 1988.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 14, 1982 reached a stage of 10.75 ft, present site and datum.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 18	0215	986	9.30	June 3	2045	*1,160	*9.95
Apr. 26	0315	698	8.10				

Minimum daily discharge, 1.8 ft<sup>3</sup>/s Sept. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.9	6.0	5.5	6.8	8.0	3.8	6.2	8.7	129	3.2	3.7	40
2	17	6.3	4.7	6.2	6.6	3.5	17	11	32	3.0	3.4	6.0
3	4.6	6.5	4.4	5.8	5.6	3.7	193	8.2	481	3.2	3.2	3.4
4	2.7	19	4.1	5.3	4.8	23	47	6.7	134	3.2	3.3	2.9
5	2.4	30	4.0	4.8	4.2	20	19	9.6	25	3.1	3.2	2.7
6	2.2	21	4.2	25	3.8	8.1	12	5.7	16	3.1	2.9	2.7
7	2.2	22	3.8	141	3.4	5.3	8.7	4.7	12	3.2	2.9	4.8
8	2.3	22	3.8	146	3.1	4.6	7.2	4.4	10	3.2	3.0	14
9	2.4	15	3.5	17	2.9	4.4	6.0	11	8.7	3.9	3.0	69
10	3.0	69	3.5	9.8	2.8	4.5	5.0	6.7	7.7	3.3	5.2	68
11	3.8	15	3.2	7.9	3.0	5.1	5.2	4.5	6.6	78	22	8.8
12	4.0	12	3.0	18	3.3	6.1	4.5	4.5	20	24	9.3	5.2
13	3.8	33	2.8	11	4.3	5.6	4.4	14	12	12	4.2	4.1
14	3.6	13	2.9	7.4	8.0	6.9	4.1	6.7	8.9	5.4	3.4	101
15	3.7	8.3	3.0	6.9	11	19	6.0	5.2	14	3.8	3.2	21
16	6.7	12	3.1	5.9	7.8	8.1	4.3	4.6	6.2	3.3	3.3	37
17	86	8.0	3.1	5.7	6.4	6.7	8.1	4.0	5.1	3.1	3.0	12
18	259	5.7	3.2	5.6	5.7	154	11	3.7	4.5	3.0	2.9	6.0
19	19	5.4	3.4	6.3	5.0	21	6.7	53	38	26	2.8	4.4
20	11	129	3.8	7.0	4.8	26	4.8	38	13	7.6	6.3	3.9
21	9.8	40	4.0	5.1	6.0	26	4.3	16	6.6	26	3.3	3.6
22	11	15	6.5	4.3	8.5	13	3.7	8.5	5.3	38	3.8	3.4
23	25	9.1	78	4.2	5.4	9.3	3.5	7.5	4.7	7.3	3.9	3.2
24	15	6.9	20	4.2	4.5	7.8	3.4	4.9	4.4	34	4.5	3.0
25	8.4	6.3	15	10	4.6	7.9	36	40	4.0	22	3.1	2.8
26	7.9	12	7.0	156	6.3	8.4	188	128	3.8	6.5	2.8	2.6
27	6.5	28	61	29	5.0	7.4	19	13	4.8	7.0	2.6	2.3
28	8.3	12	99	16	4.2	7.5	76	7.1	4.6	5.9	3.4	2.1
29	8.2	7.5	25	16	---	6.6	23	11	4.0	3.8	3.7	2.0
30	6.4	6.3	13	15	---	10	12	8.0	3.7	12	2.9	1.8
31	5.9	---	8.6	10	---	8.9	---	53	---	4.8	3.2	---
TOTAL	556.7	601.3	410.1	719.2	149.0	452.2	749.1	511.9	1029.6	365.9	131.4	443.7
MEAN	18.0	20.0	13.2	23.2	5.32	14.6	25.0	16.5	34.3	11.8	4.24	14.8
MAX	259	129	99	156	11	154	193	128	481	78	22	101
MIN	2.2	5.4	2.8	4.2	2.8	3.5	3.4	3.7	3.7	3.0	2.6	1.8
CFSM	1.28	1.43	.94	1.66	.38	1.04	1.78	1.18	2.45	.84	.30	1.06
IN.	1.48	1.60	1.09	1.91	.40	1.20	1.99	1.36	2.74	.97	.35	1.18

CAL YR 1988 TOTAL 5203.7 MEAN 14.2 MAX 350 MIN 1.1 CFSM 1.02 IN. 13.83  
WTR YR 1989 TOTAL 6120.1 MEAN 16.8 MAX 481 MIN 1.8 CFSM 1.20 IN. 16.26



## 04183000 MAUMEE RIVER AT NEW HAVEN, IN

LOCATION.--Lat 41°05'06", long 85°01'20", in SE 1/4 sec. 2, T. 30 N., R. 13 E., Allen County, Hydrologic Unit 04100005, on left bank 600 ft upstream from bridge on Landin Road, 1,400 ft upstream from the Norfolk and Western Railroad bridge, 1.1 mi northwest of New Haven, 2.8 mi upstream from Sixmile Creek and at mile 129.0.

DRAINAGE AREA.--1,967 mi<sup>2</sup>.

PERIOD OF RECORD.--December 1946 to September 1956 (high-water records only), October 1956 to current year.

REVISED RECORDS.--WSP 2112: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 724.51 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 7, 1956, nonrecording gage and Sept. 7, 1956, to Sept. 14, 1965, water-stage recorder at site 500 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Dec. 31 to Jan. 5, Feb. 4-12, 23, 24, and Mar. 7, 8. Records good except for estimated daily discharges, which are fair. Flow regulated by hydro-powerplant on the St. Joseph River 10.3 mi. upstream from station. Flow slightly regulated by upstream reservoirs.

AVERAGE DISCHARGE.--33 years (1956 to current year), 1,684 ft<sup>3</sup>/s, 11.63 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,600 ft<sup>3</sup>/s Mar. 17, 1982, gage height, 25.49 ft; minimum daily, 48 ft<sup>3</sup>/s Oct. 6, 13, 1963.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 9,500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 9	0600	9,910	15.08	June 5	1200	*17,100	*20.57

Minimum daily discharge, 133 ft<sup>3</sup>/s Oct. 15, regulation.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	161	361	1920	2100	2700	687	2300	2620	6470	704	775	972
2	321	328	1570	1800	2310	681	2510	2120	7340	667	587	1250
3	250	254	1500	1450	1940	671	5440	2080	9030	569	514	1210
4	201	331	1320	1300	1800	771	8160	1570	16700	565	470	1480
5	179	760	1030	1250	1100	1170	8360	1790	17000	508	478	1180
6	181	1130	968	2030	850	1410	8320	1670	15300	497	479	914
7	176	1440	959	3960	660	1000	7920	1250	11700	444	411	801
8	163	1860	844	8720	620	820	7150	1050	8550	402	409	740
9	156	1840	797	9680	640	1160	6010	1070	6430	498	554	1520
10	156	3140	737	7330	730	1240	4230	1140	4740	407	691	2930
11	147	4240	651	5600	740	1030	2970	1160	3730	600	674	3330
12	145	3560	540	5600	750	1010	2260	1090	2810	1010	586	1990
13	142	3540	385	5450	779	929	1910	1250	2560	1030	503	1190
14	139	3450	572	4440	801	966	1490	1260	2140	751	403	1480
15	133	2980	658	3520	879	1310	1540	1330	1890	687	285	2530
16	147	2550	577	2720	1020	1720	1220	1420	1630	641	397	3010
17	274	3290	349	2130	1050	1970	1120	1270	1470	510	418	2510
18	3780	3100	440	1810	998	3270	1160	1130	1350	286	338	2160
19	2870	2490	470	1700	990	2970	1070	1250	1590	667	240	1740
20	2350	3010	479	1670	1030	2450	1010	2130	1450	519	309	1450
21	1580	5380	536	1700	1280	2550	1050	1800	1070	467	327	1190
22	1410	4860	465	1530	1580	2400	1130	1640	1100	645	314	902
23	1190	3860	1070	1360	1200	2500	1130	1210	1110	638	309	672
24	954	3360	2000	1210	920	2110	972	1010	1730	912	340	493
25	970	3000	2020	1130	983	1920	1070	1140	1510	1300	454	464
26	693	2610	2010	3280	1380	1730	3940	5830	1390	1150	502	427
27	705	2520	1940	4990	1180	1550	4170	8310	1070	850	481	380
28	624	2660	4240	3660	948	1380	3580	7620	759	877	401	320
29	433	2370	4710	2890	---	1570	3210	6380	791	1080	431	329
30	436	2130	3350	2820	---	1630	2730	5560	607	1060	598	320
31	393	---	2400	2900	---	1610	---	4940	---	843	558	---
TOTAL	21459	76404	41507	101730	31858	48185	99132	75090	135017	21784	14236	39884
MEAN	692	2547	1339	3282	1138	1554	3304	2422	4501	703	459	1329
MAX	3780	5380	4710	9680	2700	3270	8360	8310	17000	1300	775	3330
MIN	133	254	349	1130	620	671	972	1010	607	286	240	320
CFSM	.35	1.29	.68	1.67	.58	.79	1.68	1.23	2.29	.36	.23	.68
IN.	.41	1.44	.78	1.92	.60	.91	1.87	1.42	2.55	.41	.27	.75

CAL YR 1988 TOTAL 456271 MEAN 1247 MAX 11900 MIN 69 CFSM .63 IN. 8.63  
WTR YR 1989 TOTAL 706286 MEAN 1935 MAX 17000 MIN 133 CFSM .98 IN. 13.36

## 05515000 KANKAKEE RIVER NEAR NORTH LIBERTY, IN

LOCATION.--Lat 41°33'50", long 86°29'50", in NW¼ sec.23, T.36 N., R.1 W., St. Joseph County, Hydrologic Unit 07120001, on left bank at downstream side of bridge on county highway named "New Road", 2.7 mi upstream from Little Kankakee River, 4 mi northwest of North Liberty, and at mile 126.9.

DRAINAGE AREA.--174 mi<sup>2</sup>, of which 58.2 mi<sup>2</sup> does not contribute directly to surface runoff.

PERIOD OF RECORD.--January 1951 to current year.

REVISED RECORDS.--WSP 1915: 1952, 1956-59. WSP 2115: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 680.04 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana, Department of Natural Resources). Prior to June 26, 1956, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good.

AVERAGE DISCHARGE.--38 years, 153 ft<sup>3</sup>/s, 11.94 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 908 ft<sup>3</sup>/s Mar. 17, 1982, gage height, 9.01 ft; maximum gage height, 9.04 ft June 27, 1968; minimum daily discharge, 44 ft<sup>3</sup>/s Aug. 4, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 499 ft<sup>3</sup>/s June 2, gage height, 5.78 ft; minimum daily, 93 ft<sup>3</sup>/s Aug. 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	100	155	206	211	184	140	154	128	289	131	121	165
2	117	149	196	201	174	127	151	127	481	127	118	200
3	140	146	193	191	167	126	199	124	411	128	115	164
4	129	145	186	184	162	137	292	121	402	124	117	147
5	124	149	182	185	161	151	274	122	289	118	130	137
6	120	155	181	206	156	145	224	117	237	107	130	134
7	115	169	175	223	153	138	197	115	210	107	123	144
8	109	178	170	380	151	134	183	116	192	103	118	216
9	106	172	170	338	148	140	171	115	182	281	114	248
10	103	346	169	269	146	132	163	111	173	324	111	256
11	99	421	164	236	143	133	159	111	166	242	108	207
12	96	341	161	227	143	128	156	111	167	219	106	183
13	94	322	164	218	145	140	151	114	168	193	112	176
14	94	286	159	207	142	149	148	113	162	175	108	185
15	97	254	156	200	144	161	144	111	157	161	107	211
16	100	292	168	194	143	162	140	106	154	151	104	188
17	119	324	167	187	145	158	140	105	151	140	93	173
18	433	270	163	183	145	190	140	106	148	137	100	159
19	362	255	161	182	144	197	138	113	144	161	97	152
20	271	296	172	181	143	187	135	116	142	159	105	145
21	235	382	181	177	144	184	132	111	139	159	108	140
22	223	335	177	175	140	173	128	109	134	169	104	137
23	225	284	288	172	136	155	126	108	128	159	104	135
24	263	253	284	169	138	146	123	107	127	146	103	132
25	233	233	243	170	144	141	121	112	125	138	99	131
26	208	224	217	182	145	137	120	112	125	136	97	130
27	193	235	239	187	142	137	120	107	175	143	95	126
28	185	234	321	180	137	141	132	106	158	133	111	123
29	170	218	287	177	---	178	143	109	142	128	153	122
30	165	215	247	190	---	174	133	111	135	127	135	118
31	161	---	225	191	---	162	---	109	---	124	124	---
TOTAL	5189	7438	6172	6373	4165	4703	4737	3503	5813	4850	3470	4884
MEAN	167	248	199	206	149	152	158	113	194	156	112	163
MAX	433	421	321	380	184	197	292	128	481	324	153	256
MIN	94	145	156	169	136	126	120	105	125	103	93	118
CFSM	.96	1.42	1.14	1.18	.85	.87	.91	.65	1.11	.90	.64	.94
IN.	1.11	1.59	1.32	1.36	.89	1.01	1.01	.75	1.24	1.04	.74	1.04

CAL YR 1988 TOTAL 56520 MEAN 154 MAX 450 MIN 44 CFSM .89 IN. 12.08  
WTR YR 1989 TOTAL 61297 MEAN 168 MAX 481 MIN 93 CFSM .97 IN. 13.10

## 05515500 KANKAKEE RIVER AT DAVIS, IN

LOCATION.--Lat 41°24'00", long 86°42'04", in SE¼ sec.13, T.34 N., R.3 W., Starke County, Hydrologic Unit 07120001, on left bank at downstream side of bridge on U.S. Highway 30 at Davis, 0.5 mi downstream from Mill Creek, 4 mi east of Hanna, and at mile 110.9.

DRAINAGE AREA.--537 mi<sup>2</sup>, of which 137 mi<sup>2</sup> does not contribute directly to surface runoff.

PERIOD OF RECORD.--July 1905 to July 1906 and October 1924 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 1338: 1953. WSP 2115: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 664.68 ft above National Geodetic Vertical Datum of 1929. July 13, 1905, to July 21, 1906, nonrecording gage at site 50 ft downstream at different datum. July 28, 1925, to May 18, 1929, nonrecording gage on bridge 0.5 mi downstream at different datum. Apr. 19, 1931, to Nov. 3, 1953, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records good.

AVERAGE DISCHARGE.--65 years, (1924 to current year), 506 ft<sup>3</sup>/s, 12.80 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,920 ft<sup>3</sup>/s Mar. 20, 1982; maximum gage height, 13.52 ft Mar. 5, 1985; minimum daily discharge, 154 ft<sup>3</sup>/s Aug. 30 to Sept. 3, 1941.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,380 ft<sup>3</sup>/s June 2; gage height, 11.58 ft; minimum daily, 289 ft<sup>3</sup>/s Oct. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	289	445	688	741	599	454	573	455	650	374	372	433
2	330	433	657	691	586	450	556	445	1290	367	356	539
3	386	425	644	659	568	444	750	433	1340	364	345	484
4	368	427	626	629	551	469	1090	426	1320	354	339	425
5	362	458	607	609	543	525	1160	432	1180	343	364	397
6	373	471	596	687	528	518	1020	426	985	327	391	382
7	356	493	586	789	527	493	880	416	833	312	368	408
8	339	509	570	1070	515	485	793	414	723	306	352	426
9	331	505	560	1190	506	477	715	421	646	357	342	512
10	325	830	550	1040	508	477	658	421	592	556	334	595
11	316	1190	534	906	498	475	623	412	547	498	319	531
12	310	1110	516	836	492	486	597	405	541	462	316	466
13	308	1020	521	785	493	492	574	407	568	438	334	427
14	303	943	522	737	496	501	559	407	546	403	339	440
15	299	842	521	692	497	539	548	401	524	378	324	500
16	310	871	510	653	497	557	533	390	510	359	324	493
17	339	1060	510	625	493	542	524	382	491	346	310	447
18	692	977	505	607	489	568	529	375	475	335	295	411
19	887	886	500	601	487	619	529	382	463	385	291	383
20	765	917	515	602	489	596	516	419	453	411	305	368
21	653	1130	554	587	490	589	504	416	446	420	322	353
22	594	1140	555	577	485	575	491	399	431	436	313	344
23	576	1030	752	570	469	553	480	390	411	416	315	338
24	641	919	912	565	463	530	473	379	399	393	330	335
25	634	835	839	567	466	517	464	403	387	373	339	330
26	579	783	746	592	475	510	462	424	377	370	314	327
27	540	785	756	613	469	509	456	405	403	551	301	327
28	512	789	968	600	462	512	460	385	437	502	304	325
29	489	748	999	591	---	647	483	387	414	423	386	321
30	466	716	896	601	---	718	473	411	387	398	383	316
31	453	---	810	607	---	631	---	405	---	387	358	---
TOTAL	14125	23687	20025	21619	14141	16458	18473	12673	18769	12344	10385	12383
MEAN	456	790	646	697	505	531	616	409	626	398	335	413
MAX	887	1190	999	1190	599	718	1160	455	1340	556	391	595
MIN	289	425	500	565	462	444	456	375	377	306	291	316
CFSM	.85	1.47	1.20	1.30	.94	.99	1.15	.76	1.17	.74	.62	.77
IN.	.98	1.64	1.39	1.50	.98	1.14	1.28	.88	1.30	.86	.72	.86

CAL YR 1988 TOTAL 184740 MEAN 505 MAX 1230 MIN 161 CFSM .94 IN. 12.80  
WTR YR 1989 TOTAL 195082 MEAN 534 MAX 1340 MIN 289 CFSM 1.00 IN. 13.51

## 05516500 YELLOW RIVER AT PLYMOUTH, IN

LOCATION.--Lat 41°20'25", long 86°18'16", in SE¼NW¼ sec.13, T.33 N., R.2 E., Marshall County, Hydrologic Unit 07120001, on left bank 50 ft upstream from LaPorte Street footbridge in Plymouth, 1.1 mi downstream from Elmer Seltenright (formerly Baker) ditch, 8.1 mi upstream from Wolf Creek, and at mile 40.3 (correction).

DRAINAGE AREA.--294 mi<sup>2</sup>, of which 22 mi<sup>2</sup> does not contribute directly to surface runoff.

PERIOD OF RECORD.--July 1948 to current year.

REVISED RECORDS.--WSP 1338: 1950-51. WSP 2115: Drainage area. WDR IN-73-1: 1972(M).

GAGE.--Water-stage recorder. Datum of gage is 764.78 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana, Department of Natural Resources). Prior to Aug. 27, 1959, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Feb. 5-13, 17-19, Feb. 22 to Mar. 3, and Mar. 6-8. Records fair.

AVERAGE DISCHARGE.--41 years, 259 ft<sup>3</sup>/s, 11.96 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,390 ft<sup>3</sup>/s Oct. 12, 13, 1954, gage height, 17.13 ft; minimum daily, 13 ft<sup>3</sup>/s Dec. 3, 7, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,330 ft<sup>3</sup>/s June 5, gage height, 12.94 ft; minimum daily, 36 ft<sup>3</sup>/s Sept. 29, 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	116	238	246	321	120	286	138	448	81	59	83
2	51	113	212	218	278	120	257	135	1290	79	55	77
3	65	108	199	198	245	125	608	130	1940	76	53	59
4	61	114	187	185	215	202	1120	126	2270	74	51	46
5	54	121	175	175	175	457	1370	131	2300	73	63	42
6	50	143	173	300	160	250	1250	134	2030	70	65	40
7	47	172	167	518	150	160	854	118	1540	67	57	42
8	46	196	156	865	143	155	515	115	1000	65	52	59
9	46	207	145	1240	141	157	367	122	570	70	52	85
10	47	487	140	1130	142	151	298	119	373	89	48	70
11	46	890	133	658	145	167	260	112	285	77	46	61
12	46	1010	115	441	148	192	242	106	277	69	45	54
13	47	831	131	439	150	190	223	104	321	68	57	48
14	48	702	128	338	160	197	205	115	272	64	53	61
15	48	498	126	297	174	323	199	108	228	61	47	77
16	59	441	111	260	175	364	188	102	198	58	48	97
17	99	582	108	242	152	273	178	102	203	56	44	83
18	466	452	111	237	148	461	180	98	191	55	41	71
19	715	328	114	270	150	657	179	124	156	76	41	63
20	514	392	122	281	161	445	173	185	236	75	49	57
21	280	770	142	260	163	423	162	182	218	79	49	52
22	222	1000	153	237	132	362	155	158	162	152	44	49
23	203	824	453	227	127	296	145	140	134	114	59	43
24	253	505	787	218	127	269	142	120	117	81	72	43
25	251	357	655	217	132	253	142	165	106	70	63	41
26	196	303	365	272	135	236	145	216	100	82	50	41
27	166	311	313	363	135	223	141	193	103	110	58	39
28	150	358	607	315	125	227	140	145	113	84	60	37
29	138	298	712	297	---	456	154	142	97	68	59	36
30	127	263	453	346	---	571	149	145	87	65	42	36
31	119	---	303	360	---	376	---	149	---	62	39	---
TOTAL	4702	12892	7934	11650	4609	8858	10427	4179	17365	2370	1621	1692
MEAN	152	430	256	376	165	286	348	135	579	76.5	52.3	56.4
MAX	715	1010	787	1240	321	657	1370	216	2300	152	72	97
MIN	42	108	108	175	125	120	140	98	87	55	39	36
CFSM	.52	1.46	.87	1.28	.56	.97	1.18	.46	1.97	.26	.18	.19
IN.	.59	1.63	1.00	1.47	.58	1.12	1.32	.53	2.20	.30	.21	.21

CAL YR 1988 TOTAL 74940 MEAN 205 MAX 1600 MIN 31 CFSM .70 IN. 9.48  
WTR YR 1989 TOTAL 88299 MEAN 242 MAX 2300 MIN 36 CFSM .82 IN. 11.17

## 05517000 YELLOW RIVER AT KNOX, IN

LOCATION.--Lat 41°18'10", long 86°37'14", in SW¼SW¼ sec.14, T.33 N., R.2 W., Starke County, Hydrologic Unit 07120001, on right bank 40 ft upstream from bridge on U.S. Highway 35 in Knox, 1.4 mi downstream from Eagle Creek, and at mile 11.6.

DRAINAGE AREA.--435 mi<sup>2</sup>, of which 51 mi<sup>2</sup> does not contribute directly to surface runoff.

PERIOD OF RECORD.--August 1905 to July 1906, August 1943 to current year.

REVISED RECORDS.--WSP 1278: 1952. WSP 2115: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 679.93 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana, Department of Natural Resources). August 1905 to July 1906, nonrecording gage at same site at different datum. August 1943 to July 17, 1952, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Dec. 11-13, 16-18, Feb. 5-13, 22-25, and Mar. 1-3. Records fair.

AVERAGE DISCHARGE.--46 years (water years 1944 to current year), 397 ft<sup>3</sup>/s, 12.39 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,660 ft<sup>3</sup>/s Oct. 15, 16, 1954, gage height, 13.75 ft; minimum daily, 50 ft<sup>3</sup>/s Jan. 21-31, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,440 ft<sup>3</sup>/s June 6, gage height, 8.98 ft; minimum daily, 105 ft<sup>3</sup>/s Oct. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	105	209	397	463	461	208	504	275	324	223	165	167
2	117	203	370	387	412	205	400	268	859	215	152	230
3	129	198	346	356	371	208	530	263	1350	213	144	192
4	137	193	333	333	340	234	944	256	2000	209	139	163
5	139	206	319	319	290	331	1230	254	2350	198	137	141
6	129	215	310	353	270	512	1470	251	2430	191	144	130
7	121	237	305	549	255	370	1500	246	2340	185	138	126
8	116	264	296	928	240	310	1220	238	2080	180	135	134
9	114	289	284	1130	235	277	844	237	1610	175	123	160
10	111	382	274	1240	235	265	608	243	905	170	121	190
11	109	725	250	1420	240	259	495	237	591	183	123	174
12	106	952	240	1040	245	269	434	232	514	181	117	183
13	108	1120	240	719	250	288	396	230	573	168	146	178
14	109	1080	252	628	266	294	371	230	539	160	138	165
15	108	942	252	494	271	312	355	230	473	156	144	187
16	117	757	235	422	276	441	342	225	417	149	132	190
17	144	680	225	378	271	448	330	220	385	141	120	196
18	245	766	225	360	262	421	326	214	375	140	118	184
19	550	624	232	357	256	653	323	221	355	162	115	168
20	776	528	234	383	257	817	316	283	326	188	123	152
21	638	721	243	383	259	633	307	339	380	191	127	145
22	375	953	260	360	235	585	299	317	349	197	129	139
23	319	1110	326	341	223	487	292	279	311	253	130	132
24	302	1080	653	331	218	405	284	258	288	215	151	127
25	331	766	908	323	220	376	278	264	269	185	171	127
26	325	555	860	337	237	360	278	320	252	169	153	124
27	287	489	562	400	242	345	277	355	253	191	136	121
28	258	494	609	465	237	336	276	316	251	207	135	120
29	241	516	860	414	---	361	278	285	248	179	140	119
30	229	443	1010	406	---	628	283	278	233	127	143	117
31	216	---	674	462	---	718	---	278	---	182	126	---
TOTAL	7111	17697	12584	16481	7574	12356	15790	8142	23630	5743	4215	4681
MEAN	229	590	406	532	270	399	526	263	788	185	136	156
MAX	776	1120	1010	1420	461	817	1500	355	2430	253	171	230
MIN	105	193	225	319	218	205	276	214	233	140	115	117
CFSM	.53	1.36	.93	1.22	.62	.92	1.21	.60	1.81	.43	.31	.36
IN.	.61	1.51	1.08	1.41	.65	1.06	1.35	.70	2.02	.49	.36	.40

CAL YR 1988 TOTAL 122360 MEAN 334 MAX 1780 MIN 86 CFSM .77 IN. 10.46  
WTR YR 1989 TOTAL 136004 MEAN 373 MAX 2430 MIN 105 CFSM .86 IN. 11.63



## 05517500 KANKAKEE RIVER AT DUNNS BRIDGE, IN

LOCATION.--Lat 41°13'17", long 86°57'52", in NE 1/4 sec.15, T.32 N., R.5 W., Jasper County, Hydrologic Unit 07120001, on left bank at downstream side of abandoned bridge at Dunns Bridge, 1.8 mi north of Tefft, 3.6 mi upstream from Davis ditch, and at mile 90.8.

DRAINAGE AREA.--1,352 mi<sup>2</sup>, of which 192 mi<sup>2</sup> does not contribute directly to surface runoff.

PERIOD OF RECORD.--July 1948 to current year.

REVISED RECORDS.--WSP 1728: 1954(m). WSP 2115: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 649.65 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana, Department of Natural Resources). Prior to July 17, 1956, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Dec. 11-19, 30, 31, and Feb. 6 to Mar. 3. Records good except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--41 years, 1,333 ft<sup>3</sup>/s, 13.39 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,870 ft<sup>3</sup>/s Mar. 23, 1982; maximum gage height, 13.38 ft Mar. 20, 1982; minimum daily discharge, 280 ft<sup>3</sup>/s Jan. 25-29, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,450 ft<sup>3</sup>/s June 8, gage height, 10.34 ft; minimum daily, 473 ft<sup>3</sup>/s Oct. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	473	930	1880	2080	1720	990	1800	1200	1440	1020	949	870
2	508	915	1800	1890	1690	980	1660	1160	2360	975	893	1110
3	588	902	1740	1780	1620	1000	1760	1120	2760	953	854	1120
4	621	886	1670	1680	1540	1130	2170	1100	2990	932	829	990
5	610	917	1610	1610	1480	1250	2550	1100	3180	895	806	891
6	624	958	1560	1670	1350	1410	2790	1090	3330	853	820	862
7	632	991	1520	1840	1220	1390	2910	1070	3430	811	808	897
8	605	1030	1470	2210	1150	1310	2940	1040	3450	778	785	927
9	578	1060	1410	2490	1100	1260	2790	1050	3380	755	757	1150
10	559	1300	1380	2600	1050	1230	2460	1060	3160	875	732	1310
11	535	1800	1260	2650	1030	1210	2150	1040	2710	961	719	1290
12	510	2060	1180	2690	1040	1220	1920	1020	2290	970	692	1190
13	513	2260	1130	2530	1100	1250	1700	998	2100	959	699	1120
14	502	2380	1150	2310	1110	1280	1600	994	1990	904	749	1070
15	495	2390	1190	2150	1110	1330	1540	992	1870	846	760	1130
16	531	2350	1140	2010	1110	1400	1490	980	1730	806	738	1170
17	577	2340	1100	1890	1100	1490	1450	961	1600	763	701	1140
18	779	2330	1080	1820	1100	1530	1460	943	1510	733	664	1050
19	1210	2290	1100	1780	1120	1630	1430	944	1460	815	643	891
20	1450	2220	1220	1770	1130	1800	1400	1030	1390	954	639	859
21	1500	2300	1230	1760	1120	1830	1370	1120	1350	1050	680	848
22	1350	2450	1250	1710	1110	1730	1340	1130	1360	1120	691	828
23	1240	2560	1430	1650	1080	1670	1310	1080	1300	1110	693	806
24	1240	2580	1740	1620	1030	1590	1270	1020	1210	1080	698	790
25	1270	2470	1950	1600	1020	1520	1240	1050	1150	991	747	779
26	1260	2280	2030	1630	1050	1460	1220	1190	1110	924	733	778
27	1200	2180	2020	1670	1040	1430	1210	1270	1080	946	687	770
28	1120	2100	2080	1710	1020	1420	1210	1210	1140	1090	667	761
29	1060	2030	2200	1720	---	1490	1210	1150	1130	1010	728	758
30	1000	1960	2280	1700	---	1670	1210	1250	1070	986	789	745
31	945	---	2250	1710	---	1830	---	1230	---	1000	766	---
TOTAL	26085	55219	48050	59930	33340	43730	52560	33592	60030	28865	23116	28900
MEAN	841	1841	1550	1933	1191	1411	1752	1084	2001	931	746	963
MAX	1500	2580	2280	2690	1720	1830	2940	1270	3450	1120	949	1310
MIN	473	886	1080	1600	1020	980	1210	943	1070	733	639	745
CFSM	.62	1.36	1.15	1.43	.88	1.04	1.30	.80	1.48	.69	.55	.71
IN.	.72	1.52	1.32	1.65	.92	1.20	1.45	.92	1.65	.79	.64	.80

CAL YR 1988 TOTAL 438584 MEAN 1198 MAX 3380 MIN 281 CFSM .89 IN. 12.07  
WTR YR 1989 TOTAL 493417 MEAN 1352 MAX 3450 MIN 473 CFSM 1.00 IN. 13.58

## 05517530 KANKAKEE RIVER NEAR KOUTS, IN

LOCATION.--Lat 41°15'14", long 87°02'02", in SW1/4 sec.6, T.32 N., R.5 W., Jasper County, Hydrologic Unit 07120001, on left bank, 20 ft downstream from bridge on State Highway 49, 4.5 mi south of Kouts, 0.7 mi upstream from Cook ditch, and at mile 86.7.

DRAINAGE AREA.--1,376 mi<sup>2</sup>, of which 194 mi<sup>2</sup> does not contribute directly to surface runoff.

PERIOD OF RECORD.--October 1974 to current year.

REVISED RECORDS.--WDR IN-77-1: 1975(M).

GAGE.--Water-stage recorder. Datum of gage is 645.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Feb. 6 to Mar. 4. Records fair except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--15 years, 1,463 ft<sup>3</sup>/s, 14.44 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,420 ft<sup>3</sup>/s Mar. 24, 1982, gage height, 14.52 ft; minimum daily, 292 ft<sup>3</sup>/s Aug. 5, 6, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,520 ft<sup>3</sup>/s June 7, gage height, 11.06 ft; minimum daily, 461 ft<sup>3</sup>/s Oct. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	472	936	1920	2050	1810	1000	1910	1310	1740	1110	994	940
2	497	921	1840	1870	1790	1000	1750	1280	2920	1060	936	1250
3	600	914	1770	1740	1700	1010	1860	1160	3100	1000	884	1250
4	649	913	1710	1650	1610	1100	2260	1150	3220	964	834	1060
5	615	950	1640	1600	1550	1290	2600	1170	3330	937	791	889
6	601	993	1600	1670	1380	1450	2850	1160	3440	914	791	841
7	623	1040	1560	1810	1270	1450	2960	1150	3490	872	812	891
8	638	1070	1470	2180	1180	1400	2990	1060	3500	827	805	931
9	602	1090	1380	2390	1120	1360	2850	1070	3430	741	777	1210
10	532	1360	1350	2500	1060	1330	2550	1100	3240	864	749	1410
11	493	1910	1310	2540	1050	1270	2280	1080	2840	980	718	1410
12	465	2160	1250	2590	1070	1310	2050	1020	2450	998	652	1280
13	494	2320	1180	2440	1120	1340	1820	1000	2240	963	650	1190
14	481	2400	1210	2220	1130	1350	1700	995	2110	874	707	1130
15	461	2430	1200	2110	1130	1380	1640	989	1990	806	746	1180
16	502	2430	1150	1970	1120	1450	1600	982	1860	835	769	1230
17	531	2430	1140	1840	1110	1550	1590	983	1720	751	722	1230
18	678	2380	1100	1780	1110	1600	1600	950	1640	713	651	1160
19	1180	2320	1070	1760	1140	1710	1560	926	1590	837	599	962
20	1490	2280	1140	1770	1140	1870	1530	1020	1520	1030	620	918
21	1580	2360	1160	1750	1130	1900	1470	1150	1470	1100	630	902
22	1430	2490	1160	1700	1120	1810	1420	1160	1520	1210	655	884
23	1310	2590	1380	1630	1100	1750	1400	1100	1460	1210	668	857
24	1330	2600	1670	1590	1060	1670	1380	1030	1300	1190	686	829
25	1360	2500	1870	1590	1060	1590	1320	1070	1200	1090	711	808
26	1360	2340	1970	1670	1070	1550	1270	1210	1220	1000	746	789
27	1270	2240	2010	1710	1070	1530	1250	1300	1150	975	737	749
28	1170	2150	2070	1730	1050	1550	1260	1320	1190	1110	703	759
29	1130	2060	2170	1790	---	1600	1270	1280	1190	1040	749	734
30	1050	1990	2230	1820	---	1710	1280	1460	1130	1020	827	710
31	979	---	2200	1780	---	1900	---	1400	---	1050	809	---
TOTAL	26573	56567	47880	59240	34250	45780	55270	35035	64200	30071	23128	30383
MEAN	857	1886	1545	1911	1223	1477	1842	1130	2140	970	746	1013
MAX	1580	2600	2230	2590	1810	1900	2990	1460	3500	1210	994	1410
MIN	461	913	1070	1590	1050	1000	1250	926	1130	713	599	710
CFSM	.62	1.37	1.12	1.39	.89	1.07	1.34	.82	1.56	.70	.54	.74
IN.	.72	1.53	1.29	1.60	.93	1.24	1.49	.95	1.74	.81	.63	.82

CAL YR 1988 TOTAL 454131 MEAN 1241 MAX 3430 MIN 292 CFSM .90 IN. 12.28  
WTR YR 1989 TOTAL 508377 MEAN 1393 MAX 3500 MIN 461 CFSM 1.01 IN. 13.74

## 05517890 COBB DITCH NEAR KOUTS, IN

LOCATION.--Lat 41°20'19", long 87°04'30", in NW¼SE¼ sec. 2, T.33 N., R.6 W., Porter County, Hydrologic Unit 07120001, on left bank 15 ft upstream from bridge on County Road 50 West, 1.6 mi upstream from mouth, and 3 mi northwest of Kouts.

DRAINAGE AREA.--30.3 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1968 to current year. Prior to October 1971, published as State ditch near Kouts.

GAGE.--Water-stage recorder. Datum of gage is 652.00 ft above National Geodetic Vertical Datum of 1929 (Indiana Department of Highways bench mark). Prior to Oct. 19, 1978, water-stage recorder at site 1.4 mi downstream at same datum.

REMARKS.--Estimated daily discharges: Numerous days between Oct. 1 and June. 22. Records poor. Apr. 10 to Sept. 30. Records poor.

AVERAGE DISCHARGE.--21 years, 31.3 ft<sup>3</sup>/s, 14.70 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,070 ft<sup>3</sup>/s Nov. 19, 1985; maximum gage height, 17.95 ft Mar. 29, 1985; minimum daily discharge, 8.9 ft<sup>3</sup>/s Sept. 11, 12, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 29	0500	329	10.99	June 1	1900	*916	*15.79
May 29	2100	420	11.88				

Minimum daily discharge, 11 ft<sup>3</sup>/s Oct. 13-15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	14	19	27	24	17	44	21	562	22	16	28
2	20	14	18	25	22	17	40	21	603	22	16	17
3	17	14	18	23	21	18	108	21	240	22	16	15
4	15	19	17	22	20	19	123	21	135	21	16	14
5	15	22	17	22	19	28	67	20	97	21	17	14
6	14	19	17	26	19	31	53	20	76	20	16	15
7	14	18	16	74	18	25	45	19	63	20	16	18
8	13	17	16	136	16	23	40	20	52	20	16	16
9	13	17	15	122	15	21	36	20	44	20	16	32
10	13	120	15	52	16	30	33	20	40	19	16	24
11	12	48	15	36	17	67	31	19	37	19	16	19
12	12	35	14	30	18	55	30	19	51	22	16	18
13	11	53	14	33	18	41	29	19	47	20	16	17
14	11	33	14	28	19	37	28	19	39	20	16	18
15	11	27	15	26	19	33	27	18	34	19	16	19
16	12	78	15	25	19	28	28	18	31	19	15	18
17	27	46	14	24	18	26	27	18	30	19	15	17
18	56	31	14	23	18	51	27	19	28	19	14	16
19	24	38	15	23	18	40	26	21	27	22	14	16
20	20	63	19	24	18	37	26	20	27	20	16	16
21	18	69	18	22	19	36	26	19	26	22	14	15
22	21	39	22	22	18	28	25	19	26	21	14	15
23	22	31	122	21	17	25	24	18	25	18	14	15
24	22	27	55	21	17	24	25	26	25	17	14	15
25	21	25	40	20	18	23	25	31	24	17	14	15
26	19	24	32	25	18	22	24	28	24	17	13	15
27	18	25	27	26	18	21	24	27	24	17	13	15
28	17	24	92	24	17	30	23	26	24	16	15	15
29	17	22	73	24	---	193	22	190	23	16	14	15
30	16	20	41	27	---	70	22	186	23	18	14	15
31	15	---	32	27	---	52	---	76	---	17	14	---
TOTAL	552	1032	871	1060	514	1168	1108	1039	2507	602	468	517
MEAN	17.8	34.4	28.1	34.2	18.4	37.7	36.9	33.5	83.6	19.4	15.1	17.2
MAX	56	120	122	136	24	193	123	190	603	22	17	32
MIN	11	14	14	20	15	17	22	18	23	16	13	14
CFSM	.56	1.09	.89	1.08	.58	1.19	1.17	1.06	2.64	.61	.48	.54
IN.	.65	1.21	1.02	1.24	.60	1.37	1.30	1.22	2.94	.71	.55	.61

CAL YR 1988 TOTAL 9242.1 MEAN 25.3 MAX 242 MIN 9.0 CFSM .80 IN. 10.85  
WTR YR 1989 TOTAL 11438 MEAN 31.3 MAX 603 MIN 11 CFSM .99 IN. 13.42

## 05518000 KANKAKEE RIVER AT SHELBY, IN

LOCATION.--Lat 41°10'58", long 87°20'33", in SW¼NE¼ sec.33, T.32 N., R.8 W., Lake County, Hydrologic Unit 07120001, on right bank 25 ft upstream from Monon Railroad bridge, 1 mi south of Shelby, 7.7 mi upstream from Beaver Lake ditch, and at mile 67.9.

DRAINAGE AREA.--1,779 mi<sup>2</sup>, of which 201 mi<sup>2</sup> does not contribute directly to surface runoff.

PERIOD OF RECORD.--October 1922 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 1005: 1928(M). WSP 2115: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 628.13 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 19, 1934, nonrecording gage at highway bridge about 400 ft upstream. Dec. 19, 1934, to Oct. 4, 1965, water-stage recorder on left bank 50 ft downstream, and Oct. 5, 1965, to Sept. 21, 1966, nonrecording gage on right bank 200 ft upstream. All at same datum.

REMARKS.--Estimated daily discharges: Feb. 7 to Mar. 4. Records good except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--67 years, 1,628 ft<sup>3</sup>/s, 12.43 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 7,650 ft<sup>3</sup>/s Mar. 26, 1982; maximum gage height, 12.98 ft Mar. 24, 1982; minimum daily discharge, 260 ft<sup>3</sup>/s Jan. 13-15, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,830 ft<sup>3</sup>/s June 4; gage height, 11.01 ft; minimum daily, 548 ft<sup>3</sup>/s Oct. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	548	1020	2330	2700	2100	1160	2100	1450	2760	1190	1220	1220
2	559	985	2260	2530	2090	1150	2070	1450	4230	1170	1140	1540
3	596	969	2190	2360	2040	1200	2160	1390	4730	1120	1070	1570
4	658	968	2110	2220	1970	1330	2560	1330	4770	1070	1020	1450
5	673	1010	2030	2130	1910	1600	2880	1340	4590	1030	977	1280
6	643	1050	1950	2180	1810	1690	3080	1330	4430	989	927	1200
7	657	1080	1900	2360	1620	1750	3240	1340	4310	923	925	1270
8	666	1100	1830	2860	1520	1740	3330	1280	4240	883	915	1330
9	656	1130	1720	3090	1470	1680	3310	1270	4160	832	899	1960
10	629	1350	1660	3120	1390	1650	3180	1270	4020	818	872	2370
11	582	1820	1620	3120	1330	1670	2950	1270	3800	912	852	2250
12	559	2120	1570	3160	1310	1670	2680	1220	3560	1020	775	2030
13	585	2320	1510	3160	1300	1670	2410	1190	3380	1060	761	1820
14	595	2490	1490	3010	1320	1660	2190	1180	3120	979	798	1720
15	592	2600	1480	2850	1370	1680	2050	1170	2870	905	856	1740
16	622	2700	1430	2680	1400	1680	1950	1150	2670	881	882	1720
17	668	2790	1410	2520	1410	1740	1880	1130	2490	851	865	1670
18	749	2750	1430	2390	1400	1850	1860	1120	2280	776	819	1600
19	1010	2710	1400	2330	1380	1930	1830	1100	2100	877	741	1480
20	1300	2720	1380	2310	1390	2030	1780	1150	1970	1140	726	1360
21	1460	2840	1410	2280	1400	2130	1730	1220	1860	1310	730	1300
22	1460	2920	1410	2230	1370	2120	1670	1270	1770	1530	763	1270
23	1360	2990	1740	2170	1300	2060	1620	1220	1710	1540	773	1230
24	1320	3000	2070	2120	1220	1980	1590	1170	1610	1450	819	1180
25	1360	2960	2230	2080	1210	1900	1540	1220	1460	1340	808	1160
26	1370	2860	2340	2110	1230	1820	1480	1450	1390	1220	834	1160
27	1340	2740	2480	2130	1240	1770	1440	1510	1320	1120	843	1120
28	1250	2630	2700	2120	1220	1770	1430	1530	1290	1160	817	1110
29	1200	2510	2800	2120	---	1940	1440	1780	1310	1150	837	1080
30	1140	2420	2810	2140	---	1990	1420	2600	1260	1150	888	1060
31	1070	---	2790	2120	---	2030	---	2380	---	1260	917	---
TOTAL	27877	63552	59480	76700	41720	54040	64850	42480	85460	33656	27069	44250
MEAN	899	2118	1919	2474	1490	1743	2162	1370	2849	1086	873	1475
MAX	1460	3000	2810	3160	2100	2130	3330	2600	4770	1540	1220	2370
MIN	548	968	1380	2080	1210	1150	1420	1100	1260	776	726	1060
CFSM	.51	1.19	1.08	1.39	.84	.98	1.22	.77	1.60	.61	.49	.83
IN.	.58	1.33	1.24	1.60	.87	1.13	1.36	.89	1.79	.70	.57	.93

CAL YR 1988 TOTAL 530432 MEAN 1449 MAX 4200 MIN 283 CFSM .81 IN. 11.09  
WTR YR 1989 TOTAL 621134 MEAN 1702 MAX 4770 MIN 548 CFSM .96 IN. 12.99

## 05519000 SINGLETON DITCH AT SCHNEIDER, IN

LOCATION.--Lat 41°12'44", long 87°26'44", in SW¼NW¼ sec.22, T.32 N., R.9 W., Lake County, Hydrologic Unit 07120001, on left bank 15 ft upstream from bridge on Ackerman Avenue, 0.5 mi upstream from Bruce ditch, 1.5 mi downstream from Cedar Creek, 1.6 mi north of Schneider, and at mile 10.1.

DRAINAGE AREA.--123 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1948 to current year.

REVISED RECORDS.--WSP 1915: 1956-59. WSP 2115: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 623.67 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1949, nonrecording gage at same site at datum 2.00 ft higher. Oct. 1, 1949, to Aug. 13, 1951, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Dec. 11-13, 16-18, Dec. 29 to Jan. 5, Feb. 5 to Mar. 3 and Mar. 6-8. Records fair except for Dec. 16-18, and Feb. 5 to Mar. 3, which are poor.

AVERAGE DISCHARGE.--41 years, 109 ft<sup>3</sup>/s, 12.03 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,550 ft<sup>3</sup>/s Mar. 5, 1976; maximum gage height, 12.37 ft June 25, 1975; minimum daily discharge, 3.6 ft<sup>3</sup>/s Sept. 7, 8, 10, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 730 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 8	0700	836	6.43	June 1	2200	*2,260	*11.87
May 29	2000	1,270	8.38				

Minimum daily discharge, 16 ft<sup>3</sup>/s Oct. 1, 12-15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	19	66	125	85	41	204	45	1340	74	47	105
2	24	18	62	110	79	40	172	45	1920	69	43	123
3	25	18	58	93	74	43	383	43	1710	69	41	80
4	21	20	55	89	70	68	581	42	1410	66	41	65
5	19	25	52	80	63	182	431	46	1110	60	40	58
6	17	25	53	129	58	150	304	55	896	58	37	62
7	17	24	52	258	54	125	239	53	728	54	36	89
8	17	23	48	717	51	110	199	49	578	51	33	99
9	17	22	47	500	50	102	175	50	466	49	32	301
10	17	73	44	341	51	130	152	48	372	46	31	296
11	17	76	41	235	52	211	136	45	303	45	32	195
12	16	62	41	207	52	212	125	41	328	53	29	150
13	16	74	41	179	53	177	114	38	386	55	30	125
14	16	85	42	152	54	159	106	37	298	49	31	120
15	16	77	39	135	53	157	99	38	237	46	33	127
16	19	109	39	116	51	131	91	34	200	47	31	114
17	21	128	38	108	48	116	85	32	174	46	28	100
18	21	96	39	98	47	140	82	30	156	42	26	89
19	21	93	47	94	48	151	78	36	143	57	25	82
20	20	120	39	94	49	135	73	54	132	73	26	74
21	18	187	37	89	49	136	69	59	124	75	25	69
22	18	147	38	85	48	120	64	59	116	99	25	66
23	18	120	170	81	45	109	56	50	109	86	28	63
24	23	104	189	76	42	103	52	49	106	73	29	60
25	24	93	147	74	43	99	50	49	99	64	28	57
26	24	86	118	89	47	92	48	77	93	56	27	55
27	22	86	147	100	46	88	46	82	90	52	26	52
28	21	84	290	90	43	108	47	73	91	46	26	50
29	20	75	255	87	---	439	51	585	86	43	26	49
30	19	70	200	92	---	348	47	913	82	48	27	47
31	19	---	145	90	---	262	---	583	---	51	27	---
TOTAL	599	2239	2679	4813	1505	4484	4359	3440	13883	1802	966	3022
MEAN	19.3	74.6	86.4	155	53.7	145	145	111	463	58.1	31.2	101
MAX	25	187	290	717	85	439	581	913	1920	99	47	301
MIN	16	18	37	74	42	40	46	30	82	42	25	47
CFSM	.16	.61	.70	1.26	.44	1.18	1.18	.90	3.76	.47	.25	.82
IN.	.18	.68	.81	1.46	.46	1.36	1.32	1.04	4.20	.54	.29	.91

CAL YR 1988 TOTAL 26885.7 MEAN 73.5 MAX 817 MIN 7.0 CFSM .60 IN. 8.13  
WTR YR 1989 TOTAL 43791 MEAN 120 MAX 1920 MIN 16 CFSM .98 IN. 13.24



## 05521000 IROQUOIS RIVER AT ROSEBUD, IN

LOCATION.--Lat 41°02'00", long 87°10'49", in NW¼SW¼ sec.24, T.30 N., R.7 W., Jasper County, Hydrologic Unit 07120002, on right bank 100 ft downstream from bridge on county road, 0.5 mi north of Rosebud, 0.5 mi downstream from confluence of Swain and Dexter ditches, 1.5 mi upstream from Davidson ditch, 2 mi east of Parr, and at mile 93.5.

DRAINAGE AREA.--35.6 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1948 to current year.

REVISED RECORDS.--WSP 1338: 1950-53. WSP 1728: 1959-60(M). WSP 1915: 1949-60. WSP 2115: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 661.47 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana, Department of Natural Resources). Prior to Oct. 1, 1953, nonrecording gage on downstream side of county road bridge at same datum.

REMARKS.--Estimated daily discharges: Dec. 9-12, 16-19, Dec. 30 to Jan. 5, and Feb. 4 to Mar. 3. Records good except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--41 years, 27.1 ft<sup>3</sup>/s, 10.34 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 504 ft<sup>3</sup>/s May 19, 1987; maximum gage height, 8.86 ft Feb. 10, 1959; minimum daily discharge, 0.5 ft<sup>3</sup>/s Oct. 11, 12, 19, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 150 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 8	0400	159	3.37	Sept. 1	1700	188	3.72
May 29	1900	*316	*5.08	Sept. 9	1000	210	3.98
June 1	2300	303	4.95				

Minimum daily discharge, 2.9 ft<sup>3</sup>/s Oct. 6, 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	4.6	21	27	30	13	23	19	171	14	12	137
2	4.8	4.4	19	25	26	13	29	18	238	13	11	114
3	4.0	4.5	20	23	24	12	112	17	139	13	10	65
4	3.5	7.5	18	23	21	88	115	17	98	12	10	45
5	3.3	7.2	18	22	18	86	71	17	73	12	10	34
6	2.9	6.0	18	40	17	51	54	16	59	11	9.9	36
7	3.4	5.6	17	74	16	42	46	15	48	9.9	9.5	49
8	3.2	5.6	16	127	15	32	43	15	42	9.7	8.9	63
9	2.9	5.9	15	63	14	29	39	19	37	9.5	8.8	189
10	4.5	38	14	46	14	30	34	17	33	9.3	8.6	124
11	3.4	20	14	39	14	34	32	15	30	9.2	8.3	78
12	3.1	16	14	44	15	37	31	15	37	17	8.2	58
13	3.1	18	15	38	16	36	28	16	40	14	7.8	48
14	3.1	16	15	35	18	38	28	14	35	11	8.1	56
15	3.5	14	14	31	19	37	26	14	31	10	10	65
16	6.2	36	12	28	18	31	25	14	28	9.9	8.6	50
17	5.5	27	12	27	17	31	25	14	28	9.4	8.0	41
18	7.4	20	12	28	16	40	23	14	26	9.1	7.7	35
19	4.9	22	12	29	16	36	23	21	27	17	7.5	32
20	4.1	49	14	31	17	37	21	49	26	35	7.7	30
21	4.3	62	12	28	17	36	20	32	24	33	7.6	29
22	4.5	39	18	28	16	32	20	25	22	26	12	30
23	5.4	33	102	27	14	31	19	23	23	20	12	28
24	5.3	29	61	27	13	31	19	22	25	18	10	25
25	4.8	26	42	30	12	29	19	29	21	16	9.4	24
26	4.7	25	34	45	14	27	18	55	19	15	8.7	23
27	4.6	27	51	41	14	27	18	37	18	13	8.2	22
28	4.9	25	87	37	14	28	25	29	17	12	8.2	21
29	4.7	23	54	36	---	29	23	159	16	11	8.7	21
30	4.6	22	35	36	---	28	20	200	15	14	8.3	20
31	4.7	---	30	34	---	26	---	115	---	13	9.8	---
TOTAL	133.2	638.3	836	1169	475	1077	1029	1082	1446	446.0	283.5	1592
MEAN	4.30	21.3	27.0	37.7	17.0	34.7	34.3	34.9	48.2	14.4	9.15	53.1
MAX	7.4	62	102	127	30	88	115	200	238	35	12	189
MIN	2.9	4.4	12	22	12	12	18	14	15	9.1	7.5	20
CFSM	.12	.60	.76	1.06	.48	.98	.96	.98	1.35	.40	.26	1.49
IN.	.14	.67	.87	1.22	.50	1.13	1.08	1.13	1.51	.47	.30	1.66

CAL YR 1988 TOTAL 6773.7 MEAN 18.5 MAX 138 MIN 2.1 CFSM .52 IN. 7.08  
WTR YR 1989 TOTAL 10207.0 MEAN 28.0 MAX 238 MIN 2.9 CFSM .79 IN. 10.67

## 05522000 IROQUOIS RIVER NEAR NORTH MARION, IN

LOCATION.--Lat 40°58'12", long 87°06'50", in NE¼NW¼ sec.16, T.29 N., R.6 W., Jasper County, Hydrologic Unit 07120002, on downstream side of county highway bridge, 1.2 mi upstream from Ryan ditch, 2 mi east of North Marion, 3.5 mi northeast of Rensselaer, and at mile 87.7.

DRAINAGE AREA.--144 mi<sup>2</sup>.

PERIOD OF RECORD.--December 1948 to current year.

REVISED RECORDS.--WSP 2115: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 646.68 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 6, 1955, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Dec. 9-19, Dec. 29 to Jan. 10, Feb. 4 to Mar. 3, and Mar. 6-8. Records good except for estimated daily discharges, which are poor. Water from Oliver ditch, an upstream tributary, can be diverted to Ryan ditch and thus enter the Iroquois River below station. Streamflow affected by irrigation. Variable backwater conditions exist on some rises.

AVERAGE DISCHARGE.--40 years (water years 1950 to current year), 133 ft<sup>3</sup>/s, 12.54 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,040 ft<sup>3</sup>/s June 10, 1958, gage height, 15.09 ft; minimum daily, 1.6 ft<sup>3</sup>/s Sept. 15, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,030 ft<sup>3</sup>/s June 3, gage height, 9.90 ft; minimum daily, 8.2 ft<sup>3</sup>/s Oct. 13, 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	18	122	180	153	64	119	90	541	53	70	291
2	15	17	112	160	135	61	124	89	869	54	60	592
3	13	17	113	130	120	60	312	81	978	53	53	562
4	12	21	101	120	100	197	499	77	979	50	50	390
5	9.9	34	96	110	88	303	505	81	806	45	47	228
6	9.0	33	95	120	80	210	400	74	596	44	42	162
7	9.0	33	92	255	74	165	303	71	410	39	39	258
8	9.0	30	85	530	71	140	244	69	278	36	36	297
9	8.5	31	80	560	68	133	213	82	214	35	34	557
10	8.6	115	76	420	66	126	182	86	185	33	31	743
11	13	149	73	305	66	135	164	75	162	32	29	688
12	13	118	72	251	70	145	152	68	182	117	28	536
13	8.2	117	75	231	74	149	140	73	237	177	26	385
14	8.2	110	80	200	80	155	134	69	219	113	25	302
15	9.7	95	73	180	90	173	129	65	184	75	32	324
16	14	156	64	157	88	167	121	62	161	58	32	301
17	17	216	62	147	82	151	114	60	145	43	31	239
18	25	186	61	146	80	175	112	60	130	38	29	186
19	26	151	65	148	81	183	110	71	118	54	27	153
20	19	191	61	153	82	176	105	142	107	87	26	135
21	19	334	56	148	82	190	100	121	100	107	26	123
22	18	366	63	142	75	171	97	102	92	146	39	118
23	20	297	266	136	68	153	92	91	87	119	57	107
24	23	228	366	134	60	144	87	82	87	93	44	100
25	23	186	308	142	60	137	85	106	76	79	38	95
26	20	165	224	185	65	127	82	207	67	65	38	90
27	20	163	202	206	66	123	78	203	65	60	34	84
28	19	163	329	181	66	123	97	150	66	57	32	80
29	19	146	400	168	---	132	115	260	58	56	35	77
30	18	134	300	170	---	130	99	525	54	63	34	76
31	17	---	230	162	---	121	---	556	---	69	33	---
TOTAL	475.1	4020	4402	6277	2290	4619	5114	3948	8253	2150	1157	8279
MEAN	15.3	134	142	202	81.8	149	170	127	275	69.4	37.3	276
MAX	26	366	400	550	153	303	505	556	979	177	70	743
MIN	8.2	17	56	110	60	60	78	60	54	32	25	76
CFSM	.11	.93	.99	1.41	.57	1.03	1.18	.88	1.91	.48	.26	1.92
IN.	.12	1.04	1.14	1.62	.59	1.19	1.32	1.02	2.13	.56	.30	2.14

CAL YR 1988 TOTAL 31926.5 MEAN 87.2 MAX 603 MIN 4.3 CFSM .61 IN. 8.25  
WTR YR 1989 TOTAL 50984.1 MEAN 140 MAX 979 MIN 8.2 CFSM .97 IN. 13.17

## 05522500 IROQUOIS RIVER AT RENSSELAER, IN

LOCATION.--Lat 40°56'00", long 87°07'44", in NW¼SE¼ sec.29, T.29 N., R.6 W., Jasper County, Hydrologic Unit 07120002, on right bank 20 ft downstream from bridge on State Highway 114, 0.8 mi east of Rensselaer, 1.5 mi downstream from Ryan ditch, 5.5 mi upstream from Slough Creek, and at mile 84.9.

DRAINAGE AREA.--203 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1948 to current year.

REVISED RECORDS.--WSP 2115: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 642.29 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana, Department of Natural Resources). Prior to July 8, 1949, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Oct. 6 to Nov. 9, Dec. 9-19, Jan. 3-5, Feb. 4 to Mar. 3, and Mar. 7,8. Records good except for estimated daily discharges, which are poor. Streamflow affected by irrigation.

AVERAGE DISCHARGE.--41 years, 169 ft<sup>3</sup>/s, 11.31 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,550 ft<sup>3</sup>/s June 10, 1958, gage height, 16.54 ft; minimum daily, 2.2 ft<sup>3</sup>/s Sept. 9, 15, 16, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,310 ft<sup>3</sup>/s June 3, gage height, 11.45 ft; minimum daily, 9.5 ft<sup>3</sup>/s Oct. 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	20	138	217	193	78	118	100	730	53	71	483
2	17	20	124	189	167	72	126	99	1100	53	62	789
3	17	19	129	153	146	81	421	89	1200	56	53	691
4	14	26	113	136	118	277	666	83	1200	51	49	474
5	12	38	107	143	100	397	659	90	965	46	48	276
6	11	37	106	216	95	276	516	81	724	45	44	187
7	10	37	104	326	90	172	384	77	514	41	41	318
8	9.9	34	95	709	86	153	306	74	355	39	37	374
9	9.7	35	84	725	83	146	264	87	270	38	35	820
10	11	139	77	535	81	132	222	95	226	38	35	938
11	15	176	74	366	83	144	199	82	194	37	31	833
12	13	136	75	306	88	156	184	74	220	128	31	652
13	9.5	132	76	279	93	161	166	80	291	204	29	476
14	9.7	125	80	244	102	171	160	79	267	126	30	401
15	12	108	73	219	120	199	152	72	220	77	37	446
16	15	207	61	189	123	189	142	69	188	59	38	398
17	21	271	65	177	110	173	132	67	168	45	37	314
18	29	216	69	177	101	193	127	67	146	41	35	245
19	27	173	75	179	103	203	125	76	134	54	32	205
20	24	242	88	187	103	194	118	159	118	88	32	178
21	22	429	77	180	103	214	114	140	109	118	30	162
22	21	439	77	173	88	191	110	115	100	195	38	155
23	24	347	329	165	78	168	103	104	93	147	67	141
24	26	265	436	162	74	157	97	93	92	106	49	127
25	25	214	358	177	80	152	96	117	80	86	41	121
26	23	194	261	244	85	138	93	263	70	71	42	115
27	23	188	243	266	85	133	89	263	67	62	39	106
28	22	187	414	231	83	134	106	185	69	58	37	101
29	22	166	428	214	---	139	141	384	59	56	40	98
30	21	153	344	216	---	138	115	700	55	63	38	96
31	19	---	269	206	---	124	---	678	---	71	38	---
TOTAL	546.8	4773	5049	7906	2861	5255	6251	4742	10024	2352	1266	10720
MEAN	17.6	159	163	255	102	170	208	153	334	75.9	40.8	357
MAX	29	439	436	725	193	397	666	700	1200	204	71	938
MIN	9.5	19	61	136	74	72	89	67	55	37	29	96
CFSM	.09	.78	.80	1.26	.50	.84	1.03	.75	1.65	.37	.20	1.76
IN.	.10	.87	.93	1.45	.52	.96	1.15	.87	1.84	.43	.23	1.96

CAL YR 1988 TOTAL 40613.8 MEAN 111 MAX 869 MIN 5.8 CFSM .55 IN. 7.44  
WTR YR 1989 TOTAL 61745.8 MEAN 169 MAX 1200 MIN 9.5 CFSM .83 IN. 11.31

## 05523000 BICE DITCH NEAR SOUTH MARION, IN

LOCATION.--Lat 40°52'00", long 87°05'32", in NE¼NW¼ sec.22, T.28 N., R.6 W., Jasper County, Hydrologic Unit 07120002, on left bank at upstream side of bridge on State Highway 16, 2.3 mi upstream from mouth, 3 mi southeast of South Marion, and 5 mi southeast of Rensselaer.

DRAINAGE AREA.--21.8 mi<sup>2</sup>.

PERIOD OF RECORD.--December 1948 to current year.

REVISED RECORDS.--WSP 1508: 1956. WSP 2115: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 651.30 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 5, 1955, nonrecording gage, and Aug. 5, 1955, to Sept. 30, 1965, water-stage recorder at present site at datum 2.00 ft higher.

REMARKS.--Estimated daily discharges: Oct. 8-14, Feb. 6 to Mar. 2, and Mar. 7, 8. Records fair except for Feb. 6 to Mar. 2, which are poor.

AVERAGE DISCHARGE.--40 years (water years 1950 to current year), 17.4 ft<sup>3</sup>/s, 10.84 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,080 ft<sup>3</sup>/s Mar. 4, 1979; maximum gage height, 14.02 ft June 13, 1958, at present datum; no flow at times during 1952, 1955, and 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 340 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Sept. 1	1600	*526	*9.88

Minimum daily discharge, 0.23 ft<sup>3</sup>/s Oct. 13, 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.35	.39	3.2	6.2	14	3.8	4.1	2.6	27	.97	.47	320
2	.50	.36	2.6	5.0	10	3.6	6.5	2.5	49	.94	.42	309
3	.53	.35	2.3	4.2	8.0	3.6	93	2.4	37	1.1	.37	122
4	.48	.61	2.3	3.3	6.1	31	93	2.2	35	1.2	.36	64
5	.42	1.6	2.1	3.5	5.1	32	52	2.5	18	1.2	.34	34
6	.38	1.1	2.2	29	4.0	15	35	2.2	12	1.1	.33	25
7	.33	.90	2.1	28	3.2	9.4	26	2.0	8.8	.95	.31	44
8	.27	.80	1.8	78	2.7	7.0	22	1.8	6.8	.91	.30	36
9	.26	.84	1.5	27	2.3	6.2	18	3.0	5.5	.88	.27	150
10	.27	18	1.5	16	2.0	6.8	13	5.1	4.1	.83	.28	92
11	.26	11	1.2	12	2.0	9.7	11	4.2	3.2	.83	.29	54
12	.24	3.9	1.2	17	2.3	13	10	3.6	4.2	5.3	.30	35
13	.23	3.2	1.4	15	2.9	14	7.9	3.4	8.4	8.9	.30	25
14	.23	3.0	1.9	13	4.0	16	7.4	3.0	6.5	3.0	.41	66
15	.33	2.3	1.5	11	5.8	16	6.9	2.6	4.4	1.4	.73	98
16	.53	13	1.1	8.3	6.0	9.9	5.8	2.3	3.3	.96	.87	58
17	.88	7.6	1.1	7.8	5.2	10	5.4	2.1	2.7	.75	.61	39
18	6.3	4.0	1.2	10	4.5	41	4.9	1.9	2.3	.67	.56	27
19	2.1	3.8	1.4	12	5.0	27	5.1	2.2	2.1	3.0	.54	21
20	.86	16	1.9	13	5.7	25	4.8	6.9	1.9	8.7	.51	16
21	.69	41	1.4	12	5.2	23	4.5	8.3	1.8	6.9	.45	14
22	.50	18	1.6	11	4.3	16	4.1	6.5	1.6	3.4	.72	12
23	.51	12	24	9.1	3.8	13	3.7	6.3	1.5	1.9	2.1	10
24	.70	9.0	18	9.2	3.3	11	3.3	6.0	1.4	1.2	.96	7.8
25	.82	7.1	11	12	3.0	9.8	3.3	6.3	1.4	.94	.62	7.5
26	.53	6.1	7.0	35	9.0	7.7	3.2	14	1.4	.77	.49	6.8
27	.42	6.8	18	29	8.0	6.7	3.3	12	1.3	.62	.43	5.5
28	.38	5.8	55	22	5.2	6.6	3.7	7.7	1.4	.59	.73	5.3
29	.35	4.2	21	21	---	7.2	3.8	101	1.2	.50	1.2	5.2
30	.35	3.8	12	20	---	6.4	3.1	99	1.0	.52	1.8	4.7
31	.35	---	8.3	17	---	5.3	---	43	---	.58	1.0	---
TOTAL	21.35	206.55	212.8	516.6	142.6	412.7	467.8	368.6	256.2	61.51	19.07	1713.8
MEAN	.69	6.88	6.86	16.7	5.09	13.3	15.6	11.9	8.54	1.98	.62	57.1
MAX	6.3	41	55	78	14	41	93	101	49	8.9	2.1	320
MIN	.23	.35	1.1	3.3	2.0	3.6	3.1	1.8	1.0	.50	.27	4.7
CFSM	.03	.32	.31	.76	.23	.61	.72	.55	.39	.09	.03	2.62
IN.	.04	.35	.36	.88	.24	.70	.80	.63	.44	.10	.03	2.92
CAL YR 1988	TOTAL 3450.62	MEAN 9.43	MAX 214	MIN .11	CFSM .43	IN. 5.89						
WTR YR 1989	TOTAL 4399.58	MEAN 12.1	MAX 320	MIN .23	CFSM .55	IN. 7.51						

## 05524500 IROQUOIS RIVER NEAR FORESMAN, IN

LOCATION.--Lat 40°52'14", long 87°18'24". in NE½SE¼ sec.15, T.28 N., R.8 W., Newton County, Hydrologic Unit 07120002, on right bank at downstream side of bridge on State Highway 55, 0.2 mi north of intersection of State Highways 16 and 55, 0.5 mi downstream from Mosquito Creek, 0.6 mi west of Foresman, 3 mi east of Brook, and at mile 72.7.

DRAINAGE AREA.--449 mi<sup>2</sup>.

PERIOD OF RECORD.--December 1948 to current year.

REVISED RECORDS.--WSP 1338: 1953. WSP 1438: 1955. WSP 1508: 1956. WSP 2115: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 624.00 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 7, 1955, nonrecording gage 2.5 mi upstream at datum 3.54 ft higher.

REMARKS.--Estimated daily discharges: Dec. 10-18, Jan. 3-5, Feb. 4 to Mar. 3, and July 22 to Aug. 30. Records fair except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--40 years (water years 1950 to current year), 384 ft<sup>3</sup>/s, 11.61 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,930 ft<sup>3</sup>/s June 14, 1958, gage height, 24.42 ft; minimum daily, 6.3 ft<sup>3</sup>/s Sept. 10, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,310 ft<sup>3</sup>/s Sept. 3; gage height, 16.90 ft; minimum daily, 9.6 ft<sup>3</sup>/s Oct. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	23	278	557	430	150	183	231	1600	126	155	1010
2	20	24	246	445	362	147	183	217	1780	120	130	2100
3	19	24	237	335	298	145	698	203	1880	123	115	2290
4	17	32	223	295	225	513	1160	183	1950	119	105	2120
5	15	57	204	315	195	830	1330	189	1910	108	103	1790
6	13	60	203	484	180	738	1290	181	1740	98	95	1460
7	12	56	197	668	165	564	1160	162	1540	91	86	1300
8	12	52	181	1030	160	441	979	150	1290	80	80	1230
9	12	47	165	1160	153	313	807	168	975	75	76	1580
10	11	172	150	1100	150	246	647	207	678	73	76	1900
11	12	328	143	934	150	251	534	202	492	68	68	1930
12	15	261	138	756	155	286	473	181	459	147	68	1800
13	14	214	140	643	165	311	418	181	552	350	64	1600
14	9.6	200	153	537	175	340	378	181	556	306	66	1420
15	10	175	145	465	195	387	359	165	487	196	80	1390
16	16	330	115	381	220	362	334	148	420	138	82	1350
17	22	542	120	326	210	321	306	137	377	106	79	1210
18	37	454	127	314	195	377	286	132	333	88	75	1000
19	44	358	139	322	187	488	277	165	303	103	70	776
20	35	441	159	338	186	453	263	539	272	330	68	594
21	25	826	155	339	185	461	253	521	249	386	66	486
22	23	871	132	326	165	424	243	386	234	310	75	432
23	25	782	555	311	145	366	229	293	219	260	140	403
24	30	640	831	290	135	324	213	235	243	220	100	353
25	31	508	807	301	140	300	206	247	208	170	90	323
26	31	422	669	447	155	263	213	468	182	150	90	303
27	28	388	566	603	160	232	238	578	170	130	83	276
28	27	372	836	573	155	224	247	479	171	125	83	254
29	26	335	937	516	---	229	292	930	155	125	88	245
30	26	306	848	493	---	229	274	1560	134	140	95	234
31	24	---	708	470	---	210	---	1610	---	155	80	---
TOTAL	655.6	9300	10507	16074	5396	10925	14473	11229	21559	5016	2731	33159
MEAN	21.1	310	339	519	193	352	482	362	719	162	88.1	1105
MAX	44	871	937	1160	430	830	1330	1610	1950	386	155	2290
MIN	9.6	23	115	290	135	145	183	132	134	68	64	234
CFSM	.05	.69	.75	1.15	.43	.78	1.07	.81	1.60	.36	.20	2.46
IN.	.05	.77	.87	1.33	.45	.91	1.20	.93	1.79	.42	.23	2.75

CAL YR 1988 TOTAL 91508.7 MEAN 250 MAX 1580 MIN 7.9 CFSM .56 IN. 7.58  
WTR YR 1989 TOTAL 141024.6 MEAN 386 MAX 2290 MIN 9.6 CFSM .86 IN. 11.68



## 05536190 HART DITCH AT MUNSTER, IN

LOCATION.--Lat 41°33'40", long 87°28'50", in SE¼NW¼ sec.20, T.36 N., R.9 W., Lake County, Hydrologic Unit 07120003, on left bank at city limits of Munster, 0.2 mi downstream from Ridge Road, and 0.4 mi upstream from mouth.

DRAINAGE AREA.--70.7 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1942 to current year.

REVISED RECORDS.--WDR IN-72-1: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 591.27 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana, Department of Natural Resources). Since Sept. 11, 1959, auxiliary water-stage recorder 1,200 ft upstream from base gage, at same datum.

REMARKS.--Estimated daily discharges: Oct. 17, 18, Jan. 8, Feb. 5-11, 23-25, Mar. 2, 29, Apr. 3, 4, May 30 to June 10, July 18-21, and Sept. 1, 2. Records good below 200 cfs and poor above except for estimated daily discharges, which are poor. High flow occasionally in backwater from Little Calumet River.

AVERAGE DISCHARGE.--47 years, 62.8 ft<sup>3</sup>/s, 12.06 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,670 ft<sup>3</sup>/s Apr. 28, 1959; maximum gage height, 8.10 ft June 1, 1989; minimum daily discharge, 1.6 ft<sup>3</sup>/s Dec. 24-26, 31, 1963, Jan. 1, 2, Sept. 4-9, 14-17, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 800 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 17	2000	1,000	4.69	July 18	2200	830	3.65
June 1	0700	*2,100	*8.10	Sept. 1	0500	800	3.60

Minimum daily discharge, 6.0 ft<sup>3</sup>/s Oct. 10, 13.

## PROVISIONAL DATA

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

SUBJECT TO REVISION

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	10	35	48	60	22	87	27	1900	29	25	400
2	68	9.5	32	41	49	20	91	28	1700	21	21	220
3	16	10	28	35	41	22	220	25	700	20	19	84
4	11	51	26	31	32	94	290	25	400	17	17	56
5	8.5	42	25	59	28	206	193	35	320	17	23	42
6	7.2	38	25	142	26	141	128	32	280	16	13	119
7	6.7	27	23	272	25	99	97	27	240	10	12	107
8	6.1	24	22	470	24	82	85	25	200	10	12	93
9	6.4	102	19	246	23	96	71	29	140	12	31	128
10	6.0	393	20	138	22	176	58	24	115	12	27	119
11	6.7	133	17	96	22	259	51	22	82	11	15	74
12	6.4	113	17	98	23	216	46	20	154	42	12	57
13	6.0	172	18	72	27	141	42	20	81	15	9.1	96
14	7.2	102	18	58	28	114	40	19	59	13	32	101
15	16	70	19	56	29	118	37	19	51	10	30	86
16	22	134	16	41	28	93	36	17	49	11	24	62
17	260	110	15	41	26	75	43	18	40	12	17	48
18	150	68	14	39	25	147	49	18	36	90	14	37
19	44	164	15	40	25	111	40	196	31	250	13	32
20	22	170	18	44	26	89	34	255	27	220	33	28
21	19	169	18	38	30	84	32	104	29	180	16	26
22	15	103	87	37	27	72	29	67	25	124	43	25
23	42	78	239	35	22	63	31	47	22	73	23	21
24	25	62	132	33	21	56	27	37	16	49	20	21
25	20	56	87	39	21	51	26	250	14	38	17	21
26	16	56	55	59	27	47	25	126	15	29	14	19
27	14	64	137	64	27	43	24	75	89	27	13	17
28	12	54	137	52	25	97	52	50	68	21	15	16
29	11	44	91	59	---	300	43	301	49	19	20	16
30	11	38	75	76	---	185	33	220	37	66	13	16
31	10	---	58	70	---	117	---	240	---	29	26	---
TOTAL	881.2	2666.5	1538	2629	789	3436	2060	2398	6969	1493	619.1	2187
MEAN	28.4	88.9	49.6	84.8	28.2	111	68.7	77.4	232	48.2	20.0	72.9
MAX	260	393	239	470	60	300	290	301	1900	250	43	400
MIN	6.0	9.5	14	31	21	20	24	17	14	10	9.1	16
CFSM	.40	1.26	.70	1.20	.40	1.57	.97	1.09	3.29	.68	.28	1.03
IN.	.46	1.40	.81	1.38	.42	1.81	1.08	1.26	3.67	.79	.33	1.15

CAL YR 1988 TOTAL 20484.6 MEAN 56.0 MAX 930 MIN 2.0 CFSM .79 IN. 10.78  
WTR YR 1989 TOTAL 27665.8 MEAN 75.8 MAX 1900 MIN 6.0 CFSM 1.07 IN. 14.56

## 05536195 LITTLE CALUMET RIVER AT MUNSTER, IN

LOCATION.--Lat 41°34'07", long 87°31'18", in SE¼NW¼ sec.13, T.36 N., R.10 W., Lake County, Hydrologic Unit 07120003, on left bank 200 ft upstream from Hohman Street bridge at north city limits of Munster, 0.4 mi upstream from Indiana-Illinois State line, and 4.6 mi upstream from Thorn Creek.

DRAINAGE AREA.--90.0 mi<sup>2</sup>. During times of floods on Deep River, flow may enter basin from eastern portion of Little Calumet River basin; or, during times of floods on Hart ditch, flow may leave the basin and enter eastern portion of the Little Calumet River basin.

PERIOD OF RECORD.--June 1958 to current year.

GAGE.--Water-stage recorder. Datum of gage is 580.72 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 20-26, Dec. 11-13, 16-18, Dec. 28 to Jan. 5, Jan. 8-11, 13-16, Feb. 3 to Mar. 4, Mar. 6-8, 28, and June 3-19. Records fair below 200 cfs and poor above except for estimated daily discharges, which are poor. Flow from eastern portion of Little Calumet River basin is diverted to Lake Michigan by Burns ditch.

AVERAGE DISCHARGE.--31 years, 73.4 ft<sup>3</sup>/s, 11.08 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,510 ft<sup>3</sup>/s Apr. 28, 1959, gage height, 13.67 ft; maximum gage height, 16.40 ft June 14, 1981; minimum daily discharge, 1.9 ft<sup>3</sup>/s Aug. 20, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,070 ft<sup>3</sup>/s June 2, gage height, 15.66 ft; minimum daily, 7.4 ft<sup>3</sup>/s Oct. 13.

## PROVISIONAL DATA

## SUBJECT TO REVISION

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	23	41	59	53	28	89	27	823	42	27	260
2	82	23	38	48	46	27	76	27	1050	34	24	193
3	32	21	35	43	38	28	148	25	580	31	22	102
4	21	62	33	37	36	60	211	25	480	28	20	75
5	17	44	30	33	35	144	163	31	380	26	26	57
6	14	47	29	114	33	120	127	28	330	26	19	89
7	12	43	28	164	32	100	101	28	290	20	18	86
8	9.9	36	27	350	31	85	83	27	250	19	18	78
9	9.3	77	27	270	29	80	69	28	200	21	30	93
10	8.3	369	26	180	29	125	55	25	160	21	32	98
11	8.2	213	22	130	28	173	47	24	130	19	23	78
12	8.3	148	21	107	29	158	42	22	180	52	22	62
13	7.4	175	22	85	33	128	39	22	150	27	19	80
14	8.0	144	24	66	36	111	35	21	110	23	31	78
15	8.7	115	25	55	39	103	34	21	90	20	48	74
16	34	171	22	47	37	89	32	20	80	20	37	63
17	174	137	21	42	34	93	35	20	66	20	28	53
18	279	98	22	39	32	135	42	21	58	72	23	43
19	113	156	26	38	31	106	38	138	52	277	20	36
20	62	140	25	41	32	89	32	184	48	172	34	31
21	43	115	24	39	36	80	30	95	45	159	23	28
22	32	90	55	37	35	69	28	67	40	114	34	26
23	50	70	174	36	31	61	29	51	37	87	30	26
24	46	60	129	34	28	53	26	40	29	65	27	24
25	42	55	98	37	27	48	26	207	27	48	24	24
26	37	53	79	47	33	45	26	120	28	37	21	22
27	33	61	114	52	34	41	24	86	73	31	20	20
28	31	56	150	46	31	80	41	63	66	27	22	19
29	27	51	120	49	---	231	38	190	55	24	27	18
30	25	45	90	58	---	156	31	212	49	47	23	17
31	23	---	72	58	---	115	---	179	---	33	23	---
TOTAL	1307.1	2898	1649	2441	948	2961	1797	2074	5956	1642	795	1953
MEAN	42.2	96.6	53.2	78.7	33.9	95.5	59.9	66.9	199	53.0	25.6	65.1
MAX	279	369	174	350	53	231	211	212	1050	277	48	260
MIN	7.4	21	21	33	27	27	24	20	27	19	18	17
CFSM	.47	1.07	.59	.87	.38	1.06	.67	.74	2.21	.59	.28	.72
IN.	.54	1.20	.68	1.01	.39	1.22	.74	.86	2.46	.68	.33	.81

CAL YR 1988 TOTAL 19545.4 MEAN 53.4 MAX 482 MIN 3.2 CFSM .59 IN. 8.08  
WTR YR 1989 TOTAL 26421.1 MEAN 72.4 MAX 1050 MIN 7.4 CFSM .80 IN. 10.92

The following table lists all discontinued stream-gaging stations in Indiana. Continuous daily streamflow records were collected and published for the period of record, shown in water years, for each station.

Station no.	Station name	County	Drainage area (mi <sup>2</sup> )	Period of record
03275500	East Fork Whitewater River at Richmond	Wayne	121	1949-78
03277000	Laughery Creek near Farmers Retreat	Ohio	248	1941-73 <sup>a</sup>
03303276	Friday Branch tributary near Saint Meinrad	Dubois	.096	1981 <sup>b</sup>
03304000	Little Pigeon Creek near Tennyson	Warrick	187	1944-47
03322100	Pigeon Creek at Evansville	Vanderburgh	323	1960-85
03322500	Wabash River near New Corydon	Jay	262	1951-88
03326000	Mississinewa River near Eaton	Delaware	310	1932-71 <sup>b</sup>
03329500	Wabash River at Delphi	Carroll	4,072	1940-71
03331000	Tippecanoe River near Warsaw	Kosciusko	126	1943-49
03332000	Tippecanoe River at Pulaski	Pulaski	1,089	1928-31
03332300	Little Indian Creek near Royal Center	White	35.0	1959-73 <sup>a</sup>
03332400	Big Monon Creek near Francesville	Pulaski	152	1959-73 <sup>a</sup>
03332500	Tippecanoe River near Monticello	White	1,732	1932-81 <sup>c</sup>
03333500	Wildcat Creek at Greentown	Howard	168	1945-61
03334000	Wildcat Creek at Owasco	Carroll	396	1944-73 <sup>a</sup>
03335700	Big Pine Creek near Williamsport	Warren	323	1955-87
03339120	Coal Creek at Coal Creek	Fountain	214	1965-72
03339150	Little Vermilion River near Newport	Vermillion	237	1965-72
03339855	Sugar Creek tributary near Deer Mill	Montgomery	.45	1981 <sup>b</sup>
03340000	Sugar Creek near Byron	Parke	670	1941-71 <sup>b</sup>
03341000	Big Raccoon Creek at Mansfield	Parke	248	1939-58 <sup>d</sup>
03341200	Little Raccoon Creek near Catlin	Parke	134	1957-71 <sup>d,e</sup>
03341420	Brouillette Creek near Universal	Vermillion	321	1966-71 <sup>b</sup>
03341470	North Coal Creek near Terre Haute	Vigo	1.91	1974-76
03341570	Honey Creek near Riley	Vigo	5.79	1981 <sup>b</sup>
03342150	West Fork Busseron Creek near Hymers	Sullivan	14.4	1966-86
03342250	Mud Creek near Dugger	Sullivan	11.9	1966-81
03342300	Busseron Creek near Sullivan	Sullivan	138	1966-86
03342350	Buttermilk Creek near Paxton	Sullivan	16.5	1966-73
03342360	Buttermilk Creek near Sullivan	Sullivan	17.6	1975-78
03342800	South Fork Smalls Creek at Bruceville	Knox	4.94	1972-75 <sup>b,e</sup>
03348100	Killbuck Creek near Anderson	Madison	97.8	1964-68
03348500	White River near Noblesville	Hamilton	828	1913-26, 1929-74 <sup>b</sup>
03349500	Cicero Creek near Arcadia	Hamilton	131	1955-76 <sup>a</sup>
03349700	Little Cicero Creek near Arcadia	Hamilton	40.4	1956-76 <sup>a</sup>
03350000	Cicero Creek near Cicero	Hamilton	196	1946-54
03350100	Hinkle Creek near Cicero	Hamilton	18.5	1956-76 <sup>a</sup>
03352000	Lawrence Creek at Fort Benjamin Harrison	Marion	2.74	1952-56, 1958-69
03352200	Mud Creek at Indianapolis	Marion	42.4	1958-76 <sup>a</sup>
03353160	Pleasant Run at Brookville Road at Indianapolis	Marion	10.1	1960-81
03355000	Bear Creek near Trevisac	Brown	6.94	1952-73 <sup>a</sup>
03356000	Beanblossom Creek at Dolan	Monroe	100	1946-78
03356500	Beanblossom Creek near Bloomington	Monroe	112	1931-33
03357420	Big Walnut Creek at Greencastle	Putnam	216	1975-1982
03359500	Deer Creek near Putnamville	Putnam	59.0	1955-65, 1968-72
03359980	Jordan Creek near Jordan	Owen	25.9	1981 <sup>b</sup>
03365000	Sand Creek near Brewersville	Jennings	155	1948-86
03366000	Graham Creek near Vernon	Jennings	77.2	1955-73
03367000	Muscatastuck River near Austin	Jackson	359	1932-43, 1944-71 <sup>f</sup>
03367500	Stucker Creek near Austin	Scott	127	1932-33
03370000	Vernon Fork near Crothersville	Jackson	391	1932-33
03370500	Muscatastuck River near Tampico	Washington	960	1939
03371000	Muscatastuck River near Vallonia	Jackson	1,134	1932-33
03371600	South Fork Salt Creek at Kurtz	Jackson	38.2	1961-71 <sup>g</sup>
03371650	North Fork Salt Creek at Nashville	Brown	76.1	1962-76 <sup>a</sup>
03372000	North Fork Salt Creek near Belmont	Brown	120	1946-71
03372700	Clear Creek near Harrodsburg	Monroe	55.2	1960-71
03373000	Salt Creek near Peerless	Lawrence	573	1939-50, 1957-71 <sup>d</sup>
03373200	Indian Creek near Springville	Lawrence	60.7	1961-73 <sup>a</sup>
03374100	White River at Hazleton	Gibson	11,305	1928-38 <sup>h</sup>
03376000	Patoka River near Jasper	Dubois	348	1944-47 <sup>e</sup>
03376260	Flat Creek near Otwell	Pike	21.3	1965-1982
03376279	Little Flat Creek near Otwell	Dubois	6.56	1981 <sup>b</sup>
03376350	South Fork Patoka River near Spurgeon	Pike	42.8	1964-86
03378500	Wabash River at New Harmony	Posey	29,234	1939-47 <sup>h</sup>

Station no.	Station name	County	Drainage area (mi <sup>2</sup> )	Period of record
STREAMS TRIBUTARY TO LAKE MICHIGAN				
04090500	Dunes Creek at Porter	Porter	3.40	1979-1982
04095100	Derby ditch at Beverly Shores	Porter	4.64	1980
04097970	Lime Lake outlet at Panama	Steuben	17.5	1969-86
04098000	Fawn River at Orland	Steuben	86.4	1943-47
04099500	Pigeon Creek and Hogback Lake near Angola	Steuben	103	1946-74
04099610	Pretty Lake Inlet near Stroh	Lagrange	1.96	1963-80
04100000	Christiana Creek at Elkhart	Elkhart	127	1947-52
04100220	North Branch Elkhart River near Cosperville	Noble	134	1951-71
04100465	Turkey Creek at Syracuse	Kosciusko	43.8	1969-87
STREAMS TRIBUTARY TO LAKE ERIE				
04178500	St. Joseph River at Hursh	Allen	734	1950-54
04179000	St. Joseph River at Cedarville	Allen	763	1931-32, 1956-81
04179500	Cedar Creek near Auburn	DeKalb	87.3	1943-73 <sup>a</sup>
04182700	St. Marys River at Fort Wayne	Allen	810	1905-06
UPPER MISSISSIPPI RIVER BASIN				
05515400	Kingsbury Creek near LaPorte	LaPorte	7.08	1970-86
05516000	Yellow River near Bremen	Marshall	135	1955-73 <sup>a</sup>
05518500	Singleton ditch near Hebron	Lake	34.2	1949-51
05519500	West Creek near Schneider	Lake	54.7	1948-52, 1954-72
05520000	Singleton ditch at Illinois, IL	Kankakee, IL	220	1945-77
05521500	Oliver ditch near Aix	Jasper	79.6	1948-51
05523500	Slough Creek near Collegeville	Jasper	83.7	1948-52 1953-82
05524000	Carpenter Creek at Egypt	Jasper	44.8	1948-52 1953-82

<sup>a</sup>Continued as a crest-stage and low-flow partial-record station through 1984.

<sup>b</sup>Some quality of water data available.

<sup>c</sup>Records of daily discharges furnished by Northern Indiana Public Service Company.

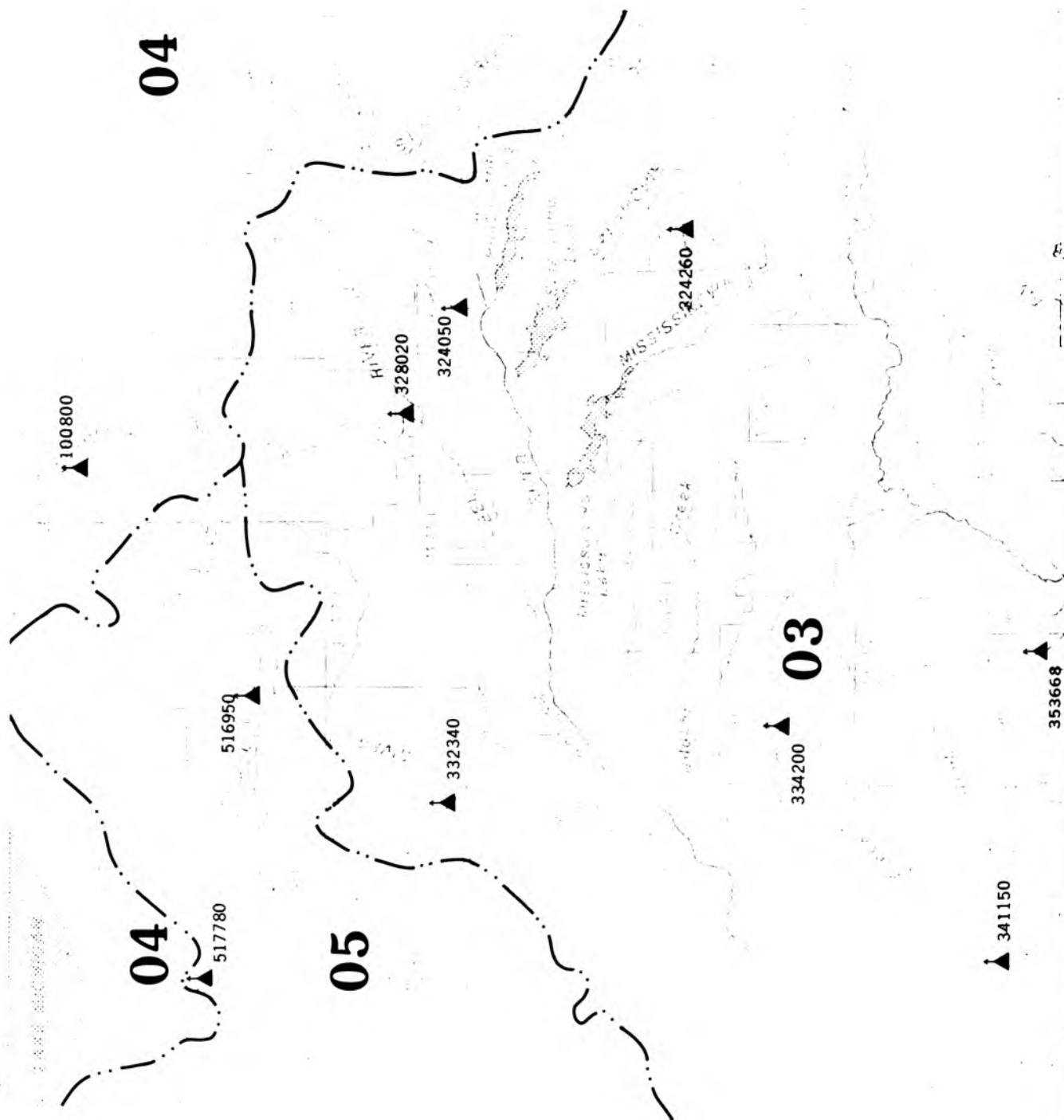
<sup>d</sup>Continued as a stage only station through 1984.

<sup>e</sup>Some record fragmentary.

<sup>f</sup>High-water records only.

<sup>g</sup>Stage only station 1972-75.

<sup>h</sup>Some quality of water data available after station discontinued for stream-gaging records.







As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or flood-flow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

## Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

		Annual maximum					
Station number	Station name	Location	Drainage area (mi <sup>2</sup> )	Period of record	Date	Gage height (ft)	Discharge (ft <sup>3</sup> /s)
OHIO RIVER BASIN							
Great Miami River basin							
03275800	West Run near Liberty, IN	Lat 39°38'24", long 84°57'18", in SE½SE½SW¼ sec.2, T.14 N., R.2 W., Union County, at culvert on State Highway 44, 4.8 miles east of Fayette-Union County Line, 1.1 miles west of Liberty.	0.26	1973-1989	05-26-89	11.78	255
Tanners Creek basin							
03276640	Tanners Creek tributary near Lawrenceburg, IN	Lat 39°09'18", long 84°52'20", in NW¼SW¼NE¼ sec.27, T.6 N., R.1 W., Dearborn County, at culvert on State Highway 1, 0.25 mile east of Salt Fork Road.	.19	1973-1989	09-01-89	12.44	112
Fourteenmile Creek basin							
03292350	Flag Run tributary near New Washington, IN	Lat 38°31'08", long 85°32'29", in NW¼NW¼NE¼ sec.20, T.1 N., R.9 E., Clark County, at culvert on State Highway 62, 3.0 miles south of New Washington.	.16	1973-1989	07-19-89	6.86	32
Blue River basin							
03302730	South Fork Blue River near Palmyra, IN	Lat 38°28'07", long 86°04'55", in NE¼NW¼ sec.4, T. 15 N., R.4 E., Washington County, at bridge on Old Palmyra Road, 0.2 mile north of State Highway 135 and 4.7 miles north of the intersection of U.S. Highway 150 and State Highway 135 in Palmyra.	64.3	1974-1989	03-30-89	18.05	2,050
Little Blue River basin							
03303050	Bird Hollow Creek at English, IN	Lat 38°21'02", long 86°28'01", in SE¼NE¼NW¼ sec.13, T.2 S., R.1 W., Crawford County, at bridge on State Highway 37, 0.7 mile north of State Highway 64.	9.31	1974-1989	04-04-89	13.80	2,160
Anderson River basin							
03303250	Sigler Creek tributary at Uniontown, IN	Lat 38°13'21", long 86°41'50", in NW¼SW¼SW¼ sec.25, T.3 S., R.3 W., Perry County, at culvert on State Highway 145, 0.1 mile south of State Highway 62 and U.S. Highway 460.	.15	1973-1989	04-04-89	7.62	78
Wabash River basin							
03324050	Clear Creek near Huntington, IN	Lat 40°54'57", long 85°32'42", in SE¼NE¼NW¼ sec.5, T.28 N., R.9 E., Huntington County, at bridge on State Highway 16, 0.8 mile west of State Highway 5, and 3.4 miles northwest of Huntington.	49*	1974-1989	06-04-89	14.11	2,750

## Crest-stage partial-record stations--Continued

					Annual maximum		
Station number	Station name	Location	Drainage area (mi )	Period of record	Date	Gage height (ft)	Dis-charge (ft /s)
OHIO RIVER BASIN--Continued							
Wabash River basin--Continued							
03324260	Salamonie River tributary near Montpelier, IN	Lat 40°33'06", long 85°19'25", in NW¼NW¼NE¼ sec.7, T.24 N., R.11 E., Blackford County, at culvert on State Highway 18, 2.5 miles east of State Highway 3.	0.86	1973-1989	05-26-89	7.57	127
03328020	Otter Creek tributary near North Manchester, IN	Lat 40°59'59", long 85°49'37", in SW¼SE¼SW¼ sec.35, T.30 N., R.6 E., Wabash County, at culvert on State Highway 114, 1.7 miles west of State Highway 13.	.92	1973-1989	06-04-89	5.69	66
03334200	Prairie Creek tributary near Frankfort, IN	Lat 40°15'14", long 86°30'36", in NW¼SE¼NE¼ sec.22, T.21 N., R.1W., Clinton County, at culvert on State Highways 38 and 39, 1.8 miles south of State Highway 28 in Frankfort.	2.61	1973-1989	09-01-89	9.36	91
03341150	Demaree Creek tributary near Byron, IN	Lat 39°52'39", long 87°05'56", in NW¼SW¼NE¼ sec.33, T.17 N., R.6 W., Parke County, at culvert on State Highway 47, 0.5 mile west of Montgomery County Line.	.15	1973-1989	01-06-89	8.03	85
03353668	White Lick Creek tributary near Brownsburg, IN	Lat 39°53'54", long 86°23'34", in SE¼NE¼SE¼ sec.22, T.17 N., R.1 E., Hendricks County, at culvert on State Highway 267, 4.0 miles north of U.S. Highway 136 in Brownsburg.	.31	1973-1989	05-26-89	7.28	152
03360400	Doans Creek tributary near Doans, IN	Lat 38°55'12", long 86°50'54", in SW¼SW¼SW¼ sec.27, T.6 N., R.4 W., Greene County, at culvert on State Highway 58 at Doans.	.20	1973-1989	09-01-89	6.13	43
03363450	Little Flatrock River at Milroy, IN	Lat 39°29'49", long 85°28'24", in NE¼NW¼ sec.13, T.12 N., R.9 E., Rush County, at bridge on State Highway 244, 800 ft east of State Highway 3, and at west edge of Milroy.	34.8	1974-1989	05-26-89	15.04	5,060
03364100	Tough Creek near Norristown, IN	Lat 39°22'19", long 85°45'38", in SW¼SW¼NW¼ sec.28, T.11 N., R.7 E., Shelby County, at culvert on county road, 0.5 mile north of Norristown.	1.46	1973-1989	05-26-89	7.81	130
03371630	North Fork Salt Creek tributary near Nashville, IN	Lat 39°11'38", long 86°12'11", in NE¼NE¼NW¼ sec.28, T.9 N., R.3 E., Brown County, at culvert on State Highway 46, 2.6 miles east of State Highway 135 in Nashville.	.22	1973-1989	03-30-89	6.90	29
03372670	Jackson Creek near Bloomington, IN	Lat 39°07'17", long 86°30'50", in SW¼SW¼ sec.15, T.8 N., R.1 W., Monroe County, at bridge on Rhorer Road 0.95 mile east of State Highway 37 on the south side of Bloomington.	4.66	1974-1989	05-26-89	6.28	2,400
03372675	Jackson Creek at Clear Creek, IN	Lat 39°06'01", long 86°32'18", in SE¼NE¼ sec.29, T.8N., R.1. W., Monroe County, at bridge on Rogers Street, 400 ft north of State Highway 37 and 0.5 mile south of Clear Creek Road in Clear Creek.	10.8	1976-1987, 1989	09-01-89	7.12	2,750
03373680	French Lick Creek tributary near French Lick, IN	Lat 38°30'08", long 86°36'20", in SW¼NW¼SW¼ sec.23, T.1 N., R.2 W., Orange County, at culvert on State Highway 145, 4.3 miles south of intersection of State Highways 145 and 56 in French Lick.	.29	1973-1989	04-04-89	5.65	59

## DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

## Crest-stage partial-record stations--Continued

					Annual maximum		
Station number	Station name	Location	Drainage area (mi )	Period of record	Date	Gage height (ft)	Dis-charge (ft /s)
OHIO RIVER BASIN--Continued							
Wabash River basin--Continued							
03376340	Patoka River tributary near Gleson, IN	Lat 38°23'41", long 87°19'05", in NE½SE½SE½ sec.29, T.1 S., R.8 W., Pike County, at culvert on State Highway 57, 7.9 miles south of intersection of State Highways 61, 56, and 57 in Petersburg.	0.84	1973-1989	08-21-89	7.82	160
STREAMS TRIBUTARY TO LAKE MICHIGAN							
St. Joseph River basin							
04100800	Yellow Creek at Dunlap, IN	Lat 41°38'44", long 85°56'00", in NE½NE½ sec.27, T.37 N., R.5 E., Elkhart County, at bridge on U.S. Highway 33, at northwest edge of Dunlap.	33 <sup>a</sup>	1974-1989	06-01-89	12.82	600
UPPER MISSISSIPPI RIVER BASIN							
Illinois River basin							
05516950	Eagle Creek near Grovertown, IN	Lat 41°18'44", long 86°31'27", in NE½SE½NE½ sec.16, T.33 N., R.1 W., Starke County, at bridge on State Highway 23, 0.3 mile south of County Road 100 north, and 5.2 miles south of U.S. Highway 30 in Grovertown.	32 <sup>a</sup>	1973-1989	No marks all year		<130
05517780	Cobb ditch near Valparaiso, IN	Lat 41°24'41", long 87°08'08", in NE½NE½SW½ sec.8, T.34 N., R.6 W., Porter County, at culvert on State Highway 2, 5.7 miles southwest of Valparaiso.	.39	1973-1989	06-01-89	8.54	72

<sup>a</sup>About.

## Measurements at miscellaneous sites

Measurements of streamflow at points other than gaging stations are given for 1988 in the following table.

Stream	Tributary to	Location	Drainage area (mi <sup>2</sup> )	Measured previously (water years)	Measurements	
					Date	Discharge (ft <sup>3</sup> /s)
OHIO RIVER BASIN						
Grand Miami River basin						
Martindale Creek (03274800)	Whitewater River	Lat 39°48'46", long 85°08'52", in NE¼ sec.26, T.16 N., R.12 E., 100 ft downstream of bridge on U.S. Highway 40, 1 mi east of Cambridge City, and 1.8 mi upstream of mouth.	60.0	1954, 1959, 1969	06-06-88	23.5
Wabash River basin						
Bear Creek (03322800)	Wabash River	Lat 40°30'53", long 84°58'23", in SE¼ sec.19, T.24 N., R.14 E., at bridge on U.S. Highway 27, 1.25 mi south of Bryant.	14.5	1957, 1961-67	06-07-88	0
Eightmile Creek (03323800)	Little River	Lat 40°54'40", long 85°17'30", in sec.4, T.28 N., R.11 E., at bridge on State Highway 3, 0.7 mi southwest of Zanesville.	45.8	1954, 1961-67	07-07-88	.47
Blue River (03327770)	Eel River	Lat 41°10'52", long 85°27'24", in SW¼ sec.35, T.32 N., R.9 E., at county highway bridge, 0.6 mi east of State Highway 9, 2.25 mi northeast of Columbia City.	61.0	1961-69	07-07-88	6.03
Sugar Creek (03339200)	Wabash River	Lat 40°12'29", long 86°22'03", in SE¼NW¼ sec.1, T.20 N., R.1 E., at bridge on U.S. Highway 421, 1 mi north of Kirklin.	41.4	1960-67	06-07-88 06-21-88 07-25-88	2.75 1.47 .54
Big Raccoon Creek (03340651)	Wabash River	Lat 39°59'32", long 86°47'58", in SW¼ sec.18, T.17 N., R.3 W., at bridge on county road, 0.25 mi south of Ladoga.	56.2	1979-80	06-06-88 06-23-88	2.77 .94
Cornstalk Creek (03340660)	Big Raccoon Creek	Lat 39°54'39", long 86°50'29", in SW¼ sec.14, T.17 N., R.4 W., 200 ft upstream of bridge on State Highway 234, 2 mi west of Ladoga.			06-06-88 06-23-88	.63 0
White River (03346700)	Wabash River	Lat 40°10'32", long 84°53'23", in sec.9, T.20 N., R.15 E., at bridge on State Highway 32, 0.75 mi southwest of Harrisville.	21.3	1961-65, 1967-68	06-06-88	1.12
White River (033472955)	Wabash River	Lat 40°11'09", long 85°27'42", on line between secs. 13 and 14, T.20 N., R.9 E., at bridge on Delaware County Road 400 West, 1.0 mi downstream from Muncie sewage treatment plant, and 1.9 mi northeast of Yorktown.	245	1964	06-23-88	24.2
Pipe Creek (03348300)	White River	Lat 40°16'40", long 85°38'34", on line between secs. 8 and 17, T.21 N., R.8 E., at bridge on State Highway 28, 1.5 mi east of State Highway 9, and 2 mi northeast of Alexandria.	44.7	1960-65, 1967-69	06-07-88	4.11
White River (03348500)	Wabash River	Lat 40°07'46", long 85°57'46", in sec.4, T.19 N., R.5 E., at bridge on county road 1 mi west of Strawtown.	828	1915-26, 1929-74 <sup>b</sup>	06-22-88	114
Eagle Creek (03353193)	White River	Lat 40°02'28", long 86°17'03", in SE¼ sec.34, T.19 N., R.2 E., at bridge on State Highway 32, 0.1 mi east of U.S. Highway 421, and 0.6 mi south of Rosston.	27.8		06-07-88 06-22-88	.91 .25
Little Buck Creek (03353630)	White River	Lat 39°39'55", long 86°06'06", on line between secs. 8 and 17, T.14 N., R.4 E., at bridge on Southport Road, 0.5 mi east of Southport.	8.28	1960-61	06-24-88	0



## Measurements at miscellaneous sites--Continued

Stream	Tributary to	Location	Drainage area (mi )	Measured previously (water years)	Measurements	
					Date	Discharge (ft /s)
OHIO RIVER BASIN--Continued						
Wabash River basin--Continued						
White Lick Creek (03353670)	White River	Lat 39°51'56", long 86°23'42", on line between sec. 2, T.16 N., R.1 E., and sec. 34, T.17 N., R.1 E., at bridge on county road, 350 ft west of State Highway 267, and 1.5 mi north of Brownsburg.	28.7	1960-67	06-24-88	.20
Big Walnut Creek (03357270)	White River	Lat 39°55'33", long 86°35'45", in SW¼ sec.12, T.17 N., R.2 W., at bridge on Boone County Road 675 West, 1.5 mi east of Jamestown.	34.9		06-06-88 06-23-88	3.98 2.87
Mill Creek (03357600)	Big Walnut Creek	Lat 39°41'18", long 86°36'28", in SW¼ sec.35, T.15 N., R.2 W., 300 ft upstream from bridge on Hendricks County Road 500 South, in Amo.	10.9		06-06-88 06-24-88	.30 0
East Fork Mill Creek (03357650)	Mill Creek	Lat 39°41'14", long 86°34'46", in NE¼ sec.1, T.14 N., R.1 W., 200 ft downstream from bridge on Hendricks County Road 500 South, 1.5 mi east of Amo.	12.8		06-06-88 06-24-88	.30 .12
Brandywine Creek (03361610)	Big Blue River	Lat 39°41'30", long 85°46'19", in NE¼ sec.5, T.14 N., R.7 E., 50 ft downstream from bridge on U.S. Highway 52, 0.5 mi east of Fountaintown.	65.8		06-07-88 06-21-88 07-14-88	11.4 9.03 8.13
Little Sugar Creek (03361662)	Sugar Creek	Lat 39°41'53", long 85°51'44", in SE¼ sec.33, T.15 N., R.6 E., at bridge on Shelby-Hancock County line road, 2.25 mi west of Finly.	26.0		06-07-88 07-15-88	2.87 2.92
Conns Creek (03363524)	Flatrock River	Lat 39°25'31", long 85°40'34", in S¼ sec.6, T.11 N., R.8 E., at riffle off farm lane, 0.5 mi upstream of mouth.	78.8		07-08-88	0.65
Big Creek (03366300)	Muscataetuck River	Lat 38°46'47", long 85°32'57", in NE¼NW¼ sec.20, T.4 N., R.9 E., at bridge on county road, 1.7 mi west of Volga.	96.9	1954, 1960-65, 1967	06-30-88	0
Lick Creek (03373600)	Lost River	Lat 38°32'42", long 86°26'56", in SW¼ sec.6, T.1 N., R.1 E., at bridge on county road to "The Pioneer Mother's Memorial National Forest," 0.2 mi south of U.S. Highway 150, and 1.3 mi south-east of Paoli.	18.9	1962-67	06-22-88	1.21
Illinois River basin						
Eagle Creek (05516950)	Yellow River	Lat 41°18'44", long 86°31'27", in SE¼NE¼ sec.16, T.33 N., R.1 W., at bridge on State Highway 23, 0.3 mi south of County Road 100 North, and 5.2 mi south of U.S. Highway 30 in Grovertown.	32 <sup>a</sup>		05-25-88	39.4

<sup>a</sup> About.<sup>b</sup> Continuous gaging station.



## 04100030 ADAMS LAKE NEAR WOLCOTTVILLE, IN

LOCATION.--Lat 41°33'15", long 86°19'11", in NE¼NE¼NW¼ sec.25, T.36 N., R.10 E., Lagrange County, Hydrologic Unit 04050001 (WOLCOTTVILLE, IN quadrangle). The gage is on the east side of the lake on a dredged inlet, at the public access site, and 3.1 mi northeast of Wolcottville.

SURFACE AREA.--308 acres.

DRAINAGE AREA.--5.62 mi<sup>2</sup>.

PERIOD OF RECORD.--1946 to current year.

DATUM OF GAGE.--949.90 ft above National Geodetic Vertical Datum of 1929, as corrected on the basis of levels of the Indiana Department of Natural Resources, 1976.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage is attached to the southwest wall of the dam on the outlet channel about 500 ft downstream from the lake.

ESTABLISHED LEGAL LEVEL.--3.59 ft gage datum or 953.59 ft above National Geodetic Vertical Datum of 1929 as decreed on December 17, 1949, by the Lagrange County Circuit Court. Minor errors were subsequently discovered in the establishment of the datum of the gage (see "DATUM OF GAGE") and the correct elevation of the legal level should be 3.59 ft gage datum or 953.49 ft above National Geodetic Vertical Datum of 1929.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a concrete dam with a fixed crest "V" notch weir.

INLET AND OUTLET.--One inlet enters on the east side from Blackman Lake 2.3 mi upstream. The other inlet enters on the northeastern shore from Eve Lake. The outlet flows from the lake on the southern shore and into Little Elkhart Creek 1.7 mi downstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 5.32 ft June 15, 1981; minimum stage, 2.12 ft Jan. 8, 1954.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	3.08	3.44	4.10	4.06	3.97	3.96	4.17	4.02	4.50	3.95	3.79	3.94
10	3.04	3.68	4.04	4.22	3.97	3.95	4.13	3.95	4.35	3.90	3.67	4.02
15	3.00	3.84	3.96	4.23	3.97	3.89	4.05	3.94	4.23	4.04	3.70	4.04
20	3.32	4.28	3.93	4.07	3.97	4.01	4.01	4.03	4.29	3.94	3.69	3.99
25	3.40	4.27	3.94	4.01	3.96	4.00	4.02	4.08	4.23	3.92	3.67	3.90
EOM	3.38	4.22	4.06	3.99	3.96	4.02	4.05	4.16	4.08	3.84	3.81	3.82

WTR YR 1989 MEAN 3.93 MAX 4.50 MIN 3.00

## STREAMS TRIBUTARY TO LAKE ERIE

## 04177680 BALL LAKE NEAR HAMILTON, IN

LOCATION.--Lat 41°32'12", long 84°56'18", in SE¼SW¼NE¼ sec.32, T.36 N., R.14 E., Steuben County, Hydrologic Unit 04100003 (HAMILTON, IN quadrangle). The gage is on the northeastern shore of the lake, south of the bridge over the outlet, and 1.3 mi west of Hamilton.

SURFACE AREA.--87 acres.

DRAINAGE AREA.--11.6 mi<sup>2</sup>.

PERIOD OF RECORD.--1961 to current year.

DATUM OF GAGE.--889.81 ft above National Geodetic Vertical Datum of 1929, as corrected on the basis of levels of the Indiana Department of Natural Resources in February 1972.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage is driven into the lake bed near the recording gage and a high-water staff gage is attached to the control dam.

ESTABLISHED LEGAL LEVEL.--4.95 ft gage datum or 894.76 ft above National Geodetic Vertical Datum of 1929 as decreed on September 20, 1974, by the Steuben County Circuit Court.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a concrete sill with movable boards.

INLET AND OUTLET.--Fish Creek flows through the lake, entering at the western end and leaving at the northeastern end. Fish Creek empties into the St. Joseph River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 10.02 ft Dec. 26, 1965; minimum stage, 3.96 ft Oct. 19-31, Nov. 1-12, 1978.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	4.81	4.93	4.91	5.23	4.84	4.84	5.06	4.87	5.31	4.84	4.81	4.85
10	4.82	5.38	4.88	5.84	4.84	4.84	4.91	4.86	4.94	4.83	4.79	4.82
15	4.81	4.98	4.86	5.84	4.84	4.84	4.89	4.87	4.89	4.81	4.86	4.95
20	4.92	5.40	4.89	4.84	4.84	4.84	4.88	5.02	4.88	4.82	4.87	4.83
25	4.88	4.99	5.00	4.85	4.84	4.84	4.90	4.97	4.84	4.82	4.80	4.80
EOM	4.84	4.97	5.23	4.92	4.84	4.91	4.92	5.34	4.83	4.81	4.85	4.80

WTR YR 1989 MEAN 4.94 MAX 5.96 MIN 4.78

## 05517200 BASS LAKE AT BASS LAKE, IN

LOCATION.--Lat 41°12'28", long 86°36'07", in NW¼NW¼SW¼ sec.24, T.32 N., R.2 W., Starke County, Hydrologic Unit 07120001 (BASS LAKE, IN quadrangle). The gage is on the southern shore of the lake, just north of the junction of U.S. Highway 35 and State Highway 10, at the town of Bass Lake.

SURFACE AREA.--1,400 acres.

DRAINAGE AREA.--5.18 mi<sup>2</sup>.

PERIOD OF RECORD.--1943 to current year.

DATUM OF GAGE.--699.83 ft above National Geodetic Vertical Datum of 1929, as corrected from the unadjusted elevations.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage in two sections is at the site.

ESTABLISHED LEGAL LEVEL.--13.65 ft gage datum or 713.65 ft above National Geodetic Vertical Datum of 1929 as decreed on August 10, 1948, by the Starke County Circuit Court. Minor errors were subsequently discovered in the establishment of the datum of the gage (see "DATUM OF GAGE") and the correct elevation of the legal level should be 13.65 ft gage datum or 713.48 ft above National Geodetic Vertical Datum of 1929.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a steel sheet piling dam.

INLET AND OUTLET.--Several small unnamed ditches enter the lake at various locations. The outlet flows from the western shore, into Cedar Lake ditch, and eventually into the Kankakee River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 15.03 ft June 18, 1981; minimum stage, 10.52 ft Nov. 12, 13, 1964.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	12.36	12.38	12.68	12.91	12.96	12.99	13.21	13.14	13.54	13.38	13.40	13.42
10	12.32	12.54	12.66	12.94	12.95	12.96	13.18	13.13	13.48	13.28	13.34	13.53
15	12.26	12.54	12.66	12.96	12.96	12.99	13.18	13.10	13.54	13.24	13.42	13.51
20	12.42	12.71	12.67	12.96	12.98	13.11	13.18	13.23	13.51	13.32	13.37	13.47
25	12.42	12.70	12.75	12.95	12.98	13.02	13.17	13.33	13.46	13.32	13.39	13.39
EQM	12.35	12.69	12.87	12.94	12.95	13.06	13.17	13.34	13.43	13.45	13.39	13.31

WTR YR 1989 MEAN 13.05 MAX 13.56 MIN 12.25

## STREAMS TRIBUTARY TO LAKE MICHIGAN

## 04100260 BEAR LAKE NEAR WOLFLAKE, IN

LOCATION.--Lat 41°19'07", long 85°30'49", in SW¼NW¼ sec.17, T.33 N., R.9 E., Noble County, Hydrologic Unit 04050001 (ORMAS, IN quadrangle). The gage is on the southern shore of the lake on a dredged channel, at the end of the gravel lane to the Merry Lea Nature Center, 1.1 mi southwest of the town of Wolf Lake.

SURFACE AREA.--136 acres.

DRAINAGE AREA.--6.98 mi<sup>2</sup>.

PERIOD OF RECORD.--1943 to current year.

DATUM OF GAGE.--889.90 ft above National Geodetic Vertical Datum of 1929, as corrected on the basis of levels of the Indiana Department of Natural Resources, 1974-75.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well on the west side of the dredged channel.

ESTABLISHED LEGAL LEVEL.--4.60 ft gage datum or 894.60 ft above National Geodetic Vertical Datum of 1929 as decreed on September 23, 1959, by the Noble County Circuit Court. Minor errors were subsequently discovered in the establishment of the datum of the gage (see "DATUM OF GAGE") and the correct elevation of the legal level should be 4.60 ft gage datum or 894.50 ft above National Geodetic Vertical Datum of 1929.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a steel sheet piling dam.

INLET AND OUTLET.--There are two inlets to the lake, one enters on the southwest shore from High Lake, 0.6 mi upstream, and the other enters from the northeast. The outlet, Carrol Creek, leaves the lake on the southeast tip, flows into Muncie Lake, 3.1 mi downstream, and eventually into the Elkhart River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 8.25 ft Dec. 30, 1942 (before dredging of the outlet channel). Maximum stage, 6.61 ft Apr. 12, 1944 (after dredging); minimum stage, 2.90 ft Oct. 31, Nov. 1-3, 7-17, 1952, October 22-24, 29-31, Nov. 1-3, 6, 7, 1966.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	3.62	4.10	4.57	4.60	4.54	4.44	4.63	4.59	5.26	---	4.21	4.52
10	3.58	4.49	4.51	4.75	4.47	4.42	4.54	4.61	4.94	---	4.12	4.60
15	3.54	4.67	4.46	4.63	4.46	4.46	4.50	4.57	---	---	4.30	4.54
20	3.92	4.93	4.45	4.55	4.46	4.54	4.48	4.69	---	---	4.34	4.47
25	3.98	4.75	4.56	4.53	4.44	4.49	4.49	4.73	---	---	4.36	4.37
EQM	3.95	4.66	4.63	4.57	4.43	4.49	4.56	4.70	---	---	4.37	4.32

WTR YR 1989 MEAN 4.46 MAX 5.33 MIN 3.53

## WABASH RIVER BASIN

## 03331010 BIG CHAPMAN LAKE NEAR WARSAW, IN

LOCATION.--Lat 41°16'53", long 85°46'47", in NW¼SE¼SW¼ sec.25, T.33 N., R.6 E., Kosciusko County, Hydrologic Unit 05120106 (LEESBURG, IN quadrangle). The gage is on the southeastern shore of the lake, at the public fishing site, 4.9 mi northeast of Warsaw.

SURFACE AREA.--581 acres.

DRAINAGE AREA.--4.17 mi<sup>2</sup>.

PERIOD OF RECORD.--1945-68, 1971, 1976 to current year.

DATUM OF GAGE.--820.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder and an electric tape gage (ETG) are installed in an aluminum shelter over a 15-inch diameter stilling well.

ESTABLISHED LEGAL LEVEL.--7.75 ft gage datum or 827.75 ft above National Geodetic Vertical Datum of 1929 as established on October 18, 1949, by the Kosciusko County Circuit Court. Little Chapman Lake has the same control structure and established level and hence the same lake levels for the period of record.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a concrete dam with a fixed crest at the outlet channel downstream from Little Chapman Lake.

INLET AND OUTLET.--Several small ditches enter the lake at various points. The outlet flows into Little Chapman Lake to the south, then into Deeds Creek, and eventually into the Tippecanoe River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 9.37 ft Oct. 11, 1954; minimum stage, 6.75 ft Oct. 20, 1953.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	7.46	7.68	7.58	7.65	7.59	7.45	7.67	7.48	7.93	7.35	7.42	7.54
10	7.43	7.87	7.54	7.81	7.51	7.41	7.59	7.45	7.68	7.33	7.34	7.77
15	7.39	7.75	7.52	7.69	7.51	7.48	7.55	7.44	7.63	7.37	7.36	7.69
20	7.84	7.90	7.51	7.62	7.51	7.55	7.59	7.54	7.55	7.41	7.32	7.54
25	7.94	7.74	7.62	7.60	7.47	7.50	7.58	7.61	7.46	7.45	7.36	7.43
EOM	7.71	7.65	7.65	7.63	7.46	7.50	7.54	7.63	7.37	7.40	7.38	7.37

WTR YR 1989 MEAN 7.56 MAX 8.01 MIN 7.32

## WABASH RIVER BASIN

## 03330040 BIG LAKE NEAR WOLFLAKE, IN

LOCATION.--Lat 41°16'33", long 85°30'43", in NW¼SE¼NW¼ sec.32, T.33 N., R.9 E., Noble County, Hydrologic Unit 05120106 (ORMAS, IN quadrangle). The gage is at the head of the outlet channel, approximately 20 feet north of the control structure and 4 mi southwest of the town of Wolflake.

SURFACE AREA.--228 acres.

DRAINAGE AREA.--8.89 mi<sup>2</sup>.

PERIOD OF RECORD.--1943-74, 1978 to current year.

DATUM OF GAGE.--890.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well.

ESTABLISHED LEGAL LEVEL.--8.40 ft gage datum or 898.40 ft above National Geodetic Vertical Datum of 1929 as decreed on July 18, 1956, by the Noble County Circuit Court.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a steel sheet piling dam with a fixed crest.

INLET AND OUTLET.--The main inlet enters from Crooked Lake to the east. Three other inlets flow from Crane Lake to the east, Green Lake to the north, and Sell Brook to the south. The outlet leaves the lake at the extreme west end and forms the headwaters of the Tippecanoe River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 12.76 ft Apr. 4, 1950; minimum stage, 7.12 ft Aug. 24, 1987.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	7.30	8.27	8.32	8.42	8.35	8.37	8.60	8.27	---	---	8.12	8.11
10	7.26	8.55	8.27	8.79	8.35	8.34	8.36	8.25	---	---	8.02	8.17
15	7.21	8.49	8.25	8.43	8.33	8.29	8.29	8.23	---	---	8.02	8.19
20	8.15	9.48	8.28	8.32	8.34	8.36	8.27	8.43	---	---	8.00	8.17
25	8.29	9.04	8.40	8.31	8.35	8.32	8.29	8.40	---	---	8.00	8.11
EOM	8.23	8.51	8.51	8.40	8.36	8.30	8.33	8.35	---	---	7.96	8.07

WTR YR 1989 MEAN 8.29 MAX 9.92 MIN 7.21



## STREAMS TRIBUTARY TO LAKE MICHIGAN

243

## 04099600 BIG LONG LAKE NEAR STROH, IN

LOCATION.--Lat 41°33'17", long 85°13'47", in NE¼NW¼ sec.26, T.36 N., R.11 E., Lagrange County, Hydrologic Unit 04050001 (STROH, IN quadrangle). The gage is on the northeast shore near the east end of the Shady Nook Addition in the vicinity of the Shady Nook Tavern, 2.4 mi southwest of Stroh.

SURFACE AREA.--388 acres.

DRAINAGE AREA.-- 4.77 mi<sup>2</sup>.

PERIOD OF RECORD.--1954 to current year.

DATUM OF GAGE.--950.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well.

ESTABLISHED LEGAL LEVEL.--6.21 ft gage datum or 956.21 ft above National Geodetic Vertical Datum of 1929 as decreed on July 22, 1965, by the Lagrange County Circuit Court.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a concrete dam with a fixed sill and removable boards.

INLET AND OUTLET.--The one inlet is a small ditch that enters at the extreme western tip. The outlet flows from the extreme northern tip, northeastward to Mud and Little Turkey Lakes, thence to Turkey Creek.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 7.49 ft Mar. 31, 1978; minimum stage, 4.58 ft Nov. 27, 1964.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	5.32	5.50	6.25	6.37	6.25	6.25	6.38	6.24	6.60	6.26	6.26	6.41
10	5.21	5.71	6.20	6.42	6.24	6.22	6.28	6.18	6.42	6.27	6.19	6.41
15	5.11	5.82	6.17	6.35	6.26	6.24	6.23	6.16	6.33	6.34	6.23	6.38
20	5.43	6.30	6.19	6.27	6.28	6.30	6.21	6.27	6.43	6.30	6.23	6.31
25	5.46	6.29	6.28	6.27	6.22	6.24	6.30	6.33	6.39	6.30	6.16	6.20
EOY	5.43	6.30	6.38	6.27	6.21	6.25	6.29	6.40	6.31	6.28	6.33	6.13

WTR YR 1989 MEAN 6.18 MAX 6.64 MIN 5.11

## STREAMS TRIBUTARY TO LAKE MICHIGAN

## 04100140 BIXLER LAKE AT KENDALLVILLE, IN

LOCATION.--Lat 41°26'13", long 85°15'10", in NE¼NE¼NE¼ sec.4, T.34 N., R.11 E., Noble County, Hydrologic Unit 04050001 (KENDALLVILLE, IN quadrangle). The gage is on the south bank of the outlet channel on the southwest shore of the lake and 0.7 mi southeast of City Hall in Kendallville.

SURFACE AREA.--120 acres.

DRAINAGE AREA.--5.28 mi<sup>2</sup>.

PERIOD OF RECORD.--1946 to current year.

DATUM OF GAGE.--960.10 ft above National Geodetic Vertical Datum of 1929, as corrected on the basis of levels of the Indiana Department of Natural Resources, 1974-75.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage is bolted to a concrete pier 20 ft upstream from the control dam.

ESTABLISHED LEGAL LEVEL.--3.65 ft gage datum or 963.65 ft above National Geodetic Vertical Datum of 1929 as decreed on April 25, 1952, by the Noble County Circuit Court. Minor errors were subsequently discovered in the establishment of the datum of the gage (see "DATUM OF GAGE") and the correct elevation of the legal level should be 3.65 ft gage datum or 963.75 ft above National Geodetic Vertical Datum of 1929.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a fixed deep-notch concrete dam with two flood gates.

INLET AND OUTLET.--Riddle ditch enters the lake from the north, Sherman ditch from the from the east, Shaffer ditch from the southeast, and an unnamed ditch from the southwest. The outlet leaves at the southwest corner and flows into Henderson Lake 1.9 mi downstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 6.26 ft Feb. 24, 1985; minimum stage, 1.24 ft Jan. 13-15, 18, 1954.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	2.54	3.23	3.32	3.83	3.92	3.49	4.70	4.13	4.84	3.82	4.11	4.18
10	2.49	4.10	3.03	4.50	3.77	3.39	4.37	4.18	3.98	3.82	3.97	4.23
15	2.44	4.04	2.89	3.85	3.71	3.47	4.12	4.20	3.85	3.95	3.93	4.24
20	3.00	4.58	2.90	3.34	3.66	3.68	3.96	4.37	4.01	3.88	3.87	4.16
25	3.12	4.12	3.63	3.40	3.57	3.73	3.87	4.49	4.01	4.26	3.85	4.04
EOY	3.11	3.82	4.13	3.88	3.52	4.04	4.02	4.51	3.92	4.23	4.06	3.93

WTR YR 1989 MEAN 3.83 MAX 5.09 MIN 2.44

## WABASH RIVER BASIN

## 03327600 BLUE LAKE NEAR CHURUBUSCO, IN

LOCATION.--Lat 41°14'30", long 85°21'04", in SW1/4SE1/4 sec.10, T.32 N., R.10 E., Whitley County, Hydrologic Unit 05120104 (CHURUBUSCO, IN quadrangle). Gage is located on a dredged channel at the extreme east end of the lake, approximately 2.0 mi west of Churubusco.

SURFACE AREA.--239 acres.

DRAINAGE AREA.--3.58 mi<sup>2</sup>.

PERIOD OF RECORD.--1946-68, 1976 to current year.

DATUM OF GAGE.--840.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder installed in an aluminum shelter over a 15-inch diameter stilling well.

ESTABLISHED LEGAL LEVEL.--10.28 ft gage datum or 850.28 ft above National Geodetic Vertical Datum of 1929 as decreed on July 23, 1948, by the Whitley County Circuit Court.

LAKE-LEVEL CONTROL.--A concrete dam with a fixed crest is located in the outlet channel about 300 ft downstream from the lake.

INLET AND OUTLET.--Maloney ditch enters at the eastern tip of the lake. The outlet flows from the lake at the northwest end and joins Carter Creek (Blue River) 0.2 mi downstream. Carter Creek eventually flows into Eel River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 15.80 ft Dec. 10, 1966; minimum stage, 7.64 ft Nov. 19, 20, 1952.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	8.96	9.80	9.90	10.11	9.90	10.04	---	---	---	---	---	---
10	8.92	10.08	9.86	10.94	9.94	---	---	---	---	---	10.65	---
15	8.85	10.87	10.01	10.51	9.92	---	---	---	---	---	10.69	---
20	9.57	10.78	10.23	10.14	10.08	---	---	---	---	---	10.71	---
25	9.73	10.36	---	10.16	10.06	---	---	10.02	---	---	---	---
EOM	9.72	10.09	---	9.91	10.33	---	---	10.09	---	---	---	---

WTR YR 1989 MEAN 10.05 MAX 11.16 MIN 8.85

## STREAMS TRIBUTARY TO LAKE MICHIGAN

## 04099250 BOWER LAKE NEAR PLEASANT LAKE, IN

LOCATION.--Lat 41°36'03", long 85°03'24", in SW1/4SE1/4 sec.5, T.36 N., R.13 E., Steuben County, Hydrologic Unit 04050001 (ASHLEY, IN quadrangle). The gage is located at the public fishing site on the northwestern edge of the lake, 3.9 mi southwest of Angola.

SURFACE AREA.--25 acres.

DRAINAGE AREA.--84.6 mi<sup>2</sup>.

PERIOD OF RECORD.--1946-1970, 1977 to current year.

DATUM OF GAGE.--940.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary wire-weight gage is attached to the bridge over the outlet.

ESTABLISHED LEGAL LEVEL.--8.50 ft gage datum or 948.50 ft above National Geodetic Vertical Datum of 1929, as decreed on October 28, 1959, by Steuben County Circuit Court. Golden Lake near Pleasant Lake has the same established level and hence the same lake levels for the period of record.

LAKE-LEVEL CONTROL.--The lake level is controlled by the outlet channel or the outlet of Golden Lake.

INLET AND OUTLET.--Pigeon Creek flows through the lake, entering at the southern shore and leaving at the western end to flow into Golden Lake and eventually into the St. Joseph River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 17.13 ft Mar. 22, 1982; minimum stage, 7.88 ft Sept. 14, 15, 1964.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	8.26	8.69	10.01	9.79	9.78	9.05	11.12	9.24	13.60	9.02	8.92	10.93
10	8.21	10.15	9.55	11.38	9.30	8.97	10.47	9.02	11.96	8.86	8.79	10.11
15	8.16	10.56	9.24	10.35	9.17	9.14	9.73	8.97	10.63	9.17	9.22	9.84
20	9.62	11.83	9.08	9.76	9.07	9.99	9.46	9.20	10.36	8.89	9.11	9.62
25	9.26	11.18	10.05	9.45	8.96	9.67	9.35	9.42	9.96	8.93	9.26	9.12
EOM	8.76	10.72	10.57	9.98	8.91	9.80	9.45	10.38	9.34	9.01	9.73	8.84

WTR YR 1989 MEAN 9.67 MAX 13.61 MIN 8.16

## STREAMS TRIBUTARY TO LAKE MICHIGAN

245

## 04099810 CASS LAKE NEAR SHIPSEWANA, IN

LOCATION.--Lat 41°41'42", long 85°38'18", in SW¼NW¼NW¼ sec.5, T.37 N., R.8 E., Lagrange County, Hydrologic Unit 04050001 (MIDDLEBURY, IN quadrangle). The gage is on the northeast shore of the lake, at the beach area in the Foxwood Hills Addition, and 3.3 mi northwest of Shipshewana.

SURFACE AREA.--89 acres.

DRAINAGE AREA.--0.68 mi<sup>2</sup>.

PERIOD OF RECORD.--1971 to current year.

DATUM OF GAGE.--840.95 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well.

ESTABLISHED LEGAL LEVEL.--Not established.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by the outlet channel.

INLET AND OUTLET.--A small unnamed ditch enters on the northwestern shore. The outlet leaves the lake at the southwest and flows into Mather ditch 1.0 mi downstream. Mather ditch eventually empties into the Little Elkhart River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 3.81 ft July 28, 1981; minimum stage, 1.80 ft May 15, 1971.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	2.34	2.40	2.28	2.29	2.22	2.18	2.44	2.36	3.02	3.04	2.97	3.05
10	2.31	2.53	2.23	2.32	2.15	2.15	2.38	2.27	3.06	3.11	2.89	3.12
15	2.27	2.47	2.21	2.29	2.17	2.18	2.33	2.30	3.14	3.09	2.91	3.10
20	2.55	2.47	2.21	2.24	2.18	2.21	2.32	2.46	3.18	3.05	2.94	3.07
25	2.50	2.37	2.28	2.23	2.16	2.17	2.35	2.57	3.22	3.03	2.92	3.01
EOM	2.40	2.34	2.30	2.24	2.16	2.29	2.42	2.81	3.12	2.97	3.01	2.97

WTR YR 1989 MEAN 2.56 MAX 3.22 MIN 2.14

## ILLINOIS RIVER BASIN

## 05518700 CEDAR LAKE AT CEDAR LAKE, IN

LOCATION.--Lat 41°21'58", long 87°25'36", in NE¼SW¼SW¼ sec.26, T.34 N., R.9 W., Lake County, Hydrologic Unit 07120001 (LOWELL, IN quadrangle). The gage is on the south bank of the outlet channel on the east shore of the lake, upstream from the first bridge over the outlet, and 0.5 mi east of the town of Cedar Lake.

SURFACE AREA.--781 acres.

DRAINAGE AREA.--8.14 mi<sup>2</sup>.

PERIOD OF RECORD.--1943 to current year.

DATUM OF GAGE.--690.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 24-inch diameter stilling well. An auxiliary staff gage is driven into the channel bed.

ESTABLISHED LEGAL LEVEL.--Not established.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a fixed-crest concrete dam.

INLET AND OUTLET.--Several small ditches enter the lake at various points. The outlet, Cedar Creek, flows from the lake on the eastern shore of the center lobe, into Dalecarlia Lake, 1.5 mi downstream, and eventually into the Kankakee River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 4.30 ft May 15, 1970; below 1.22 ft during July, August, September, and October 1988.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	1.35	1.84	2.13	2.59	2.94	3.11	3.40	3.10	3.39	2.96	3.02	3.11
10	---	2.14	2.06	2.71	2.96	3.16	3.29	3.01	3.40	2.87	2.81	3.23
15	---	2.10	2.06	2.76	2.99	3.16	3.18	2.95	3.32	2.85	2.83	3.16
20	1.59	2.59	2.09	2.83	3.00	3.20	3.12	3.11	3.13	2.90	2.80	3.09
25	1.65	2.18	2.63	2.86	3.04	3.15	3.05	3.05	3.01	2.99	2.82	2.98
EOM	1.47	2.18	2.42	2.91	3.04	3.35	3.06	3.18	3.01	2.95	2.91	2.92

WTR YR 1989 MEAN 2.80 MAX 3.41 MIN 1.23

## 03331160 CENTER LAKE AT WARSAW, IN

LOCATION.--Lat 41°15'02", long 85°51'32", in NE¼SW¼SW¼ sec.5, T.32 N., R.6 E., Kosciusko County, Hydrologic Unit 05120106 (LEESBURG, IN quadrangle). The gage is on the northwestern side of the lake, mounted on a sea wall behind the house at 300 Gilliam Drive, 0.8 mi north of the court house, Warsaw.

SURFACE AREA.--120 acres.

DRAINAGE AREA.--0.73 mi<sup>2</sup>.

PERIOD OF RECORD.--1943-1968, 1971 to current year.

DATUM OF GAGE.--800.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage is attached to the control dam at the outlet.

ESTABLISHED LEGAL LEVEL.--3.86 ft gage datum or 803.86 ft above National Geodetic Vertical Datum of 1929 as decreed on December 3, 1963, by the Kosciusko County Circuit Court.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a concrete dam at the western end of the lake.

INLET AND OUTLET.--The one inlet flows through a 24-inch diameter tile from Pike Lake and enters the lake on the southeastern side. The outlet flows from the western shore and joins Walnut Creek 0.65 mi downstream, which in turn flows into the Tippecanoe River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 7.24 ft Oct. 15, 1954; minimum stage, 0.17 ft Oct. 4, 1955.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	3.77	4.29	4.56	4.36	4.37	4.17	4.15	3.82	5.70	3.97	3.51	4.18
10	3.72	4.42	4.43	4.74	4.37	4.07	4.11	3.78	5.50	3.78	3.31	4.30
15	3.62	4.49	4.33	4.98	4.35	3.93	4.05	3.80	4.98	3.79	3.29	4.25
20	4.61	4.80	4.22	4.70	4.32	4.01	4.01	3.87	4.74	3.74	4.31	4.12
25	4.74	4.91	4.27	4.57	4.26	4.01	3.94	3.94	4.41	3.67	4.28	3.96
EOM	4.47	4.71	4.37	4.44	4.22	3.97	3.90	4.03	4.11	3.58	4.10	3.89

WTR YR 1989 MEAN 4.22 MAX 5.86 MIN 3.28

## STREAMS TRIBUTARY TO LAKE ERIE

## 04177200 CLEAR LAKE AT CLEAR LAKE, IN

LOCATION.--Lat 41°44'52", long 84°50'25", in SW¼SW¼ sec.17, T.38 N., R.15 E., Steuben County, Hydrologic Unit 04100003 (CLEAR LAKE, IN-OH-MI quadrangle). The gage is on the northern shore of the lake, at the channel between Clear and Round Lakes, and 4.75 mi northeast of Fremont.

SURFACE AREA.--800 acres.

DRAINAGE AREA.--6.86 mi<sup>2</sup>.

PERIOD OF RECORD.--1943 to current year.

DATUM OF GAGE.--1030.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in a wooden shelter over a 24-inch stilling well. An auxiliary staff gage is attached to the north end of the upstream culvert.

ESTABLISHED LEGAL LEVEL.--7.38 ft gage datum or 1037.38 ft above National Geodetic Vertical Datum of 1929 as decreed on June 1, 1950, by the Steuben County Circuit Court. Round Lake at Clear Lake has the same established level and hence the same lake levels for the period of record.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a fixed-crest concrete dam with an auxiliary slide gate at the outlet of Round Lake.

INLET AND OUTLET.--Two unnamed ditches enter the lake on the southern shore. The outlet is a short channel connecting Clear and Round Lakes. The outlet of Round Lake flows from the northeast end and eventually into the West Branch of the St. Joseph River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 9.24 ft May 20, 1943 (from high-water mark); maximum recorded stage, 8.49 ft Mar. 20, 21, 1982; minimum stage, 6.24 ft Sept. 30, 1962.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	6.97	7.19	7.84	7.89	7.88	7.82	8.12	7.82	8.37	7.79	7.80	7.86
10	6.92	7.43	7.80	8.01	7.84	7.83	8.01	7.78	8.12	7.75	7.71	7.89
15	6.88	7.56	7.78	7.96	7.82	7.85	7.92	7.80	8.04	7.77	7.80	7.89
20	7.12	7.83	7.77	7.90	7.81	7.90	7.92	7.88	8.07	7.73	7.79	7.86
25	7.15	7.86	7.86	7.87	7.82	7.95	7.89	7.90	7.97	7.89	7.76	7.78
EOM	7.12	7.89	7.94	7.89	7.82	7.98	7.87	8.30	7.84	7.80	7.77	7.72

WTR YR 1989 MEAN 7.78 MAX 8.43 MIN 6.88



## 05515240 CLEAR LAKE AT LAPORTE, IN

LOCATION.--Lat 41°37'25", long 86°43'11", in NE¼SE¼SE¼ sec.26, T.37 N., R.3 W., LaPorte County, Hydrologic Unit 07120001 (LAPORTE EAST, IN quadrangle). The gage is on the northeast shore of the lake, 100 ft south of the entrance to Fox Memorial Park, in LaPorte.

SURFACE AREA.--106 acres.

DRAINAGE AREA.--0.65 mi<sup>2</sup>.

PERIOD OF RECORD.--1942-49, 1952-75, 1979 to current year.

DATUM OF GAGE.--790.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage is attached to the north wingwall of the inlet culvert on the west side of the lake.

ESTABLISHED LEGAL LEVEL.--8.20 ft gage datum or 798.20 ft above National Geodetic Vertical Datum of 1929 as decreed on August 31, 1949, by the LaPorte County Circuit Court.

LAKE-LEVEL CONTROL.--During periods of high water, water may be released through the main sewer system of the city of LaPorte and diverted into the Kankakee River.

INLET AND OUTLET.--A small ditch enters on the west shore. There is no outlet during periods of low and medium water levels. When water levels are high, water may flow from the lake into the city sewer system.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 11.20 ft Apr. 23, 1973; minimum stage, 3.98 ft Nov. 27, 1964.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	7.34	7.30	7.41	7.65	7.60	7.51	7.62	7.43	7.58	7.40	7.39	7.39
10	7.34	7.34	7.39	7.70	7.57	7.52	7.56	7.42	7.49	7.40	7.37	7.42
15	7.34	7.35	7.37	7.71	7.56	7.51	7.53	7.40	7.47	7.39	7.39	7.38
20	7.36	7.39	7.35	7.70	7.55	7.51	7.49	7.40	7.43	7.39	7.39	7.37
25	7.34	7.43	7.45	7.64	7.52	7.51	7.41	7.44	7.42	7.38	7.37	7.36
EOH	7.32	7.44	7.64	7.64	7.51	7.54	7.46	7.51	7.42	7.37	7.40	7.34

WTR YR 1989 MEAN 7.45 MAX 7.71 MIN 7.29

## STREAMS TRIBUTARY TO LAKE MICHIGAN

## 04097850 CROOKED LAKE AT CROOKED LAKE, IN

LOCATION.--Lat 41°40'14", long 85°02'04", in NE¼NW¼NE¼ sec.16, T.37 N., R.13 E., Steuben County, Hydrologic Unit 04050001 (ANGOLA WEST, IN quadrangle). The gage is on an inlet channel on the lower eastern shore of the lake, 3.1 mi northwest of Angola.

SURFACE AREA.--828 acres.

DRAINAGE AREA.--10.4 mi<sup>2</sup>.

PERIOD OF RECORD.--1946-70, 1972 to current year.

DATUM OF GAGE.--980.26 ft above National Geodetic Vertical Datum of 1929, as corrected on the basis of levels of Indiana Department of Natural Resources, 1977-78.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage is driven into the channel bed between the Second and Third Basins under County Road 400 West.

ESTABLISHED LEGAL LEVEL.--8.17 ft gage datum or 988.17 ft above National Geodetic Vertical Datum of 1929 as decreed on June 17, 1948, by the Steuben County Circuit Court. Minor errors were subsequently discovered in the establishment of the datum of the gage (see "DATUM OF GAGE") and the correct elevation of the legal level should be 8.17 ft gage datum or 988.43 ft above National Geodetic Vertical Datum of 1929.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a fixed-crest dam with an adjustable gate at the western end of the Third Basin.

INLET AND OUTLET.--The principal inlets enter the lake from the south, from Loon and Buck Lakes, and the southeast, from Center Lake. Another ditch enters from the east. The outlet flows from the western end of the Third Basin into Lake Gage 1.4 mi downstream and eventually into the St. Joseph River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 10.07 ft Apr. 6, 1985; minimum stage, 7.05 ft Nov. 13-15, 1964.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	8.46	---	9.20	9.14	9.11	8.96	9.16	9.01	9.65	9.13	9.17	9.27
10	8.46	9.03	9.12	9.25	9.03	8.94	9.13	8.97	9.56	9.09	9.07	9.34
15	8.38	9.06	9.06	9.23	9.04	8.99	9.08	8.99	9.44	9.18	9.16	9.33
20	8.78	9.31	9.04	9.18	8.99	9.07	9.07	9.10	9.41	9.15	9.23	9.18
25	8.82	9.27	9.09	9.15	8.96	9.02	9.02	9.16	9.31	9.18	9.16	9.08
EOH	8.78	9.28	9.16	9.15	8.94	9.05	9.01	9.49	9.20	9.14	9.20	8.96

WTR YR 1989 MEAN 9.10 MAX 9.67 MIN 8.38



## STREAMS TRIBUTARY TO LAKE MICHIGAN

## 04100470 DEWART LAKE NEAR LEESBURG, IN

LOCATION.--Lat 41°22'27", long 85°47'07", in NW¼SW¼NW¼ sec.25, T.34 N., R.6 E., Kosciusko County, Hydrologic Unit 04050001 (LEESBURG, IN quadrangle). The gage is on the west shore of the lake, 0.1 mi east of County Road 300 East at the Dewart Lake Marina, and 4.5 mi northeast of Leesburg.

SURFACE AREA.--551 acres.

DRAINAGE AREA.--8.05 mi<sup>2</sup>.

PERIOD OF RECORD.--1945 to current year.

DATUM OF GAGE.--859.87 ft above National Geodetic Vertical Datum of 1929, as corrected on the basis of levels of Indiana Department of Natural Resources, 1973-74.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 24-inch diameter stilling well.

ESTABLISHED LEGAL LEVEL.--7.70 ft gage datum or 867.70 ft above National Geodetic Vertical Datum of 1929 as decreed on October 18, 1949, by the Kosciusko County Circuit Court. Minor errors were subsequently discovered in the establishment of the datum of the gage (see "DATUM OF GAGE") and the correct elevation of the legal level should be 7.70 ft gage datum or 867.57 ft above National Geodetic Vertical Datum of 1929.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a steel sheet piling dam.

INLET AND OUTLET.--Cable Run enters the lake on the southeastern tip, and an unnamed ditch enters on the eastern shore. The outlet, Hammond ditch, flows from the lake on the northwestern shore and into Wabash Lake 2.3 mi downstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 9.57 ft June 14, 1981; minimum stage, 3.95 ft Dec. 21-24, 1964.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	6.64	6.64	7.02	7.30	7.64	7.76	8.01	7.95	8.60	8.02	8.10	7.93
10	6.58	6.87	7.00	7.54	7.64	7.80	8.01	7.94	8.42	7.98	7.97	8.05
15	6.53	6.88	6.97	7.56	7.70	7.72	7.98	7.91	8.34	---	7.95	8.04
20	6.72	7.12	6.97	7.58	7.70	7.78	7.99	7.96	8.25	---	7.91	7.98
25	6.71	7.08	7.10	7.59	7.71	7.77	7.98	8.00	8.17	---	7.90	7.88
EOM	6.63	7.07	7.23	7.64	7.73	7.81	7.98	8.03	8.06	---	7.91	7.80

WTR YR 1989 MEAN 7.62 MAX 8.60 MIN 6.53

## WABASH RIVER BASIN

## 03331320 DIAMOND LAKE NEAR SILVER LAKE, IN

LOCATION.--Lat 41°06'23", long 85°56'05", in SW¼NW¼SE¼ sec.26, T.31 N., R.5 E., Kosciusko County, Hydrologic Unit 05120106 (SILVER LAKE, IN quadrangle). The gage is on the inlet channel on the northern shore of the lake, 2.2 mi northwest of the town of Silver Lake.

SURFACE AREA.--79 acres.

DRAINAGE AREA.--3.92 mi<sup>2</sup>.

PERIOD OF RECORD.--1954-72, 1975 to current year.

DATUM OF GAGE.--849.90 ft above National Geodetic Vertical Datum of 1929, as corrected on the basis of levels of Indiana Department of Natural Resources, 1976.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well.

ESTABLISHED LEGAL LEVEL.--Not established.

LAKE-LEVEL CONTROL.--The lake level is controlled by Yellow Creek Lake, 0.3 mi downstream.

INLET AND OUTLET.--There are two inlets. One enters from the north and east from Hill Lake, one enters from the southeast. The one outlet flows from the western shore and into Yellow Creek Lake, 0.3 mi downstream. Yellow Creek Lake flows into Yellow Creek, which eventually discharges into the Tippecanoe River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 13.47 July 9, 1964; minimum stage, 9.78 ft Sept. 18-19, 23, 27-30, Oct. 10-12, 1988.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	9.79	9.98	10.40	10.56	10.58	10.49	10.81	10.48	11.06	10.44	10.41	10.48
10	9.78	10.18	10.38	10.77	10.49	10.44	10.66	10.48	10.67	10.39	10.31	10.50
15	9.79	10.08	10.37	10.60	10.48	10.49	10.57	10.48	10.66	10.37	10.33	10.51
20	9.87	10.45	10.37	10.52	10.49	10.62	10.53	10.60	10.55	10.37	10.30	10.44
25	9.89	10.45	10.47	10.50	10.46	10.58	10.49	10.72	10.49	10.34	10.48	10.40
EOM	9.90	10.44	10.58	10.61	10.48	10.54	10.50	10.63	10.43	10.42	10.49	10.38

WTR YR 1989 MEAN 10.43 MAX 11.30 MIN 9.78

STREAMS TRIBUTARY TO LAKE MICHIGAN

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04100350 DIAMOND LAKE NEAR WAWAKA, IN

LOCATION.--Lat 41°26'15", long 85°31'05", in NE¼NW¼NW¼, sec.5, T.34 N., R.9 E., Noble County, Hydrologic Unit 04050001 (LIGONIER, IN quadrangle). The gage is located on the southeastern edge of the lake at a public fishing site, 2.5 mi southwest of the town of Wawaka.

SURFACE AREA.--105 acres.

DRAINAGE AREA.--4.80 mi<sup>2</sup>.

PERIOD OF RECORD.--1946 to current year.

DATUM OF GAGE.--870.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage is mounted on a piling driven into the lake bed on the northern edge of the lake.

ESTABLISHED LEGAL LEVEL.--Not established.

LAKE-LEVEL CONTROL.--The lake level is controlled by a riffle at the head of the outlet channel.

INLET AND OUTLET.--Willeys Ditch enters at the southwestern tip of the lake from Eagle Lake, 0.6 mi upstream. One unnamed ditch enters the lake from the south. The outlet flows from the lake at the southeastern edge and joins the South Branch of the Elkhart River 0.8 mi downstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 7.83 ft Mar. 20, 1982; minimum stage, 2.29 ft Oct. 17, 1946.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	4.91	5.21	5.36	5.21	5.14	4.90	5.24	4.73	5.65	4.81	4.77	4.87
10	4.85	5.44	5.18	5.49	5.11	4.95	5.18	4.72	5.61	4.79	4.66	4.86
15	4.79	5.57	5.07	5.53	4.93	4.87	5.01	4.73	5.39	4.84	4.79	4.85
20	5.22	5.95	5.01	5.21	4.91	5.02	4.87	4.83	5.23	4.83	4.76	4.81
25	5.32	5.84	5.17	5.11	4.90	4.96	4.77	4.96	5.04	4.83	4.75	4.72
EOB	5.24	5.62	5.31	5.17	4.90	5.00	4.73	5.00	4.89	4.80	4.84	4.64

WTR YR 1989 MEAN 5.05 MAX 5.96 MIN 4.64

STREAMS TRIBUTARY TO LAKE MICHIGAN

04100370 ENGLE LAKE NEAR LIGONIER, IN

LOCATION.--Lat 41°26'08", long 85°34'30", in SE¼NW¼NW¼, sec.2, T.34 N., R.8 E., Noble County, Hydrologic Unit 04050001 (LIGONIER, IN quadrangle). The gage is located at a public access site on the eastern side of the lake, 2.2 mi south of the town of Ligonier.

SURFACE AREA.--48 acres.

DRAINAGE AREA.--4.19 mi<sup>2</sup>.

PERIOD OF RECORD.--1956-67, 1977 to current year.

DATUM OF GAGE.--870.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well.

ESTABLISHED LEGAL LEVEL.--8.90 ft gage datum or 878.90 ft above National Geodetic Vertical Datum of 1929 as decreed on October 23, 1984, by the Noble County Circuit Court.

LAKE-LEVEL CONTROL.--The lake level is controlled by the outlet channel at low water and the first culvert downstream at higher stages.

INLET AND OUTLET.--Sparta Lake ditch feeds the lake from the south, flowing from Sparta Lake. The outlet flows from the northern shore through Indian Lake and into the Elkhart River 1.7 mi downstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage 10.53 ft Mar. 29, 1985; minimum stage, 7.48 ft Nov. 17, 1964.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	8.92	9.21	9.37	9.43	9.40	9.40	9.45	9.27	9.53	9.17	9.12	9.12
10	8.90	9.44	9.34	9.74	9.40	9.40	9.34	9.25	9.40	9.19	9.02	9.11
15	8.88	9.38	9.33	9.54	9.40	9.45	9.32	9.25	9.43	9.23	9.15	9.15
20	9.25	9.54	9.37	9.51	9.40	9.49	9.37	9.32	9.42	9.23	9.10	9.10
25	9.24	9.44	9.44	9.51	9.40	9.30	9.36	9.33	9.33	9.21	9.07	9.01
EOB	9.17	9.41	9.52	9.45	9.40	9.31	9.33	9.36	9.23	9.14	9.12	8.96

WTR YR 1989 MEAN 9.30 MAX 9.74 MIN 8.88

## STREAMS TRIBUTARY TO LAKE MICHIGAN

## 04099670 FISH LAKE NEAR PLATO, IN

LOCATION.--Lat 41°37'27", long 85°19'56", in SW¼NE¼ sec.35, T.37 N., R.10 E., Lagrange County, Hydrologic Unit 04050001 (WOLCOTTVILLE, IN quadrangle). The gage is on the northeast bank of the outlet channel, approximately 15 ft downstream of the lake on the northwest side, and 1.2 mi south of Plato.

SURFACE AREA.--100 acres.

DRAINAGE AREA.--10.6 mi<sup>2</sup>.

PERIOD OF RECORD.--1945 to current year.

DATUM OF GAGE.--930.75 ft above National Geodetic Vertical Datum of 1929, as corrected on the basis of levels of the U.S. Geological Survey, 1966.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage is mounted on a tree stump on the northern bank of the outlet channel at the same site.

ESTABLISHED LEGAL LEVEL.--6.50 ft gage datum or 936.50 ft above National Geodetic Vertical Datum of 1929 as decreed on May 7, 1959, by the Lagrange County Circuit Court. Minor errors were subsequently discovered in the establishment of the datum of the gage (see "DATUM OF GAGE") and the correct elevation of the legal level should be 6.50 ft gage datum or 937.25 ft above National Geodetic Vertical Datum of 1929.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by the outlet channel.

INLET AND OUTLET.--One inlet enters at the extreme southern tip from Royer Lake 700 ft upstream. The other enters on the north shore of the east lobe from Grass Lake, approximately 1.4 mi upstream. The outlet, East Fly Creek, flows from the lake on the northwest shore and joins Fly Creek, which empties into Pigeon River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 9.23 ft June 14, 15, 1981; minimum stage, 5.32 ft Nov. 17-20, 1953.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	6.22	6.66	6.84	6.81	6.85	6.64	7.12	6.84	7.47	6.45	6.33	6.85
10	6.20	6.94	6.74	7.35	6.80	6.61	6.93	6.74	6.95	6.49	6.28	6.88
15	6.19	7.00	6.66	7.02	6.67	6.76	6.80	6.73	6.80	6.51	6.42	6.87
20	6.84	7.34	6.63	6.86	6.65	7.08	6.76	6.87	6.73	6.44	6.46	6.81
25	6.81	7.15	6.81	6.80	6.60	6.92	6.76	6.86	6.63	6.41	6.48	6.73
EOM	6.68	6.96	6.92	6.93	6.57	6.86	6.85	6.91	6.51	6.34	6.76	6.69

WTR YR 1989 MEAN 6.75 MAX 7.69 MIN 6.19

## STREAMS TRIBUTARY TO LAKE MICHIGAN

## 04099760 FISH LAKE NEAR SCOTT, IN

LOCATION.--Lat 41°45'25", long 85°38'54", in NW¼NE¼ sec.7, T.38 N., R.8 E., Lagrange County, Hydrologic Unit 04050001 (MIDDLEBURY, IN quadrangle). The gage is on the northwest shore of the lake, on the north side of the outlet channel, 4.8 mi northwest of Scott.

SURFACE AREA.--139 acres.

DRAINAGE AREA.--6.21 mi<sup>2</sup>.

PERIOD OF RECORD.--1954-69, 1978 to current year.

DATUM OF GAGE.--809.84 ft above National Geodetic Vertical Datum of 1929, as corrected on the basis of levels of Indiana Department of Natural Resources, 1975.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage is attached to the dam at the same site.

ESTABLISHED LEGAL LEVEL.--4.42 ft gage datum or 814.42 ft above National Geodetic Vertical Datum of 1929 as decreed on September 11, 1959, by the Lagrange County Circuit Court. Minor errors were subsequently discovered in the establishment of the datum of the gage (see "DATUM OF GAGE") and the correct elevation of the legal level should be 4.42 ft gage datum or 814.26 ft above National Geodetic Vertical Datum of 1929.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a fixed concrete sill with removable boards.

INLET AND OUTLET.--The inlet, Fetch ditch, enters on the southeastern shore. The outlet flows from the lake at the lower west shore and empties into Pigeon River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 5.61 ft Feb. 26, 1985; minimum stage, 1.54 ft Nov. 26, 1964.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	2.52	2.83	3.69	4.23	4.38	4.35	4.55	4.46	4.66	4.35	4.26	4.05
10	2.45	3.02	3.72	4.36	4.36	4.34	4.46	4.44	4.65	4.27	4.14	4.14
15	2.37	3.17	3.76	4.40	4.33	4.40	4.44	4.43	4.53	4.43	4.05	4.11
20	2.75	3.40	3.82	4.44	4.35	4.44	4.47	4.47	4.57	4.37	3.99	4.06
25	2.81	3.54	3.97	4.43	4.35	4.37	4.51	4.48	4.52	4.31	3.91	3.96
EOM	2.79	3.65	4.16	4.43	4.35	4.43	4.50	4.65	4.45	4.31	3.98	3.87

WTR YR 1989 MEAN 4.06 MAX 4.74 MIN 2.37

## ILLINOIS RIVER BASIN

251

## 05517700 FLINT LAKE NEAR VALPARAISO, IN

LOCATION.--Lat 41°30'41", long 87°02'23", in NE1SW1 sec.6, T.35 N., R.5 W., Porter County, Hydrologic Unit 07120001 (CHESTERTON, IN quadrangle). The gage is on the southeast shore of the lake, at the outlet and the Valparaiso Water Works, 3.2 mi northeast of Valparaiso.

SURFACE AREA.--86 acres.

DRAINAGE AREA.--3.80 mi<sup>2</sup>, revised.

PERIOD OF RECORD.--1946 to current year. From Jan. 1, 1911, to Aug. 14, 1946, readings of the lake level were taken approximately once per week by Water Works personnel. These data are available upon request.

DATUM OF GAGE.--780.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed inside the Valparaiso Water Works. An auxiliary staff gage is located lakeward of the concrete block pumping station.

ESTABLISHED LEGAL LEVEL.--17.66 ft gage datum or 797.66 ft above National Geodetic Vertical Datum of 1929 as decreed on August 19, 1963, by the Porter County Circuit Court.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by the outlet channel and two 30-inch corrugated metal pipes under the road, 600 ft downstream.

INLET AND OUTLET.--There are three inlets. One drains Long Lake to the northwest and another drains Loomis Lake to the west and Listenberger drain enters from the south. The outlet flows from the lake at the southeast corner and into the West Branch of Crooked Creek approximately 5.0 mi downstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 21.18 ft July 2, 1983 as recorded by the Valparaiso Water Company; minimum stage, 12.59 ft Dec. 29, 1948.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	15.71	16.03	17.77	18.61	19.00	19.05	19.71	19.29	20.27	19.33	18.85	18.58
10	15.61	16.54	17.81	18.92	18.95	18.77	19.59	19.21	19.91	19.17	18.70	18.73
15	15.50	16.81	17.84	19.00	18.95	19.16	19.51	19.16	19.87	19.07	18.57	18.67
20	16.05	17.43	17.82	18.98	18.97	19.32	19.47	19.16	19.70	19.06	18.45	18.56
25	16.06	17.64	18.30	18.98	19.00	19.29	19.37	19.18	19.56	19.06	18.36	18.41
EOM	15.91	17.76	18.53	18.99	18.99	19.56	19.33	19.55	19.47	18.97	18.29	18.24

WTR YR 1989 MEAN 18.54 MAX 20.59 MIN 15.48

## WABASH RIVER BASIN

## 03330160 GILBERT LAKE NEAR WASHINGTON CENTER, IN

LOCATION.--Lat 41°19'50", long 85°35'48", in NE1NE1SE1 sec.9, T.33 N., R.8 E., Noble County, Hydrologic Unit 05120106 (ORMAS, IN quadrangle). The gage is at the extreme west end of the lake on the east side of County Road 925 West, approximately 400 ft south of Gilbert Lake Road, and 0.4 mi north of Washington Center.

SURFACE AREA.--28 acres.

DRAINAGE AREA.--0.37 mi<sup>2</sup>.

PERIOD OF RECORD.--1954-59, 1961 to current year.

DATUM OF GAGE.--884.85 ft above National Geodetic Vertical Datum of 1929, as corrected on the basis of levels of the Indiana Department of Natural Resources, 1974-75.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage in one section is driven into the lake bed approximately 100 ft south of the primary gage.

ESTABLISHED LEGAL LEVEL.--Not established.

LAKE-LEVEL CONTROL.--The level is controlled by the outlet through the swamp, east of the lake.

INLET AND OUTLET.--The lake has no inlet. The outlet leaves from the southeastern side and flows into Stump Lake.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 6.81 ft Dec. 4-5, 1987; minimum stage, 3.53 ft Nov. 1, 1963.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	5.16	5.81	5.25	5.90	6.15	6.25	5.85	4.91	5.07	5.11	5.58	5.30
10	5.23	5.78	5.01	6.03	6.15	6.24	5.96	5.07	4.40	5.20	5.56	5.38
15	5.27	5.65	5.17	6.00	6.20	6.14	6.06	5.21	4.62	5.31	5.32	5.47
20	5.73	5.71	5.37	6.09	6.22	6.26	5.23	5.46	4.87	5.41	4.56	5.53
25	5.70	5.45	5.68	6.18	6.24	5.54	4.50	5.65	4.95	5.46	4.64	5.54
EOM	5.74	5.14	5.90	6.20	6.24	5.47	4.73	5.86	5.01	5.55	4.93	5.55

WTR YR 1989 MEAN 5.52 MAX 6.28 MIN 4.40



## 04100110 HACKENBURG LAKE NEAR WOLCOTTVILLE, IN

LOCATION.--Lat 41°33'25", long 85°26'17", in NE¼SW¼ sec.24, T.36 N., R.9 E., Lagrange County, Hydrologic Unit 04050001 (OLIVER LAKE, IN quadrangle). The gage is on the north shore of the outlet channel at the bridge on County Road 75 West, and 4.2 mi northwest of Wolcottville.

SURFACE AREA.--42 acres.

DRAINAGE AREA.--55.4 mi<sup>2</sup>.

PERIOD OF RECORD.--1945 to current year.

DATUM OF GAGE.--890.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in a wooden shelter over a 24-inch diameter stilling well. An auxiliary staff gage is bolted to the downstream side of the bridge at the same site.

ESTABLISHED LEGAL LEVEL.--7.36 ft gage datum or 897.36 ft above National Geodetic Vertical Datum of 1929 as decreed on February 2, 1954, by the Lagrange County Circuit Court. Witmer, Westler, Dallas, and Messick Lakes, all near Wolcottville, have the same established level and hence the same lake levels for the period of record.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a concrete sill with removable stop logs located at the outlet of Messick Lake.

INLET AND OUTLET.--One inlet enters on the north shore from Oliver Lake 1.6 mi upstream. The other inlet enters on the east shore from Dallas Lake 0.5 mi upstream, which is part of a chain of lakes including Westler and Witmer Lakes. The outlet flows from the lake on the southwest shore and into Messick Lake about 0.5 mi downstream. Messick Lake empties into the North Branch of the Elkhart River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 11.17 ft Apr. 7, 1978; minimum stage, 6.34 ft Oct. 10, 1953.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	7.56	7.81	8.56	8.16	8.11	7.55	8.21	7.59	8.87	7.95	7.66	8.10
10	7.54	8.00	8.25	8.59	7.90	7.51	8.21	7.56	8.87	7.80	7.56	8.28
15	7.52	8.26	7.98	8.64	7.76	7.64	8.04	7.60	8.66	8.01	7.74	8.31
20	7.98	8.81	7.79	8.43	7.68	7.93	7.88	7.84	8.61	7.91	7.71	8.20
25	8.03	8.96	7.93	8.21	7.61	7.95	7.71	7.96	8.46	7.82	7.69	7.99
EOM	7.92	8.83	8.18	8.18	7.55	7.95	7.60	8.05	8.19	7.72	7.82	7.78

WTR YR 1989 MEAN 8.02 MAX 8.97 MIN 7.51

## STREAMS TRIBUTARY TO LAKE ERIE

## 04177700 HAMILTON LAKE AT HAMILTON, IN

LOCATION.--Lat 41°32'10", long 84°54'45", in SW¼SW¼NW¼ sec.34, T.36 N., R.14 E., Steuben County, Hydrologic Unit 04100003 (HAMILTON, IN quadrangle). The gage is on the eastern shore of the southern lobe at the outlet, in the town of Hamilton.

SURFACE AREA.--802 acres.

DRAINAGE AREA.--16.5 mi<sup>2</sup>.

PERIOD OF RECORD.--1943 to current year.

DATUM OF GAGE.--890.12 ft above National Geodetic Vertical Datum of 1929, as corrected on the basis of levels of Indiana Department of Natural Resources, 1978.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well.

ESTABLISHED LEGAL LEVEL.--8.83 ft gage datum or 898.83 ft above National Geodetic Vertical Datum of 1929 as decreed on July 3, 1947, by the Steuben County Circuit Court. Minor errors were subsequently discovered in the establishment of the datum of the gage (see "DATUM OF GAGE") and the correct elevation of the legal level should be 8.83 ft gage datum or 898.95 ft above National Geodetic Vertical Datum of 1929.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by two dams. The northernmost dam is concrete and steel sheet piling with a fixed crest. The southern dam has a fixed concrete sill.

INLET AND OUTLET.--Black Creek enters the lake on the northeast shore. Two small ditches enter from the east and the north. There are two outlets, both on the southern lobe, that flow into Fish Creek thence into the St. Joseph River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 10.14 ft Dec. 30, 1965; minimum stage, 7.27 ft Jan. 4-9, 1953.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	7.96	8.45	8.54	8.63	8.60	8.59	8.80	8.55	9.06	8.44	8.44	8.59
10	7.96	8.77	8.52	8.88	8.60	8.52	8.61	8.51	8.65	8.44	8.32	8.53
15	7.93	8.64	8.53	8.64	8.61	8.58	8.55	8.53	8.61	8.44	8.48	---
20	8.29	8.89	8.60	8.58	8.61	8.65	8.54	8.61	8.59	8.44	8.51	---
25	8.35	8.66	8.68	8.57	8.59	8.58	8.59	8.63	8.54	8.44	8.45	---
EOM	8.33	8.62	8.68	8.65	8.58	8.59	8.59	9.04	8.45	8.45	8.54	---

WTR YR 1989 MEAN 8.55 MAX 9.40 MIN 7.93



## STREAMS TRIBUTARY TO LAKE MICHIGAN

253

## 04099860 HEATON LAKE NEAR ELKHART, IN

LOCATION.--Lat 41°44'14", long 85°54'42", in NW¼NE¼ sec.23, T.38 N., R.5 E., Elkhart County, Hydrologic Unit 04050001 (ELKHART, IN quadrangle). The gage is on the east bank of the inlet on the north shore of the lake, 4.7 mi northeast of the main Post Office in Elkhart.

SURFACE AREA.--87 acres.

DRAINAGE AREA.--9.33 mi<sup>2</sup>.

PERIOD OF RECORD.--1946-53, 1970-75, 1977 to current year.

DATUM OF GAGE.--760.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well.

ESTABLISHED LEGAL LEVEL.--7.30 ft gage datum or 767.30 ft above National Geodetic Vertical Datum of 1929 as decreed on September 25, 1950, by the Elkhart County Circuit Court.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a fixed-crest concrete dam.

INLET AND OUTLET.--The one inlet enters the lake at the extreme northern point of the lake. The outlet, Puterbaugh Creek, flows from the west end of the lake and enters the St. Joseph River approximately 4.0 mi downstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 9.73 ft Feb. 26, 1985; minimum stage, 4.55 ft Nov. 12-18, 1971.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	5.74	7.79	8.26	8.32	8.28	8.28	8.42	8.17	8.48	8.11	7.88	8.05
10	5.73	8.30	8.20	8.39	8.28	8.28	8.31	8.14	8.30	8.28	7.66	8.16
15	5.72	8.33	8.16	8.28	8.28	8.39	8.28	8.12	8.31	8.14	7.70	8.16
20	6.58	8.38	8.21	8.25	8.28	8.36	8.26	8.14	8.23	8.12	7.58	8.08
25	7.25	8.34	8.35	8.25	8.28	8.25	8.22	8.12	8.15	8.10	7.44	7.99
EOM	7.57	8.32	8.33	8.31	8.28	8.33	8.21	8.35	8.18	8.01	7.64	7.91

WTR YR 1989 MEAN 8.02 MAX 8.60 MIN 5.71

## STREAMS TRIBUTARY TO LAKE MICHIGAN

## 04100258 HIGH LAKE NEAR WOLFLAKE, IN

LOCATION.--Lat 41°18'51", long 85°31'49", in SW¼NE¼SW¼ sec.18, T.33 N., R.9 E., Noble County, Hydrologic Unit 04050001 (ORMAS, IN quadrangle). The gage is on a dredged channel on the west shore of the east lobe, 2.1 mi southwest of Wolf Lake.

SURFACE AREA.--123 acres.

DRAINAGE AREA.--4.43 mi<sup>2</sup>.

PERIOD OF RECORD.--1961-68, 1970 to current year.

DATUM OF GAGE.--890.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage is driven into the lake bed at the same site.

ESTABLISHED LEGAL LEVEL.--6.35 ft gage datum or 896.35 ft above National Geodetic Vertical Datum of 1929 as decreed on February 25, 1963, by the Noble County Circuit Court.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a concrete, fixed-crest dam with a rectangular notch.

INLET AND OUTLET.--The one inlet, Beal Branch, enters the lake on the southeast shore. The outlet flows from the east side of the north lobe, through Bear Lake, 0.6 mi downstream, into Carrol Creek, and eventually into the Elkhart River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 7.70 ft June 28, 1968; minimum stage, 5.30 ft Nov. 15, 25-28, 1964, Oct. 13, 26-31, Nov. 1-3, 1966.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	6.20	6.86	6.81	6.83	6.94	6.92	7.06	6.99	7.47	6.60	6.56	---
10	6.18	7.20	6.69	7.16	6.94	6.92	6.97	6.92	7.08	6.61	6.47	---
15	6.14	7.09	6.63	7.09	6.92	6.93	6.88	6.87	6.91	6.63	6.65	---
20	6.76	7.37	6.61	6.91	6.92	6.97	6.86	6.93	6.79	6.63	6.60	---
25	6.86	7.16	6.77	6.84	6.92	6.84	6.86	6.89	6.70	6.61	6.57	---
EOM	6.89	6.99	6.93	6.95	6.92	6.79	6.98	6.84	6.64	6.60	6.56	---

WTR YR 1989 MEAN 6.83 MAX 7.53 MIN 6.14

## WABASH RIVER BASIN

## 0331300 HILL LAKE NEAR SILVER LAKE, IN

LOCATION.--Lat 41°06'16", long 85°54'35", in SE¼NE¼SE¼ sec.25, T.31 N., R.5 E., Kosciusko County, Hydrologic Unit 05120106 (SILVER LAKE, IN quadrangle). The gage is located on the northern shore of the southwestern lobe of the lake, 2.5 mi northwest of the town of Silver Lake.

SURFACE AREA.--67 acres.

DRAINAGE AREA.--0.85 mi<sup>2</sup>.

PERIOD OF RECORD.--1952 to current year.

DATUM OF GAGE.--860.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage is located on the southernmost tip of the lake. The staff is mounted on a board driven into the lake bed.

ESTABLISHED LEGAL LEVEL.--11.50 ft gage datum or 871.50 ft above National Geodetic Vertical Datum of 1929 as decreed on September 10, 1959, by the Kosciusko County Circuit Court.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a concrete fixed sill with removable boards.

INLET AND OUTLET.--There are no surface inlets. The one outlet flows from the western edge of the lake and empties into Diamond Lake 1.5 mi downstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 12.54 ft July 21, 1963; minimum stage, 9.86 ft Jan. 18, 19, 1954.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	10.32	10.37	11.01	11.47	11.38	11.38	11.48	11.29	11.55	11.18	11.15	11.25
10	10.26	10.50	11.02	11.54	11.38	11.38	11.37	11.29	11.36	11.14	11.09	11.32
15	10.21	10.52	11.04	11.45	11.38	11.38	11.33	11.28	11.35	11.08	11.10	11.33
20	10.36	10.87	11.06	11.38	11.38	11.44	11.32	11.35	11.31	11.08	11.08	11.30
25	10.35	10.95	11.19	11.38	11.38	11.36	11.29	11.40	11.27	11.10	11.12	11.24
EOM	10.30	11.00	11.44	11.40	11.38	11.34	11.31	11.36	11.22	11.16	11.16	11.19

WTR YR 1989 MEAN 11.15 MAX 11.62 MIN 10.21

## STREAMS TRIBUTARY TO LAKE MICHIGAN

## 04099500 HOGBACK LAKE NEAR ANGOLA, IN

LOCATION.--Lat 41°37'39", long 85°04'59", in SE¼SE¼SE¼ sec.25, T.37 N., R.12 E., Steuben County, Hydrologic Unit 04050001 (ANGOLA WEST, IN quadrangle). The gage is on the northeast shore, 0.5 mi south of the Tri-State Airport, on County Road 500 West, and 4.4 mi southwest of Angola.

SURFACE AREA.--146 acres.

DRAINAGE AREA.--103 mi<sup>2</sup>.

PERIOD OF RECORD.--1946-73, 1977 to current year.

DATUM OF GAGE.--940.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage in one section is attached to a tree at the same site.

ESTABLISHED LEGAL LEVEL.--8.50 ft gage datum or 948.50 ft above National Geodetic Vertical Datum of 1929 as decreed on October 28, 1959, by the Steuben County Circuit Court.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by the outlet channel (Pigeon Creek).

INLET AND OUTLET.--There are three inlets to the lake. One unnamed ditch enters from the north. A small tributary enters on the eastern tip from Silver Lake, 0.7 mi upstream. Pigeon Creek flows through the lake, entering at the southeastern shore from Golden Lake, 1.2 mi upstream and leaving at the north end of the western lobe. Pigeon Creek joins Turkey Creek to become Pigeon River and eventually empties into the St. Joseph River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 17.07 ft Mar. 22, 1982; minimum stage, 7.24 ft Sept. 9, 10, 1953.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	8.07	8.53	9.80	---	9.67	9.02	10.34	9.05	13.02	8.80	8.69	10.34
10	8.04	9.42	9.35	9.62	9.69	9.03	10.16	8.85	11.62	8.65	8.70	10.34
15	8.01	10.29	9.09	9.99	9.64	8.88	9.49	8.73	10.32	8.94	8.68	9.57
20	9.14	11.35	8.92	9.72	9.01	9.34	9.26	8.75	9.87	8.75	8.94	9.56
25	9.07	10.90	9.60	9.14	9.01	9.49	9.05	9.02	9.68	8.76	9.02	9.11
EOM	8.62	10.42	9.81	9.37	9.02	9.44	9.12	9.65	9.10	8.77	9.02	8.77

WTR YR 1989 MEAN 9.38 MAX 13.02 MIN 8.01

## 05514741 HUDSON LAKE AT HUDSON LAKE, IN

LOCATION.--Lat 41°42'42", long 86°32'13", in SE1SW1 sec.28, T.38 N., R.1 W., LaPorte County, Hydrologic Unit 07120001 (NEW CARLISLE, IN quadrangle). The gage is on the southeast shore of the lake, and 0.7 mi west of the town line of New Carlisle.

SURFACE AREA.--432 acres.

DRAINAGE AREA.--7.92 mi<sup>2</sup>.

PERIOD OF RECORD.--1946-76, 1978 to current year.

DATUM OF GAGE.--750.00 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1965, the datum of the gage was 760.00 ft above National Geodetic Vertical Datum of 1929. All levels listed below are at the present datum.

GAGE.--A water-stage recorder is installed in a wooden shelter over a 24-inch diameter stilling well. An auxiliary staff gage is driven into the lake bed.

ESTABLISHED LEGAL LEVEL.--13.09 ft gage datum or 763.09 ft above National Geodetic Vertical Datum of 1929 as decreed on August 31, 1949, by the St. Joseph County Circuit Court.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a 24-inch reinforced concrete pipe with a gate chamber and slide gate.

INLET AND OUTLET.--The one inlet flows into the lake at the extreme northeast tip from Saugany Lake, approximately 1.7 mi upstream. The outlet flows from the lake on the east shore to Geyer ditch and eventually into the Kankakee River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 16.90 ft May 3, 1983; minimum stage, 7.60 ft Nov. 15, 1964.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	12.47	12.80	13.20	13.48	13.59	13.59	13.77	13.58	13.76	13.36	13.42	13.34
10	12.42	13.02	13.19	13.56	13.59	13.57	13.71	13.51	13.68	13.46	13.31	13.38
15	12.39	13.05	13.19	13.57	13.58	13.59	13.67	13.47	13.66	13.37	13.24	13.35
20	12.73	13.18	13.22	13.56	13.59	13.65	13.66	13.47	13.60	13.42	13.21	13.29
25	12.79	13.17	13.32	13.57	13.59	13.62	13.61	13.46	13.52	13.49	13.19	13.23
EQM	12.74	13.23	13.45	13.59	13.59	13.69	13.63	13.57	13.44	13.40	13.24	13.15

WTR YR 1989 MEAN 13.37 MAX 13.79 MIN 12.39

## STREAMS TRIBUTARY TO LAKE MICHIGAN

## 04097680 JIMMERSON LAKE AT NEVADA MILLS, IN

LOCATION.--Lat 41°43'31", long 85°04'55", in SW1NW1 sec.30, T.38 N., R.13 E., Steuben County, Hydrologic Unit 04050001 (ANGOLA WEST, IN quadrangle). The gage is at the extreme west end of the lake on the abutment of the concrete spillway structure and dam in the town of Nevada Mills, 4.6 mi east of Orland.

SURFACE AREA.--434 acres.

DRAINAGE AREA.--51.6 mi<sup>2</sup>.

PERIOD OF RECORD.--1937-44, 1946 to current year. (Lake level readings were made once a week by employees of Northern Indiana Public Service Company from 1937 to 1944.)

DATUM OF GAGE.--960.27 ft above National Geodetic Vertical Datum of 1929, as corrected on the basis of levels of Indiana Department of Natural Resources in June 1972.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 24-inch diameter stilling well attached to the control structure. An auxiliary staff gage is bolted to the same wall.

ESTABLISHED LEGAL LEVEL.--4.66 ft gage datum or 964.66 ft above National Geodetic Vertical Datum of 1929 as decreed on July 3, 1947, by the Steuben County Circuit Court. Minor errors were subsequently discovered in the establishment of the datum of the gage (see "DATUM OF GAGE") and the correct elevation of the legal level should be 4.66 ft gage datum or 964.93 ft above National Geodetic Vertical Datum of 1929.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a concrete fixed-crest dam.

INLET AND OUTLET.--Crooked Creek flows through the lake, entering from Lake James at the extreme southeast end, and leaving from the northwest. Crooked Creek flows through Tamarack Lake and becomes Fawn River, which eventually empties into the St. Joseph River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 6.22 ft May 27, 1943; minimum stage, 3.71 ft Feb. 16, 17, 1948.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	4.75	4.92	5.21	5.19	5.17	5.03	5.37	5.01	5.63	4.93	4.85	5.02
10	4.72	5.06	5.12	5.33	5.11	5.00	5.31	4.95	5.48	4.88	4.78	5.08
15	4.71	5.16	5.06	5.28	5.05	5.07	5.21	4.96	5.33	4.85	4.84	5.08
20	5.04	5.41	5.02	5.19	5.05	5.22	5.19	5.02	5.26	4.81	4.90	5.04
25	4.98	5.36	5.13	5.16	5.02	5.21	5.13	5.07	5.13	4.88	4.90	4.93
EQM	4.90	5.29	5.23	5.17	5.00	5.22	5.06	5.31	5.00	4.85	4.89	4.87

WTR YR 1989 MEAN 5.07 MAX 5.63 MIN 4.71

## WABASH RIVER BASIN

## 03331438 KING LAKE NEAR DELONG, IN

LOCATION.--Lat 41°07'48", long 86°25'23", in NW¼SW¼SE¼ sec.16, T.31 N., R.1 E., Fulton County, Hydrologic Unit 05120106 (CULVER, IN quadrangle). The gage is located on the northern shore of the lake, on the lake access road, 0.6 mi southwest of DeLong.

SURFACE AREA.--18 acres.

DRAINAGE AREA.--1.98 mi<sup>2</sup>.

PERIOD OF RECORD.--1970-72, 1975 to current year.

DATUM OF GAGE.--730.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well.

ESTABLISHED LEGAL LEVEL.--Not established.

LAKE-LEVEL CONTROL.--The lake level is normally controlled by the outlet channel bed. At high stages the control changes to the outlet culvert under old State Highway 17. The culvert is located about 700 ft north of the lake.

INLET AND OUTLET.--The inlet is an unnamed ditch which enters the lake from the southeastern side. The outlet exits the lake on the northern side and flows north approximately 1.5 mi to the Tippecanoe River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 8.69 ft June 14, 1981; minimum stage, 3.60 ft Oct. 23-26, 28-31, November 1, 2, 1974.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	4.95	5.12	5.43	5.63	6.71	6.85	6.99	6.77	7.36	7.12	7.14	7.55
10	4.90	5.36	5.38	6.14	6.71	6.86	6.70	6.51	6.82	6.99	7.03	7.84
15	4.86	5.36	5.35	6.19	6.77	6.90	6.74	6.39	7.36	7.15	7.02	8.03
20	5.03	5.52	5.39	6.35	6.78	7.06	6.79	6.60	7.31	7.15	6.95	8.04
25	5.06	5.48	5.49	6.59	6.80	7.15	6.70	6.82	7.25	7.09	6.99	7.99
EOM	5.00	5.47	5.63	6.69	6.80	7.22	6.74	7.09	7.16	7.22	7.06	7.94

WTR YR 1989 MEAN 6.54 MAX 8.05 MIN 4.85

## STREAMS TRIBUTARY TO LAKE MICHIGAN

## 04100390 KNAPP LAKE NEAR WASHINGTON CENTER, IN

LOCATION.--Lat. 41°20'36", long 85°36'17", in SW¼NE¼SW¼ sec.4, T.33 N., R.8 E., Noble County, Hydrologic Unit 04050001 (ORMAS, IN quadrangle). The gage is at a public fishing site on the east side of the lake, and 5.8 mi west of the town of Wolf Lake.

SURFACE AREA.--88 acres.

DRAINAGE AREA.--6.02 mi<sup>2</sup>.

PERIOD OF RECORD.--1946-74, 1976 to current year.

DATUM OF GAGE.--870.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well.

ESTABLISHED LEGAL LEVEL.--8.25 ft gage datum or 878.25 ft above National Geodetic Vertical Datum of 1929 as decreed on October 7, 1954, by the Noble County Circuit Court. Harper Lake, Moss Lake, and Hindman Lake, all near Washington Center, have the same established level as Knapp Lake and hence the same lake levels for the period of record.

LAKE-LEVEL CONTROL.--The lake level is controlled by the outlet channel.

INLET AND OUTLET.--There are three inlets. The outlet of Little Knapp Lake enters at the southeastern corner, the outlet of Harper Lake enters at the southernmost tip, and Galloway ditch enters on the eastern shore. The outlet flows from the lake on the western shore, through a series of lakes, into Turkey Creek and eventually into the Elkhart River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 11.10 ft June 27, 1968; minimum stage, 6.87 ft Sept. 14, 15, 1983.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	7.11	7.36	7.69	7.64	7.53	7.26	7.93	7.72	9.20	7.75	7.49	7.43
10	7.08	8.22	7.52	8.54	7.31	7.20	7.63	7.83	8.44	7.46	7.21	7.61
15	7.04	8.19	7.39	7.84	7.30	7.26	7.43	7.92	8.09	7.43	7.27	7.54
20	7.78	8.81	7.33	7.59	7.29	7.35	7.40	8.07	8.11	7.39	7.20	7.34
25	7.65	8.36	7.71	7.54	7.25	7.33	7.45	8.25	7.77	7.33	7.32	7.25
EOM	7.40	7.98	7.86	7.67	7.23	7.37	7.58	8.31	7.58	7.52	7.30	7.36

WTR YR 1989 MEAN 7.63 MAX 9.36 MIN 7.04



## ILLINOIS RIVER BASIN

257

## 05515600 KOONTZ LAKE AT KOONTZ LAKE, IN

LOCATION.--Lat 41°24'42", long 86°29'18", in SW¼SE¼NE¼ sec.11, T.34 N., R.1 W., Starke County, Hydrologic Unit 07120001 (WALKERTON, IN quadrangle). The gage is on the western tip of the lake, at the control dam on State Highway 23, at the town of Koontz Lake.

SURFACE AREA.--346 acres.

DRAINAGE AREA.--6.25 mi<sup>2</sup>.

PERIOD OF RECORD.--1943 to current year.

DATUM OF GAGE.--710.12 ft above National Geodetic Vertical Datum of 1929, as corrected on the basis of levels of Indiana Department of Natural Resources, 1978.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well.

ESTABLISHED LEGAL LEVEL.--4.56 ft gage datum or 714.56 ft above National Geodetic Vertical Datum of 1929 as decreed on September 15, 1948, by the Starke County Circuit Court. Minor errors were subsequently discovered in the establishment of the datum of the gage (see "DATUM OF GAGE") and the correct elevation of the legal level should be 4.56 ft gage datum or 714.68 ft above National Geodetic Vertical Datum of 1929.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a steel sheet piling dam with a fixed crest.

INLET AND OUTLET.--Lawrence Pontius ditch and an unnamed ditch enter the lake on the south shore of the east lobe. The outlet flows from the lake at the western tip and into Robbins ditch 1400 ft downstream. Robbins ditch empties into the Kankakee River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 6.10 ft Oct. 11, 1954; minimum stage, 3.10 ft Oct. 12, 1970.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	4.44	4.51	4.54	4.70	4.53	4.54	4.74	4.50	4.68	4.46	4.51	4.48
10	4.40	4.68	4.51	4.74	4.53	4.52	4.58	4.52	4.53	4.48	4.45	4.52
15	4.37	4.58	4.53	4.62	4.53	4.57	4.56	4.51	4.54	4.43	4.49	4.51
20	4.53	4.67	4.55	4.59	4.53	4.60	4.55	4.56	4.52	4.53	4.47	4.48
25	4.51	4.58	4.64	4.56	4.53	4.55	4.52	4.58	4.48	4.51	4.46	4.43
EDM	4.48	4.55	4.70	4.56	4.53	4.60	4.52	4.55	4.46	4.51	4.47	4.41

WTR YR 1989 MEAN 4.54 MAX 4.75 MIN 4.37

## ILLINOIS RIVER BASIN

## 05517800 LAKE ELIZA NEAR BEATRICE, IN

LOCATION.--Lat 41°25'55", long 87°10'33", in SW¼NE¼NW¼ sec.1, T.34 N., R.7 W., Porter County, Hydrologic Unit 07120001 (PALMER, IN quadrangle). The gage is on the east bank of a boat channel off the northernmost end of the lake, south of the bridge over the channel, and at the town of Lake Eliza.

SURFACE AREA.--45 acres.

DRAINAGE AREA.--1.70 mi<sup>2</sup>.

PERIOD OF RECORD.--1954-74, 1976 to current year.

DATUM OF GAGE.--735.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage is attached to the bridge piling.

ESTABLISHED LEGAL LEVEL.--3.70 ft gage datum or 738.70 ft above National Geodetic Vertical Datum of 1929 as decreed on February 7, 1982, by the Porter County Circuit Court.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a reinforced concrete dam with fixed crest.

INLET AND OUTLET.--Two small inlets enter the lake from the northwest and the northeast. The outlet flows from the lake on the south side through a dredged channel, forms the head waters of Wolf Creek, and eventually joins the Kankakee River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 7.24 ft June 14, 1981; minimum stage, 2.45 ft Oct. 13-15, 1988.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	2.53	2.80	3.88	4.02	3.95	4.00	4.06	3.85	4.54	3.66	3.52	3.53
10	2.50	3.11	3.86	4.10	3.91	4.06	3.94	3.81	3.97	3.53	3.44	3.89
15	2.46	3.33	3.86	3.96	3.93	4.00	3.92	3.76	3.96	3.45	3.41	3.91
20	2.72	3.85	3.86	3.94	3.94	4.02	3.91	3.82	3.91	3.63	3.35	3.85
25	2.76	3.92	3.99	3.97	3.93	3.95	3.87	3.92	3.84	3.61	3.33	3.78
EDM	2.71	3.90	3.97	3.98	3.92	4.17	3.86	4.25	3.75	3.60	3.31	3.70

WTR YR 1989 MEAN 3.72 MAX 5.73 MIN 2.45



## STREAMS TRIBUTARY TO LAKE MICHIGAN

## 04097950 LAKE GAGE AT PANAMA, IN

LOCATION.--Lat 41°42'32", long 85°06'53", in SE¼SE¼NW¼ sec.35, T.38 N., R.12 E., Steuben County, Hydrologic Unit 04050001 (ANGOLA WEST, IN quadrangle). The gage is at the bridge over the outlet on the northern tip of the lake, 0.4 mi northwest of Panama, and 3.3 mi southeast of Orland.

SURFACE AREA.--332 acres.

DRAINAGE AREA.--17.3 mi<sup>2</sup>.

PERIOD OF RECORD.--1946 to current year.

DATUM OF GAGE.--950.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in a wooden shelter over a 24-inch diameter stilling well at the downstream side of the bridge. An auxiliary staff gage is at the same site.

ESTABLISHED LEGAL LEVEL.--4.25 ft gage datum or 954.25 ft above National Geodetic Vertical Datum of 1929 as decreed on July 3, 1947, by the Steuben County Circuit Court. Lime Lake at Panama has the same established level and hence the same lake levels for the period of record.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a concrete dam with a fixed crest and one adjustable gate at the outlet of Lime Lake.

INLET AND OUTLET.--The one inlet flows into the lake on the extreme eastern shore from the Third Basin of Crooked Lake, 1.4 mi upstream. The outlet flows from the northern tip into Lime Lake approximately 600 ft downstream, then eventually into the St. Joseph River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 5.55 ft Apr. 25, 1950; minimum stage, 3.41 ft Nov. 13, 15-20, 1953.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	4.17	4.34	4.42	4.28	4.21	4.09	4.19	4.43	4.61	4.15	4.44	4.64
10	4.16	4.46	4.34	4.40	4.15	4.02	4.18	4.38	4.49	4.22	4.43	4.53
15	4.15	4.51	4.25	4.39	4.15	4.02	4.14	4.39	4.51	4.33	4.51	4.39
20	4.40	4.61	4.21	4.34	4.13	4.13	4.40	4.44	4.41	4.34	4.55	4.27
25	4.38	4.51	4.25	4.30	4.10	4.10	4.50	4.47	4.27	4.46	4.51	4.13
EOM	4.33	4.48	4.33	4.26	4.06	4.14	4.47	4.72	4.12	4.44	4.51	4.02

WTR YR 1989 MEAN 4.33 MAX 4.74 MIN 4.01

## STREAMS TRIBUTARY TO LAKE MICHIGAN

## 04092990 LAKE GEORGE AT HOBART, IN

LOCATION.--Lat 41°32'07", long 87°15'30", in NW¼NW¼NW¼ sec.32, T.36 N., R.7 W., Lake County, Hydrologic Unit 04040001 (GARY, IN quadrangle). The gage is on the northeast end of the lake, 70 ft northwest of the dam and 400 ft upstream of the Ridge Road bridge, in Hobart.

SURFACE AREA.--282 acres.

DRAINAGE AREA.--124 mi<sup>2</sup>.

PERIOD OF RECORD.--1947 to current year.

DATUM OF GAGE.--600.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in a steel shelter over an 18-inch diameter clay stilling well.

ESTABLISHED LEGAL LEVEL.--2.23 ft gage datum or 602.23 ft above National Geodetic Vertical Datum of 1929 as decreed on September 18, 1959, by the Lake County Circuit Court.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a concrete dam with removable boards.

INLET AND OUTLET.--The two principal inlets are Turkey Creek, entering from the extreme southwestern tip, and Deep River, entering on the northeastern shore of the southern lobe. Three unnamed tributaries enter from the northwest, south, and southeast. The outlet, Deep River, flows from the lake at the northeast end and eventually joins the Calumet River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 7.14 ft Oct. 11, 1954; minimum stage, 0.27 ft Nov. 6, 1978 (while the lake was being drained).

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	2.04	2.20	2.13	2.31	2.17	2.78	2.97	2.07	3.73	2.07	2.00	2.14
10	1.99	2.89	2.09	2.90	2.08	2.76	2.34	2.09	2.65	2.01	2.15	2.41
15	2.04	2.34	2.08	2.32	2.13	2.58	2.25	2.02	2.52	2.04	2.22	2.27
20	2.22	2.89	2.08	2.23	2.12	2.55	2.21	2.20	2.28	2.32	2.07	2.09
25	2.11	2.36	2.53	2.22	2.10	2.29	2.12	2.26	2.15	2.07	2.06	2.03
EOM	2.03	2.24	2.43	2.32	2.09	2.91	2.13	3.09	2.19	2.14	2.05	2.02

WTR YR 1989 MEAN 2.31 MAX 6.22 MIN 1.98

## STREAMS TRIBUTARY TO LAKE MICHIGAN

259

## 04097550 LAKE GEORGE AT JAMESTOWN, IN

LOCATION.--Lat 41°44'58", long 85°01'01", in SE¼NW¼SE¼ sec.15, T.38 N., R.13 E., Steuben County, Hydrologic Unit 04050001 (ANGOLA WEST, IN quadrangle). The gage is 25 ft east of the outlet dam on the southwest end of the lake at Jamestown, 8.0 mi north of Angola.

SURFACE AREA.--488 acres.

DRAINAGE AREA.--14.7 mi<sup>2</sup>.

PERIOD OF RECORD.--1946 to current year.

DATUM OF GAGE.--980.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well.

ESTABLISHED LEGAL LEVEL.--5.28 ft gage datum or 985.28 ft above National Geodetic Vertical Datum of 1929 as decreed on October 12, 1945, by the Steuben County Circuit Court.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a concrete dam with removable boards.

INLET AND OUTLET.--The inlet flows from Silver Lake, 0.8 mi upstream, and enters on the north shore. The outlet flows from the southwest end of the lake and forms Crooked Creek. Crooked Creek flows into Mud Lake 0.8 mi downstream, then enters Snow Lake.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 6.20 ft Apr. 4, 25, 1950; minimum stage, 4.20 ft Dec. 6, 7, 1946; Oct. 23-31, 1948.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	4.97	5.29	5.60	5.60	5.59	5.59	5.65	5.48	5.87	5.47	5.48	5.49
10	4.94	5.47	5.57	5.66	5.59	5.59	5.61	5.46	5.72	5.45	5.40	5.53
15	4.91	5.50	5.51	5.66	5.59	5.59	5.57	5.51	5.67	5.42	5.47	5.51
20	5.17	5.67	5.52	5.58	5.59	5.59	5.55	5.60	5.62	5.41	5.49	5.49
25	5.21	5.62	5.56	5.58	5.59	5.59	5.52	5.61	5.56	5.50	5.45	5.43
EOM	5.20	5.61	5.62	5.59	5.59	5.66	5.51	5.90	5.48	5.46	5.46	5.40

WTR YR 1989 MEAN 5.51 MAX 5.97 MIN 4.91

## WABASH RIVER BASIN

## 03331380 LAKE MANITOU AT ROCHESTER, IN

LOCATION.--Lat 41°03'00", long 86°10'06", NW¼SW¼NW¼ sec.14, T.30 N., R.3 E., Fulton County, Hydrologic Unit 05120106 (ROCHESTER, IN quadrangle). The gage is located at the Public Fishing Site on the eastern side of the lake, and 2.6 mi southeast of the courthouse in Rochester.

SURFACE AREA.--1,158 acres.

DRAINAGE AREA.--44.2 mi<sup>2</sup>.

PERIOD OF RECORD.--1943 to current year.

DATUM OF GAGE.--770.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in a aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage is located at the northwest end of the lake at the fish hatchery.

ESTABLISHED LEGAL LEVEL.--8.41 ft gage datum or 778.41 ft above National Geodetic Vertical Datum of 1929 as decreed on September 27, 1948, by the Fulton County Circuit Court.

LAKE-LEVEL CONTROL.--The lake level is controlled by a concrete dam and the gate of a feeder canal at the lake outlet.

INLET AND OUTLET.--Rain Creek is the main inlet and enters at the southeastern edge of the lake. The other inlet is located on the eastern shore of the lake at the site of the gage. The outlet is Mill Creek, which exits at the northwestern tip of the lake and flows 3.5 mi to the Tippecanoe River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 10.14 ft Mar. 13, 1982; minimum stage, 6.48 ft Nov. 14, 25-27, 1964.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	7.47	7.87	8.40	8.51	8.51	8.49	8.74	8.43	8.75	8.36	8.35	8.55
10	7.42	8.08	8.39	8.78	8.44	8.45	8.55	8.45	8.84	8.30	8.27	8.49
15	7.36	8.28	8.38	8.57	8.47	8.48	8.48	8.43	8.80	8.36	8.34	8.47
20	7.72	8.62	8.38	8.51	8.49	8.63	8.47	8.50	8.61	8.41	8.31	8.40
25	7.81	8.52	8.47	8.51	8.46	8.52	8.40	8.54	8.48	8.39	8.35	8.34
EOM	7.79	8.45	8.55	8.56	8.47	8.49	8.48	8.50	8.39	8.43	8.46	8.31

WTR YR 1989 MEAN 8.39 MAX 8.88 MIN 7.36

## WABASH RIVER BASIN

## 03331440 LAKE MAXINKUCKEE AT CULVER, IN

LOCATION.--Lat 41°11'48", long 86°25'00", in NE¼SE¼NW¼ sec.28, T.32 N., R.1 E., Marshall County, Hydrologic Unit 05120106 (CULVER, IN quadrangle). The gage is on the lower west side of the lake, at the public fishing site, 1.4 mi south of the center of Culver.

SURFACE AREA.--1,864 acres.

DRAINAGE AREA.--13.7 mi<sup>2</sup>.

PERIOD OF RECORD.--1943 to current year.

DATUM OF GAGE.--730.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage is attached to the upstream side of the north abutment of the outlet dam.

ESTABLISHED LEGAL LEVEL.--3.12 ft gage datum or 733.12 ft above National Geodetic Vertical Datum of 1929 as decreed on August 9, 1948, by the Marshall County Circuit Court.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a concrete dam with a fixed crest at the outlet channel.

INLET AND OUTLET.--Wilson ditch enters the lake at the northeast corner, Curtiss ditch enters at the east center, and Morris inlet enters at the southeast corner. The outlet leaves the lake at the western shore, north of the point, and flows into Lost Lake 1,600 ft downstream, thence into the Tippecanoe River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 5.48 ft June 14, 15, 1981; minimum stage, 2.12 ft Nov. 19, 1953 and Nov. 19, 1956.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	2.41	2.48	2.95	3.30	3.40	3.33	3.52	3.26	3.57	3.25	3.18	3.17
10	2.35	2.67	2.94	3.43	3.31	3.29	3.47	3.23	3.46	3.16	3.08	3.21
15	2.30	2.72	2.94	3.43	3.34	3.31	3.42	3.21	3.57	3.10	3.10	3.20
20	2.48	2.91	2.96	3.42	3.35	3.36	3.38	3.34	3.49	3.12	3.07	3.16
25	2.48	2.93	3.07	3.41	3.33	3.34	3.33	3.44	3.42	3.09	3.09	3.07
EOM	2.44	2.95	3.23	3.41	3.32	3.35	3.32	3.43	3.32	3.24	3.07	3.01

WTR YR 1989 MEAN 3.15 MAX 3.60 MIN 2.30

## ILLINOIS RIVER BASIN

## 05516200 LAKE OF THE WOODS NEAR BREMEN, IN

LOCATION.--Lat 41°25'04", long 86°13'44", in SW¼NW¼NW¼ sec.7, T.34 N., R.3 E., Marshall County, Hydrologic Unit 07120001 (BREMAN, IN quadrangle). The gage is on the southwest shore of the lake, at the public fishing site, and 4.7 mi southwest of Bremen.

SURFACE AREA.--416 acres.

DRAINAGE AREA.--9.45 mi<sup>2</sup>.

PERIOD OF RECORD.--1945 to current year.

DATUM OF GAGE.--800.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage is driven into the outlet channel.

ESTABLISHED LEGAL LEVEL.--3.85 ft gage datum or 803.85 ft above National Geodetic Vertical Datum of 1929 as decreed on August 9, 1948, by the Marshall County Circuit Court.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a concrete dam with a 13 ft by 1 ft notch. The dam is equipped with a lift gate.

INLET AND OUTLET.--Three ditches, Kimble, Martin, and Seltenright, enter the lake on the northwest shore. Scofield ditch enters at the west lobe. The outlet, Clark ditch, flows from the lake at the southern end and eventually into Yellow River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 7.68 ft Oct. 12, 1954; minimum stage, 2.75 ft Nov. 18-20, 1953.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	3.01	3.21	3.36	3.55	3.31	3.29	3.97	3.18	4.14	3.80	3.83	3.65
10	2.94	3.69	3.24	3.63	3.21	3.19	3.65	3.18	4.06	3.78	3.72	3.75
15	2.87	3.69	3.21	3.46	3.21	3.29	3.43	3.17	4.08	3.74	3.88	3.75
20	3.50	3.81	3.23	3.35	3.18	3.50	3.36	3.51	3.80	3.83	3.86	3.28
25	3.40	3.62	3.48	3.29	3.16	3.38	3.25	3.47	3.79	3.79	3.91	3.01
EOM	3.21	3.50	3.51	3.37	3.15	3.61	3.25	3.76	3.80	3.84	3.58	2.89

WTR YR 1989 MEAN 3.49 MAX 4.33 MIN 2.87

## STREAMS TRIBUTARY TO LAKE MICHIGAN

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## 04099580 LAKE OF THE WOODS NEAR HELMER, IN

LOCATION.--Lat 41°32'30", long 85°11'42", in SE¼SE¼SE¼ sec.25, T.36 N., R.11 E., Lagrange County, Hydrologic Unit 04050001 (STROH, IN quadrangle). The gage is on the west shore of Duck Pond, a basin connecting Lake of the Woods and McClish Lake, approximately 100 ft south of the bridge over the channel, and 1.5 mi northwest of Helmer.

SURFACE AREA.--136 acres.

DRAINAGE AREA.--5.25 mi<sup>2</sup>.

PERIOD OF RECORD.--1951-74, 1977 to current year.

DATUM OF GAGE.--940.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well.

ESTABLISHED LEGAL LEVEL.--11.09 ft gage datum or 951.09 ft above National Geodetic Vertical Datum of 1929 as decreed on July 21, 1960, by the Lagrange County Circuit Court. McClish Lake near Helmer has the same established level and hence the same lake levels for the period of record.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a concrete dam with a fixed sill.

INLET AND OUTLET.--There are four inlets to the lake. Spectacle Lakes drain into the west shore, Maumee ditch enters from the south, Goose Pond flows through a short channel to the southwest shore, and McClish Lake drains into the lake on the southeast shore. The outlet flows to the north from the east end of the lake and through Taylor, Mud, and Little Turkey Lakes to Turkey Creek, thence into Pigeon River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 13.00 ft Dec. 24, 25, 1967; minimum stage, 9.81 ft Nov. 17-20, 1953.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	10.76	11.29	11.53	11.80	11.74	11.72	11.73	11.44	11.86	11.31	11.33	11.61
10	10.73	11.71	11.51	12.09	11.74	11.75	11.57	11.39	11.55	11.30	11.25	11.52
15	10.69	11.66	11.50	11.92	11.71	11.64	11.49	11.39	11.46	11.32	11.34	11.52
20	11.11	12.01	11.54	11.76	11.71	11.66	11.45	11.48	11.82	11.25	11.37	11.45
25	11.20	11.72	11.73	11.68	11.72	11.59	11.46	11.58	11.54	11.43	11.37	11.36
EOM	11.21	11.62	11.87	11.74	11.72	11.53	11.47	11.58	11.38	11.34	11.55	11.32

WTR YR 1989 MEAN 11.52 MAX 12.11 MIN 10.69

## STREAMS TRIBUTARY TO LAKE MICHIGAN

## 04097520 LAKE PLEASANT NEAR NEVADA MILLS, IN

LOCATION.--Lat 41°45'18", long 85°06'10", in NW¼SW¼NW¼ sec.13, T.38 N., R.12 E., Steuben County, Hydrologic Unit 04050001 (KINDERHOOK, MI-IN quadrangle). The gage is at a bridge over a boat channel on the south shore of the lake, 2.3 mi northwest of Nevada Mills.

SURFACE AREA.--424 acres.

DRAINAGE AREA.--3.18 mi<sup>2</sup>.

PERIOD OF RECORD.--1954-69, 1971, 1976 to current year.

DATUM OF GAGE.--960.40 ft above National Geodetic Vertical Datum of 1929 as corrected on the basis of levels of Indiana Department of Natural Resources, 1977-78.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage is attached to the southwest bridge abutment at the site.

ESTABLISHED LEGAL LEVEL.--1.10 ft gage datum or 961.50 ft above National Geodetic Vertical Datum of 1929 as decreed on April 11, 1986, by the Steuben County Circuit Court.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a metal plate welded across the bottom of a corrugated metal pipe.

INLET AND OUTLET.--The one inlet enters the lake on the west side. The outlet flows from the northern shore, enters Michigan, and eventually empties into Prairie River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 2.04 ft Mar. 17, 1980; minimum stage, -0.14 ft Nov. 6-14, 1964.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	.68	1.05	1.52	1.65	1.61	1.64	1.73	1.54	1.89	1.58	1.41	1.56
10	.66	1.23	1.49	1.71	1.61	1.61	1.69	1.50	1.76	1.55	1.32	1.59
15	.63	1.30	1.50	1.69	1.60	1.60	1.64	1.52	1.72	1.48	1.54	1.58
20	.96	1.53	1.53	1.64	1.61	1.72	1.64	1.57	1.87	1.42	1.58	1.54
25	.99	1.52	1.58	1.63	1.61	1.68	1.61	1.59	1.77	1.43	1.53	1.47
EOM	.98	1.55	1.64	1.64	1.61	1.66	1.58	1.83	1.65	1.38	1.55	1.41

WTR YR 1989 MEAN 1.51 MAX 1.94 MIN .63



## STREAMS TRIBUTARY TO LAKE MICHIGAN

## 04100160 LITTLE LONG LAKE AT KENDALLVILLE, IN

LOCATION.--Lat 41°27'49", long 85°15'27", in SE¼NW¼NE¼ sec.28, T.35 N., R.11 E., Noble County, Hydrologic Unit 04050001 (KENDALLVILLE, IN quadrangle). The gage is on the south side of the lake at the bridge over the dredged channel in Wakeville Village, 1.6 mi northeast of City Hall in Kendallville.

SURFACE AREA.--71 acres.

DRAINAGE AREA.--4.55 mi<sup>2</sup>.

PERIOD OF RECORD.--1954 to current year.

DATUM OF GAGE.--950.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage in one section is attached to the west wingwall on the south side of the bridge.

ESTABLISHED LEGAL LEVEL.--4.50 ft gage datum or 954.50 ft above National Geodetic Vertical Datum of 1929 as decreed on March 26, 1970. Round Lake at Kendallville has the same established level and hence the same lake levels for the period of record.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a fixed-crest concrete dam.

INLET AND OUTLET.--The one inlet enters on the east side from Round Lake. The outlet, Waterhouse ditch, flows from the lake at the southwest end and into Henderson Lake ditch, thence into Sylvan Lake 4.8 mi downstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 6.75 ft Jan. 31, 1969; minimum stage, 3.33 ft Nov. 17, 18, 1964.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	4.14	4.74	4.76	4.84	4.79	4.78	4.96	4.72	5.15	4.57	4.64	4.70
10	4.11	5.15	4.73	5.01	4.79	4.78	4.80	4.71	4.77	4.60	4.55	4.72
15	4.08	4.92	4.71	4.83	4.78	4.72	4.74	4.70	4.73	4.67	4.59	4.73
20	4.61	5.25	4.73	4.77	4.78	4.77	4.74	4.81	4.74	4.62	4.58	4.69
25	4.68	4.92	4.88	4.77	4.78	4.75	4.74	4.84	4.68	4.76	4.57	4.62
EOM	4.66	4.84	4.96	4.83	4.78	4.76	4.74	4.83	4.61	4.67	4.70	4.57

WTR YR 1989 MEAN 4.74 MAX 5.36 MIN 4.08

## WABASH RIVER BASIN

## 03328100 LONG LAKE AT LAKETON, IN

LOCATION.--Lat 40°59'08", long 85°50'20", in NE¼NW¼NE¼ sec.10, T.29 N., R.6 E., Wabash County, Hydrologic Unit 05120104 (NORTH MANCHESTER SOUTH, IN quadrangle). The gage is located on the north shore of the lake, 0.3 mi west of Crill Road, and 0.8 mi north of Laketon.

SURFACE AREA.--48 acres.

DRAINAGE AREA.--0.55 mi<sup>2</sup>.

PERIOD OF RECORD.--1946-51, 1959 to current year.

DATUM OF GAGE.--740.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage, driven into the lake bed, is located 50 ft lakeward of the primary gage.

ESTABLISHED LEGAL LEVEL.--11.19 ft gage datum or 751.19 ft above National Geodetic Vertical Datum of 1929 as decreed on July 26, 1951, by the Wabash County Circuit Court.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by an 18-inch corrugated metal pipe draining into a clay tile.

INLET AND OUTLET.--Two tile ditches flow into the lake. The outlet flows from the west end of the lake, joins the outlet of Mud Lake, continues through Round Lake, then into Eel River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 13.66 ft Mar. 22, 1982; minimum stage, 8.68 ft Dec. 1-3, 1964.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	10.13	10.25	10.71	11.02	11.59	11.62	12.07	11.89	12.22	12.00	11.58	11.36
10	10.06	10.31	10.69	11.33	11.59	11.68	12.04	11.87	12.14	11.89	11.42	11.41
15	10.00	10.34	10.68	11.41	11.59	11.67	12.02	11.81	12.15	11.75	11.35	11.38
20	10.28	10.71	10.69	11.43	11.60	11.88	12.01	11.86	12.27	11.73	11.27	11.30
25	10.27	10.73	10.75	11.47	11.62	11.87	11.95	11.94	12.19	11.67	11.24	11.19
EOM	10.21	10.75	10.97	11.59	11.62	11.89	11.94	11.96	12.08	11.66	11.27	11.10

WTR YR 1989 MEAN 11.38 MAX 12.27 MIN 9.99



## 04099200 LONG LAKE AT MOONLIGHT, IN

LOCATION.--Lat 41°35'01", long 85°01'43", in NE¼NE¼NE¼ sec.16, T.36 N., R.13 E., Steuben County, Hydrologic Unit 04050001 (ASHLEY, IN quadrangle). The gage is located on the northern shore, 0.4 mi east of the lake outlet and 2.5 mi north of Steubenville.

SURFACE AREA.--92 acres.

DRAINAGE AREA.--67.9 mi<sup>2</sup>.

PERIOD OF RECORD.--1946 to current year.

DATUM OF GAGE.--940.10 ft above National Geodetic Vertical Datum of 1929 as corrected on the basis of levels of Indiana Department of Natural Resources, 1977.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage is located near the gage in two sections. One section is mounted on a post which is driven into the lake bed. The other section is mounted to a tree near the gage.

ESTABLISHED LEGAL LEVEL.--Not established.

LAKE-LEVEL CONTROL.--The lake level is controlled by the downstream channel.

INLET AND OUTLET.--Pigeon Creek flows into Long Lake at the eastern end of the lake and exits at the western end.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 17.42 ft Mar. 22, 1982; minimum stage, 8.91 ft Aug. 21, 1987.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	8.89	9.20	10.23	9.98	9.72	9.42	10.10	9.54	14.09	9.34	9.45	11.11
10	8.87	10.90	9.79	11.59	9.49	10.11	---	9.37	12.16	9.23	9.18	10.30
15	8.83	10.82	9.53	10.35	9.42	10.10	---	9.36	10.85	9.52	9.63	10.34
20	10.28	12.15	9.41	10.04	9.33	10.09	9.80	9.71	10.84	9.24	9.45	9.90
25	9.56	11.35	10.56	9.71	9.22	10.31	9.71	9.78	10.17	9.37	9.54	9.44
EOM	9.13	11.01	10.77	10.39	9.46	11.06	9.76	11.43	9.59	9.35	10.00	9.26

WTR YR 1989 MEAN 10.04 MAX 14.20 MIN 8.83

## WABASH RIVER BASIN

## 03331460 LOST LAKE NEAR CULVER, IN

LOCATION.--Lat 41°12'02", long 86°25'17", in NE¼NW¼NW¼ sec.28, T.32 N., R.1 E., Marshall County, Hydrologic Unit 05120106 (CULVER, IN quadrangle). The gage is on the northern shore of the lake at the east end of West 19th Road (lake access road), 1.1 mi south of the center of Culver.

SURFACE AREA.--40 acres.

DRAINAGE AREA.--14.2 mi<sup>2</sup>.

PERIOD OF RECORD.--1954-61, 1963-74, 1976 to current year. (Formerly published as Hawks Lake near Culver.)

DATUM OF GAGE.--720.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well.

ESTABLISHED LEGAL LEVEL.--12.00 ft gage datum or 732.00 ft above National Geodetic Vertical Datum of 1929 as decreed on February 17, 1960, by the Marshall County Circuit Court.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a concrete dam and sill with removable boards in the outlet channel approximately 850 ft downstream from the main body of the lake.

INLET AND OUTLET.--The one inlet flows into the lake from Maxinkuckee Lake and enters on the north shore. The outlet flows from the south end of the lake to the Tippecanoe River 3.7 mi downstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 13.05 ft June 15, 1981; minimum stage, 10.12 ft July 9, 1959.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	10.78	11.03	11.37	11.80	11.81	11.80	11.87	11.68	11.92	11.68	11.66	11.64
10	10.79	11.21	11.38	11.87	11.78	11.80	11.85	11.69	11.86	11.36	11.50	11.65
15	10.83	11.23	11.40	11.88	11.81	11.82	11.83	11.66	11.92	11.49	11.57	11.64
20	11.02	11.35	11.36	11.88	11.81	11.81	11.80	11.81	11.87	11.51	11.62	11.58
25	11.04	11.32	11.48	11.88	11.81	11.82	11.72	11.91	11.77	11.55	11.60	11.53
EOM	11.05	11.32	11.74	11.86	11.79	11.79	11.75	11.85	11.76	11.77	11.59	11.47

WTR YR 1989 MEAN 11.60 MAX 11.95 MIN 10.63

## 03328400 LUKENS LAKE NEAR DISKO, IN

LOCATION.--Lat 40°58'09", long 85°56'06", in SW¼NW¼NE¼ sec.14, T.29 N., R.5 E., Wabash County, Hydrologic Unit 05120104 (ROANN, IN quadrangle). The gage is 25 ft north of the outlet on the southwest side of the lake, 4.1 mi north of Roann.

SURFACE AREA.--46 acres.

DRAINAGE AREA.--1.76 mi<sup>2</sup>.

PERIOD OF RECORD.--1948-49, 1959 to current year.

DATUM OF GAGE.--760.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage in one section is driven into the lake bed about 5 ft upstream from the outlet culvert.

ESTABLISHED LEGAL LEVEL.--3.60 ft gage datum or 763.60 ft above the National Geodetic Vertical Datum of 1929 as decreed on March 29, 1978, by the Wabash County Circuit Court.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by two 18-inch corrugated metal culverts at the outlet.

INLET AND OUTLET.--The principal inlet is a tile drain from McColley Lake, 0.5 mi to the north. The outlet flows from the southwestern shore, into Bolley Ditch 0.7 mi downstream, thence into Squirrel Creek, and eventually into Eel River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 5.10 ft May 16, 1968; minimum stage, 2.32 ft Oct. 12, 1983.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	2.77	3.29	3.81	3.82	3.75	3.70	3.88	3.62	4.01	3.63	3.47	3.60
10	2.71	3.58	3.74	3.98	3.66	3.67	3.81	3.64	3.91	3.56	3.36	3.66
15	2.62	3.73	3.65	3.94	3.66	3.69	3.74	3.62	3.87	3.49	3.32	3.68
20	2.98	4.05	3.62	3.86	3.66	3.85	3.69	3.69	3.76	3.49	3.27	3.66
25	3.09	3.95	3.67	3.81	3.64	3.80	3.62	3.80	3.66	3.46	3.33	3.58
EOM	3.13	3.91	3.85	3.84	3.64	3.74	3.63	3.84	3.62	3.49	3.47	3.53

WTR YR 1989 MEAN 3.61 MAX 4.12 MIN 2.62

## STREAMS TRIBUTARY TO LAKE MICHIGAN

## 04100280 MUNCIE LAKE NEAR BURR OAK, IN

LOCATION.--Lat 41°19'37", long 85°27'28", in NE¼SW¼SW¼ sec.11, T.33 N., R.9 E., Noble County, Hydrologic Unit 04050001 (MERRIAM, IN quadrangle). The gage is on the southwest shore of the lake, just north of the gravel road on the Addis farm, and 1.3 mi northwest of Burr Oak.

SURFACE AREA.--47 acres.

DRAINAGE AREA.--42.8 mi<sup>2</sup>.

PERIOD OF RECORD.--1954 to current year.

DATUM OF GAGE.--880.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well.

ESTABLISHED LEGAL LEVEL.--Not established.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by the outlet channel.

INLET AND OUTLET.--There are three inlets to the lake. Forker Creek flows into the lake from the east, Brown Ditch from the southeast, and Carrol Creek from the west. The outlet flows from the northwest shore into Williams Lake, then into the South Branch of the Elkhart River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 9.47 ft Mar. 24, 25, 1978, Feb. 25, 26, 1985; minimum stage, 1.88 ft Aug. 8, 1988.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	---	2.78	3.46	3.31	3.26	2.89	4.79	2.99	7.06	2.61	2.27	2.68
10	---	4.59	3.09	5.00	3.26	2.75	3.74	2.89	5.15	2.48	2.11	2.95
15	---	4.74	2.90	4.46	2.89	2.90	3.13	2.86	4.09	2.59	2.27	3.01
20	---	6.24	2.80	3.12	2.84	3.34	2.99	3.43	3.61	2.47	2.26	2.88
25	---	5.12	3.81	3.14	2.76	3.12	2.92	3.48	3.19	2.41	2.28	2.61
EOM	---	4.21	4.53	3.60	2.74	3.21	3.09	3.89	2.80	2.33	2.28	2.46

WTR YR 1989 MEAN 3.32 MAX 7.12 MIN 2.11

## STREAMS TRIBUTARY TO LAKE MICHIGAN

265

## 04099700 NORTH TWIN LAKE NEAR HOWE, IN

LOCATION.--Lat 41°43'45", long 85°27'49", in SE1SW1SW1 sec.23, T.38 N., R.9 E., Lagrange County, Hydrologic Unit 04050001 (LAGRANGE, IN quadrangle). The gage is in the channel between North and South Twin Lakes, 100 ft upstream from the county road bridge, and 2.2 mi northwest of Howe.

SURFACE AREA.--135 acres.

DRAINAGE AREA.--1.54 mi<sup>2</sup>.

PERIOD OF RECORD.--1953 to current year.

DATUM OF GAGE.--840.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A staff gage is attached to the east concrete retaining wall of the control dam.

ESTABLISHED LEGAL LEVEL.--3.56 ft gage datum or 843.56 ft above National Geodetic Vertical Datum of 1929 as decreed on September 11, 1959, by the Lagrange County Circuit Court. South Twin Lake near Howe has the same established level and hence the same lake levels for the period of record.

LAKE-LEVEL CONTROL.--Prior to October 1, 1982, the low water control was a fixed-crest dam with removable boards at the upstream end of the channel between the two lakes. At high stages the outlet channel of South Twin Lake was the control. After October 1, 1982, a concrete dam with a fixed crest was installed in the outlet of South Twin Lake. This is now the control structure for both North and South Twin Lakes, although the original structure is still in place.

INLET AND OUTLET.--There are two inlets to the lake. One enters at the southeast shore from Still Lake 0.9 mi upstream, and the other, which drains the adjacent marsh land, enters on the northwest shore. The outlet flows from the southwest shore and into South Twin Lake approximately 200 ft downstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 5.20 ft Feb. 26, 1985; minimum stage, 2.97 ft Aug. 20, 1964.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	3.60	3.68	3.68	3.74	3.70	3.68	3.76	3.68	3.90	3.60	3.48	3.68
10	3.60	3.80	3.66	3.78	3.70	3.64	3.68	3.64	3.78	3.70	3.48	3.66
15	3.58	3.78	3.64	3.78	3.65	3.67	3.68	3.64	3.76	3.64	3.52	3.66
20	3.79	3.82	3.66	3.70	3.64	3.70	3.68	3.68	3.74	3.64	3.60	3.56
25	3.78	3.76	3.68	3.68	3.68	3.66	3.68	3.66	3.70	3.60	3.68	3.58
EOM	3.68	3.72	3.76	3.70	3.66	3.68	3.68	3.78	3.66	3.54	3.68	3.52

WTR YR 1989 MEAN 3.68 MAX 3.94 MIN 3.46

## WABASH RIVER BASIN

## 03331400 NYONA LAKE NEAR GREENOAK, IN

LOCATION.--Lat 40°57'40", long 86°11'20", in SE1SE1NE1 sec.16, T.29 N., R.3 E., Fulton County, Hydrologic Unit 05120106 (MACY, IN quadrangle). The gage is on the northwest shore of the southern lobe of the lake, at the public fishing site, and 2.4 mi south of Greenoak.

SURFACE AREA.--104 acres.

DRAINAGE AREA.--7.59 mi<sup>2</sup>.

PERIOD OF RECORD.--1946 to current year.

DATUM OF GAGE.--790.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well.

ESTABLISHED LEGAL LEVEL.--3.91 ft gage datum or 793.91 ft above National Geodetic Vertical Datum of 1929 as decreed on September 27, 1948, by the Fulton County Circuit Court.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a concrete dam with a fixed crest.

INLET AND OUTLET.--The lake is fed by two small ditches entering from the east and northeast. The outlet flows from the lake at the southwest corner and into Mud Creek, which eventually joins the Tippecanoe River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 6.00 ft June 14, 1958; minimum stage, 2.98 ft Oct. 12-19, 25, 26, 1953.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	3.89	4.03	4.05	4.16	4.13	4.17	4.39	4.06	4.20	3.97	3.99	4.22
10	3.87	4.19	4.03	4.37	4.08	4.08	4.17	4.11	4.04	3.94	3.93	4.18
15	3.86	4.07	4.02	4.19	4.12	4.11	4.12	4.07	4.11	4.16	3.98	4.17
20	4.08	4.37	4.02	4.14	4.12	4.28	4.10	4.12	4.13	4.07	3.97	4.04
25	3.99	4.17	4.13	4.14	4.10	4.16	4.08	4.22	4.02	4.07	3.98	3.98
EOM	3.96	4.09	4.22	4.20	4.10	4.12	4.11	4.13	3.98	4.06	4.12	3.97

WTR YR 1989 MEAN 4.10 MAX 4.86 MIN 3.85

## WABASH RIVER BASIN

## 03371700 OGLE LAKE NEAR NASHVILLE, IN

LOCATION.--Lat 39°09'35", long 86°14'54", in NE¼SE¼NE¼ sec.1, T.8 N., R.2 E., Brown County, Hydrologic Unit 05120208 (NASHVILLE, IN quadrangle). The gage is on the dam, near the concrete intake structure on the west side of the lake, 3.3 mi south of Nashville.

SURFACE AREA.--20 acres.

DRAINAGE AREA.--1.03 mi<sup>2</sup>.

PERIOD OF RECORD.--1954 to current year.

DATUM OF GAGE.--710.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well.

ESTABLISHED LEGAL LEVEL.--Not established.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a concrete flood spillway with a fixed crest.

INLET AND OUTLET.--Two ditches enter the lake, one from the east and one from the southeast. The outlet flows into Upper Schooner Creek, which joins Lower Schooner Creek, then flows into the North Fork of Salt Creek. The North Fork of Salt Creek empties into Monroe Reservoir.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 6.80 ft June 23, 1960; minimum stage, -2.70 ft Feb. 12, 13, 1977.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	2.21	2.32	3.30	4.00	4.63	4.79	4.69	4.67	4.64	4.59	4.35	4.59
10	2.11	2.56	3.29	4.65	4.58	4.69	4.67	4.67	4.56	4.49	4.20	4.68
15	1.97	2.69	3.27	4.68	4.80	4.70	4.61	4.62	4.63	4.57	4.11	4.62
20	2.07	3.08	3.25	4.61	4.68	5.03	4.63	4.61	4.58	4.62	4.06	4.59
25	2.04	3.23	3.17	4.60	4.64	4.65	4.60	4.65	4.51	4.57	4.48	4.52
EOM	1.97	3.29	3.81	4.60	4.60	4.81	4.67	4.61	4.43	4.43	4.59	4.45

WTR YR 1989 MEAN 4.11 MAX 5.37 MIN 1.94

## STREAMS TRIBUTARY TO LAKE MICHIGAN

## 04100100 OLIVER LAKE NEAR VALENTINE, IN

LOCATION.--Lat 41°34'37", long 85°24'44", in SE¼SW¼NE¼ sec.18, T.36 N., R.10 E., Lagrange County, Hydrologic Unit 04050001 (OLIVER LAKE, IN quadrangle). The gage is at the public fishing site on the northwest side of the lake, and 1.6 mi southwest of Valentine.

SURFACE AREA.--362 acres.

DRAINAGE AREA.--11.1 mi<sup>2</sup>.

PERIOD OF RECORD.--1945 to current year.

DATUM OF GAGE.--889.78 ft above National Geodetic Vertical Datum of 1929 as corrected on the basis of levels of Indiana Department of Natural Resources, 1975-76.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage is attached to the dam in the outlet.

ESTABLISHED LEGAL LEVEL.--9.45 ft gage datum or 899.45 ft above National Geodetic Vertical Datum of 1929 as decreed on September 29, 1952, by the Lagrange County Circuit Court. Minor errors were subsequently discovered in the establishment of the datum of the gage (see "DATUM OF GAGE") and the correct elevation of the legal level should be 9.45 ft gage datum or 899.23 ft above National Geodetic Vertical Datum of 1929. Martin and Olin Lakes near Valentine have the same established level as Oliver Lake and hence the same lake levels for the period of record.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a fixed sill and dam with movable boards.

INLET AND OUTLET.--The lake has several inlets. Dove Creek enters on the northwest, the outlet of Holsinger Hole on the north, Hart ditch on the east, and the channel between Oliver and Olin Lakes on the southeast shore. The Oliver Lake outlet flows from the southwest lobe of the lake, through a wetland, into Hackenburg Lake 1.6 mi downstream, and eventually into the North Branch of the Elkhart River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 11.77 ft June 14, 1981; minimum stage, 8.42 ft Jan. 18, 19, and Feb. 3-5, 1961.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	9.48	9.46	9.57	9.54	9.52	9.49	9.76	9.92	10.59	9.70	9.75	10.00
10	9.45	9.69	9.46	9.96	9.53	9.44	9.60	9.91	10.26	9.71	9.68	10.01
15	9.41	9.75	9.39	9.74	9.45	9.56	9.52	9.92	10.10	9.81	9.82	9.98
20	9.91	10.03	9.38	9.58	9.45	9.67	9.50	10.04	10.13	9.78	9.82	9.89
25	9.76	9.87	9.55	9.51	9.43	9.58	9.64	9.98	9.98	9.77	9.81	9.80
EOM	9.53	9.74	9.61	9.57	9.43	9.56	9.85	10.02	9.81	9.73	9.94	9.76

WTR YR 1989 MEAN 9.73 MAX 10.67 MIN 9.37



## WABASH RIVER BASIN

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## 03331180 PALESTINE LAKE AT PALESTINE, IN

LOCATION.--Lat 41°10'48", long 85°56'54", in NE¼NE¼SW¼ sec.33, T.32 N., R.5 E., Kosciusko County, Hydrologic Unit 05120106 (BURKET, IN quadrangle). The gage is near the extreme northwestern corner of the lake, at the public access site, in the town of Palestine.

SURFACE AREA.--290 acres.

DRAINAGE AREA.--32.4 mi<sup>2</sup>.

PERIOD OF RECORD.--1954 to current year.

DATUM OF GAGE.--815.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage in one section is driven into the lake bed just north of the public access site.

ESTABLISHED LEGAL LEVEL.--1.62 ft gage datum or 816.62 ft above National Geodetic Vertical Datum of 1929 as decreed on August 5, 1965, by the Kosciusko County Circuit Court.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by an old mill dam of stone and concrete (fixed crest) at the west lobe of the far northern shore.

INLET AND OUTLET.--There are four inlets to the lake. Magee ditch enters from the north, Williamson ditch from the west and the confluence of Adams and Sloan ditches from the southeast. Trimble Creek flows through the lake, entering on the extreme southeastern end, leaving at the northwestern lobe and flowing into the Tippecanoe River 7.5 mi downstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 4.35 ft June 13, 1981; minimum stage, below -0.90 ft, lake drained, 1988.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	---	---	1.80	1.92	1.89	1.99	2.18	1.78	2.18	1.75	1.72	1.77
10	---	---	1.78	2.20	1.89	1.99	1.96	1.80	1.86	1.69	1.66	1.81
15	---	---	1.78	1.99	1.92	1.86	1.89	1.77	1.84	1.70	1.66	1.83
20	---	1.60	1.82	1.87	1.93	1.98	1.86	1.84	1.81	1.74	1.66	1.76
25	---	1.88	1.92	1.89	1.94	1.91	1.82	1.97	1.76	1.71	1.82	1.73
EOM	---	1.87	2.03	1.95	1.95	1.87	1.82	1.85	1.75	1.77	1.76	1.73

WTR YR 1989 MEAN 1.85 MAX 2.46 MIN .44

## WABASH RIVER BASIN

## 03331040 PIKE LAKE AT WARSAW, IN

LOCATION.--Lat 41°15'44", long 85°51'00", in NE¼NW¼NE¼ sec.5, T.32 N., R.6 E., Kosciusko County, Hydrologic Unit 05120106 (LEESBURG, IN quadrangle). The gage is on the extreme northwestern point of the lake at the bridge over the outlet, 1.6 mi north of Warsaw.

SURFACE AREA.--203 acres.

DRAINAGE AREA.--41.5 mi<sup>2</sup>.

PERIOD OF RECORD.--1954 to current year.

DATUM OF GAGE.--800.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well attached to the upstream abutment of the control structure.

ESTABLISHED LEGAL LEVEL.--5.64 ft gage datum or 805.64 ft above National Geodetic Vertical Datum of 1929 as decreed on December 12, 1963, by the Kosciusko County Circuit Court.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a concrete dam with a fixed crest and removable boards.

INLET AND OUTLET.--The one inlet, Deeds Creek, flows from Little Chapman Lake 3.4 mi upstream, and enters the lake on the lower northern shore. The outlet flows to the west from the extreme northern end of the lake through Lones ditch and enters the Tippecanoe River 0.9 mi downstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 10.79 ft Oct. 15, 1954; minimum stage, 3.71 ft Sept. 21, 22, 1955.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	5.77	6.03	5.24	5.19	5.12	5.06	5.51	5.90	7.17	5.79	5.73	5.78
10	5.74	6.36	5.05	5.99	5.11	4.95	5.16	5.89	6.22	5.75	5.68	5.95
15	5.71	5.38	5.00	5.62	5.05	5.00	5.04	5.86	6.05	5.79	5.71	5.99
20	6.23	5.93	4.99	5.36	5.08	5.11	5.00	5.94	6.00	5.82	5.70	5.86
25	5.98	5.79	5.22	5.16	5.03	5.05	4.99	5.99	5.90	5.77	5.74	5.77
EOM	6.03	5.56	5.32	5.22	5.00	5.03	5.41	5.96	5.83	5.75	5.72	5.73

WTR YR 1989 MEAN 5.60 MAX 7.27 MIN 4.93



## 05515220 PINE LAKE AT LAPORTE, IN

LOCATION.--Lat 41°37'01", long 86°44'58", in NE¼SE¼NW¼ sec.34, T.37 N., R.3 W., LaPorte County, Hydrologic Unit 07120001 (LAPORTE EAST, IN quadrangle). The gage is at the highway bridge over the channel connecting Pine and Stone Lakes, on Waverly Beach Road, in LaPorte.

SURFACE AREA.--564 acres.

DRAINAGE AREA.--10.7 mi<sup>2</sup>.

PERIOD OF RECORD.--1946-75, 1980 to current year.

DATUM OF GAGE.--780.00 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1964, the datum of the gage was 790.00 ft. All levels given below are at the present datum.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage is driven into the channel bed at the same site.

ESTABLISHED LEGAL LEVEL.--16.20 ft gage datum or 796.20 ft above National Geodetic Vertical Datum of 1929, as decreed on August 31, 1949, by the LaPorte County Circuit Court. Stone Lake at LaPorte has the same established level and hence the same lake levels during the periods of record when the channel between the two lakes is open and flowing, water years 1946-63 and 1968-85.

LAKE-LEVEL CONTROL.--Pine and Stone Lakes form a closed basin; however, there is a capability of pumping water from the lakes into the Little Kankakee River during times of high water.

INLET AND OUTLET.--Kabelin ditch enters Pine Lake from the northwest through a large drain tile. Pine Lake is connected to Stone Lake by a channel on the southern tip.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 20.81 ft May 7, 22, 1983; minimum stage, 9.00 ft Nov. 14, 1964.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	16.12	16.22	16.61	16.83	16.83	16.78	16.92	16.68	---	16.52	16.32	16.31
10	16.06	16.42	16.60	16.85	16.79	16.76	16.86	16.61	---	16.55	16.22	16.37
15	15.99	16.49	16.58	16.85	16.79	16.77	16.81	16.57	---	16.44	16.19	16.33
20	16.22	16.62	16.59	16.83	16.79	16.83	16.79	16.54	---	16.45	16.14	16.28
25	16.23	16.60	16.69	16.83	16.80	16.79	16.74	---	16.69	16.43	16.08	16.20
EOM	16.15	16.66	16.80	16.83	16.78	16.84	16.73	---	16.62	16.34	16.29	16.11

WTR YR 1989 MEAN 16.55 MAX 16.92 MIN 15.99

## ILLINOIS RIVER BASIN

## 05516600 PRETTY LAKE NEAR PLYMOUTH

LOCATION.--Lat 41°19'39", long 86°22'15", in NW¼SE¼NE¼ sec. 11, T. 33 N., R. 1 E. (PLYMOUTH, IN quadrangle). The gage is on the north shore of the lake, 3.3 mi southwest of Plymouth, Marshall County, Indiana.

SURFACE AREA.--97 acres.

DRAINAGE AREA.--0.85 mi<sup>2</sup>.

PERIOD OF RECORD.--1954-66, 1989 to current year.

DATUM OF GAGE.--780.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A staff gage in one section is driven into the lake bed near house at 10099 Pretty Lake Trail.

ESTABLISHED LEGAL LEVEL.--7.36 ft gage datum or 787.36 ft above National Geodetic Vertical Datum of 1929 as decreed on July 16, 1965, by the Marshall County Circuit Court.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by the banks. At times of very high water levels, water overflows the southeastern shore.

INLET AND OUTLET.--There are no inlets. There is no well-defined outlet.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 9.04 ft Apr. 9, 14, 1962; minimum stage, 4.90 ft Nov. 26, 27, 1964.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	---	---	---	---	---	---	---	---	---	8.62	8.47	8.40
10	---	---	---	---	---	---	---	---	8.85	8.56	8.35	8.43
15	---	---	---	---	---	---	---	---	8.84	8.46	8.54	8.41
20	---	---	---	---	---	---	---	---	8.80	8.44	8.50	8.35
25	---	---	---	---	---	---	---	---	8.74	8.40	8.46	8.27
EOM	---	---	---	---	---	---	---	---	8.68	8.52	8.37	8.16

WTR YR 1989 MEAN 8.52 MAX 8.87 MIN 8.16

## ILLINOIS RIVER BASIN

269

## 05515800 RIDDLES LAKE NEAR LAKEVILLE, IN

LOCATION.--Lat 41°30'19", long 86°15'31", in NW¼ sec.11, T.35 N., R.2 E., St. Joseph County, Hydrologic Unit 07120001 (LAKEVILLE, IN quadrangle). The gage is on the east side of the lake, about 1.4 mi southeast of Lakeville.

SURFACE AREA.--77 acres.

DRAINAGE AREA.--11.7 mi<sup>2</sup>.

PERIOD OF RECORD.--1946-71, 1976 to current year.

DATUM OF GAGE.--810.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage is attached to a wingwall of the control dam.

ESTABLISHED LEGAL LEVEL.--7.50 ft gage datum or 817.50 ft above National Geodetic Vertical Datum of 1929 as decreed on July 3, 1953, by the St. Joseph County Circuit Court.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a steel and concrete dam with a fixed crest. Boards may be added to raise the water level.

INLET AND OUTLET.--Heston ditch flows through the lake, entering on the northern shore and leaving on the southern. The outflow eventually enters Yellow River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 11.49 ft Apr. 5, 1950; minimum stage, 6.40 ft July 25-31, Aug. 1-9, 22-31, Sept. 1-30, 1971.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	7.00	7.28	7.30	7.37	7.28	7.28	7.47	7.20	7.62	7.11	7.16	7.08
10	6.97	7.63	7.29	7.45	7.23	7.23	7.31	7.18	7.38	7.15	7.08	7.20
15	6.91	7.41	7.27	7.35	7.25	7.30	7.23	7.17	7.29	7.08	7.05	7.19
20	7.32	7.57	7.29	7.34	7.25	7.28	7.21	7.26	7.23	7.21	7.04	7.13
25	7.28	7.44	7.39	7.32	7.21	7.25	7.21	7.24	7.19	7.16	7.06	7.06
EOM	7.23	7.35	7.38	7.32	7.21	7.27	7.24	7.25	7.16	7.12	7.05	7.00

WTR YR 1989 MEAN 7.24 MAX 7.90 MIN 6.91

## WABASH RIVER BASIN

## 03330300 RIDINGER LAKE NEAR PIERCETON, IN

LOCATION.--Lat 41°15'07", long 85°39'34", in SW¼ sec.1, T.32 N., R.7 E., Kosciusko County, Hydrologic Unit 05120106 (NORTH WEBSTER, IN quadrangle). The gage is on the inlet channel, attached to the Adams Road bridge, 0.4 mi upstream from the lake and 4.4 mi northeast of Pierceton.

SURFACE AREA.--136 acres.

DRAINAGE AREA.--34.6 mi<sup>2</sup>.

PERIOD OF RECORD.--1943 to current year.

DATUM OF GAGE.--840.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well attached to the right downstream wingwall of the bridge. An auxiliary staff gage in two sections is at the control dam.

ESTABLISHED LEGAL LEVEL.--3.12 ft gage datum or 843.12 ft above National Geodetic Vertical Datum of 1929, as decreed on April 11, 1949, by the Kosciusko County Circuit Court.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a concrete dam with a fixed crest and a sluice-way with a steel gate for controlling high water. The dam is located in the outlet, 300 ft downstream from the lake.

INLET AND OUTLET.--Grassy Creek flows through the lake, entering at the southwestern end. Grassy Creek is formed 1.5 mi upstream by the outlet of Robinson Lake and Cedar Lake Branch. Grassy Creek leaves the lake at the northwestern end and flows into Big Barbee Lake, 3.5 mi downstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 9.01 ft Feb. 24, 1985; minimum stage, 1.35 ft Jan. 17-19, 1944.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	3.31	---	---	---	---	---	---	---	---	---	3.16	3.21
10	3.31	---	---	---	---	---	---	---	---	---	3.14	3.51
15	3.37	---	---	---	---	---	---	---	---	---	3.18	3.36
20	4.40	---	---	---	---	---	---	---	---	---	3.16	3.24
25	3.98	---	---	---	---	---	---	---	---	3.16	3.18	3.21
EOM	---	---	---	---	---	---	---	---	---	3.16	3.22	3.26

WTR YR 1989 MEAN 3.35 MAX 4.85 MIN 3.13

## WABASH RIVER BASIN

## 03330460 SAWMILL LAKE NEAR NORTH WEBSTER, IN

LOCATION.--Lat 41°17'22", long 85°42'52", in NE¼SW¼NE¼ sec.28, T.33 N., R.7 E., Kosciusko County, Hydrologic Unit 05120106 (NORTH WEBSTER, IN quadrangle). The gage is near the southeastern corner of the county road bridge over the channel between Big Barbee Lake and Little Barbee Lake, 2.6 mi southwest of North Webster.

SURFACE AREA.--36 acres.

DRAINAGE AREA.--51.8 mi<sup>2</sup>.

PERIOD OF RECORD.--1945-1970, 1972 to current year.

DATUM OF GAGE.--830.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage is attached to the stilling well.

ESTABLISHED LEGAL LEVEL.--7.50 ft gage datum or 837.50 ft above National Geodetic Vertical Datum of 1929 as decreed on October 18, 1949, by the Kosciusko County Circuit Court. All lakes in the Barbee Chain have the same established level and hence the same lake levels for the period of record. The lakes are as follows: Kuhn, Big Barbee, Little Barbee, Irish, Banning, Sechrist and Sawmill.

LAKE-LEVEL CONTROL.--The level of the lakes is controlled by a concrete dam with a fixed crest, located 600 ft upstream of the County Road 500 North bridge over the outlet of Sawmill Lake.

INLET AND OUTLET.--There are four inlets to the Barbee Chain. Grassy Creek flows into Big Barbee Lake at the south-eastern side. The outlet of Heron Lake flows into Kuhn Lake from the north. Puntney ditch enters Little Barbee Lake from the south. The outlet from Shoe Lake flows into Banning Lake on the northeastern shore. The outlet, Grassy Creek, leaves Sawmill Lake at the northwestern tip and flows into Tippecanoe Lake 1.7 mi downstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 10.53 ft Mar. 20, 1982; minimum stage, 5.45 ft Jan. 29-31, Feb. 1-28, Mar. 1, 2, 1978.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	7.27	7.45	7.65	7.62	7.52	7.36	7.93	7.44	9.12	7.35	7.25	7.39
10	7.24	7.84	7.50	8.25	7.46	7.35	7.71	7.42	8.63	7.31	7.17	7.75
15	7.20	7.92	7.48	7.85	7.36	7.41	7.54	7.40	8.18	7.33	7.25	7.57
20	8.06	8.43	7.46	7.62	7.40	7.57	7.51	7.50	7.78	7.34	7.23	7.42
25	7.76	8.21	7.57	7.52	7.37	7.56	7.45	7.55	7.58	7.33	7.26	7.31
EOM	7.45	7.95	7.80	7.61	7.35	7.54	7.47	7.61	7.40	7.26	7.27	7.26

WTR YR 1989 MEAN 7.58 MAX 9.17 MIN 7.17

## WABASH RIVER BASIN

## 03331120 SHERBURN LAKE NEAR PIERCETON, IN

LOCATION.--Lat 41°09'40", long 85°44'43", in SE¼SE¼SE¼ sec.4, T.31 N., R.7 E., Kosciusko County, Hydrologic Unit 05120106 (PIERCETON, IN quadrangle). The gage is at the extreme northern end of the lake on the outlet channel just south of County Road 500 South, 3.4 mi southwest of Pierceton.

SURFACE AREA.--15 acres.

DRAINAGE AREA.--5.51 mi<sup>2</sup>.

PERIOD OF RECORD.--1954 to current year. (Formerly published as Johnson Lake near Pierceton.)

DATUM OF GAGE.--870.00 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1980, the datum of the gage was 880.00 ft. All levels listed below are at the present datum.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage is driven into the lake bed just south of the western lobe of the lake, 400 ft south of County Road 500 South on the first drive west of the outlet.

ESTABLISHED LEGAL LEVEL.--11.00 ft gage datum or 881.00 ft above National Geodetic Vertical Datum of 1929 as decreed on December 19, 1974, by the Kosciusko County Circuit Court.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by the invert of the culvert under the first east-west road north of the lake.

INLET AND OUTLET.--The one inlet flows from Sellers Lake 0.35 mi upstream. The outlet flows from the northern shore through Wyland ditch and into Winona Lake 6.7 mi downstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 15.10 ft Feb. 24, 1985; minimum stage, 9.20 ft Sept. 14-18, 1983.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	9.63	9.83	10.36	10.48	10.35	10.31	11.45	9.98	12.14	9.88	9.71	10.01
10	9.60	10.22	10.21	11.69	10.14	10.10	10.55	9.97	10.80	9.79	9.60	10.24
15	9.59	10.34	10.13	10.75	10.15	10.23	10.27	9.93	10.43	9.70	9.64	10.20
20	9.76	11.44	10.09	10.42	10.19	10.92	10.19	10.08	10.24	9.67	9.67	9.98
25	9.76	10.98	10.72	10.31	10.15	10.50	10.04	10.16	10.11	9.62	9.78	9.79
EOM	9.74	10.61	11.03	10.61	10.13	10.43	10.04	10.24	9.96	9.71	9.76	9.73

WTR YR 1989 MEAN 10.23 MAX 12.43 MIN 9.59

## STREAMS TRIBUTARY TO LAKE MICHIGAN

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## 04099740 SHIPSHEWANA LAKE NEAR SHIPSHEWANA, IN

LOCATION.--Lat 41°40'53", long 85°36'03", in SE¼NE¼ sec.9, T.37 N., R.8 E., Lagrange County, Hydrologic Unit 04050001 (SHIPSHEWANA, IN quadrangle). The gage is on the south shore of the lake at the public fishing site, 1.1 mi northwest of Shishewana.

SURFACE AREA.--202 acres.

DRAINAGE AREA.--6.74 mi<sup>2</sup>.

PERIOD OF RECORD.--1951 to current year.

DATUM OF GAGE.--850.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage is attached to a wingwall of the control dam at the extreme eastern end of the lake.

ESTABLISHED LEGAL LEVEL.--2.04 ft gage datum or 852.04 ft above National Geodetic Vertical Datum of 1929 as decreed on March 8, 1956, by the Lagrange County Circuit Court.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a sheet piling dam with a fixed crest at three elevations.

INLET AND OUTLET.--The principal inlet enters on the southern shore from Cotton Lake 2.0 mi upstream. Another small ditch enters on the western shore. The outlet is on the extreme eastern tip of the lake and flows to the northeast through Page ditch, which empties into Pigeon River, 6.1 mi downstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 3.33 ft Mar. 20, 1982; minimum stage, 1.39 ft Sept. 19-22, 1955.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	2.33	2.51	2.52	2.55	2.49	2.48	2.62	2.43	2.62	2.20	2.19	2.29
10	2.32	2.66	2.49	2.63	2.49	2.48	2.53	2.37	2.48	2.31	2.11	2.34
15	2.29	2.65	2.46	2.60	2.48	2.48	2.46	2.37	2.45	2.28	2.17	2.32
20	2.55	2.73	2.46	2.52	2.48	2.47	2.45	2.39	2.38	2.24	2.22	2.28
25	2.56	2.66	2.54	2.49	2.48	2.47	2.46	2.38	2.32	2.25	2.20	2.21
EOM	2.51	2.60	2.57	2.51	2.48	2.60	2.47	2.43	2.26	2.20	2.26	2.17

WTR YR 1989 MEAN 2.43 MAX 2.73 MIN 2.11

## WABASH RIVER BASIN

## 03330380 SHOE LAKE NEAR OSWEGO, IN

LOCATION.--Lat 41°18'32", long 85°45'10", in SE¼SW¼ sec.18, T.33 N., R.7 E., Kosciusko County, Hydrologic Unit 05120106 (LEESBURG, IN quadrangle). The gage is on the extreme western end of the lake on County Road 475 East, 2.0 mi southeast of Oswego.

SURFACE AREA.--40 acres.

DRAINAGE AREA.--0.34 mi<sup>2</sup>.

PERIOD OF RECORD.--1946-52, 1972-74, 1977 to current year.

DATUM OF GAGE.--830.00 ft above National Geodetic Vertical Datum of 1929. Prior to 1972, the datum of the gage was 840.00 ft above National Geodetic Vertical Datum of 1929. All levels listed below are at the present datum.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well.

ESTABLISHED LEGAL LEVEL.--11.57 ft gage datum or 841.57 ft above National Geodetic Vertical Datum of 1929 as decreed on October 18, 1948, by the Kosciusko County Circuit Court.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by removable boards placed in wooden support posts in the outlet channel, upstream of the culvert under County Road 450 North.

INLET AND OUTLET.--There is no inlet except for small drainage ditches. The outlet leaves the lake at the southeastern end and flows into Banning Lake 0.3 mi downstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 12.95 ft Dec. 13-15, 1972; minimum stage, 10.50 ft Oct. 15, 16, 1988.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	10.63	10.78	11.19	11.52	11.77	11.79	11.88	11.74	11.98	11.70	11.49	11.45
10	10.57	10.94	11.20	11.64	11.73	11.75	11.83	11.70	11.90	11.64	11.37	11.68
15	10.51	10.98	11.21	11.68	11.76	11.76	11.81	11.67	11.95	11.65	11.43	11.68
20	10.77	11.15	11.24	11.70	11.78	11.78	11.81	11.75	11.90	11.63	11.37	11.63
25	10.77	11.17	11.34	11.73	11.78	11.75	11.78	11.78	11.84	11.62	11.34	11.55
EOM	10.73	11.20	11.46	11.76	11.78	11.74	11.77	11.79	11.75	11.52	11.32	11.48

WTR YR 1989 MEAN 11.51 MAX 12.00 MIN 10.51



## WABASH RIVER BASIN

## 03327650 SHRINER LAKE AT TRI-LAKES, IN

LOCATION.--Lat 41°14'37", long 85°26'24", in SE¼SW¼NW¼ sec.12, T.32 N., R.9 E., Whitley County, Hydrologic Unit 05120104 (COLUMBIA CITY, IN quadrangle). The gage is at the head of the outlet channel at the east end of the lake, 6.2 mi northeast of Columbia City.

SURFACE AREA.--111 acres.

DRAINAGE AREA.--0.94 mi<sup>2</sup>.

PERIOD OF RECORD.--1943-74, 1976-78, 1980 to current year.

DATUM OF GAGE.--900.19 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage in one section is attached to the concrete head wall at the outlet.

ESTABLISHED LEGAL LEVEL.--7.04 ft gage datum or 907.04 ft above National Geodetic Vertical Datum of 1929 as decreed on May 22, 1949, by the Whitley County Circuit Court. Minor errors were subsequently discovered in the establishment of the datum of the gage (see "DATUM OF GAGE") and the correct elevation of the legal level should be 7.04 ft gage datum or 907.23 ft above National Geodetic Vertical Datum of 1929.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a concrete dam in the outlet channel 300 ft downstream of the lake.

INLET AND OUTLET.--A ditch from Catfish Lake, 650 ft upstream, enters at the extreme western end of the lake. Two small ditches enter on the southern shore. The outlet is a dredged channel at the eastern edge of the lake that empties into Round Lake 930 ft downstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 8.16 ft Apr. 4, 5, 1950; minimum stage, 5.44 ft Dec. 9-11, 23-30, 1944.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	6.04	6.78	7.11	7.26	6.90	6.87	7.01	6.68	7.39	6.47	6.36	6.29
10	6.00	7.11	6.97	7.42	6.90	6.87	6.86	6.65	6.93	6.41	6.26	6.43
15	5.94	7.24	6.88	7.26	6.89	6.87	6.76	6.63	6.86	6.52	6.26	6.49
20	6.69	7.70	6.84	6.99	6.89	6.92	6.71	6.83	6.80	6.48	6.22	6.49
25	6.76	7.40	7.04	6.90	6.88	6.89	6.72	6.87	6.65	6.47	6.22	6.40
EOM	6.71	7.27	7.29	6.95	6.88	6.85	6.73	6.83	6.54	6.40	6.17	6.34

WTR YR 1989 MEAN 6.76 MAX 7.71 MIN 5.94

## WABASH RIVER BASIN

## 03328350 SILVER LAKE AT SILVER LAKE, IN

LOCATION.--Lat 41°04'49", long 85°54'29", in SE¼SE¼NE¼ sec.1, T.30 N., R.5 E., Kosciusko County, Hydrologic Unit 05120104 (SILVER LAKE, IN quadrangle). The gage is located at the outlet channel on the west side of the lake, approximately 30 feet above the control structure and 1.1 mi northwest of the town of Silver Lake.

SURFACE AREA.--102 acres.

DRAINAGE AREA.--6.31 mi<sup>2</sup>.

PERIOD OF RECORD.--1947 to current year.

DATUM OF GAGE.--859.85 ft above National Geodetic Vertical Datum of 1929, as corrected on the basis of levels of Indiana Department of Natural Resources, 1974.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage in one section is attached to the dam.

ESTABLISHED LEGAL LEVEL.--1.73 ft gage datum or 861.73 ft above National Geodetic Vertical Datum of 1929 as decreed on September 20, 1948, by the Kosciusko County Circuit Court. Minor errors were subsequently discovered in the establishment of the datum of the gage (see "DATUM OF GAGE") and the correct elevation of the legal level should be 1.73 ft gage datum or 861.58 ft above National Geodetic Vertical Datum of 1929. North Little Lake at Silver Lake has the same established level and hence the same lake levels for the period of record.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a steel sheet piling dam with a fixed crest.

INLET AND OUTLET.--The outlet from North Little Lake enters from the north and two ditches enter from the east and southeast. The outlet leaves from the western side and flows into South Little Lake, then into Silver Creek, which joins Eel River 12 mi downstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 3.80 ft Dec. 10, 1966; minimum stage, -0.20 ft Sept. 21, 1959.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	.66	.89	1.46	---	---	---	---	1.46	1.80	1.42	1.59	1.50
10	.62	1.16	1.45	---	---	---	---	1.48	1.54	1.38	1.46	1.56
15	.57	1.33	1.46	---	---	---	1.52	1.46	1.58	1.32	1.46	1.52
20	.78	1.71	1.47	---	---	---	1.52	1.55	1.57	1.36	1.41	1.45
25	.82	1.56	1.53	---	---	---	1.51	1.59	1.47	1.35	1.49	1.39
EOM	.80	1.50	1.68	---	---	---	1.49	1.59	1.42	1.68	1.46	1.37

WTR YR 1989 MEAN 1.39 MAX 1.95 MIN .57



## STREAMS TRIBUTARY TO LAKE MICHIGAN

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## 04099880 SIMONTON LAKE NEAR ELKHART, IN

LOCATION.--Lat 41°45'05", long 85°57'28", in NE¼NE¼NW¼ sec.16, T.38 N., R.5 E., Elkhart County, Hydrologic Unit 04050001 (ELKHART, IN quadrangle). The gage is on the southern shore between the two large lobes of the lake, at the public fishing site, 4.5 mi north of the main Post Office in Elkhart.

SURFACE AREA.--303 acres.

DRAINAGE AREA.--7.44 mi<sup>2</sup>.

PERIOD OF RECORD.--1946 to current year.

DATUM OF GAGE.--770.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well.

ESTABLISHED LEGAL LEVEL.--2.19 ft gage datum or 772.19 ft above National Geodetic Vertical Datum of 1929 as decreed on September 25, 1950, by the Elkhart County Circuit Court.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by the outlet channel.

INLET AND OUTLET.--Two small drainage ditches enter the lake on the eastern shore. The outlet, Osolo Township ditch, flows from the lake at the southeastern tip and into the St. Joseph River, 4.0 mi downstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 3.42 ft Feb. 24, 1985; minimum stage, 1.36 ft Sept. 7, 1946.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	* APR	MAY	JUN	JUL	AUG	SEP
5	2.08	2.82	2.99	3.05	2.99	2.96	3.06	2.90	3.09	2.75	2.64	2.73
10	2.08	3.14	2.95	3.19	2.98	2.92	2.97	2.85	2.93	2.85	2.54	2.85
15	2.03	3.07	2.96	3.13	2.98	2.98	2.94	2.84	2.90	2.76	2.59	2.84
20	2.70	3.18	3.00	3.07	2.95	3.00	2.94	2.91	2.85	2.75	2.59	2.77
25	2.81	3.07	3.07	3.04	2.94	2.93	2.97	2.85	2.77	2.74	2.56	2.70
EOM	2.78	3.05	3.09	3.04	2.92	2.98	2.95	3.01	2.82	2.68	2.62	2.63

WTR YR 1989 MEAN 2.86 MAX 3.25 MIN 2.03

## STREAMS TRIBUTARY TO LAKE MICHIGAN

## 04100300 SKINNER LAKE NEAR ALBION, IN

LOCATION.--Lat 41°24'12", long 85°22'37", in SE¼SE¼NW¼ sec.16, T.34 N., R.10 E., Noble County, Hydrologic Unit 04050001 (ALBION, IN quadrangle). The gage is on the upstream side of the bridge over the outlet channel on the northwest lobe of the lake, and 2.5 mi northeast of Albion.

SURFACE AREA.--125 acres.

DRAINAGE AREA.--14.0 mi<sup>2</sup>.

PERIOD OF RECORD.--1945-72, 1976 to current year.

DATUM OF GAGE.--920.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage is driven into the channel bed at the same site.

ESTABLISHED LEGAL LEVEL.--7.74 ft gage datum or 927.74 ft above National Geodetic Vertical Datum of 1929, as decreed on August 31, 1955, by the Noble County Circuit Court.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a steel sheet piling dam with a fixed crest.

INLET AND OUTLET.--Rimmell Branch enters the lake on the southern shore, a small ditch enters on the southeast tip, and the outlet channel of Sweet Lake flows into the lake from the northeast. The outlet, Croft ditch, flows from the lake on the south shore of the northwest lobe, and into the South Branch of the Elkhart River 5.6 mi downstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 12.60 ft Apr. 5, 1950; minimum stage, 6.14 ft Oct. 16, 17, 1946.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	7.68	7.79	7.90	7.90	7.89	7.90	8.17	7.80	9.32	7.75	7.70	7.69
10	7.68	8.96	7.85	8.32	7.89	7.79	7.89	7.81	8.00	7.74	7.66	7.70
15	7.67	8.08	7.81	7.91	7.85	7.86	7.84	7.80	7.87	7.74	7.69	7.73
20	7.97	8.93	7.82	7.87	7.84	7.91	7.83	8.02	8.08	7.75	7.68	7.69
25	7.83	8.05	8.09	7.86	7.80	7.88	7.86	8.16	7.86	7.73	7.67	7.67
EOM	7.74	7.99	8.43	7.99	7.79	7.90	7.83	7.91	7.77	7.70	7.70	7.65

WTR YR 1989 MEAN 7.92 MAX 9.70 MIN 7.65

## WABASH RIVER BASIN

## 03330140 SMALLER LAKE NEAR WASHINGTON CENTER, IN

LOCATION.--Lat 41°18'52", long 85°35'04", in SW¼SE¼ sec.15, T.33 N., R.8 E., Noble County, Hydrologic Unit 05120106 (ORMAS, IN quadrangle). The gage is located on the north side of the outlet channel, 300 ft upstream from the first bridge over the outlet, and 0.9 mi southeast of Washington Center.

SURFACE AREA.--69 acres.

DRAINAGE AREA.--27.1 mi<sup>2</sup>.

PERIOD OF RECORD.--1943 to current year.

DATUM OF GAGE.--880.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 24-inch diameter stilling well. An auxiliary staff gage is driven into the channel bed.

ESTABLISHED LEGAL LEVEL.--Not established.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a riffle in the outlet channel 500 ft below the lake.

INLET AND OUTLET.--The Tippecanoe River flows through the lake, entering at the south end from Big Lake, 4.2 mi upstream, and flowing from the lake at the northwestern end into Baugher Lake, 1.2 mi downstream. Another inlet enters on the north shore from Gilbert Lake 0.9 mi upstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 7.00 ft Mar. 24, 1978; minimum stage, 1.10 ft Aug. 7, 1963.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	2.10	1.87	2.17	2.29	2.19	1.94	2.86	1.96	4.55	1.56	1.50	1.66
10	2.05	2.73	1.99	3.33	1.94	1.86	2.31	1.85	3.23	1.49	1.50	1.86
15	2.03	2.69	1.88	2.63	1.94	1.91	2.03	1.82	2.62	1.90	1.93	1.79
20	2.39	3.70	1.82	2.21	1.92	2.17	2.22	2.17	2.41	1.69	1.83	1.67
25	2.24	3.24	2.32	2.07	1.88	2.27	1.96	2.30	2.01	1.60	1.76	1.54
EOM	1.82	2.68	2.75	2.38	1.87	2.07	2.11	2.27	1.71	1.50	1.79	1.47

WTR YR 1989 MEAN 2.15 MAX 4.57 MIN 1.47

## STREAMS TRIBUTARY TO LAKE MICHIGAN

## 04099780 STONE LAKE NEAR SCOTT, IN

LOCATION.--Lat 41°44'32", long 85°39'03", in SE¼SE¼SW¼ sec.18, T.38 N., R.8 E., Lagrange County, Hydrologic Unit 04050001 (MIDDLEBURY, IN quadrangle). The gage is on the southeast shore of the lake approximately 200 ft west of the intersection of County Road 1150 West and the lake access road, and 5.4 mi northeast of Middlebury.

SURFACE AREA.--152 acres.

DRAINAGE AREA.--1.51 mi<sup>2</sup>.

PERIOD OF RECORD.--1954-71, 1975-76, 1978 to current year.

DATUM OF GAGE.--810.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well.

ESTABLISHED LEGAL LEVEL.--8.76 ft gage datum or 818.76 ft above National Geodetic Vertical Datum of 1929 as decreed on July 28, 1966, by the Lagrange County Circuit Court.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a fixed-crest concrete sill.

INLET AND OUTLET.--The inlet enters on the eastern end of the south shore from Brokesha Lake 0.2 mi upstream. The outlet flows from the lake at the northern shore.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 9.60 ft Apr. 16-30, 1969; minimum stage, 5.34 ft Nov. 26, 1964.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	7.25	7.31	7.51	7.60	7.66	7.60	7.78	7.98	8.13	7.86	7.78	7.50
10	7.25	7.31	7.49	7.72	7.56	7.57	7.75	7.95	8.07	7.96	7.68	7.53
15	7.25	7.41	7.51	7.64	7.58	7.60	7.77	7.96	8.07	7.96	7.62	7.54
20	7.26	7.48	7.55	7.67	7.67	7.64	7.89	7.97	8.00	7.91	7.52	7.63
25	7.27	7.47	7.56	7.65	7.87	7.62	7.93	7.98	7.95	7.83	7.45	7.72
EOM	7.28	7.52	7.57	7.66	7.56	7.67	7.97	8.11	7.94	7.83	7.49	7.52

WTR YR 1989 MEAN 7.67 MAX 8.20 MIN 7.25

## STREAMS TRIBUTARY TO LAKE MICHIGAN

275

## 04100180 SYLVAN LAKE AT ROME CITY, IN

LOCATION.--Lat 41°29'53", long 85°22'38", in SE¼SE¼SW¼ sec.9, T.35 N., R.10 E., Noble County, Hydrologic Unit 04050001 (ALBION, IN quadrangle). The gage is at the south, upstream side of the bridge over the outlet on the extreme western end of the lake, and at the northern edge of Rome City.

SURFACE AREA.--669 acres.

DRAINAGE AREA.--33.8 mi<sup>2</sup>.

PERIOD OF RECORD.--1943 to current year.

DATUM OF GAGE.--907.00 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1978, the datum of the gage was 910.00 ft. The annual extreme levels given below are at the present datum.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage is attached to the north downstream wall of the footbridge.

ESTABLISHED LEGAL LEVEL.--9.20 ft present gage datum or 916.20 ft above National Geodetic Vertical Datum of 1929 as decreed on June 14, 1951, by the Noble County Circuit Court.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a concrete dam with movable gates.

INLET AND OUTLET.--Barr Lake, 0.2 mi upstream, empties into Sylvan Lake on the southeast shore of the northwest lobe. Oviatt ditch and Henderson Lake ditch both enter the lake on the extreme eastern end. The outlet flows from the lake at the western tip, into Jones Lake 2.8 mi downstream and eventually into the North Branch of the Elkhart River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 10.76 ft Feb. 25 1985; minimum stage, 2.72 ft Nov. 8, 1979.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	9.17	9.24	9.22	9.20	9.18	9.19	9.24	9.24	9.39	9.18	9.16	---
10	9.16	9.25	9.21	9.24	9.18	9.18	9.23	9.24	9.40	9.21	9.14	---
15	9.15	9.25	9.18	9.24	9.18	9.19	9.22	9.24	9.39	9.22	---	---
20	9.25	9.25	9.22	9.20	9.18	9.18	9.22	9.24	9.31	9.21	---	---
25	9.25	9.25	9.21	9.17	9.18	9.18	9.24	9.25	9.31	9.20	---	---
EOM	9.23	9.25	9.23	9.19	9.18	9.20	9.24	9.25	9.21	9.18	---	---

WTR YR 1989 MEAN 9.22 MAX 9.40 MIN 9.10

## STREAMS TRIBUTARY TO LAKE MICHIGAN

## 04100460 SYRACUSE LAKE AT SYRACUSE, IN

LOCATION.--Lat 41°25'26", long 85°44'59", in SW¼SW¼ sec.5, T.34 N., R.7 E., Kosciusko County, Hydrologic Unit 04050001 (LAKE WAWASEE, IN quadrangle). The gage is at the southwestern end of the lake, on the south abutment of the dam, and just west of the State Road 13 bridge in the town of Syracuse.

SURFACE AREA.--414 acres.

DRAINAGE AREA.--38.2 mi<sup>2</sup>.

PERIOD OF RECORD.--1943 to current year.

DATUM OF GAGE.--849.85 ft above National Geodetic Vertical Datum of 1929 as corrected on the basis of levels of Indiana Department of Natural Resources, 1973-74.

GAGE.--A water-stage recorder is installed in a concrete shelter over a stilling well in the south abutment of the control structure. Two auxiliary staff gages are at the site. One is attached to the upstream side of the south abutment and the other is bolted to the seawall just west of the bridge over the outlet.

ESTABLISHED LEGAL LEVEL.--8.87 ft gage datum or 858.87 ft above National Geodetic Vertical Datum of 1929 as decreed on September 20, 1948, by the Kosciusko County Circuit Court. Minor errors were subsequently discovered in the establishment of the datum of the gage (see "DATUM OF GAGE") and the correct elevation of the legal level should be 8.87 ft gage datum or 858.72 ft above National Geodetic Vertical Datum of 1929.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a concrete dam with two steel lift gates.

INLET AND OUTLET.--The one inlet is the outlet channel from Lake Wawasee on the southern shore of the lake. The outlet, Turkey Creek, flows from the lake at the southwest end and eventually into the Elkhart River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 10.15 ft Jan. 27, 28, 1950; minimum stage, 7.00 ft Nov. 19-21, 1953.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	8.27	8.61	9.00	8.54	8.73	8.23	8.78	8.63	9.22	8.88	8.89	8.90
10	8.23	8.82	8.80	8.65	8.67	8.22	8.64	8.64	9.11	8.87	8.79	8.95
15	8.21	8.98	8.65	8.62	8.67	8.31	8.56	8.66	8.96	8.96	8.82	8.97
20	8.46	9.07	8.50	8.78	8.30	8.41	8.55	8.76	8.86	9.04	8.81	8.96
25	8.51	9.11	8.50	8.89	8.18	8.47	8.60	8.85	8.97	8.92	8.81	8.79
EOM	8.52	9.07	8.54	8.93	8.21	8.56	8.63	8.92	8.91	8.91	8.85	8.68

WTR YR 1989 MEAN 8.71 MAX 9.22 MIN 8.09

## 03330480 TIPPECANOE LAKE AT OSWEGO, IN

LOCATION.--Lat 41°19'15", long 85°47'20", in NW¼NE¼ sec.14, T.33 N., R.6 E., Kosciusko County, Hydrologic Unit 05120106 (LEESBURG, IN quadrangle). The gage is on the south side of the dam at the extreme southwest end of the lake, in the outlet channel, at Oswego.

SURFACE AREA.--768 acres.

DRAINAGE AREA.--113 mi<sup>2</sup>.

PERIOD OF RECORD.--1943 to current year.

DATUM OF GAGE.--830.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage is attached to the upstream side of the south abutment of the dam.

ESTABLISHED LEGAL LEVEL.--6.40 ft gage datum or 836.40 ft above National Geodetic Vertical Datum of 1929 as decreed on October 18, 1949, by the Kosciusko County Circuit Court. James Lake at Oswego and Oswego Lake at Oswego have the same established level and hence the same lake levels for the period of record.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a concrete dam with multiple slide gates on the outlet channel of the lake.

INLET AND OUTLET.--The lake has two principal inlets. The Tippecanoe River flows from Webster Lake, enters James Lake, and flows into Tippecanoe Lake on the eastern side. The outlet from the Barbee Chain of Lakes enters from the southeast. The outlet, the Tippecanoe River, leaves the lake on the southwestern side.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 9.43 ft May 21, 1943; minimum stage, 4.90 ft Feb. 13-17, 1963.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	6.48	5.87	6.97	6.23	6.34	5.55	6.82	6.61	7.55	6.68	6.71	6.66
10	6.46	6.01	6.60	7.15	6.34	5.55	6.76	6.69	7.75	6.72	6.59	6.68
15	6.43	6.71	6.30	7.25	6.04	6.22	6.67	6.69	7.32	6.70	6.66	6.68
20	6.73	7.37	5.89	6.87	5.79	6.35	6.68	6.69	6.72	6.64	6.64	6.64
25	6.62	7.55	5.84	6.53	5.65	6.39	6.69	6.70	6.69	6.75	6.67	6.65
EOM	6.17	7.40	6.05	6.39	5.58	6.57	6.64	6.65	6.68	6.70	6.72	6.68

WTR YR 1989 MEAN 6.58 MAX 7.82 MIN 5.50

## STREAMS TRIBUTARY TO LAKE MICHIGAN

## 04100320 UPPER LONG LAKE NEAR WOLFLAKE, IN

LOCATION.--Lat 41°21'33", long 85°29'09", in NE¼NE¼ sec.33, T.34 N., R.9 E., Noble County, Hydrologic Unit 04050001 (MERRIAM, IN quadrangle). The gage is on the northeast shore of the lake, at the northernmost boat slip, and 1.8 mi north-northeast of the town of Wolflake.

SURFACE AREA.--86 acres.

DRAINAGE AREA.--2.08 mi<sup>2</sup>.

PERIOD OF RECORD.--1956 to current year.

DATUM OF GAGE.--880.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage is also located in the boat slip.

ESTABLISHED LEGAL LEVEL.--11.19 ft gage datum or 891.19 ft above National Geodetic Vertical Datum of 1929 as decreed on February 20, 1968, by Noble County Circuit Court.

LAKE-LEVEL CONTROL.--The lake level is controlled by a fixed-sill concrete dam.

INLET AND OUTLET.--There is one inlet that enters the lake from the eastern side. The outlet flows to the north through Dollar Lake, and eventually into the South Branch Elkhart River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 13.40 ft June 27, 1968; minimum stage, 9.95 ft May 11, 1970.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	11.42	11.48	11.50	11.59	11.52	11.48	11.71	11.47	12.26	11.38	11.35	11.44
10	11.38	11.95	11.45	11.83	11.51	11.48	11.54	11.46	11.82	11.38	11.28	11.50
15	11.34	11.72	11.43	11.60	11.47	11.50	11.47	11.46	11.64	11.38	11.34	---
20	11.62	12.06	11.45	11.52	11.48	11.54	11.46	11.62	11.60	11.39	11.34	---
25	11.53	11.75	11.61	11.50	11.48	11.48	11.46	11.72	11.48	11.39	11.37	---
EOM	11.43	11.60	11.67	11.56	11.48	11.51	11.47	11.68	11.39	11.37	11.41	---

WTR YR 1989 MEAN 11.53 MAX 12.36 MIN 11.28



## LAUGHERY CREEK BASIN

277

## 03276800 VERSAILLES LAKE NEAR VERSAILLES, IN

LOCATION.--Lat 39°04'50", long 85°14'02", in NE1/4 sec.6, T.7 N., R.12 E., Ripley County, Hydrologic Unit 05090203 (MILAN, IN quadrangle). The gage is on the eastern side of the lake, on the downstream side of the bridge over Falling Timber Creek in Versailles State Park.

SURFACE AREA.--232 acres.

DRAINAGE AREA.--168 mi<sup>2</sup>.

PERIOD OF RECORD.--1958 to current year.

DATUM OF GAGE.--760.74 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder installed in an aluminum shelter over a 12-inch diameter stilling well.

ESTABLISHED LEGAL LEVEL.--Not established.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a concrete spillway dam with a movable gate.

INLET AND OUTLET.--The inlets are Laughery Creek, Falling Timber Creek, and Cedar Creek. The outlet is Laughery Creek, which flows southeasterly and empties into the Ohio River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 36.43 ft Jan. 21, 1959, as determined by the U.S. Geological Survey from high-water marks during an indirect measurement of discharge; minimum stage, 18.05 ft Apr. 12, 1970.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	---	28.19	29.18	29.57	29.41	31.12	29.83	29.60	29.56	29.17	29.59	29.24
10	---	29.24	29.15	29.48	29.24	29.86	29.50	29.75	29.21	29.14	29.15	29.63
15	---	29.23	29.14	30.08	31.43	29.96	29.31	29.45	29.66	29.16	29.14	29.57
20	---	29.74	29.13	29.36	29.80	32.19	29.53	29.39	29.26	29.11	29.30	29.23
25	---	29.22	29.56	29.27	29.44	29.45	29.30	29.59	29.17	29.13	30.64	29.14
EOB	---	29.25	29.41	29.26	29.37	31.45	30.09	29.29	29.14	29.15	29.32	29.13

WTR YR 1989 MEAN 29.48 MAX 33.10 MIN 28.19

## STREAMS TRIBUTARY TO LAKE MICHIGAN

## 04100220 WALDRON LAKE NEAR COSPERVILLE, IN

LOCATION.--Lat 41°29'34", long 85°26'55", in SE1/4 sec.14, T.35 N., R.9 E., Noble County, Hydrologic Unit 04050001 (ALBION, IN quadrangle). The gage is on a dredged channel at the public fishing site west of County Road 125 West at Dukes Bridge, and 6.8 mi northwest of Albion.

SURFACE AREA.--216 acres.

DRAINAGE AREA.--134 mi<sup>2</sup>.

PERIOD OF RECORD.--1948 to current year.

DATUM OF GAGE.--880.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an  
LANIER BUS. PROD.

aluminum shelter over a 15-inch diameter stilling well. An  
auxiliary wire-weight gage is attached to the upstream side of Dukes Bridge.

ESTABLISHED LEGAL LEVEL.--5.55 ft gage datum or 885.55 ft above National Geodetic Vertical Datum of 1929 as decreed on May 6, 1968, by the Noble County Circuit Court. Jones, Steinbarger and Tamarack Lakes, all near Cosperville, have the same established level as Waldron Lake and hence the same lake levels for the period of record.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a fixed-crest concrete dam with removable boards.

INLET AND OUTLET.--The North Branch of the Elkhart River flows through the lake, entering through Jones Lake at the north and leaving at the west end of Waldron Lake. Another inlet enters at the southeast from Steinbarger Lake, 0.1 mi upstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 10.16 ft Mar. 22, 1982; minimum stage, 4.44 ft Aug. 9-11, Sept. 14-17, 1964.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	5.35	5.72	6.83	6.34	6.18	5.56	6.44	5.64	7.90	6.33	5.63	---
10	5.07	6.37	6.43	7.25	5.91	5.46	6.32	5.55	7.73	6.16	---	---
15	4.95	6.77	6.06	6.97	5.77	5.66	6.02	5.71	7.40	6.49	---	---
20	6.35	7.59	5.85	6.68	5.66	5.95	5.83	6.13	7.26	6.19	---	---
25	6.24	7.56	6.26	6.34	5.57	5.90	5.67	6.18	6.98	6.02	---	---
EOB	5.84	7.24	6.58	6.39	5.51	5.90	5.69	6.33	6.65	5.85	---	---

WTR YR 1989 MEAN 6.24 MAX 7.91 MIN 4.95



## ILLINOIS RIVER BASIN

## 05517600 WAUHOB LAKE NEAR VALPARAISO, IN

LOCATION.--Lat 41°32'02", long 87°02'42", in NW¼NW¼NW¼ sec.31, T.36 N., R.5 W., Porter County, Hydrologic Unit 07120001 (CHESTERTON, IN quadrangle). The gage is on the northwest shore of the lake, 4.7 mi north of Valparaiso.

SURFACE AREA.--21 acres.

DRAINAGE AREA.--0.40 mi<sup>2</sup>.

PERIOD OF RECORD.--1946 to current year.

DATUM OF GAGE.--790.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A staff gage in one section is driven into the lake bed, 75 ft from Arthur J. Knoblich's cottage. An auxiliary staff gage is 20 ft lakeward of the main gage.

ESTABLISHED LEGAL LEVEL.--Not established.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by the outlet channel.

INLET AND OUTLET.--The lake has one inlet entering on the northeast side from Mink Lake 0.3 mi upstream. The outlet flows from the southeast shore, southwesterly through a swamp to Canada Lake 0.3 mi downstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 11.05 ft Apr. 23, 1973; minimum stage, 6.58 ft Sept. 17, 1964.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	8.18	8.48	8.56	8.79	9.03	9.10	9.73	9.32	10.40	9.38	8.90	8.76
10	8.15	8.73	8.52	8.81	9.03	9.13	9.66	9.22	9.98	9.24	8.78	8.80
15	8.06	8.67	8.53	8.87	9.01	9.18	9.55	9.16	9.90	9.10	8.74	8.76
20	8.43	8.73	8.54	9.02	8.99	9.34	9.50	9.14	9.74	9.10	8.68	8.68
25	8.45	8.62	8.63	9.01	9.00	9.32	9.39	9.17	9.60	9.10	8.66	8.60
EOM	8.40	8.61	8.74	9.05	9.05	9.57	9.34	9.39	9.50	9.01	8.64	8.51

WTR YR 1989 MEAN 8.99 MAX 10.50 MIN 8.06

## WABASH RIVER BASIN

## 03330240 WEBSTER LAKE AT NORTH WEBSTER, IN

LOCATION.--Lat 41°19'09", long 85°41'20", in NE¼SW¼NW¼ sec.14, T.33 N., R.7 E., Kosciusko County, Hydrologic Unit 05120106 (NORTH WEBSTER, IN quadrangle). The gage is on the southwest side of the lake at the outlet, 0.3 mi northeast of the intersection of State Road 13 and County Road 550 North and approximately 0.6 mi southeast of the center of North Webster.

SURFACE AREA.--774 acres.

DRAINAGE AREA.--49.2 mi<sup>2</sup>.

PERIOD OF RECORD.--1943 to current year.

DATUM OF GAGE.--839.93 ft above National Geodetic Vertical Datum of 1929, as corrected on the basis of levels of Indiana Department of Natural Resources, 1973-74.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage in one section is bolted to the southeast face of the concrete wall of the approach channel to the control dam.

ESTABLISHED LEGAL LEVEL.--12.75 ft gage datum or 852.75 ft above National Geodetic Vertical Datum of 1929 as decreed July 2, 1945, by the Kosciusko County Circuit Court. Minor errors were subsequently discovered in the establishment of the datum of the gage (see "DATUM OF GAGE") and the correct elevation of the legal level should be 12.75 ft. gage datum or 852.68 ft above National Geodetic Vertical Datum of 1929.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a concrete notch dam with seven adjustable gates at the head of the outlet channel. North of this dam is another which used to serve as a mill race. This dam has one metal gate.

INLET AND OUTLET.--The Tippecanoe River flows through Webster Lake, entering at the southeast end and leaving at the southwest side. The Tippecanoe River enters James Lake, 2.1 mi downstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 15.15 ft Feb. 11, 1984; minimum stage, 9.79 ft (during repair of the dam) Oct. 5, 1962.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	12.58	12.81	12.69	12.96	12.72	12.78	13.25	12.90	13.50	13.13	12.79	13.20
10	12.57	13.14	12.24	13.57	12.72	12.78	13.02	12.94	13.34	13.09	12.69	13.43
15	12.50	13.05	11.73	13.27	12.78	12.66	12.84	12.95	13.11	13.14	12.87	13.14
20	13.02	13.54	11.85	12.96	12.40	12.68	12.94	13.01	13.20	13.17	12.93	12.96
25	12.90	13.62	12.34	12.79	12.56	12.78	13.01	13.14	13.34	13.04	12.92	12.76
EOM	12.74	13.03	12.77	12.76	12.65	12.85	12.74	13.26	13.23	12.86	12.91	12.58

WTR YR 1989 MEAN 12.91 MAX 13.71 MIN 11.72

## ILLINOIS RIVER BASIN

279

## 05514770 WHARTON LAKE NEAR SOUTH BEND, IN

LOCATION.--Lat 41°36'11", long 86°18'36", in NW1SW1NW1 sec.4, T.36 N., R.2 E., St. Joseph County, Hydrologic Unit 07120001 (LAKEVILLE, IN quadrangle). The gage is on the east side of the lake, in a channel west of a storage shed at the Calvert Rod and Gun Club property, and 5.7 mi northwest of Lakeville.

SURFACE AREA.--18 acres (measured on U.S. Geological Survey topographic map, scale 1:24000).

DRAINAGE AREA.--1.85 mi<sup>2</sup>.

PERIOD OF RECORD.--1960-76, 1982 to current year.

DATUM OF GAGE.--770.00 ft above National Geodetic Vertical Datum of 1929.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well.

ESTABLISHED LEGAL LEVEL.--Not established.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a 48-inch round concrete tile in the outlet channel.

INLET AND OUTLET.--The one inlet enters the lake on the southeastern shore and drains the immediately surrounding area. The outlet flows from the lake on the western shore, and eventually into the Kankakee River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 8.51 ft Jan. 8, 9, 10, 1989; minimum stage, 4.97 ft Aug. 31, 1962.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	6.68	7.17	8.07	8.35	8.15	8.08	8.13	7.56	8.03	7.15	7.20	6.78
10	6.64	7.67	7.97	8.50	8.15	7.82	8.03	7.44	7.80	7.48	6.89	7.05
15	6.59	7.77	7.94	8.36	8.09	7.85	7.93	7.35	7.69	7.38	6.81	7.01
20	7.02	8.20	7.96	8.23	8.08	7.91	7.90	7.38	7.57	7.38	6.79	6.87
25	7.12	8.17	8.19	8.18	8.08	7.81	7.79	7.38	7.40	7.30	6.71	6.76
EOM	7.09	8.14	8.37	8.16	8.08	7.86	7.71	7.35	7.29	7.22	6.76	6.68

WTR YR 1989 MEAN 7.59 MAX 8.51 MIN 6.59

## WABASH RIVER BASIN

## 03331140 WINONA LAKE AT WARSAW, IN

LOCATION.--Lat 41°13'34", long 85°50'46", in NW1NE1SE1 sec.17, T.32 N., R.6 E., Kosciusko County, Hydrologic Unit 05120106 (WARSAW, IN quadrangle). The gage is on the western side of the lake, 20 ft east of the dam on the northern side of the outlet channel, 1.0 mi south of Warsaw.

SURFACE AREA.--562 acres.

DRAINAGE AREA.--32.1 mi<sup>2</sup>.

PERIOD OF RECORD.--1943-78, 1980 to current year.

DATUM OF GAGE.--800.10 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 17, 1977, the datum of the gage was 810.10 ft above National Geodetic Vertical Datum of 1929 as corrected on the basis of levels of Indiana Department of Natural Resources, 1973-74. All levels listed below are at the present datum.

GAGE.--A water-stage recorder is installed in an aluminum shelter over a 15-inch diameter stilling well. An auxiliary staff gage is attached to the stilling well.

ESTABLISHED LEGAL LEVEL.--11.06 ft gage datum or 811.06 ft above National Geodetic Vertical Datum of 1929 as decreed on June 17, 1949, by the Kosciusko County Circuit Court. Minor errors were subsequently discovered in the establishment of the datum of the gage (see "DATUM OF GAGE") and the correct elevation of the legal level should be 11.06 ft gage datum or 811.16 ft above National Geodetic Vertical Datum of 1929.

LAKE-LEVEL CONTROL.--The level of the lake is controlled by a concrete fixed-crest dam with steel lift gates.

INLET AND OUTLET.--There are three inlets to the lake. Wyland ditch enters on the eastern shore from Shesburn Lake 6.7 mi upstream. Keefer-Evans ditch enters on the southeastern shore and Paterson ditch on the southwestern shore. The outlet, Eagle Creek, flows from the western lobe of the lake into Walnut Creek 1.4 mi downstream, thence into the Tippecanoe River.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage, 13.31 ft June 14, 1981; minimum stage, 9.40 ft Feb. 15, 1982.

LAKE LEVEL, IN FEET ABOVE GAGE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989  
24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	10.87	9.84	9.85	9.98	9.91	9.87	10.22	10.16	11.07	10.86	10.89	11.00
10	10.84	9.97	9.81	10.27	9.86	9.83	9.98	10.39	10.99	10.83	10.80	11.01
15	10.81	9.89	9.79	10.03	9.86	9.85	9.88	10.60	11.07	10.90	10.82	11.08
20	10.97	10.18	9.78	9.93	9.87	9.98	9.86	10.88	11.02	10.91	10.83	11.01
25	10.94	10.03	9.92	9.91	9.85	9.92	9.81	11.00	10.96	10.89	10.97	10.92
EOM	10.12	9.92	10.05	9.96	9.83	9.89	9.92	11.04	10.89	10.90	10.95	10.89

WTR YR 1989 MEAN 10.41 MAX 11.25 MIN 9.77

For many years, records of the water-surface elevations of many of the lakes in Indiana have been collected by the Geological Survey under cooperative agreement with the Indiana Department of Natural Resources. Basic data for a few selected lakes have been published in WSP 1363, entitled "Hydrology of Indiana Lakes." Records which have not been published are available in the files of the District Office of the Geological Survey in Indianapolis, Indiana. In general, the records before 1976 were based on once-daily readings of a staff gage by a local observer and consist of daily, monthly, and yearly mean water-surface elevations. Starting in 1976, water-stage recorders were installed at many stations which had previously been nonrecording gages. Discharge measurements, made at the outflow, are also available in some instances.

The lakes for which records have been collected are listed by downstream order number in the following table. The established level, sometimes referred to as the legal level, is that elevation set by the courts to which the average level of the lake is to be held; it is normally set at about the average level that has prevailed for a number of years prior to the establishment of the level. Surface area and capacity of the lake is that surface area and capacity at the established level. Depth contour maps are only those surveyed by the Water Resources Division of the Geological Survey. The inclusive years that records of stage have been collected at a lake are shown in the last column. If records are still being collected on a current basis, there is no closing date shown.

## Lakes in the Ohio River basin for which records are available

Lake	County	Drain- age (square miles)	Surface area (acres)	Estab- lished level*	Capac- ity (acre- feet)	Contour map avail- able	Records avail- able
LAUGHERY CREEK BASIN							
03276800 Versailles Lake near Versailles	Ripley	168.0	232	-----	-----	-	1957-
BAYOU DRAIN BASIN							
03322300 Hovey Lake near Mount Vernon	Posey	6.36	253	-----	-----	-	1950-69
WABASH RIVER BASIN							
03327550 Everett Lake at Levert	Allen	1.07	43	835.13	650	+	1948-66
03327600 Blue Lake near Churubusco	Whitley	3.58	239	850.28	5,010	+	1946-69, 1976-
03327650 Shriner Lake at Tri-Lakes	Whitley	.94	111	907.04	-----	-	1943-
03327700 Cedar Lake at Tri-Lakes	Whitley	.79	131	901.90	-----	-	1943-49
03327750 Round Lake at Tri-Lakes	Whitley	3.36	125	901.90	-----	-	1943-53
03327800 Wilson Lake near Larwill	Whitley	.46	29	865.39	390	+	1946-52
03327850 Little Wilson Lake near Larwill	Whitley	.52	8	865.39	130	+	1946-52
03328100 Long Lake at Laketon	Wabash	.55	48	751.19	760	+	1946-51, 1959-
03328250 North Little Lake at Silver Lake	Kosciusko	2.89	12	861.73	170	+	1947-
03328350 Silver Lake at Silver Lake	Kosciusko	6.31	102	861.73	1,520	+	1947-
03328400 Lukens Lake near Disko	Wabash	1.76	46	763.60	1,010	+	1948-49, 1959-
03330020 Crooked Lake near Wolflake	Noble	1.51	206	905.69	9,040	+	1943-53
03330040 Big Lake near Wolflake	Noble	8.89	228	898.18	5,630	+	1943-75 1976-
03330060 Goose Lake near Lorane	Whitley	1.51	84	910.96	2,180	+	1945-53
03330080 Loon Lake at Ormas	Whitley	11.1	222	895.14	5,730	+	1943-66
03330100 New Lake near Etna	Whitley	.29	50	903.91	880	+	1945-53
03330120 Old Lake near Etna	Whitley	2.81	32	898.07	620	+	1949-66
03330140 Smalley Lake near Washington Center	Noble	27.1	69	-----	1,520	+	1943-
03330160 Gilbert Lake near Washington Center	Noble	.37	28	-----	490	+	1954-
03330180 Horseshoe Lake nr Washington Center	Noble	1.62	18	901.80	250	+	1945-66
03330200 Baugher Lake near Washington Center	Noble	31.0	32	878.52	390	+	1945-51
03330220 Wilnot Pond at Wilnot	Noble	35.2	10	-----	-----	-	1945-51
03330240 Webster Lake at North Webster	Kosciusko	49.2	774	852.75	7,170	+	1943-
03330243 James Lake at Oswego	Kosciusko	55.9	282	836.40	7,580	+	1943-
03330260 Robinson Lake near Pierceton	Kosciusko	7.15	59	851.09	1,170	+	1946-51
03330280 Troy Cedar Lake near Lorane	Whitley	5.33	93	905.41	2,540	+	1945-52
03330300 Ridinger Lake near Pierceton	Kosciusko	34.6	136	843.12	2,900	+	1943-
03330320 Kuhn Lake near North Webster	Kosciusko	3.85	137	837.50	1,290	+	1945-
03330340 Big Barbee Lake near North Webster	Kosciusko	44.7	304	837.50	5,640	+	1945-
03330360 Little Barbee Lake nr North Webster	Kosciusko	49.0	74	837.50	960	+	1945-
03330380 Shoe Lake near Oswego	Kosciusko	.34	40	841.57	-----	-	1946-53, 1972, 74, 1976-
03330400 Banning Lake near North Webster	Kosciusko	.48	12	837.50	110	+	1945-
03330420 Irish Lake near North Webster	Kosciusko	50.9	182	837.50	2,330	+	1945-
03330440 Sechrist Lake near North Webster	Kosciusko	.58	105	837.50	2,490	+	1945-
03330460 Sawmill Lake near North Webster	Kosciusko	51.8	36	837.50	370	+	1945-
03330480 Tippecanoe Lake at Oswego	Kosciusko	113	768	836.40	28,380	+	1943-
03330495 Oswego Lake at Oswego	Kosciusko	113	83	836.40	780	+	1943-
03331010 Big Chapman Lake near Warsaw	Kosciusko	4.17	581	827.75	6,080	+	1945-72, 1976-
03331020 Little Chapman Lake near Warsaw	Kosciusko	7.13	177	827.75	1,990	+	1945-72, 1976-
03331040 Pike Lake at Warsaw	Kosciusko	41.5	203	805.64	2,830	+	1954-
03331060 Fish Lake near Warsaw	Kosciusko	4.93	15	845.52	-----	-	1951-66
03331080 Muskegon Lake near Warsaw	Kosciusko	11.8	32	842.67	300	+	1943-53, 1959-71
03331100 Carr Lake near Claypool	Kosciusko	2.27	79	848.88	1,340	+	1947-53
03331120 Sherburn Lake near Pierceton	Kosciusko	5.51	15	881.00	230	+	1954-
03331140 Winona Lake at Warsaw	Kosciusko	32.1	562	811.06	16,680	+	1943-

## Lakes in the Ohio River basin for which records are available--Continued

Lake	County	Drain- age (square miles)	Surface area (acres)	Estab- lished level*	Capac- ity (acre- feet)	Contour map avail- able	Records avail- able	
WABASH RIVER BASIN--Continued								
03331160	Center Lake at Warsaw	Kosciusko	0.73	120	803.86	2,060	+	1945-
03331180	Palestine Lake at Palestine	Kosciusko	32.4	290	-----	1,170	+	1954-
03331200	Crystal Lake near Atwood	Kosciusko	.45	76	789.69	930	+	1945-51
03331220	Hoffman Lake at Atwood	Kosciusko	8.07	180	785.85	3,160	+	1945-53
03331240	Beaver Dam Lake near Silver Lake	Kosciusko	2.83	146	868.95	3,280	+	1947-53
03331260	Loon Lake near Silver Lake	Kosciusko	3.59	40	865.74	670	+	1947-53
03331280	McClures Lake near Silver Lake	Kosciusko	1.29	32	865.85	410	+	1945-52
03331300	Hill Lake near Silver Lake	Kosciusko	.85	67	871.50	1,300	+	1952-
03331320	Diamond Lake near Silver Lake	Kosciusko	3.92	79	-----	1,280	+	1954-
03331340	Yellow Creek Lake near Silver Lake	Kosciusko	11.1	151	860.50	4,730	+	1945-53
03331360	Rock Lake near Akron	Kosciusko	2.74	56	847.29	360	+	1946-66
03331370	Town Lake near Akron	Fulton	2.77	23	-----	220	+	1949-50
03331380	Lake Manitou at Rochester	Fulton	44.2	1,158	778.41	10,165	+	1943-
03331390	Zink Lake near Rochester	Fulton	1.11	19	810.68	-----	-	1952-55
03331400	Nyona Lake near Greenoak	Fulton	7.59	104	793.91	1,340	+	1946-
03331420	South Mud Lake near Fulton	Fulton	4.53	94	793.42	1,020	+	1946-66
03331438	King Lake near Delong	Fulton	1.98	18	-----	180	+	1971-
03331440	Maxinkuckee Lake at Culver	Marshall	13.7	1,864	733.12	45,600	+	1943-
03331460	Lost Lake near Culver	Marshall	14.2	40	732.00	-----	-	1954-
03331480	Langenbaum Lake near Monterey	Starke	.72	48	717.96	260	+	1954-66
03331700	Bruce Lake at Bruce Lake	Pulaski	6.38	245	723.69	1,790	+	1943-53
03332200	Fletcher Lake at Fletcher	Fulton	.67	45	783.20	880	+	1946-53
03370900	Starve Hollow Lake near Vallonia	Jackson	6.67	145	-----	980	+	1946-61
								1963-71
03371700	Ogle Lake near Nashville	Brown	1.03	20	-----	250	+	1954-

## Lakes in the St. Lawrence River basin for which records are available

## STREAMS TRIBUTARY TO LAKE MICHIGAN

04092500	Wolf Lake at Hammond	Lake	5.72	999	-----	-----	-	1946-49
04092990	Lake George at Hobart	Lake	124	282	602.23	-----	-	1946-
04097520	Lake Pleasant near Nevada Mills	Steuben	3.18	424	961.50	3,490	+	1954-69, 1971, 1976-
04097550	Lake George at Jamestown	Steuben	14.7	488	985.28	-----	-	1946-
04097596	Marsh Lake near Fremont	Steuben	14.9	-----	-----	-----	-	1967-69
04097600	Little Otter Lake near Fremont	Steuben	15.7	34	965.18	740	+	1946-53
04097640	Big Otter Lake near Fremont	Steuben	21.3	69	965.18	1,780	+	1946-53
04097650	Snow Lake at Lake James	Steuben	40.2	310	964.96	7,998	+	1943-49
04097660	Lake James at Lake James	Steuben	47.8	1,034	964.96	33,585	+	1943-49
04097680	Jimmerson Lake at Nevada Mills	Steuben	51.6	434	964.66	4,394	+	1946-
04097780	Loon Lake near Angola	Steuben	2.13	138	1,011.98	630	+	1954-66
04097830	Crooked Lake at Crooked Lake	Steuben	10.4	828	988.17	10,555	+	1946-
04097950	Lake Gage at Panama	Steuben	17.3	332	954.25	10,140	+	1946-
04097960	Lime Lake at Panama	Steuben	17.5	57	954.25	427	+	1946-
04098100	Wall Lake near Orland	Lagrange	1.61	141	942.25	1,640	+	1953-54
04098110	Mud Lake near Orland	Steuben	1.85	25	939.01	-----	-	1956-67
04098300	Cedar Lake near Ontario	Lagrange	1.60	120	871.90	1,020	+	1948-51
04099050	Pigeon Lake near Angola	Steuben	35.2	61	988.24	930	+	1954-63
04099100	Fox Lake near Angola	Steuben	1.25	142	1,018.83	3,150	+	1946-53
04099190	Pleasant Lake at Pleasant Lake	Steuben	1.12	53	963.52	1,190	+	1946-66
04099200	Long Lake at Moonlight	Steuben	67.9	92	-----	1,540	+	1946-
04099250	Bower Lake near Pleasant Lake	Steuben	84.6	25	948.50	280	+	1946-71, 1976-
04099260	Golden Lake near Pleasant Lake	Steuben	88.8	119	948.50	1,810	+	1946-71, 1976-
04099400	Silver Lake near Angola	Steuben	3.79	238	959.40	2,540	+	1945-53
04099430	Base Lake near Angola	Steuben	.39	61	979.68	450	+	1954-66
04099440	Howard Lake near Angola	Steuben	3.90	27	977.34	130	+	1954-63
04099500	Hogback Lake near Angola	Steuben	103	146	948.50	1,450	+	1946-
04099520	Otter Lake near Flint	Steuben	6.91	118	934.15	1,960	+	1954-66
04099540	Story Lake near Hudson	DeKalb	3.16	77	942.20	1,020	+	1946, 1954-66
04099560	Big Turkey Lake at Stroh	Lagrange	35.8	450	926.61	7,300	+	1945-66
04099575	McClish Lake near Helmer	Lagrange	1.28	35	951.09	1,210	+	1951-74, 1976-
04099580	Lake of the Woods near Helmer	Lagrange	5.25	136	951.09	5,470	+	1951-74, 1976-
04099600	Big Long Lake near Stroh	Lagrange	4.77	388	956.2	-----	-	1954-
04099620	Pretty Lake near Stroh	Lagrange	2.89	184	965.50	4,720	+	1949-53, 1963-65
04099640	Little Turkey Lake at Elmira	Lagrange	56.5	135	925.72	1,550	+	1945-66
04099660	Royer Lake near Plato	Lagrange	4.69	69	936.50	1,630	+	1952-
04099670	Fish Lake near Plato	Lagrange	10.6	100	936.50	4,050	+	1945-
04099700	North Twin Lake near Howe	Lagrange	1.54	135	843.56	2,120	+	1953-
04099710	South Twin Lake near Howe	Lagrange	2.22	116	843.56	3,600	+	1953-70
04099740	Shipshewana Lake near Shipshewana	Lagrange	6.74	202	852.04	1,350	+	1951-
04099760	Fish Lake near Scott	Lagrange	6.21	139	814.42	2,560	+	1954-73, 1976-



## Lakes in the St. Lawrence River basin for which records are available--Continued

	Lake	County	Drain- age (square miles)	Surface area (acres)	Estab- lished level*	Capac- ity (acre- feet)	Contour map avail- able	Records avail- able
STREAMS TRIBUTARY TO LAKE MICHIGAN--Continued								
04099780	Stone Lake near Scott	Lagrange	1.51	152	818.76	2,060	+	1954-73, 1976-
04099800	Emma Lake near Emma	Lagrange	13.6	42	880.87	700	+	1954-66
04099810	Cass Lake near Shipshewana	Lagrange	.68	89	-----	873	+	1970-
04099820	Hunter Lake near Middlebury	Elkhart	.51	99	856.90	1,120	+	1946-53
04099840	Wolf Lake near Goshen	Elkhart	1.29	100	813.00	-----	-	1947-57
04099860	Reaton Lake near Elkhart	Elkhart	9.33	87	767.30	640	+	1946-53, 1969-74, 1976-
04099880	Simonton Lake near Elkhart	Elkhart	7.44	303	772.19	1,560	+	1946-
04099950	Indiana Lake near Bristol	Elkhart	.62	122	759.73	3,400	+	1946-53
04100010	Cree Lake near Kendallville	Noble	4.85	58	945.23	910	+	1949-66
04100020	Blackman Lake near Wolcottville	Lagrange	.98	67	974.20	1,210	+	1953-59
04100030	Adams Lake near Wolcottville	Lagrange	5.62	308	953.59	7,690	+	1946-
04100040	Atwood Lake near Wolcottville	Lagrange	1.23	170	899.99	1,560	+	1948-53
04100050	Witmer Lake near Wolcottville	Lagrange	36.1	204	897.36	7,040	+	1945-
04100060	Westler Lake near Wolcottville	Lagrange	37.8	88	897.36	1,770	+	1945-
04100070	Dallas Lake near Wolcottville	Lagrange	39.8	283	897.36	9,970	+	1945-
04100080	Martin Lake near Valentine	Lagrange	4.93	26	899.45	890	+	1945-
04100090	Olin Lake near Valentine	Lagrange	5.81	103	899.45	9,180	+	1945-
04100100	Oliver Lake near Valentine	Lagrange	11.1	362	899.45	15,358	+	1945-
04100110	Hackenburg Lake near Wolcottville	Lagrange	55.4	42	897.36	510	+	1945-
04100120	Messick Lake near Wolcottville	Lagrange	56.4	68	897.36	1,450	+	1945-
04100130	Jones Lake near Cosperville	Noble	70.3	114	885.55	960	+	1946-
04100140	Bixler Lake at Kendallville	Noble	5.28	120	963.65	2,090	+	1945-
04100150	Round Lake at Kendallville	Noble	3.47	99	954.50	2,140	+	1954-
04100160	Little Long Lake at Kendallville	Noble	4.55	71	954.50	1,750	+	1954-
04100170	Latta Lake near Rome City	Noble	2.52	42	918.71	900	+	1954-66
04100180	Sylvan Lake at Rome City	Noble	33.8	669	916.20	5,986	+	1943-
04100190	Sacarider Lake near Kendallville	Noble	1.43	33	-----	740	+	1954-63
04100200	Tamarack Lake near Cosperville	Noble	15.9	50	885.55	880	+	1948-
04100210	Steinbarger Lake near Cosperville	Noble	24.3	73	885.55	1,590	+	1948-
04100220	Waldron Lake near Cosperville	Noble	134	216	885.55	3,120	+	1948-
04100230	Long Lake near Burr Oak	Noble	12.0	40	895.82	630	+	1954-71
04100240	Sand Lake near Burr Oak	Noble	14.9	47	893.56	1,270	+	1946-51
04100250	Rivir Lake near Burr Oak	Noble	18.6	24	-----	380	+	1954-65
04100258	High Lake near Wolf Lake	Noble	4.43	123	896.35	1,240	+	1961-
04100260	Bear Lake near Wolf Lake	Noble	6.98	136	894.60	3,030	+	1943-
04100280	Muncie Lake near Burr Oak	Noble	42.8	47	-----	580	+	1954-
04100290	Silver Lake near Wolf Lake	Noble	.28	34	-----	220	+	1953-63
04100300	Skinner Lake near Albion	Noble	14.0	125	927.74	1,750	+	1945-72, 1977-
04100310	Pleasant Lake near Wolf Lake	Noble	.29	20	-----	540	+	1952-53
04100320	Upper Long Lake near Wolf Lake	Noble	2.08	86	891.19	1,900	+	1956-
04100330	Lower Long Lake near Albion	Noble	4.35	66	889.81	1,560	+	1946-52
04100340	Eagle Lake near Kimmel	Noble	3.22	81	-----	1,050	+	1946-48
04100350	Diamond Lake near Wawaka	Noble	4.80	105	-----	2,580	+	1946-
04100360	Sparta Lake at Kimmel	Noble	.69	31	888.50	170	+	1946-51
04100370	Engle Lake near Ligonier	Noble	4.19	48	878.90	670	+	1956-71, 1977-
04100380	Harper Lake near Washington Center	Noble	2.76	11	878.25	160	+	1946-
04100390	Knapp Lake near Washington Center	Noble	6.02	88	878.25	3,040	+	1946-
04100400	Moss Lake near Washington Center	Noble	6.12	9	878.25	80	+	1946-
04100410	Hindman Lake near Washington Center	Noble	8.66	13	878.25	140	+	1946-
04100420	Gordy Lake near Cromwell	Noble	9.40	31	876.68	680	+	1953-66
04100425	Rider Lake near Cromwell	Noble	10.9	5	876.68	30	+	1953-66
04100430	Duely Lake near Cromwell	Noble	11.2	21	876.68	180	+	1953-66
04100440	Village Lake near Cromwell	Noble	12.0	12	876.68	160	+	1953-66
04100446	Flatbelly Lake near Syracuse	Kosciusko	4.66	326	-----	-----	-	1964-69
04100448	Papakeechie Lake near Syracuse	Kosciusko	5.52	300	-----	-----	-	1964-69
04100450	Wawasee Lake at Wawasee	Kosciusko	36.9	3,060	858.89	67,210	+	1943-66
04100460	Syracuse Lake at Syracuse	Kosciusko	38.2	414	858.87	5,360	+	1943-
04100470	Dewart Lake near Leesburg	Kosciusko	8.05	551	867.70	9,000	+	1945-
04100480	Wabee Lake near Milford	Kosciusko	14.6	187	829.79	4,750	+	1946-53

## STREAMS TRIBUTARY TO LAKE ERIE

04177200	Clear Lake at Clear Lake	Steuben	6.86	800	1,037.38	24,990	+	1943-
04177210	Round Lake at Clear Lake	Steuben	7.25	30	1,037.38	340	+	1943-
04177300	Long Lake near Ray	Steuben	2.80	154	-----	1,840	+	1961-63
04177680	Ball Lake near Hamilton	Steuben	11.6	87	894.76	3,520	+	1961-
04177700	Hamilton Lake at Hamilton	Steuben	16.5	802	898.83	16,600	+	1943-
04179200	Indian Lake near Corunna	DeKalb	3.76	56	-----	1,220	+	1957
04179300	Cedar Lake near Waterloo	DeKalb	23.4	28	896.76	230	+	1943-56

## Lakes in the Upper Mississippi River basin for which records are available

## ILLINOIS RIVER BASIN

05514740	Saugany Lake near Rolling Prairie	LaPorte	2.34	74	781.21	2,190	+	1946-50
05514741	Hudson Lake at Hudson Lake	LaPorte	7.92	432	763.09	5,060	+	1946-



## Lakes in the Upper Mississippi River basin for which records are available--Continued

	Lake	County	Drain- age (square miles)	Surface area (acres)	Estab- lished level*	Capac- ity (acre- feet)	Contour map avail- able	Records avail- able
ILLINOIS RIVER BASIN--Continued								
05514750	North Chain Lake at Lydick	St. Joseph	3.89	88	721.17	1,400	+	1946-53
05514760	South Chain Lake at Westfield	St. Joseph	6.32	90	717.04	270	-	1946-53
05514770	Wharton Lake near South Bend	St. Joseph	1.85	-----	-----	-----	-	1960-
05514900	Silver Lake near Rolling Prairie	LaPorte	1.72	54	795.20	-----	-	1946-66
05515200	Upper Fish Lake near Stillwell	LaPorte	9.65	139	688.22	1,040	+	1946-53
05515210	Lower Fish Lake near Stillwell	LaPorte	10.4	134	688.22	870	+	1946-53
05515220	Pine Lake at LaPorte	LaPorte	10.7	564	796.20	-----	-	1946-75
05515230	Stone Lake at LaPorte	LaPorte	10.7	140	796.20	-----	-	1980- 1946-75
05515240	Clear Lake at LaPorte	LaPorte	.65	106	798.20	760	+	1980- 1942-49, 1952-75
05515600	Koontz Lake at Koontz Lake	Starke	6.25	346	714.56	3,170	+	1980- 1943-
05515800	Riddles Lake near Lakeville	St. Joseph	11.7	77	817.50	640	+	1946-73, 1976-
05516200	Lake of the Woods near Bremen	Marshall	9.45	416	803.85	6,810	+	1945-
05516600	Pretty Lake near Plymouth	Marshall	.85	97	787.36	2,140	+	1954-66
05516700	Myers Lake near Twin Lakes	Marshall	1.41	96	768.69	2,000	+	1945-53
05516800	Mill Pond and Kreighbaum Lake near Twin Lakes	Marshall	5.34	168	767.75	1,020	+	1945-53
05516900	Eagle Lake near Ober	Starke	25.5	24	713.25	160	+	1946-53
05517100	Skitz Lake near Knox	Starke	-----	1,000	-----	-----	-	1949-53
05517200	Bass Lake at Bass Lake	Starke	5.18	1,400	713.65	-----	-	1943-
05517600	Wauhob Lake near Valparaiso	Porter	.40	21	-----	-----	-	1946-
05517650	Long Lake near Valparaiso	Porter	1.31	65	797.66	520	+	1947-52
05517670	Spectacle Lake near Valparaiso	Porter	.53	62	812.82	540	+	1946-53
05517700	Flint Lake near Valparaiso	Porter	2.62	86	797.66	-----	-	1946-
05517800	Lake Eliza near Beatrice	Porter	1.70	45	738.70	-----	-	1954-74, 1976-
05518700	Cedar Lake at Cedar Lake	Lake	8.14	781	-----	6,750	+	1943-
05518800	Dalecarlia Lake near Creston	Lake	20.1	193	-----	-----	-	1947-52
05521300	Ringneck Lake near Medaryville	Jasper	1.94	1,400	-----	-----	-	1949-55
05525700	J.C. Murphy Lake near Morocco	Newton	13.0	1,515	-----	-----	-	1952-61

+Depth contour maps available for sale by Indiana Department of Natural Resources, State Office Building, Indianapolis, Indiana.

\*Elevation, in feet, above mean sea level.

Formerly published as Rider Lake at Wilmot.

Formerly published as Chapman Lake near Warsaw.

Formerly published as Johnson Lake near Pierceton.

Formerly published as Hawks Lake near Culver.

Formerly published as Jimerson Lake at Nevada Mills.

Formerly published as Sanford Lake near Cosperville.

Formerly published as Duley Lake near Cromwell, and Druley Lake near Cromwell.

Contains drainage area (5 percent or greater) that does not contribute directly to surface-water runoff.

Same as Wolf Lake at Chicago, Illinois WRD District.

The lakes in Indiana which are not included in the cooperative stabilization program but which have been mapped for recreational purposes are shown in the following table. Surface area and capacities are related to reference mean sea level elevation at time of mapping. Additional data is shown on map which are available for sale by the Indiana Department of Natural Resources, State Office Building, Indianapolis, Indiana.

Lake	County	Surface area (acres)	Capacity (acre-feet)	Lake	County	Surface area (acres)	Capacity (acre-feet)
OHIO RIVER BASIN							
Barr Lake	Fulton	22	470	Lake 16	Fulton	27	220
Bischoff Reservoir	Ripley	200	1,920	Larwill Lake	Whitley	9	170
Black Lake	Whitley	24	400	Lenape Lake	Greene	36	330
Boven Lake	Scott	7	60	Lincoln Park Lake	Spencer	58	520
Brown Lake	Whitley	23	580	Little Pike Lake	Kosciusko	25	140
Caldwell Lake	Kosciusko	45	800	McColley Lake	Wabash	28	410
Crane Lake	Noble	28	360	Round Lake	Wabash	48	540
Crosley Lake	Jennings	14	130	Scales Lake	Warrick	66	520
Ferdinand Lake	Dubois	42	440	Schlamm Lake	Clark	19	170
Frank Lake	Clark	9	70	Sellers Lake	Kosciusko	32	340
Hartz Lake	Starks	28	370	Shakamak Lake	Sullivan	56	610
Kunkel Lake	Wells	25	150	Twin Lakes	Wabash	18	190
Lake Freeman	Carroll	1,547	26,000	Whitewater Lake	Union	199	3,650
Lake Shafer	White	1,291	13,120	Yellowwood Lake	Brown	133	1,890

## STREAMS TRIBUTARY TO LAKE MICHIGAN

Appleman Lake	Lagrange	52	590	Mateer Lake	Lagrange	18	150
Bartley Lake	Noble	34	430	Miller Lake	Noble	11	160
Barton Lake	Steuben	94	1,340	Millers Lake	Noble	28	410
Bell Lake	Steuben	38	510	Mud Lake	Noble	8	70
Boner Lake	Kosciusko	40	370	Norman Lake	Noble	14	280
Bowen Lake	Noble	30	1,080	Pigeon Lake	Lagrange	61	1,160
Bristol Lake	Noble	27	740	Port Mitchell Lake	Noble	15	180
Buck Lake	Lagrange	18	150	Rainbow Lake	Lagrange	16	250
Center Lake	Steuben	46	390	Schockopee Lake	Noble	21	280
Cline Lake	Lagrange	20	350	Shock Lake	Kosciusko	37	1,210
Deer Lake	Noble	36	420	Smith Hole	Lagrange	2	10
Dock Lake	Noble	16	230	Still Lake	Lagrange	30	620
Eve Lake	Lagrange	31	670	Sweet Lake	Noble	16	210
Fish Lake	Steuben	59	750	Tamarack Lake	Noble	84	1,340
Hog Lake	LaPorte	59	690	Walters Lake	Steuben	53	550
Hog Lake	Steuben	48	570	Weir Lake	Lagrange	6	70
Lime Lake	Steuben	30	330	Wible Lake	Noble	49	650
Little Turkey Lake	Steuben	58	780	Williams Lake	Noble	46	1,070
Marl Lake	Noble	30	510	Wyland Lake	Kosciusko	6	100

## STREAMS TRIBUTARY TO LAKE ERIE

Dunton Lake	DeKalb	21	340	Mirror Lake	Steuben	9	120
Handy Lake	Steuben	16	290	Terry Lake	DeKalb	17	160
Lake Anne	Steuben	17	280				

## UPPER MISSISSIPPI RIVER BASIN

Cook Lake	Marshall	93	1,650	Gilbert Lake	Marshall	37	490
Dixon Lake	Marshall	33	480	Holem Lake	Marshall	40	390
Flat Lake	Marshall	26	210	Lawrence Lake	Marshall	69	1,580

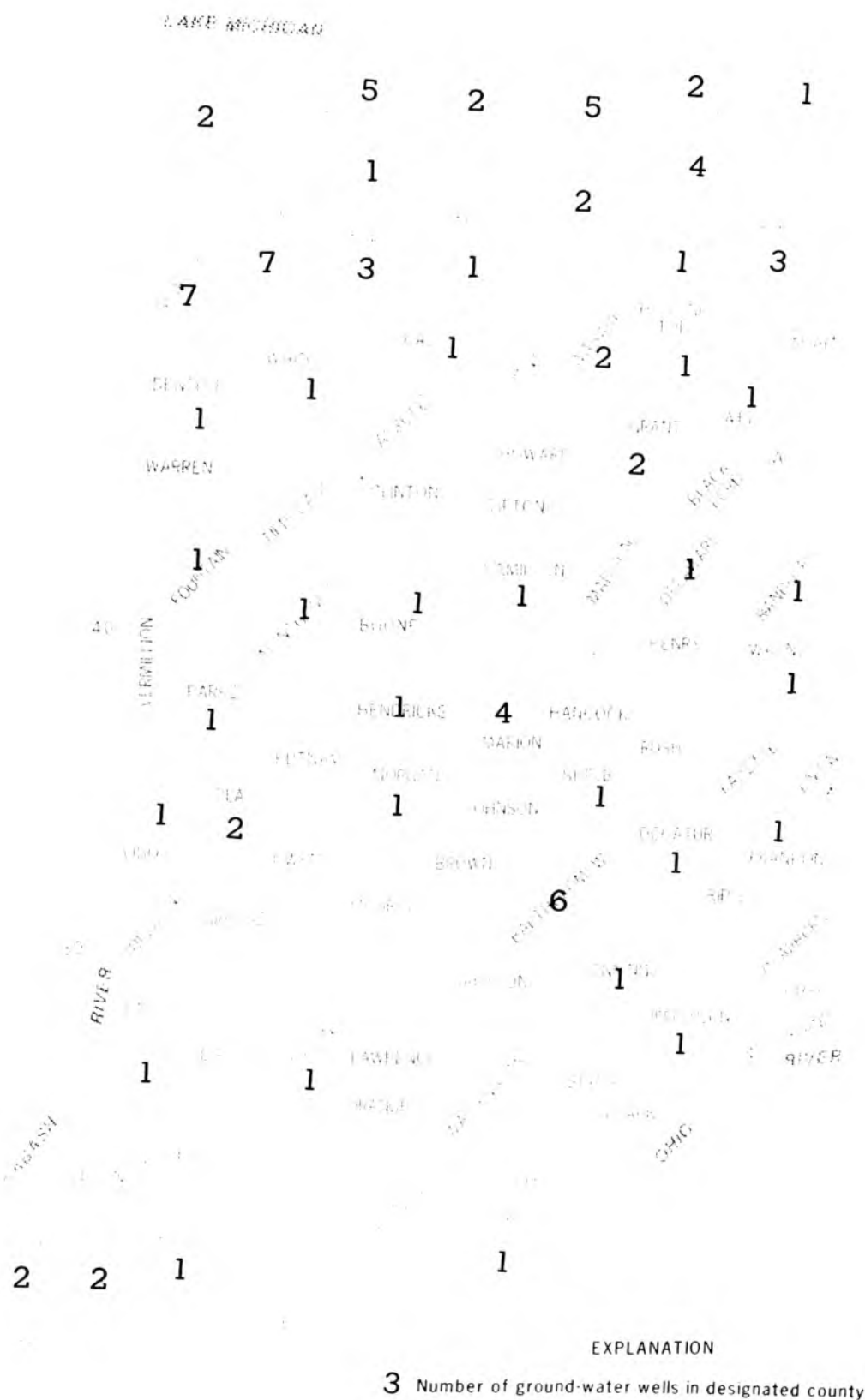


Figure 7.- Number of ground-water wells by county having 1989 water-level records.

## GROUND-WATER DATA

## ALLEN COUNTY

410426084495201. Local number, AL 5.

LOCATION.--Lat 41°04'26", long 84°49'52", in NW¼NE¼SE¼ sec.9, T.30 N., R.15 E., Allen County, Hydrologic Unit 04100005, 1.3 mi west of Edgerton.  
 Owner: Noel Gerig.

AQUIFER.--Limestone of Salina Formation of Silurian age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 4 in., depth 97 ft, cased to 40 ft, open end.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 760 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of floor of shelter, 0.10 ft above land-surface datum.

REMARKS.--Nearby quarry operations were shut down in 1980, and since that time water levels have been rising.

PERIOD OF RECORD.--July 1962 to December 1971, January 1973 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 10.04 ft below land-surface datum, July 8, 9, 1962; lowest, 38.41 ft below land-surface datum, May 4, 1967.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	19.14	18.36	19.39	18.96	19.08	18.60	18.30	17.70	17.33	17.32	16.98	16.99
10	18.73	18.80	19.29	19.34	19.17	18.64	18.80	17.97	17.31	17.39	17.11	16.94
15	18.94	19.04	19.25	19.19	18.86	17.84	18.18	17.81	17.12	17.19	17.11	16.91
20	18.99	18.95	18.91	18.94	18.52	18.49	18.22	17.51	17.26	16.97	16.79	16.88
25	19.03	19.08	19.12	18.70	18.56	18.32	17.88	17.26	17.45	17.61	16.93	17.01
EOM	19.08	19.15	19.30	18.36	18.67	18.23	17.93	17.69	17.32	17.04	17.05	16.85

WTR YR 1989 HIGH 16.42 SEP 22

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	19.69	18.79	19.82	19.61	19.60	19.30	18.77	18.14	17.68	17.88	17.58	17.82
10	19.15	19.35	19.87	19.81	19.75	19.33	19.30	18.36	17.80	18.18	17.59	17.59
15	19.39	19.61	19.90	19.62	19.44	19.09	18.63	18.21	17.63	18.03	17.63	17.56
20	19.56	19.61	19.37	19.81	19.17	19.03	18.79	17.87	17.48	17.57	17.29	17.48
25	19.43	19.57	19.84	19.38	19.26	18.75	18.39	17.73	18.01	18.12	17.31	17.77
EOM	19.76	19.60	19.67	18.95	19.20	18.86	18.44	18.23	17.89	17.27	17.64	17.44

WTR YR 1989 LOW 20.12 FEB 9

## ALLEN COUNTY

410932084561101. Local number, AL 6.

LOCATION.--Lat 41°09'32", long 84°56'11", in SW¼SW¼NE¼ sec.10, T.31 N., R.14 E., Allen County, Hydrologic Unit 04100005, at the intersection of Ehle and Thimier Roads, 10 mi northeast of New Haven.  
 Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 84 ft, cased to 81.5 ft, screened to 83.5 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 760 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of floor of shelter, 2.50 ft above land-surface datum.

REMARKS.--Water level affected by pumpage.

PERIOD OF RECORD.--December 1966 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 8.17 ft below land-surface datum, Mar. 13, 14, 1986; lowest, 14.77 ft below land-surface datum, Oct. 29, 1978.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	13.72	12.19	10.65	10.40	9.95	10.92	9.48	10.63	8.60	11.13	12.28	12.89
10	13.66	11.77	10.84	9.43	10.32	11.11	9.74	10.86	9.33	11.48	12.56	12.56
15	13.80	11.09	11.08	9.65	10.57	11.03	10.08	10.78	9.84	11.67	12.29	12.22
20	12.78	10.92	11.35	10.05	10.64	10.41	10.44	10.68	10.23	11.76	12.41	12.17
25	12.41	10.35	11.19	10.33	10.66	10.25	10.57	10.48	10.59	12.01	12.59	12.25
EOM	12.33	10.39	10.22	9.33	10.75	10.41	10.62	10.12	10.88	12.09	12.78	12.40

WTR YR 1989 HIGH 8.60 JUN 5

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	13.89	12.36	10.83	10.55	10.14	11.11	9.63	10.83	8.80	11.31	12.56	13.05
10	13.85	11.90	11.09	9.59	10.46	11.30	9.99	11.03	9.65	11.70	12.77	12.80
15	13.96	11.33	11.34	9.93	10.79	11.23	10.33	10.95	10.06	11.87	12.47	12.38
20	13.04	11.10	11.59	10.26	10.81	10.57	10.59	10.84	10.43	11.88	12.53	12.34
25	12.53	10.50	11.34	10.53	10.77	10.48	10.75	10.70	10.76	12.20	12.74	12.44
EOM	12.57	10.62	10.36	9.51	10.96	10.66	10.82	10.29	11.06	12.29	12.93	12.59

WTR YR 1989 LOW 13.98 OCT 1

## GROUND-WATER DATA

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## ALLEN COUNTY

410335085190701. Local number, AL 7.

LOCATION.--Lat 41°03'35", long 85°19'07", in SE1SW1SW1 sec. 8, T.30N., R.11E., Allen County, Hydrologic Unit 05120101, on Covington Road about 5 mi. west of Interstate Highway 69 on the northeast corner of the United Telephone Company property.  
Owner: U.S. Geological Survey.

AQUIFER.--Limestone.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 193 ft., cased to 173 ft., open end.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 850 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring point: Top of casing, 3.50 ft. above land-surface datum.

PERIOD OF RECORD.--July 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 55.70 ft below land-surface datum, April 26, 1989; lowest, 67.17 ft. below land-surface datum, July 18, 1989.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	57.74	56.82	58.27	57.14	57.38	56.89	56.42	56.22	56.49	61.20	59.38	59.42	
10	57.81	57.83	57.04	57.77	56.89	57.30	56.11	56.53	57.75	63.75	60.82	58.70	
15	58.30	58.44	57.06	57.58	56.72	56.57	55.96	56.32	58.07	62.76	59.79	61.59	
20	57.91	57.84	56.98	56.77	56.17	57.53	56.11	56.22	57.87	60.60	59.54	62.37	
25	57.51	57.97	57.27	57.13	56.30	57.05	55.74	56.46	59.33	61.06	59.36	62.70	
EOM	58.07	57.89	56.92	56.92	56.50	56.70	56.21	56.62	58.80	59.01	59.24	63.67	

WTR YR 1989 HIGH 55.70 APR 26

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	58.43	57.81	59.29	57.94	58.35	58.20	56.74	56.92	57.20	65.39	60.86	60.43	
10	58.26	58.59	57.81	58.50	57.64	58.22	56.36	57.39	59.03	66.85	62.96	59.56	
15	59.08	59.25	57.73	58.59	56.92	57.45	56.35	57.07	59.90	66.44	60.66	62.67	
20	58.57	59.14	57.64	57.83	56.82	58.42	56.51	57.62	60.65	61.50	60.65	63.27	
25	58.03	58.70	57.91	57.98	57.30	58.80	56.08	57.04	63.20	63.64	60.61	63.76	
EOM	58.74	58.68	58.05	58.11	57.01	57.46	57.22	57.66	62.35	59.82	60.30	65.60	

WTR YR 1989 LOW 67.17 JUL 18

## ALLEN COUNTY

## WATER-QUALITY RECORDS

410335085190701. Local number, AL 7.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- MESS TOTAL (MG/L) AS CACO3 (00900)	HARD- MESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L) AS CA (00915)
JUL 15...	1220	64.60	658	666	7.1	7.5	11.0	0.7	320	12	69
DATE	MAGNE- SIUM, DIS- SOLVED (MG/L) AS MG (00925)	SODIUM, DIS- SOLVED (MG/L) AS NA (00930)	POTAS- SIUM, DIS- SOLVED (MG/L) AS K (00935)	ALKA- LITY WAT WH TOT FET FIELD (MG/L AS CACO3) (00410)	ALKA- LITY LAB (MG/L) AS CACO3 (90410)	SULFATE DIS- SOLVED (MG/L) AS SO4 (00945)*	CHLO- RIDE, DIS- SOLVED (MG/L) AS CL (00940)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L) AS N (00631)	PHOS- PHORUS, ORTHO, TOTAL (MG/L) AS P (70507)	IRON, DIS- SOLVED (UG/L) AS FE (01046)
JUL 15...	37	26	2.1	313	322	52	3.0	411	<0.10	<0.01	370

\*In March 1989, the National Water-Quality Laboratory discovered a bias in the turbidimetric method for sulfate analysis, indicating that concentrations below 75 mg/L have a median positive bias of 2 mg/L above the true concentration for the period between 1982 and 1989. Sulfate concentrations in this report have not been corrected for this bias.



## GROUND-WATER DATA

## BARTHOLOMEW COUNTY

391320085534601. Local number, BA 3.

LOCATION.--Lat 39°13'20", long 85°53'46", in NE¼NE¼SE¼ sec.18, T.9 N., R.6 E., Bartholomew County, Hydrologic Unit 05120205, in northeast corner of Lincoln Park in the city of Columbus.  
 Owner: City of Columbus.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 6 in., depth 123 ft, cased to 116-ft, screened to 121 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 639.8 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of floor of shelter, 2.50-ft above land-surface datum.

REMARKS.--Water level affected by pumpage for water and sewage utilities.

PERIOD OF RECORD.--January 1965 to April 1989. (Discontinued)

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 16.75 ft below land-surface datum, Feb. 24, 25, 1975; lowest, 28.74 ft below land-surface datum, Oct. 9, 1971.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	20.65	20.07	19.87	20.18	19.59	19.50	17.65	---	---	---	---	---
10	20.39	20.05	19.89	19.77	20.08	19.63	17.77	---	---	---	---	---
15	20.31	19.94	19.96	19.60	20.10	19.50	18.23	---	---	---	---	---
20	20.21	19.90	19.97	19.72	19.52	19.60	18.66	---	---	---	---	---
25	20.21	19.87	20.05	19.74	19.59	18.89	18.67	---	---	---	---	---
EOM	20.21	19.85	19.92	19.69	19.75	18.18	17.63	---	---	---	---	---

WTR YR 1989 HIGH 17.60 APR 4

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	21.07	20.13	19.89	20.63	19.96	19.88	18.14	---	---	---	---	---
10	20.44	20.12	19.93	20.32	20.65	20.17	18.26	---	---	---	---	---
15	20.31	19.96	19.98	19.73	20.69	20.02	18.40	---	---	---	---	---
20	20.24	19.95	19.99	20.37	19.66	20.14	19.21	---	---	---	---	---
25	20.56	19.87	20.14	19.88	19.88	19.04	19.17	---	---	---	---	---
EOM	20.23	19.86	20.09	19.97	20.28	18.65	17.86	---	---	---	---	---

WTR YR 1989 LOW 21.07 OCT 5

## BARTHOLOMEW COUNTY

391627085534401. Local number, BA 4.

LOCATION.--Lat 39°16'27", long 85°53'44", in NE¼NE¼NE¼ sec.31, T.10 N., R.6 E., Bartholomew County, Hydrologic Unit 05120205, by a cemetery on the north side of Bakalar AFB at the northern city limits of Columbus.  
 Owner: Bartholomew County.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 6 in., depth 93 ft, cased to 85 ft, screened to 90 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 654.04 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of floor of shelter, 2.60 ft above land-surface datum.

PERIOD OF RECORD.--January 1965 to current year.

REVISED RECORDS.--WDR IN-80-1: 1979.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 14.21 ft below land-surface datum, June 15, 1989; lowest, 21.15 ft below land-surface datum, Feb. 11, 12, 1977.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	19.96	20.27	20.23	20.27	19.03	18.79	16.53	15.15	14.31	14.80	15.33	15.55
10	20.01	20.30	20.24	20.17	18.96	18.70	15.75	15.16	14.27	14.92	15.50	15.51
15	20.06	20.31	20.27	19.89	18.93	18.52	15.32	15.14	14.21	14.82	15.75	15.50
20	20.12	20.28	20.30	19.58	18.90	18.26	15.21	15.17	14.30	14.81	15.87	15.49
25	20.18	20.27	20.34	19.33	18.87	17.86	15.22	15.15	14.46	14.97	15.81	15.48
EOM	20.23	20.25	20.35	19.13	18.84	17.21	15.23	14.56	14.65	15.05	15.59	15.54

WTR YR 1989 HIGH 14.21 JUN 15

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	19.97	20.28	20.24	20.28	19.05	18.80	16.71	15.16	14.34	14.82	15.40	15.56
10	20.02	20.31	20.25	20.20	18.97	18.72	15.87	15.16	14.29	14.95	15.56	15.51
15	20.07	20.31	20.28	19.95	18.94	18.54	15.36	15.15	14.22	14.83	15.80	15.51
20	20.13	20.29	20.31	19.63	18.91	18.33	15.22	15.21	14.32	14.84	15.87	15.50
25	20.19	20.27	20.35	19.38	18.88	17.95	15.23	15.16	14.48	14.98	15.92	15.50
EOM	20.24	20.25	20.36	19.17	18.85	17.28	15.25	14.62	14.68	15.08	15.62	15.55

WTR YR 1989 LOW 20.37 DEC 28

## GROUND-WATER DATA

289

## BARTHOLOMEW COUNTY

39095008553501. Local number, BA 8.

LOCATION.--Lat 39°09'50", long 85°55'35", in NE1/4SW1/4 sec.1, T.8 N., R.5 E., Bartholomew County, Hydrologic Unit 05120206, on property of Meadows Metal Products Co., 4 mi south of Columbus.  
 Owner: Meadows Metal Products Co., Inc.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 6 in., depth 49 ft, casing length unknown.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 615.48 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of floor of shelter, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--February 1967 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 8.06 ft below land-surface datum, June 3, 1968; lowest, 24.13 ft below land-surface datum, Dec. 27, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	23.38	23.90	23.98	24.06	22.87	21.92	17.34	14.93	13.99	15.21	16.54	17.65
10	23.47	23.97	23.99	23.91	22.76	21.67	15.92	14.77	13.96	15.47	16.79	17.64
15	23.58	24.02	24.02	23.73	22.66	21.30	15.34	14.77	14.09	15.68	16.98	17.67
20	23.68	24.02	24.06	23.45	22.49	20.91	15.29	14.92	14.33	15.86	17.15	17.61
25	23.77	24.01	24.09	23.21	22.28	20.35	15.42	14.94	14.62	16.12	17.33	17.42
EOM	23.86	24.00	24.12	23.01	22.15	19.30	15.24	14.43	14.95	16.35	17.56	17.40

WTR YR 1989 HIGH 13.90 JUN 9

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	23.39	23.92	23.99	24.08	22.89	21.97	17.69	14.98	14.07	15.26	16.58	17.66
10	23.49	23.98	23.99	23.94	22.78	21.75	16.12	14.78	14.00	15.53	16.83	17.66
15	23.60	24.02	24.03	23.77	22.68	21.34	15.39	14.81	14.15	15.71	17.01	17.68
20	23.70	24.03	24.07	23.51	22.53	21.01	15.32	14.97	14.39	15.92	17.18	17.64
25	23.78	24.03	24.10	23.25	22.33	20.46	15.44	14.96	14.68	16.16	17.37	17.46
EOM	23.87	24.01	24.12	23.04	22.19	19.49	15.27	14.55	15.01	16.40	17.58	17.41

WTR YR 1989 LOW 24.13 DEC 27

## BARTHOLOMEW COUNTY

391035085560401. Local number, BA 9.

LOCATION.--Lat 39°10'35", long 85°56'04", in SW1/4SW1/4 sec.35, T.9 N., R.5 E., Bartholomew County, Hydrologic Unit 05120206, at the Bartholomew County Home on the 4-H Fairgrounds, 3.0 mi south of Columbus.  
 Owner: City of Columbus.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 6 in., depth 115 ft, cased to 106 ft, screened to 111 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 621.58 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of floor of shelter, 1.65 ft above land-surface datum.

REMARKS.--Water level affected by pumpage from municipal supply well field.

PERIOD OF RECORD.--April 1970 to current year.

REVISED RECORDS.--WDR IN-80-1: 1979.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 12.75 ft below land-surface datum, Apr. 27-30, 1973; lowest, 38.75 ft below land-surface datum, Sept. 15, 1977.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	35.89	36.46	36.57	36.72	35.46	34.81	30.20	27.27	26.47	26.32	29.08	29.26
10	35.98	36.56	36.73	36.30	35.53	33.60	29.15	27.12	27.22	27.94	28.21	29.19
15	36.53	36.55	36.94	36.14	35.15	33.56	28.48	27.21	25.69	27.86	29.44	29.24
20	36.34	36.62	37.02	35.70	35.60	32.98	27.87	28.26	25.72	27.68	28.70	28.73
25	36.25	36.47	37.05	35.84	35.27	33.13	27.87	28.32	26.36	27.20	28.69	28.73
EOM	36.38	37.46	36.69	35.74	34.03	31.00	28.12	27.99	27.61	27.59	29.65	29.65

WTR YR 1989 HIGH 25.11 JUN 14

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	37.05	37.63	37.69	36.76	36.25	34.86	31.43	28.55	27.67	27.72	29.14	30.19
10	37.20	37.71	37.70	36.75	35.55	34.57	30.26	28.44	27.31	28.04	28.85	30.25
15	37.47	37.70	37.75	37.05	35.34	34.29	29.46	28.36	27.02	27.93	29.53	30.18
20	37.52	37.72	37.75	36.95	35.64	34.00	29.01	28.42	27.11	27.70	29.75	30.02
25	37.51	37.46	37.08	36.70	35.28	33.75	28.91	28.38	27.38	28.39	29.89	29.71
EOM	37.57	37.54	36.90	36.55	35.21	32.65	28.90	28.07	27.70	28.77	30.10	29.74

WTR YR 1989 LOW 37.81 NOV 18

## GROUND-WATER DATA

## BARTHOLOMEW COUNTY

390317085523701. Local number, BA 10.

LOCATION.--Lat 39°03'17", long 85°52'37", in NE¼NE¼ sec.16, T.7 N., R.6 E., Bartholomew County, Hydrologic Unit 05120206, 0.8 mi east of State Highway 11 and 1.0 mi southeast of Jonesville.  
 Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 6 in., depth 85 ft, cased to 80 ft, screened to 85 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 580 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of floor of shelter, 3.50 ft above land-surface datum.

PERIOD OF RECORD.--October 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.67 ft below land-surface datum, Apr. 14, 1979; lowest, 12.65 ft below land-surface datum, Oct. 29, Nov. 2, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	12.38	12.45	11.95	11.47	---	7.87	2.65	5.20	5.60	7.81	8.83	7.99
10	12.37	12.33	11.97	8.98	8.99	7.01	4.78	5.79	6.38	8.13	8.70	8.17
15	12.46	12.24	12.20	8.29	8.65	6.72	5.96	6.35	6.71	7.88	8.90	7.83
20	12.44	12.12	12.15	8.21	8.03	6.32	6.42	6.85	7.22	8.21	9.12	4.67
25	12.46	12.03	12.26	8.53	7.84	5.47	6.88	4.84	7.62	8.44	8.65	6.50
EOM	12.48	11.99	11.69	8.72	8.06	2.73	3.03	4.15	7.95	8.60	8.48	7.27

WTR YR 1989 HIGH 2.14 MAY 28

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	12.49	12.61	12.07	11.58	---	8.39	2.86	5.50	5.80	7.92	8.90	8.06
10	12.53	12.59	12.23	9.25	9.11	7.27	5.03	5.85	6.51	8.19	8.78	8.32
15	12.56	12.38	12.28	8.40	8.81	6.88	6.17	6.52	6.84	7.99	9.06	8.10
20	12.57	12.46	12.36	8.46	8.18	7.14	6.56	7.03	7.34	8.35	9.21	5.29
25	12.64	12.16	12.41	8.60	7.91	5.82	6.98	5.09	7.69	8.53	8.89	6.70
EOM	12.58	12.05	11.78	8.80	8.22	3.08	3.25	4.86	8.10	8.75	8.64	7.43

WTR YR 1989 LOW 12.65 OCT 29

## BARTHOLOMEW COUNTY

390658085572201. Local number, BA 13.

LOCATION.--Lat 39°06'58", long 85°57'22", in SW¼NW¼SE¼ sec.22, T.8 N., R.5 E., Bartholomew County, Hydrologic Unit 05120206, at the end of farm access road, 0.3 mi north of County Road 600 South at its intersection with Interstate Highway 65.  
 Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 6 in., depth 55.6 ft, cased to 50.6 ft, screened to 55.6 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 633.91 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of floor of shelter, 3.40 ft above land-surface datum.

PERIOD OF RECORD.--July 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 20.78 ft below land-surface datum, Jan. 19, 1987; lowest, 24.17 ft below land-surface datum, Feb. 16, 1989.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	23.46	22.49	23.60	23.18	23.53	23.12	23.03	22.62	22.64	22.76	22.48	22.85
10	22.94	22.89	23.45	23.76	23.50	23.36	23.32	22.87	22.80	22.79	22.91	22.58
15	23.27	23.11	23.53	23.54	23.51	22.64	22.93	22.81	22.64	22.81	22.62	22.67
20	23.27	22.84	23.34	23.43	22.92	22.96	23.02	22.70	22.73	22.40	22.62	22.79
25	23.11	23.26	23.60	23.48	23.13	23.10	22.70	22.50	22.76	22.96	22.67	22.74
EOM	23.28	23.33	23.42	23.02	23.13	22.78	22.95	22.85	22.87	22.70	22.59	22.66

WTR YR 1989 HIGH 22.26 SEP 22

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	23.61	22.69	23.86	23.61	23.72	23.26	23.13	22.76	22.75	22.83	22.55	22.91
10	23.25	23.51	23.74	23.89	23.79	23.63	23.45	22.95	22.97	22.85	23.00	22.75
15	23.41	23.47	23.95	23.65	23.90	23.39	23.00	22.89	22.73	22.89	22.72	22.77
20	23.45	23.59	23.54	23.95	23.37	23.30	23.18	22.89	22.82	22.57	22.70	22.89
25	23.24	23.36	23.93	23.63	23.62	23.20	22.86	22.61	22.86	23.06	22.75	22.89
EOM	23.60	23.54	23.67	23.30	23.48	23.15	23.10	22.92	23.04	22.80	22.80	22.82

WTR YR 1989 LOW 24.17 FEB 16

## GROUND-WATER DATA

291

## BENTON COUNTY

402851087213501. Local number, BE 4.

LOCATION.--Lat 40°28'51", long 87°21'35", in SE¼NE¼SE¼ sec.31, T.24 N., R.8 W., Benton County, Hydrologic Unit 05120108, on north side of county road, 3.6 mi southeast of Boswell.  
Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 310 ft, cased to 300 ft, screened to 305 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 710 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of floor of shelter, 2.19 (revised) ft above land-surface datum.

PERIOD OF RECORD.--November 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 10.65 ft below land-surface datum, May 7, 1982; lowest, 16.55 ft below land-surface datum, Dec. 4, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	16.18	16.04	16.44	16.00	15.60	15.20	14.76	14.27	14.16	14.28	14.98	15.74
10	16.12	16.22	16.38	16.09	15.53	15.26	14.78	14.33	14.14	14.37	15.28	15.65
15	16.25	16.29	16.31	15.95	15.48	14.96	14.62	14.34	14.08	14.51	15.40	15.74
20	16.24	16.29	16.18	15.83	15.28	15.03	14.59	14.24	14.12	14.47	15.50	15.85
25	16.16	16.34	16.25	15.73	15.26	15.00	14.43	14.11	14.20	14.78	15.51	15.88
EOM	16.36	16.33	16.17	15.47	15.23	14.87	14.39	14.26	14.29	14.91	15.61	15.95

WTR YR 1989 HIGH 14.04 JUN 13

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	16.26	16.07	16.52	16.15	15.70	15.25	14.81	14.32	14.19	14.32	15.01	15.75
10	16.20	16.40	16.45	16.13	15.62	15.35	14.84	14.38	14.21	14.42	15.34	15.72
15	16.31	16.42	16.45	15.96	15.58	15.14	14.65	14.36	14.12	14.55	15.43	15.77
20	16.27	16.41	16.31	15.96	15.43	15.16	14.63	14.31	14.15	14.52	15.53	15.87
25	16.23	16.38	16.36	15.81	15.43	15.02	14.48	14.24	14.22	14.82	15.55	15.93
EOM	16.46	16.38	16.19	15.57	15.31	14.94	14.46	14.29	14.33	14.96	15.66	15.99

WTR YR 1989 LOW 16.55 DEC 4

## BOONE COUNTY

400532086183901. Local number, BO 17.

LOCATION.--Lat 40°05'32", long 86°18'39", in SW¼SE¼NW¼ sec.16, T.19 N., R.2 E., Boone County, Hydrologic Unit 05120201, 0.6 mi north along U.S. Highway 421 from the intersection of U.S. Highway 421 and County Road 300 North at Waugh on the west side of the highway at the residence of John Sheets.  
Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 171.8 ft, cased to 166.8 ft, screened to 171.8 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 956.50 ft above National Geodetic Vertical Datum of 1929. Measuring point: Mark on top of casing, 3.50 ft above land-surface datum.

PERIOD OF RECORD.--July 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 45.87 ft below land-surface datum, July 11-13, 1986; lowest, 51.98 ft below land-surface datum, Oct. 13, 14, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	51.68	51.26	51.39	51.31	51.17	50.80	50.19	49.38	48.91	49.84	49.69	49.33
10	51.74	51.29	51.35	51.44	51.14	50.77	50.17	49.35	48.87	49.85	49.84	48.99
15	51.93	51.29	51.38	51.38	51.15	50.56	49.98	49.25	48.79	49.98	49.81	48.86
20	51.78	51.20	51.33	51.34	50.97	50.56	49.89	49.18	49.10	49.93	49.81	48.77
25	51.61	51.27	51.46	51.30	50.92	50.56	49.74	48.95	49.32	50.00	49.70	48.60
EOM	51.59	51.29	51.37	51.12	50.89	50.35	49.63	49.06	49.62	49.84	49.41	48.52

WTR YR 1989 HIGH 48.52 SEP 29

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	51.77	51.30	51.48	51.43	51.28	50.86	50.25	49.42	48.95	49.94	49.72	49.35
10	51.82	51.47	51.46	51.49	51.21	50.86	50.20	49.38	48.92	49.87	49.86	49.04
15	51.95	51.42	51.51	51.42	51.25	50.77	50.02	49.27	48.86	50.03	49.85	48.89
20	51.83	51.37	51.47	51.50	51.11	50.73	49.95	49.25	49.15	50.01	49.84	48.80
25	51.66	51.32	51.55	51.40	51.06	50.61	49.79	49.14	49.37	50.03	49.75	48.67
EOM	51.71	51.35	51.40	51.19	50.96	50.43	49.67	49.09	49.66	49.87	49.47	48.54

WTR YR 1989 LOW 51.98 OCT 13



## GROUND-WATER DATA

## CASS COUNTY

403407086175701. Local number, CS 3.

LOCATION.--Lat 40°34'07", long 86°17'57", in NE¼NE¼SE¼ sec.33, T.25 N., R.2 E., Cass County, Hydrologic Unit 05120105, at intersection of State Highway 18 and County Road 400 East, 2.5 mi east of Young America.  
 Owner: U.S. Geological Survey.

AQUIFER.--Dolomitic limestone of Devonian-Silurian age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 130 ft, cased to 78ft, open end.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 781.74 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of floor of shelter, 2.65 ft above land-surface datum.

PERIOD OF RECORD.--August 1967 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.85 ft below land-surface datum, Feb. 2, 1968; lowest, 9.55 ft below land-surface datum, Nov. 11, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	8.99	8.90	8.63	7.90	6.29	6.29	6.14	5.96	5.57	6.23	6.33	6.54
10	9.02	9.20	8.48	7.68	6.30	6.28	6.24	6.10	5.71	6.36	6.51	6.28
15	9.23	9.22	8.52	7.42	6.29	6.04	6.02	6.04	5.68	6.26	6.57	6.04
20	9.11	8.97	8.22	7.08	6.12	6.25	6.06	5.89	5.66	6.02	6.58	6.07
25	9.01	8.87	8.40	6.63	6.26	6.13	6.00	5.69	5.96	6.31	6.54	6.00
EOM	9.27	8.62	8.32	6.35	6.25	6.05	5.03	5.83	6.23	6.30	6.70	6.01

WTR YR 1989 HIGH 5.56 JUN 3

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	9.12	9.03	8.82	8.16	6.49	6.47	6.25	6.15	5.69	6.36	6.49	6.63
10	9.30	9.52	8.73	7.83	6.39	6.39	6.29	6.25	5.75	6.47	6.57	6.34
15	9.31	9.43	8.75	7.55	6.44	6.35	6.12	6.10	5.75	6.33	6.69	6.14
20	9.20	9.25	8.44	7.32	6.27	6.39	6.18	6.03	5.77	6.11	6.68	6.15
25	9.21	9.02	8.64	6.82	6.43	6.21	6.11	5.98	6.09	6.39	6.64	6.11
EOM	9.43	8.69	8.39	6.49	6.37	6.24	6.15	5.95	6.36	6.40	6.84	6.12

WTR YR 1989 LOW 9.55 NOV 11

## CLAY COUNTY

392653087120501. Local number, CY 6.

LOCATION.--Lat 39°26'53", long 87°12'05", in SE¼SE¼SE¼ sec.29, T.12 N., R.7 W., Clay County, Hydrologic Unit 05120111, 2.8 mi southwest of Staunton and 4.0 mi west of State Highway 59 just north of State Highway 42.  
 Owner: U.S. Geological Survey.

AQUIFER.--Sandstone of the Mansfield Formation, Pennsylvanian Period.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 400 ft, cased to 347 ft, open end.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 653.16 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.40 ft above land-surface datum.

PERIOD OF RECORD.--September 1987 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 151.36 ft below land-surface datum, Jan. 19, 1988; lowest, 153.15 ft below land-surface datum, Oct. 6 and 13, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	152.94	152.10	152.50	151.99	152.23	---	152.05	151.91	152.10	152.38	152.44	152.70
10	152.55	152.44	152.42	152.31	152.25	---	152.28	152.17	152.29	152.45	152.74	152.46
15	152.72	152.31	152.49	152.24	152.32	---	152.07	152.18	152.20	152.49	152.57	152.48
20	152.72	152.18	152.24	152.26	151.96	152.03	152.12	152.07	152.31	152.26	152.61	152.62
25	152.56	152.33	152.51	152.19	152.10	152.12	152.00	151.97	152.38	152.62	152.64	152.61
EOM	152.64	152.41	152.21	151.96	152.15	151.98	152.14	152.20	152.47	152.50	152.56	152.59

WTR YR 1989 HIGH 151.74 APR 8

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	153.10	152.31	152.76	152.38	152.54	---	152.27	152.15	152.32	152.55	152.54	152.82
10	152.86	152.84	152.72	152.50	152.46	---	152.42	152.30	152.42	152.56	152.88	152.65
15	152.93	152.68	152.79	152.39	152.69	---	152.19	152.30	152.37	152.67	152.79	152.66
20	152.92	152.76	152.61	152.64	152.34	152.35	152.35	152.28	152.50	152.48	152.74	152.77
25	152.81	152.55	152.63	152.40	152.42	152.27	152.15	152.14	152.49	152.76	152.80	152.79
EOM	152.90	152.52	152.30	152.15	152.25	152.27	152.32	152.40	152.71	152.73	152.77	152.79

WTR YR 1989 LOW 153.15 OCT 6



## CLAY COUNTY

391124087134701. Local number, CY 7.

LOCATION.--Lat 39°11'24", long 87°13'47", in SW¼NW¼ sec. 30, T.9N., R.7W., Clay County, Hydrologic Unit 05120111, 300 ft east of State Highway 159 just south of Coalmont and about 3.6 mi northwest of Jasonville.  
Owner: U.S. Geological Survey

AQUIFER.--Sandstone of Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 121 ft, cased to 80 ft, open end.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 612 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.50 ft above land-surface datum.

PERIOD OF RECORD.--September 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 25.59 ft below land-surface datum, Sept. 4, 5, 1988; lowest, 33.05 ft below land-surface datum, Dec. 26, 1988.

## FROM ADR

HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	30.89	31.91	32.69	32.82	32.70	32.29	31.82	31.48	31.54	31.84	31.88	32.00
10	31.05	32.13	32.76	32.89	32.68	32.26	31.78	31.53	31.64	31.93	31.97	31.84
15	31.30	32.25	32.85	32.82	32.60	32.16	31.74	31.58	31.66	31.81	32.03	31.76
20	31.33	32.26	32.92	32.82	32.46	32.05	31.69	31.55	31.77	31.80	32.07	31.76
25	31.50	32.46	32.99	32.77	32.45	32.07	31.62	31.52	31.86	31.78	32.00	31.75
EOM	31.90	32.53	32.90	32.70	32.40	31.89	31.57	31.59	31.98	31.82	32.04	31.78

WTR YR 1989 HIGH 30.70 OCT 1

## FROM ADR

LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	30.95	31.98	32.72	32.94	32.75	32.35	31.85	31.52	31.61	31.88	31.89	32.01
10	31.09	32.22	32.82	32.92	32.72	32.29	31.81	31.56	31.68	31.95	32.00	31.87
15	31.33	32.29	32.92	32.84	32.64	32.24	31.75	31.61	31.69	31.84	32.06	31.79
20	31.35	32.38	32.98	32.88	32.56	32.21	31.71	31.59	31.80	31.83	32.11	31.78
25	31.58	32.48	33.03	32.84	32.52	32.08	31.64	31.55	31.89	31.81	32.03	31.77
EOM	31.92	32.57	32.91	32.73	32.44	31.94	31.61	31.63	32.01	31.85	32.06	31.81

WTR YR 1989 LOW 33.05 DEC 26

## DECATUR COUNTY

392022085371801. Local number, DC 2.

LOCATION.--Lat 39°20'22", long 85°37'18", in SE¼NE¼SW¼ sec.3, T.10 N., R.8 E., Decatur County, Hydrologic Unit 05120206, at the intersection of County Roads 50 North and 750 West and 7.5 mi west of Greensburg.  
Owner: U.S. Geological Survey.

AQUIFER.--Limestone of Devonian age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 49 ft, cased to 12.5 ft, open end.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 840.8 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of floor of shelter, 3.02 ft above land-surface datum.

PERIOD OF RECORD.--September 1966 to October 1971, September 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.16 ft below land-surface datum, Dec. 10, 1966; lowest, 9.25 ft below land-surface datum, Feb. 9-11, 1977.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	8.66	7.79	6.61	3.86	3.73	.83	1.03	1.99	3.60	2.77	6.54	4.87
10	8.71	7.36	6.90	1.22	4.33	.94	1.63	2.55	4.28	4.42	5.21	2.32
15	8.76	7.31	7.12	.90	2.35	1.19	3.33	3.84	1.93	4.99	6.19	3.17
20	8.63	6.58	7.27	1.55	2.02	.79	3.19	4.29	3.95	5.59	6.46	4.54
25	8.59	6.63	6.71	2.67	2.35	1.82	4.03	3.47	4.51	6.17	4.33	5.18
EOM	8.65	6.23	4.19	3.49	2.98	.52	.89	3.29	5.03	6.62	5.46	5.79

WTR YR 1989 HIGH .30 MAR 30

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	8.68	7.92	6.67	4.64	3.88	3.90	1.26	2.41	3.73	3.43	6.96	5.05
10	8.74	7.91	6.97	1.37	4.41	1.24	1.92	2.88	4.38	4.54	5.42	3.74
15	8.78	7.33	7.16	1.06	4.00	1.58	3.58	3.97	2.39	5.11	6.34	3.51
20	8.64	7.18	7.32	1.90	3.20	3.20	3.41	4.41	4.09	5.72	6.85	4.68
25	8.62	6.69	6.84	2.83	2.79	2.25	4.12	3.74	4.59	6.26	4.86	5.30
EOM	8.67	6.31	4.23	3.61	3.33	.82	1.34	3.62	5.04	6.69	5.63	5.89

WTR YR 1989 LOW 8.78 OCT 15

## GROUND-WATER DATA

## DELAWARE COUNTY

400541085213701. Local number, DW 4.

LOCATION.--Lat 40°05'41", long 85°21'37", in SE¼NW¼SW¼ sec.9, T.19 N., R.10 E., Delaware County, Hydrologic Unit 05120201, on property owned by Monroe Township Conservation Club, and 8.0 mi south of Muncie.  
Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 91 ft, cased to 89 ft, screened to 91 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 1,005 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of floor of shelter, 2.88 ft above land-surface datum.

PERIOD OF RECORD.--October 1966 to October 1971, October 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 43.98 ft below land-surface datum, Dec. 11, 1985; lowest, 49.50 ft below land-surface datum, Oct. 13, 14, 1966.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	49.09	48.83	48.64	48.50	48.39	48.37	44.43	47.38	47.02	48.07	48.02	47.26
10	49.06	48.71	48.71	47.89	48.46	48.25	46.28	47.55	47.33	48.16	48.17	47.01
15	49.06	48.68	48.79	48.04	48.53	48.08	46.94	47.69	47.56	48.19	48.29	45.63
20	48.99	48.53	48.82	48.24	48.55	48.12	47.21	47.82	47.75	46.83	48.35	46.68
25	48.98	48.46	48.82	48.40	48.39	48.05	47.48	47.33	47.90	47.30	48.31	47.28
EOM	49.00	48.52	48.43	48.23	48.42	46.30	47.07	46.54	48.03	47.76	48.30	47.65

WTR YR 1989 HIGH 44.04 APR 4

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	49.10	48.87	48.65	48.51	48.40	48.51	45.02	47.41	47.07	48.08	48.05	47.36
10	49.08	48.80	48.74	47.91	48.49	48.33	46.44	47.57	47.40	48.19	48.20	47.58
15	49.07	48.69	48.80	48.09	48.54	48.12	47.03	47.71	47.61	48.21	48.31	45.99
20	49.00	48.73	48.84	48.31	48.57	48.23	47.27	47.85	47.79	47.22	48.36	46.83
25	48.98	48.47	48.83	48.41	48.40	48.08	47.54	47.42	47.93	47.39	48.33	47.37
EOM	49.00	48.54	48.44	48.25	48.45	46.58	47.09	46.69	48.07	47.81	48.30	47.69

WTR YR 1989 LOW 49.12 OCT 1

## ELKHART COUNTY

413121085481301. Local number, EH 4.

LOCATION.--Lat 41°31'21", long 85°48'13", in SW¼SE¼SW¼ sec.35, T.36 N., R.6 E., Elkhart County, Hydrologic Unit 04050001, at the southwest corner of Goshen Municipal Airport.  
Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 6 in., depth 62 ft, cased to 58 ft, screened to 60 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 818 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of floor of shelter, 2.60 ft above land-surface datum.

PERIOD OF RECORD.--November 1966 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 10.60 ft below land-surface datum, Apr. 14, 1985; lowest, 16.18 ft below land-surface datum, Dec. 1-5, 1971.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	15.33	14.23	13.29	13.42	13.23	13.46	13.61	13.40	12.40	12.71	13.50	14.23
10	15.32	14.22	13.26	13.24	13.26	13.53	13.55	13.49	12.23	12.91	13.73	14.24
15	15.35	14.09	13.31	13.13	13.34	13.52	13.41	13.49	12.24	13.01	13.90	14.27
20	14.78	13.88	13.35	13.09	13.38	13.55	13.36	13.54	12.33	13.14	14.11	14.29
25	14.41	13.59	13.41	13.10	13.44	13.58	13.35	13.57	12.42	13.24	14.10	14.34
EOM	14.28	13.38	13.42	13.12	13.47	13.62	13.37	13.62	12.60	13.37	14.20	14.38

WTR YR 1989 HIGH 12.22 JUN 12

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	15.33	14.24	13.30	13.44	13.24	13.49	13.61	13.42	12.50	12.75	13.52	14.23
10	15.33	14.22	13.28	13.25	13.29	13.53	13.57	13.51	12.23	12.93	13.82	14.25
15	15.36	14.14	13.35	13.14	13.35	13.56	13.42	13.50	12.26	13.02	13.93	14.27
20	14.94	13.93	13.39	13.11	13.39	13.57	13.37	13.55	12.33	13.16	14.13	14.30
25	14.44	13.64	13.44	13.11	13.45	13.60	13.35	13.58	12.44	13.26	14.11	14.34
EOM	14.30	13.40	13.44	13.14	13.49	13.63	13.39	13.63	12.62	13.41	14.27	14.39

WTR YR 1989 LOW 15.36 OCT 15

## ELKHART COUNTY

414419085544601. Local number, EH 5.

LOCATION.--Lat 41°44'19", long 85°54'46", in NW¼NE¼ sec.23, T.38 N., R.5 E., Elkhart County, Hydrologic Unit 04050001, on the inlet to Heaton Lake, and 3.5 mi east of Elkhart.

Owner: State of Indiana.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 1.5 in., depth 13 ft, cased to 11 ft, screened to 13 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 770 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of floor of shelter, 2.10 ft above land-surface datum.

PERIOD OF RECORD.--May 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.37 ft below land-surface datum, June 16, 1981; lowest, 5.65 ft below land-surface datum, Sept. 17-19, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	5.57	3.68	3.06	3.11	3.17	3.40	2.79	3.21	2.53	3.33	3.75	3.33
10	5.56	2.96	3.14	2.77	3.25	3.46	2.97	3.25	2.84	3.17	3.90	3.20
15	5.59	2.91	3.22	2.96	3.30	3.24	3.01	3.31	2.93	3.35	3.87	3.24
20	---	2.78	3.22	3.05	3.33	3.17	3.08	3.34	3.06	3.42	4.00	3.40
25	---	2.86	2.99	3.10	3.41	3.23	3.14	3.31	3.21	3.51	4.13	3.52
EOM	3.81	2.88	3.00	3.07	3.42	3.01	3.14	2.91	3.17	3.63	3.92	3.68

WTR YR 1989 HIGH 2.46 JUN 2

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	5.57	3.70	3.06	3.14	3.17	3.40	2.82	3.25	2.61	3.38	3.80	3.35
10	5.57	3.21	3.17	2.87	3.26	3.49	3.01	3.32	2.92	3.19	3.91	3.24
15	5.60	2.92	3.23	2.99	3.30	3.24	3.05	3.34	2.93	3.40	3.90	3.24
20	---	2.90	3.25	3.06	3.33	3.19	3.10	3.34	3.07	3.46	4.13	3.43
25	---	2.88	3.03	3.12	3.41	3.25	3.19	3.36	3.27	3.52	4.15	3.56
EOM	3.84	2.92	3.02	3.08	3.44	3.02	3.16	3.40	3.21	3.65	3.93	3.73

WTR YR 1989 LOW 5.61 OCT 1

## ELKHART COUNTY

414351085540401. Local number, EH 6.

LOCATION.--Lat 41°43'51", long 85°54'04", in NW¼NE¼SW¼ sec.24, T.38 N., R.5 E., Elkhart County, Hydrologic Unit 04050001, on the southeast shore of Heaton Lake, and 4.0 mi east of Elkhart.

Owner: State of Indiana.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 1.5 in., depth 22 ft, cased to 20 ft, screened to 22 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 770 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of floor of shelter, 2.50 ft above land-surface datum.

PERIOD OF RECORD.--May 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.10 ft below land-surface datum, June 16-19, 1981; lowest, 10.68 ft below land-surface datum, Oct. 16, 17, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	10.59	8.66	7.35	7.54	7.65	8.13	7.47	7.71	7.17	7.78	8.50	8.05
10	10.62	8.38	7.44	7.36	7.71	8.22	7.32	7.76	7.13	7.88	8.77	7.96
15	10.66	7.76	7.54	7.28	7.84	8.13	7.34	7.89	7.17	7.90	8.85	7.94
20	9.79	7.60	7.68	7.35	7.90	8.04	7.45	8.00	7.34	8.08	9.00	7.97
25	9.14	7.36	7.69	7.47	7.98	7.98	7.58	8.06	7.52	8.22	9.03	8.13
EOM	8.81	7.30	7.59	7.55	8.02	7.76	7.65	7.99	7.65	8.36	8.63	8.32

WTR YR 1989 HIGH 7.13 JUN 10

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	10.60	8.68	7.36	7.55	7.66	8.13	7.54	7.73	7.21	7.82	8.56	8.07
10	10.63	8.57	7.44	7.38	7.71	8.22	7.32	7.78	7.14	7.89	8.79	7.96
15	10.67	7.85	7.55	7.28	7.84	8.18	7.36	7.91	7.20	7.97	8.85	7.94
20	9.95	7.65	7.69	7.38	7.90	8.10	7.48	8.01	7.38	8.09	9.01	7.99
25	9.23	7.38	7.69	7.47	8.00	7.99	7.59	8.09	7.57	8.23	9.05	8.14
EOM	8.87	7.30	7.60	7.57	8.02	7.79	7.67	8.16	7.70	8.40	8.68	8.34

WTR YR 1989 LOW 10.68 OCT 16

## GROUND-WATER DATA

## ELKHART COUNTY

414514085505001. Local number, EH 7.

LOCATION.--Lat 41°45'14", long 85°50'50", in SW¼SE¼SW¼ sec.9, T.38 N., R.6 E., Elkhart County, Hydrologic Unit 04050001, on north side of County Road 2, 200 ft east of County Road 21, and 2.7 mi northwest of Bristol.  
Owner: U.S. Geological Survey.

AQUIFER.--Fine to medium sand of Pleistocene age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 6 in., depth 61 ft, cased to 56 ft, screened to 61 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 781 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of floor of shelter, 3.70 ft above land-surface datum.

PERIOD OF RECORD.--June 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.50 ft below land-surface datum, Feb. 24, 1985; lowest, 12.73 ft below land-surface datum, Aug. 5, 6, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	11.82	10.64	9.58	9.71	9.66	9.90	9.74	9.61	9.21	9.61	10.98	10.80
10	11.79	10.61	9.61	9.56	9.67	9.96	9.48	9.73	9.16	9.98	10.99	10.61
15	11.79	10.24	9.71	9.45	9.75	9.93	9.40	9.80	9.18	9.92	11.15	10.53
20	11.20	10.07	9.76	9.43	9.75	9.94	9.40	9.86	9.26	10.32	11.57	10.48
25	10.90	9.76	9.83	9.49	9.81	9.92	9.44	9.93	9.39	10.26	11.37	10.43
EOM	10.72	9.62	9.78	9.55	9.88	9.87	9.56	9.89	9.49	10.65	11.17	10.43

WTR YR 1989 HIGH 9.13 JUN 12

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	11.82	10.65	9.59	9.74	9.69	9.93	9.77	9.66	9.26	9.72	10.99	10.86
10	11.80	10.63	9.65	9.58	9.72	9.98	9.51	9.75	9.18	9.99	11.04	10.63
15	11.79	10.31	9.75	9.45	9.78	10.00	9.41	9.81	9.19	9.97	11.22	10.55
20	11.35	10.10	9.81	9.50	9.77	9.98	9.41	9.89	9.28	10.32	11.59	10.49
25	10.93	9.83	9.87	9.52	9.84	9.94	9.46	9.95	9.40	10.27	11.40	10.44
EOM	10.75	9.63	9.80	9.58	9.90	9.88	9.60	10.04	9.50	10.67	11.20	10.44

WTR YR 1989 LOW 11.85 OCT 1

## ELKHART COUNTY

414446086002501. Local number, EH 8.

LOCATION.--Lat 41°44'46", long 86°00'25", in SW¼SE¼SW¼ sec.36, T.38 N., R.4 E., Elkhart County, Hydrologic Unit 04050001, 50 ft north of Bristol Street (County Road 10), 400 ft west of intersection of Bristol Street (10), and Nappanee Street extension, in Elkhart.  
Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 5 in., depth 80 ft, cased to 70 ft, screened to 80 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 763.36 ft above National Geodetic Vertical Datum of 1929. Measuring point: "V" notch filed on top of well casing, 2.5 ft above land-surface datum.

PERIOD OF RECORD.--March 1983 to September 1989. (Discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 7.43 ft below land-surface datum, Apr. 10, 1985; lowest, 12.72 ft below land-surface datum, Nov. 23, 24, 1987.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	11.73	10.53	9.32	9.39	9.57	10.11	9.45	9.71	8.84	9.97	10.85	11.44
10	11.72	10.36	9.46	8.94	9.66	10.12	9.33	9.92	9.03	10.06	11.08	11.52
15	11.79	9.72	9.66	8.92	9.81	10.11	9.44	10.04	9.20	10.25	11.23	11.56
20	11.00	9.62	9.68	9.12	9.85	10.04	9.57	10.09	9.46	10.39	11.39	11.61
25	10.76	9.27	9.62	9.29	9.94	10.02	9.69	10.17	9.71	10.50	11.51	11.68
EOM	10.58	9.24	9.39	9.40	10.04	9.83	9.71	10.15	9.79	10.70	11.57	11.77

WTR YR 1989 HIGH 8.83 JUN 6

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	11.75	10.55	9.35	9.43	9.63	10.14	9.53	9.81	8.88	10.02	10.92	11.47
10	11.76	10.47	9.57	8.99	9.75	10.16	9.35	9.95	9.09	10.12	11.09	11.53
15	11.81	9.82	9.69	9.00	9.90	10.22	9.49	10.06	9.25	10.28	11.27	11.57
20	11.11	9.68	9.77	9.25	9.91	10.09	9.61	10.15	9.50	10.42	11.41	11.63
25	10.79	9.30	9.66	9.35	9.97	10.08	9.76	10.22	9.75	10.53	11.53	11.70
EOM	10.63	9.31	9.44	9.46	10.10	9.85	9.76	10.30	9.82	10.73	11.59	11.79

WTR YR 1989 LOW 11.81 OCT 15



## GROUND-WATER DATA

297

## FOUNTAIN COUNTY

401200087121701. Local number, FO 3.

LOCATION.--Lat 40°12'00", Long 87°12'17", in NW¼NW¼ sec.10, T.20 N., R.7 W., Fountain County, Hydrologic Unit 05120108, on the southwest corner of the Union Church property on County Road 520 North, about 6.5 mi southeast of Attica.

Owner: U.S. Geological Survey.

AQUIFER.--Shale and sandstone of the Mississippian Period.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 6 in., depth 102 ft, cased to 22 ft, open end.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 670.99 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.60 ft above land-surface datum.

PERIOD OF RECORD.--July 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.69 ft below land-surface datum, Apr. 7, 1988; lowest, 13.53 ft below land-surface datum, Dec. 21, 22, 25-27, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	12.93	13.26	13.34	13.23	11.99	11.84	10.23	9.84	8.95	10.15	10.70	9.77
10	13.00	13.26	13.40	12.15	12.10	11.32	10.17	10.07	9.24	10.32	10.92	8.97
15	13.00	13.33	13.44	12.33	12.23	10.89	10.22	10.21	9.44	10.45	11.07	8.80
20	13.06	13.08	13.50	12.49	12.17	10.97	10.38	10.20	9.63	10.47	11.24	9.07
25	13.11	13.05	13.51	12.59	11.99	10.96	10.49	9.36	9.81	10.28	11.30	9.33
EOM	13.22	13.22	13.13	11.82	12.01	11.07	9.90	8.80	10.01	10.54	10.24	9.55

WTR YR 1989 HIGH 8.67 MAY 28

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	12.95	13.28	13.35	13.24	12.00	11.90	10.28	9.91	8.99	10.19	10.75	9.82
10	13.02	13.30	13.41	12.19	12.14	11.76	10.22	10.11	9.30	10.37	10.95	9.05
15	13.10	13.34	13.46	12.37	12.28	11.00	10.25	10.25	9.49	10.47	11.11	8.85
20	13.07	13.28	13.52	12.55	12.21	11.02	10.40	10.22	9.64	10.51	11.28	9.12
25	13.13	13.09	13.53	12.62	12.02	10.99	10.52	10.28	9.85	10.34	11.34	9.35
EOM	13.23	13.25	13.14	11.84	12.08	11.12	10.13	8.86	10.02	10.58	10.27	9.56

WTR YR 1989 LOW 13.53 DEC 21

## FRANKLIN COUNTY

392416085004301. Local number, FR 5.

LOCATION.--Lat 39°24'16", Long 85°00'43", in SE¼NE¼NW¼ sec.32, T.9 N., R.2 W., Franklin County, Hydrologic Unit 05080003, adjacent to property of Franklin County Conservation Club, 1.0 mi south of Brookville.

Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel  
LANIER BUS. PROD.  
1 of Pleistocene age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 6 in., depth 61 ft, cased to 57 ft, screened to 59 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 621.79 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of floor of shelter, 2.70 ft above land-surface datum.

PERIOD OF RECORD.--March 1968 to October 1971, September 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 11.95 ft below land-surface datum, May 24, 1968; lowest, 27.32 ft below land-surface datum, Feb. 1, 1977.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	26.98	26.64	25.73	25.28	25.21	24.83	20.23	23.25	20.84	25.46	25.99	25.84
10	26.99	26.37	25.79	23.79	25.51	24.65	20.80	22.99	23.03	25.67	26.08	25.84
15	26.99	26.17	25.87	23.92	25.29	24.53	22.63	23.46	23.50	25.81	26.25	24.65
20	26.93	25.98	26.06	24.34	25.23	24.17	23.43	23.56	24.22	25.93	26.34	24.78
25	26.93	25.80	26.15	24.79	24.94	24.08	24.10	21.44	24.74	25.74	26.10	25.33
EOM	26.88	25.67	25.54	25.11	24.99	21.83	22.65	19.87	25.19	25.86	26.28	25.71

WTR YR 1989 HIGH 17.73 MAY 27

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	26.98	26.76	25.74	25.39	25.22	25.29	20.29	23.32	21.38	25.49	26.01	25.86
10	26.99	26.50	25.81	23.95	25.57	24.74	21.26	23.15	23.29	25.71	26.14	25.95
15	27.00	26.23	25.93	23.99	25.48	24.60	22.91	23.49	23.65	25.83	26.26	25.54
20	26.94	26.03	26.13	24.43	25.25	24.85	23.54	23.76	24.34	25.96	26.36	24.92
25	26.94	25.81	26.16	24.86	24.95	24.18	24.22	21.52	24.82	25.79	26.12	25.42
EOM	26.90	25.67	25.58	25.15	25.03	22.76	22.77	19.97	25.27	25.88	26.30	25.76

WTR YR 1989 LOW 27.00 OCT 15



## GROUND-WATER DATA

## FULTON COUNTY

405829086175801. Local number, FU 7.

LOCATION.--Lat 40°58'29", long 86°17'58", in NW¼NW¼SW¼ sec.10, T.29 N., R.2 E., Fulton County, Hydrologic Unit 05120106, 2.5 mi northwest of Fulton.

Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 102 ft, cased to 96 ft, screened to 102 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 776.45 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of floor of shelter, 2.50 ft above land-surface datum.

PERIOD OF RECORD.--August 1967 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.35 ft below land-surface datum, Apr. 23-27, 1973; lowest, 13.21 ft below land-surface datum, Oct. 13, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	13.10	12.67	11.20	10.61	9.84	10.20	9.56	9.89	9.12	9.96	10.35	9.94
10	13.05	12.67	11.21	9.97	9.95	10.31	9.43	10.07	9.22	10.29	10.72	9.86
15	13.13	12.28	11.24	9.80	10.06	10.19	9.46	10.13	9.21	9.94	10.76	9.90
20	12.90	11.78	11.27	9.89	9.99	10.06	9.64	10.11	9.29	9.90	10.82	9.94
25	12.80	11.30	11.27	9.94	10.08	9.90	9.73	9.81	9.44	10.06	10.86	10.06
EOM	12.79	11.17	10.74	9.70	10.09	9.90	9.85	9.59	9.71	10.40	10.70	10.20

WTR YR 1989 HIGH 9.10 JUN 6

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	13.13	12.69	11.26	10.71	9.90	10.24	9.63	9.92	9.18	10.08	10.38	9.98
10	13.09	12.72	11.27	10.04	9.98	10.35	9.47	10.11	9.31	10.39	10.77	9.91
15	13.14	12.41	11.35	9.84	10.12	10.35	9.50	10.17	9.27	9.95	10.78	9.92
20	12.93	11.92	11.35	9.99	10.06	10.19	9.66	10.13	9.31	9.93	10.86	9.95
25	12.83	11.36	11.32	9.99	10.16	9.93	9.75	9.94	9.47	10.09	10.88	10.09
EOM	12.88	11.19	10.78	9.75	10.17	9.97	9.91	9.65	9.78	10.41	10.83	10.21

WTR YR 1989 LOW 13.21 OCT 13

## GRANT COUNTY

402322085481901. Local number, GT 8.

LOCATION.--Lat 40°23'22", long 85°48'19", in NW¼SW¼NW¼ sec.1, T.22 N., R.6 E., Grant County, Hydrologic Unit 05120107, located on County Road 700 West right-of-way, and 1.0 mi northwest of Rigdon.

Owner: U.S. Geological Survey.

AQUIFER.--Limestone of Silurian age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 35 ft, cased to 20 ft, open end.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 880 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of floor of shelter, 3.10 ft above land-surface datum.

PERIOD OF RECORD.--October 1966 to October 1971, July 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.16 ft below land-surface datum, Mar. 21, 1984; lowest, 10.66 ft below land-surface datum, Oct. 29, 1966.

## FROM THE ADR

HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	9.67	9.81	9.12	7.61	4.51	4.14	2.36	2.69	2.51	4.50	4.52	3.74
10	9.59	9.79	9.11	5.69	4.71	3.69	2.82	3.14	3.33	4.72	5.01	3.29
15	9.79	9.62	9.19	5.22	4.74	3.08	3.20	3.57	3.46	4.87	5.22	2.71
20	9.85	9.52	9.13	5.25	4.35	3.62	3.59	3.63	3.86	4.95	5.46	3.40
25	9.85	9.10	9.20	5.29	4.18	3.51	3.71	3.10	4.11	3.44	5.70	4.02
EOM	9.94	9.11	7.86	4.12	4.31	3.78	2.91	2.68	4.42	4.06	5.76	4.38

WTR YR 1989 HIGH 2.36 APR 4

## FROM THE ADR

LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	9.87	9.83	9.24	7.82	4.61	4.40	2.41	2.84	2.63	4.89	5.03	3.96
10	9.84	9.94	9.21	5.83	4.81	4.07	2.99	3.24	3.55	5.02	5.32	3.73
15	9.83	9.77	9.40	5.28	4.81	3.58	3.29	3.69	3.66	5.26	5.58	2.87
20	9.88	9.69	9.27	5.46	4.46	3.83	3.63	3.75	4.01	5.30	5.78	3.78
25	9.91	9.14	9.34	5.46	4.36	3.57	3.76	3.56	4.53	3.70	6.07	4.07
EOM	10.08	9.11	7.91	4.20	4.48	3.87	3.04	3.06	4.70	4.48	6.15	4.67

WTR YR 1989 LOW 10.08 OCT 28

## GROUND-WATER DATA

299

## GRANT COUNTY

403836085374401. Local number, GT 10.

LOCATION.--Lat 40°38'36", long 85°37'44", in NE1SE1SW1 sec.4, T.25 N., R.8 E., Grant County, Hydrologic Unit 05120103, 0.20 mi north of intersection of State Highway 9 and County Road 600 North on west side of road.  
Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 198 ft, cased to 193 ft, screened to 198 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 912.16 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.16 ft above land-surface datum.

PERIOD OF RECORD.--August 1987 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 107.39 ft below land-surface datum, Apr. 6, 1988; lowest, 120.87 ft below land-surface datum, June 29, 1989.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	108.70	107.77	108.58	111.37	117.06	118.00	119.10	119.64	120.32	120.72	117.58	117.80
10	108.29	108.12	108.53	112.36	117.34	118.69	119.52	120.01	120.41	120.76	119.19	117.42
15	108.53	108.30	108.98	112.23	117.64	118.04	119.33	119.96	120.28	118.52	119.57	117.38
20	108.54	108.11	109.40	115.10	117.45	118.78	119.71	119.91	120.47	117.57	117.54	117.52
25	108.29	108.32	109.03	116.08	115.37	118.85	119.50	119.80	120.58	120.02	119.58	120.17
EOM	108.49	108.32	110.41	116.18	115.40	118.85	119.77	120.33	120.74	120.22	118.12	117.64

WTR YR 1989 HIGH 107.77 NOV 5

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	108.86	107.90	108.77	111.62	117.23	118.30	119.26	119.76	120.39	120.80	117.76	117.85
10	108.54	108.56	108.72	114.31	117.54	118.87	119.67	120.11	120.60	120.83	119.60	117.59
15	108.62	109.26	109.63	112.34	117.96	118.78	119.43	120.02	120.35	118.82	119.68	117.47
20	108.66	108.46	109.66	115.91	117.76	119.10	119.83	120.09	120.55	117.66	117.70	119.14
25	108.42	108.41	109.36	116.24	115.78	118.99	119.60	119.91	120.64	120.24	119.81	120.29
EOM	108.82	108.44	111.06	116.38	115.65	119.09	120.00	120.42	120.86	120.34	118.86	117.81

WTR YR 1989 LOW 120.87 JUN 29

## HAMILTON COUNTY

400000086023001. Local number, HA 5.

LOCATION.--Lat 40°00'00", long 86°02'30", in NE1NE1NW1 sec.23, T.18 N., R.4 E., Hamilton County, Hydrologic Unit 05120201, on south side of 146th Street, 1.0 mi west of White River, 1.2 mi west of Allisonville Road, and 3.5 mi southwest of Noblesville.  
Owner: Earlham College.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 6 in., depth 86 ft, cased to 82 ft, screened to 86 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 755.47 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of floor of shelter, 2.76 ft above land-surface datum.

PERIOD OF RECORD.--July 1965 to September 1971, July 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 8.00 ft below land-surface datum, Feb. 24, 25, 1982; lowest, 11.99 ft below land-surface datum, Oct. 30-Nov. 4, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	11.93	11.87	11.69	11.62	11.19	11.20	9.90	9.67	9.54	10.36	10.49	9.99
10	11.95	11.80	11.73	11.34	11.23	11.11	9.80	9.85	9.75	10.47	10.57	9.50
15	11.97	11.78	11.77	11.22	11.26	10.94	9.97	10.01	9.87	10.51	10.65	9.00
20	11.95	11.69	11.81	11.18	11.26	10.85	10.06	10.08	10.03	10.46	10.73	9.11
25	11.96	11.63	11.82	11.21	11.23	10.78	10.18	10.00	10.16	10.25	10.62	9.40
EOM	11.99	11.64	11.63	11.16	11.24	10.71	9.69	9.50	10.30	10.37	10.35	9.63

WTR YR 1989 HIGH 8.93 SEP 16

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	11.94	11.90	11.69	11.63	11.19	11.27	10.10	9.70	9.56	10.38	10.51	10.01
10	11.95	11.86	11.74	11.37	11.24	11.16	9.83	9.89	9.79	10.49	10.59	9.73
15	11.98	11.78	11.78	11.23	11.26	10.96	10.00	10.04	9.90	10.52	10.66	9.13
20	11.95	11.79	11.82	11.19	11.27	10.89	10.08	10.12	10.05	10.48	10.74	9.17
25	11.97	11.64	11.82	11.22	11.24	10.78	10.21	10.12	10.19	10.26	10.64	9.44
EOM	11.99	11.65	11.64	11.17	11.26	10.73	9.75	9.56	10.32	10.40	10.35	9.67

WTR YR 1989 LOW 11.99 OCT 30

## GROUND-WATER DATA

## HARRISON COUNTY

382323086044501. Local number, HR 8.

LOCATION.--Lat 38°23'23", long 86°04'45", in NW¼NW¼ sec.33, T.1 S., R.4 E., Harrison County, Hydrologic Unit 05140104, on Harrison County right-of-way, 2.0 mi southeast of Palmyra.  
 Owner: U.S. Geological Survey.

AQUIFER.--Limestone of Mississippian age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 93 ft, cased to 54 ft, open end.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 827 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of floor of shelter, 3.10 ft above land-surface datum.

PERIOD OF RECORD.--November 1965 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.93 ft below land-surface datum, Mar. 31, 1989; lowest, 19.90 ft below land-surface datum, Nov. 2-4, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	19.63	19.72	11.92	8.14	2.80	2.46	1.19	6.43	8.22	11.62	11.96	14.28
10	19.65	19.47	12.20	4.52	4.24	2.81	2.21	6.89	8.21	12.12	12.46	13.37
15	19.76	19.25	12.67	2.62	1.84	3.39	3.53	7.36	8.92	12.66	12.92	12.56
20	19.82	15.57	13.13	3.50	2.29	3.04	4.57	8.03	9.71	11.68	13.40	12.44
25	19.82	13.66	13.65	4.79	2.88	2.97	5.09	7.46	10.52	11.22	13.69	12.67
EOM	19.87	11.93	10.65	5.31	3.37	.93	5.75	8.53	11.19	11.51	14.11	13.06

WTR YR 1989 HIGH .93 MAR 31

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	19.65	19.83	11.95	8.50	2.97	4.24	1.57	6.60	9.03	11.70	12.08	14.33
10	19.69	19.50	12.31	4.63	4.42	2.87	2.46	6.99	8.41	12.24	12.55	14.11
15	19.77	19.30	12.79	2.87	2.51	3.98	3.80	7.49	9.05	12.74	13.01	12.60
20	19.83	17.83	13.24	4.02	2.54	4.50	4.64	8.10	9.86	12.21	13.51	12.46
25	19.84	13.75	13.75	4.92	2.92	3.29	5.19	7.51	10.65	11.25	13.75	12.74
EOM	19.88	11.98	10.93	5.37	3.78	1.37	5.91	8.72	11.30	11.60	14.16	13.12

WTR YR 1989 LOW 19.90 NOV 2

## HENDRICKS COUNTY

394025086400801. Local number, HD 4.

LOCATION.--Lat 39°40'25", long 86°40'08", in NW¼NW¼ sec.8, T.14 N., R.2 W., Hendricks County, Hydrologic Unit 05120203, at the intersection of State Highway 75 and County Road 600 South on county right-of-way, and 1.0 mi south of Coatesville.  
 Owner: U.S. Geological Survey.

AQUIFER.--Sandstone of Mississippian age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 85 ft, cased to 70 ft, open end.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 860 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of floor of shelter, 1.92 ft above land-surface datum.

REMARKS.--Water level affected by pumpage.

PERIOD OF RECORD.--October 1966 to September 1971, November 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 18.65 ft below land-surface datum, Jan. 30, 1976; lowest, 29.02 ft below land-surface datum, Nov. 30, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	26.28	25.57	23.56	21.97	21.30	21.78	20.60	21.05	21.04	23.06	22.97	22.37
10	26.30	24.94	23.12	21.46	21.56	21.60	20.64	21.12	21.27	23.64	23.05	22.13
15	26.45	24.37	23.15	21.26	21.82	20.97	21.09	21.44	21.86	23.57	23.29	21.45
20	26.25	23.71	23.20	21.32	21.54	21.09	21.53	21.48	22.22	23.19	23.63	21.26
25	25.97	27.13	23.28	21.73	21.48	20.77	21.69	20.82	22.68	22.86	22.96	21.57
EOM	25.99	26.35	22.29	21.29	21.65	21.06	21.26	20.96	23.10	22.85	22.95	22.12

WTR YR 1989 HIGH 20.48 APR 8

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	26.42	25.80	23.80	22.09	21.44	21.91	20.70	21.16	21.11	23.13	23.08	22.53
10	26.42	25.05	23.25	21.57	21.66	21.75	20.98	21.28	21.45	23.83	23.19	22.29
15	26.80	24.66	23.31	21.41	21.89	21.19	21.22	21.63	22.08	23.76	23.63	21.56
20	26.37	23.92	23.61	21.48	21.66	21.28	22.05	21.60	22.35	23.31	23.81	21.50
25	26.10	27.51	23.39	21.87	21.64	21.04	21.77	21.17	23.09	22.96	23.09	21.81
EOM	26.29	29.02	22.54	21.50	21.91	21.14	21.39	21.34	23.22	22.94	23.10	22.38

WTR YR 1989 LOW 29.02 NOV 30

## GROUND-WATER DATA

301

## HUNTINGTON COUNTY

404858085284301. Local number, HU 2.

LOCATION.--Lat 40°48'58", long 85°28'43", in SW1/4SW1/4 sec. 2, T.2N., R.9E., Huntington County, Hydrologic Unit 05120101, on the property of Luther Fusselman, 3.0 mi south of Huntington and 0.5 mi west of State Highway 5.

AQUIFER.--Sand and gravel of the Pleistocene Epoch.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 148 ft, cased to 143 ft, screened to 148 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 820 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.30 ft above land-surface datum.

PERIOD OF RECORD.--August 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 65.46 ft below land-surface datum, Dec. 24, 1988; lowest, 70.65 ft below land-surface datum, Sept. 3, 1989.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	66.96	67.56	67.05	66.65	66.93	67.05	67.99	68.53	68.69	68.57	69.30	70.18
10	66.44	67.85	66.48	67.32	67.01	67.81	68.13	68.86	68.66	69.06	69.96	69.99
15	67.17	68.30	66.21	67.19	66.98	67.05	68.14	68.66	68.53	69.68	69.68	70.18
20	67.91	68.26	65.67	67.06	67.20	67.71	68.45	68.34	68.75	69.25	69.87	70.17
25	67.53	68.65	65.85	67.13	66.99	67.69	68.21	68.82	69.04	69.97	69.92	69.95
EOM	67.74	67.93	66.57	66.75	67.03	68.01	68.74	68.95	68.89	69.77	70.07	70.28

WTR YR 1989 HIGH 65.46 DEC 24

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	67.20	67.66	67.39	66.97	67.22	67.29	68.34	68.75	68.91	68.95	69.55	70.42
10	66.76	68.61	66.76	67.53	67.38	68.10	68.53	69.09	68.88	69.35	70.06	70.24
15	67.45	68.73	66.63	67.33	67.35	67.90	68.41	68.76	68.70	69.76	69.91	70.31
20	68.05	68.88	65.99	67.27	67.58	67.90	68.81	68.51	68.87	69.51	70.00	70.26
25	67.87	68.75	66.23	67.47	67.51	67.99	68.53	68.95	69.15	70.11	70.08	70.18
EOM	68.29	68.36	66.78	67.48	67.35	68.31	69.06	69.23	69.21	69.90	70.30	70.36

WTR YR 1989 LOW 70.65 SEP 3

## HUNTINGTON COUNTY

## WATER-QUALITY RECORDS

404858085284301. Local number, HU 2.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED AS CA (MG/L) (00915)
AUG 03...	0925	66.78	669	684	7.2	7.5	11.5	1.6	340	4	81
DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY WAT WH TOT FET FIELD (MG/L AS CACO3) (00410)	ALKA- LITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)*	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, ORTHO, TOTAL (MG/L AS P) (70507)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
AUG 03...	33	19	2.8	334	351	32	2.6	391	<0.10	<0.01	360

\*In March 1989, the National Water-Quality Laboratory discovered a bias in the turbidimetric method for sulfate analysis, indicating that concentrations below 75 mg/L have a median positive bias of 2 mg/L above the true concentration for the period between 1982 and 1989. Sulfate concentrations in this report have not been corrected for this bias.



## GROUND-WATER DATA

## JASPER COUNTY

410249087011201. Local number, JP 4.

LOCATION.--Lat 41°02'49", long 87°01'12", in SW¼NE¼SW¼ sec.17, T.30 N., R.5 W., Jasper County, Hydrologic Unit 07120002, on property of William Gehring, Inc., 0.9 mi east of Newland.  
 Owner: William Gehring, Inc.

AQUIFER.--Limestone of Devonian age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 16 in., depth 300 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 676.93 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of floor of shelter, 0.00 ft above land-surface datum.

REMARKS.--Water level may be affected by irrigation pumpage.

PERIOD OF RECORD.--July 1956 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.95 ft below land-surface datum, Apr. 9, 1962; lowest, 40.17 ft below land-surface datum, July 25, 1980.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	6.88	5.73	4.56	3.49	3.25	3.25	3.17	3.07	3.32	6.37	5.53	5.12
10	6.48	5.78	4.35	3.51	3.19	3.18	3.28	3.34	3.30	10.59	5.54	4.47
15	6.50	5.52	4.46	3.25	3.32	2.93	3.05	3.39	3.12	7.82	7.80	4.03
20	6.41	5.31	4.08	3.23	3.03	3.10	3.11	3.96	3.14	6.06	6.75	3.83
25	6.24	4.96	4.25	3.11	3.07	3.14	3.08	4.24	3.21	5.70	5.96	3.63
EOM	6.10	4.76	3.80	3.02	3.18	3.20	3.25	3.84	3.79	5.61	5.35	3.55

WTR YR 1989 HIGH 2.87 MAR 14

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	7.00	5.84	4.76	3.70	3.53	3.41	3.34	3.27	3.48	6.61	5.65	5.21
10	6.66	6.14	4.63	3.65	3.38	3.38	3.40	3.47	3.41	12.59	5.69	4.59
15	6.65	5.85	4.65	3.39	3.59	3.39	3.15	3.48	3.23	8.38	8.18	4.20
20	6.58	5.58	4.47	3.56	3.26	3.32	3.29	4.09	3.31	6.28	6.93	3.97
25	6.42	5.15	4.38	3.33	3.31	3.31	3.17	4.62	3.31	5.79	6.12	3.79
EOM	6.37	4.84	3.86	3.15	3.37	3.39	3.40	3.99	4.49	5.75	5.58	3.72

WTR YR 1989 LOW 13.64 JUL 8

## JASPER COUNTY

410809087580801. Local number, JP 7.

LOCATION.--Lat 41°08'10", lon 86°58'08", in SE¼SE¼NE¼ sec.15, T.31 N., R.5 W., Jasper County, Hydrologic Unit 07120002, in northwest corner of intersection of County Roads 850 North and 400 East, 4.0 mi south of Tefft.  
 Owner: U.S. Geological Survey.

AQUIFER.--Dolomite of Middle Devonian age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 130 ft, cased to 94 ft, open end.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 699.38 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of floor of shelter, 2.75 ft above land-surface datum.

REMARKS.--Water level affected by pumpage.

PERIOD OF RECORD.--May 1967 to current year. (Semi-annual tape-down readings only September 1971 to May 1978.)

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.04 ft below land-surface datum, Apr. 5, 1985; lowest, 18.15-ft below land-surface datum, Aug. 30, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	12.06	9.85	8.96	8.10	7.96	7.91	7.50	7.52	7.48	7.89	8.80	9.30
10	11.37	9.95	8.81	8.24	7.93	7.92	7.91	7.83	7.63	10.33	9.33	8.78
15	11.29	9.60	8.87	8.03	8.05	7.38	7.61	7.80	7.53	10.79	10.89	8.54
20	11.06	9.35	8.46	8.01	7.68	7.76	7.70	7.65	7.64	9.93	10.30	8.51
25	10.67	9.11	8.72	7.91	7.73	7.69	7.59	7.55	7.71	9.68	9.96	8.37
EOM	10.46	8.95	8.37	7.59	7.82	7.68	7.78	7.62	7.82	9.18	9.48	8.34

WTR YR 1989 HIGH 7.38 MAR 15

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	12.20	9.99	9.27	8.38	8.29	8.11	7.84	7.74	7.64	8.03	8.94	9.43
10	11.63	10.30	9.05	8.41	8.16	8.17	8.01	7.98	7.78	10.89	9.90	8.94
15	11.51	10.00	9.14	8.19	8.41	7.86	7.73	7.93	7.66	11.01	11.09	8.73
20	11.29	9.69	8.92	8.43	7.99	8.03	7.90	7.85	7.82	10.08	10.46	8.65
25	10.88	9.30	8.93	8.18	8.05	7.89	7.68	7.70	7.84	9.84	10.17	8.56
EOM	10.82	9.11	8.45	7.79	8.05	7.79	7.99	7.79	8.06	9.35	9.73	8.55

WTR YR 1989 LOW 12.23 OCT 1



## GROUND-WATER DATA

303

## JASPER COUNTY

410535087035801. Local number, JP 8.

LOCATION.--Lat 41°05'35", long 87°03'58", in NE¼NE¼SE¼ sec.35, T.31 N., R.6 W., Jasper County, Hydrologic Unit 07120002, 1.7 mi north of Gifford.

Owner: William Gehring, Inc.

AQUIFER.--Limestone of Silurian age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 12 in., depth 310 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 686 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Lower lip of 2 in. tapedown pipe, 2.10 ft above land-surface datum.

REMARKS.--Water level may be affected by irrigation pumpage.

PERIOD OF RECORD.--May 1978 to current year. Record prior to October 1, 1978 available in District files.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 8.77 ft below land-surface datum, May 3, 4, 1983; lowest, 25.11 ft below land-surface datum, July 26, 1980.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	13.45	12.53	11.42	10.78	10.64	10.80	10.59	10.73	10.44	11.19	11.44	11.19
10	13.23	12.46	11.35	10.65	10.68	10.86	10.62	10.87	10.49	12.06	11.54	10.63
15	13.21	12.18	11.33	10.56	10.72	10.66	10.56	10.93	10.38	12.20	11.38	10.48
20	13.03	11.89	11.23	10.54	10.65	10.76	10.66	10.92	10.48	11.98	11.44	10.53
25	12.84	11.62	11.19	10.55	10.75	10.77	10.69	10.90	10.61	11.91	11.45	10.54
EOM	12.81	11.44	10.92	10.45	10.78	10.77	10.75	10.84	10.78	11.63	11.40	10.62

WTR YR 1989 HIGH 10.33 JUN 13

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	13.49	12.57	11.50	10.89	10.75	10.86	10.63	10.81	10.49	11.33	11.51	11.21
10	13.31	12.55	11.45	10.71	10.75	10.93	10.66	10.92	10.55	12.21	11.57	10.66
15	13.27	12.36	11.43	10.60	10.83	10.85	10.61	10.98	10.43	12.23	11.44	10.54
20	13.09	12.01	11.36	10.69	10.76	10.85	10.71	10.98	10.54	12.02	11.48	10.55
25	12.91	11.70	11.27	10.64	10.84	10.84	10.72	10.98	10.64	11.94	11.49	10.60
EOM	12.93	11.49	10.96	10.51	10.87	10.86	10.84	10.88	10.85	11.68	11.49	10.66

WTR YR 1989 LOW 13.57 OCT 1

## JASPER COUNTY

410713087063201. Local number, JP 9.

LOCATION.--Lat 41°07'13", long 87°06'32", in NE¼SW¼SE¼ sec.21, T.31 N., R.6 W., Jasper County, Hydrologic Unit 07120002, 4.4 mi northwest of Gifford.

Owner: William Gehring, Inc.

AQUIFER.--Silurian limestone.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 18 in., depth 260 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 685 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Lower lip of 2 in. tapedown pipe, 2.10 ft above land-surface datum.

REMARKS.--Water level may be affected by irrigation pumpage.

PERIOD OF RECORD.--July 1978 to current year. Record prior to October 1, 1978 available in District files.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.18 ft below land-surface datum, Apr. 3, 1982; lowest, 32.05 ft below land-surface datum, Aug. 5, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	9.56	8.46	7.04	6.19	6.05	6.15	5.69	5.84	5.47	14.87	---	6.58
10	9.17	8.34	---	6.17	6.00	6.11	5.75	6.01	5.47	16.07	6.86	6.09
15	9.10	8.02	6.83	5.98	6.04	5.74	5.66	6.06	5.41	12.14	6.78	5.90
20	9.00	7.64	6.71	5.92	6.00	5.90	5.77	6.01	5.56	9.97	6.82	5.90
25	8.77	7.30	6.72	5.88	6.32	5.84	5.73	5.90	5.70	---	6.88	5.92
EOM	8.74	7.13	6.40	5.72	6.23	5.83	5.85	5.84	6.04	---	6.79	5.95

WTR YR 1989 HIGH 5.35 JUN 13

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	9.59	8.49	7.18	6.36	6.17	6.18	5.74	5.89	5.52	16.62	---	6.63
10	9.28	8.46	---	6.22	6.07	6.22	5.82	6.07	5.57	16.97	6.89	6.12
15	9.19	8.22	7.01	6.00	6.14	5.98	5.68	6.09	5.46	13.02	6.81	5.95
20	9.06	7.82	6.84	6.07	6.03	6.03	5.81	6.06	5.60	10.35	6.87	5.92
25	8.81	7.41	6.83	5.97	6.53	5.88	5.76	5.98	5.72	---	6.91	5.97
EOM	8.91	7.15	6.42	5.79	6.30	5.91	5.96	5.87	7.50	---	6.92	5.99

WTR YR 1989 LOW 19.97 JUL 8

## GROUND-WATER DATA

## JASPER COUNTY

410322087163101. Local number, JP 11.

LOCATION.--Lat 41°03'22", long 87°16'31", in NW1/4NW1/4 sec.18, T.30 N., R.7 W., Jasper County, Hydrologic Unit 07120002, on Prudential Life Insurance Company of America property, 3.2 mi north of State Highway 14, and 1.5 mi southwest of Fair Oaks.  
 Owner: Prudential Insurance Company of America.

AQUIFER.--Limestone of Devonian age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 16 in., depth 630 ft, cased to 63 ft, open end.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 680 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of floor of shelter, 3.50 ft above land-surface datum.

REMARKS.--Water level may be affected by irrigation pumpage.

PERIOD OF RECORD.--March 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.04 ft above land-surface datum, Apr. 3, 1982; lowest, 52.19 ft below land-surface datum, July 9, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	13.48	9.41	7.07	5.34	4.43	4.07	3.26	3.16	2.48	27.08	27.90	11.82
10	12.38	9.15	6.81	5.20	4.32	3.94	3.32	3.31	2.54	39.17	38.82	10.15
15	11.77	8.50	6.65	4.92	4.33	3.54	3.15	3.27	2.44	21.58	32.95	9.04
20	11.13	8.03	6.27	4.81	4.03	3.59	3.21	3.14	2.56	21.26	20.92	8.36
25	11.13	7.54	6.12	4.59	4.09	3.52	3.15	3.03	8.20	14.06	17.20	7.79
EOM	10.13	7.31	5.61	4.25	4.12	3.46	3.30	2.83	7.75	18.49	13.76	7.34

WTR YR 1989 HIGH 2.39 JUN 13

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	13.64	9.49	7.21	5.52	4.58	4.11	3.33	3.26	2.53	31.34	28.92	12.14
10	12.59	9.29	6.92	5.26	4.45	4.09	3.36	3.36	2.62	40.96	41.55	10.35
15	11.94	8.79	6.78	4.96	4.48	3.82	3.19	3.31	2.49	24.27	37.04	9.25
20	11.32	8.17	6.46	4.99	4.18	3.73	3.29	3.22	2.62	23.69	22.41	8.49
25	11.39	7.65	6.19	4.74	4.28	3.59	3.17	3.10	9.13	14.96	17.92	7.95
EOM	10.42	7.34	5.66	4.36	4.25	3.56	3.41	2.88	9.45	20.00	14.31	7.48

WTR YR 1989 LOW 45.38 AUG 12

## JASPER COUNTY

410145087130401. Local number, JP 12.

LOCATION.--Lat 41°01'45", long 87°13'04", in NW1/4SW1/4 sec.22, T.30 N., R.7 W., Jasper County, Hydrologic Unit 07120002, in Old Union Township school yard, 200 ft east of County Road 900 West, 750 ft north of State Highway 14, and in Parr.  
 Owner: Prudential Insurance Company of America.

AQUIFER.--Limestone/dolomite of Silurian/Devonian age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 5 in., depth 150 ft, cased to 103 ft, open end.

INSTRUMENTATION.--Water-level recorder, data-collection platform, and incremental encoder.

DATUM.--Elevation of land-surface datum is 695 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of well casing, 2.6 ft above land-surface datum.

REMARKS.--Water level may be affected by irrigation pumpage.

PERIOD OF RECORD.--May 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 14.08 ft below land-surface datum, May 22, 1983; lowest, 53.41 ft below land-surface datum, Aug. 18, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	29.68	24.88	22.40	20.43	18.96	18.37	17.51	17.20	16.90	24.55	27.31	27.28
10	28.41	24.56	22.00	20.19	18.85	18.18	17.59	17.42	16.94	---	34.05	25.82
15	27.63	23.98	21.75	19.80	18.75	17.80	17.38	17.38	---	29.50	38.32	24.64
20	26.84	23.53	21.27	19.55	18.46	17.83	17.36	17.22	---	29.24	34.01	23.78
25	26.67	23.10	21.20	19.27	18.40	17.75	17.29	17.10	---	27.50	31.31	23.02
EOM	25.72	22.77	20.73	18.95	18.39	17.65	17.35	17.07	18.06	27.30	28.86	22.41

WTR YR 1989 HIGH 16.70 JUN 13

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	29.91	25.00	22.63	20.63	19.22	18.51	17.90	17.67	17.16	25.61	27.31	27.61
10	28.69	24.96	22.24	20.56	19.03	18.49	17.96	17.62	17.27	---	36.94	26.06
15	27.85	24.44	21.96	19.96	19.00	18.25	17.55	17.62	---	29.95	39.40	25.14
20	27.27	23.86	21.52	19.81	18.80	18.11	17.50	17.39	---	29.47	34.69	23.97
25	26.88	23.28	21.31	19.47	18.74	18.02	17.70	17.24	---	27.91	31.75	23.21
EOM	26.08	22.84	20.83	19.09	18.58	17.80	17.52	17.26	18.26	27.30	29.40	22.64

WTR YR 1989 LOW 41.43 AUG 12

## GROUND-WATER DATA

305

## JASPER COUNTY

405902087141501. Local number, JP 13.

LOCATION.--Lat 40°59'02", long 87°14'15", in NW¼NW¼ sec.9, T.29 N., R.7 W., Jasper County, Hydrologic Unit 07120002, at southwest corner of North Newton School, and 4.6 mi northwest of Rensselaer.  
 Owner: Prudential Insurance Company of America.

AQUIFER.--Dolomite of Silurian/Devonian age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 5 in., depth 150 ft, cased to 106 ft, open end.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 700 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of well casing, 3.4 ft above land-surface datum.

REMARKS.--Water level may be affected by irrigation pumpage.

PERIOD OF RECORD.--March 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 20.98 ft below land-surface datum, Apr. 3, 1982; lowest, 55.85 ft below land-surface datum, Aug. 19, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	40.21	34.70	31.95	29.44	27.86	26.93	26.08	25.50	25.28	27.27	36.86	37.17
10	38.80	34.32	31.50	29.32	27.62	26.76	26.16	25.66	25.30	31.91	40.07	35.77
15	37.92	33.63	31.22	28.93	27.53	26.48	25.90	25.64	25.15	35.10	43.80	34.57
20	37.04	33.21	30.58	28.65	27.09	26.45	25.84	25.49	25.17	36.15	42.50	33.66
25	36.41	32.75	30.48	28.29	26.99	26.36	25.69	25.38	25.31	35.68	40.70	32.85
EOM	35.58	32.40	29.90	27.85	26.99	26.23	25.77	25.40	25.86	36.00	38.60	32.05

WTR YR 1989 HIGH 25.09 JUN 13

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	40.40	34.79	32.16	29.69	28.12	27.06	26.23	25.69	25.37	28.15	37.76	37.47
10	39.13	34.57	31.68	29.45	27.80	26.99	26.27	25.77	25.40	32.82	40.94	35.95
15	38.15	34.01	31.38	29.00	27.76	26.82	25.96	25.74	25.24	35.27	43.97	34.83
20	37.28	33.44	30.88	28.91	27.34	26.63	25.97	25.62	25.27	36.32	42.87	33.87
25	36.56	32.90	30.57	28.51	27.21	26.49	25.75	25.49	25.35	35.90	41.02	33.04
EOM	35.93	32.43	29.96	28.01	27.15	26.37	25.90	25.50	25.99	36.13	39.08	32.28

WTR YR 1989 LOW 43.99 AUG 16

## JEFFERSON COUNTY

384949085251901. Local number, JF 5.

LOCATION.--Lat 38°49'49", long 85°25'19", in SE¼NW¼SW¼ sec.33, T.5 N., R.10 E., Jefferson County, Hydrologic Unit 05120207, on Jefferson Proving Ground, 500 ft north of Airfield Road, 1,000 ft southwest of the water tower, and 2.2 mi west of main gate.  
 Owner: U.S. Army

AQUIFER.--Limestone, dolomite, and shale of Silurian and Ordovician age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 5 in., depth 200 ft, cased to 33 ft, open end.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 855 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of floor of shelter, 3.00 ft above land-surface datum.

REMARKS.--This well was drilled on a mapped fracture trace.

PERIOD OF RECORD.--March 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.17 ft below land-surface datum, Dec. 28, 1982; lowest, 9.22 below land-surface datum, Sept. 7, 16, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	8.98	8.32	6.98	6.27	5.56	5.31	5.12	5.24	5.44	6.16	7.12	7.01
10	8.64	8.26	6.83	6.25	5.59	5.31	5.23	5.40	5.61	6.29	7.37	6.72
15	8.85	7.97	6.93	5.91	5.63	5.08	5.08	5.37	5.51	6.48	7.34	6.34
20	8.88	7.56	6.87	5.76	5.19	5.13	5.22	5.36	5.53	6.48	7.41	6.27
25	8.80	7.38	7.07	5.74	5.24	5.23	5.24	5.35	5.73	6.94	7.34	6.18
EOM	8.71	7.19	6.56	5.53	5.30	5.03	5.45	5.46	5.97	7.04	7.09	6.00

WTR YR 1989 HIGH 4.86 APR 8

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	9.08	8.53	7.20	6.56	5.83	5.47	5.28	5.39	5.61	6.26	7.23	7.11
10	8.87	8.58	7.05	6.41	5.74	5.50	5.32	5.51	5.68	6.37	7.48	6.79
15	8.98	8.25	7.14	6.01	5.87	5.51	5.19	5.47	5.61	6.62	7.50	6.54
20	9.04	8.01	7.08	6.08	5.49	5.44	5.41	5.52	5.69	6.67	7.54	6.36
25	8.97	7.56	7.17	5.87	5.50	5.34	5.31	5.51	5.81	7.02	7.46	6.30
EOM	8.89	7.24	6.69	5.66	5.50	5.36	5.55	5.62	6.15	7.21	7.27	6.10

WTR YR 1989 LOW 9.16 OCT 13

## GROUND-WATER DATA

## JENNINGS COUNTY

385601085365701. Local number, JN 3.

LOCATION.--Lat 38°56'01", long 85°36'57", in SE¼SW¼NE¼ sec.27, T.6 N., R.8 E., Jennings County, Hydrologic Unit 05120207, 200 ft west of State Highway 3, 1.6 mi south of Crosley Fish and Game Office and 3.0 mi south of Vernon.

Owner: U.S. Geological Survey.

AQUIFER.--Limestones and dolomites of Devonian age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 180 ft, cased to 45 ft, open end.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 718 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of floor of shelter, 3.50 ft above land-surface datum.

PERIOD OF RECORD.--October 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 36.64 ft below land-surface datum, Jan. 21, 1979; lowest, 40.87 ft below land-surface datum, July 6, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	40.64	39.95	39.68	38.91	38.94	38.86	38.48	38.69	38.76	38.95	39.04	39.00
10	40.34	40.01	39.65	39.05	39.03	38.73	38.75	38.74	38.85	39.13	39.40	38.99
15	40.52	39.83	39.72	38.80	38.87	38.49	38.72	38.74	38.73	39.21	39.44	39.00
20	40.46	39.55	39.72	38.85	38.45	38.77	38.82	38.82	38.87	39.18	39.50	39.15
25	40.39	39.62	39.50	39.02	38.69	38.67	38.81	38.59	39.20	39.41	39.05	39.32
EOM	40.39	39.54	39.05	38.85	38.77	38.47	38.84	38.77	39.36	39.23	39.03	39.36

WTR YR 1989 HIGH 38.30 APR 4

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	40.73	40.06	39.83	39.13	39.10	38.93	38.55	38.74	38.91	39.00	39.06	39.02
10	40.49	40.23	39.77	39.10	39.13	38.91	38.83	38.76	39.02	39.22	39.46	39.05
15	40.60	40.01	39.98	38.83	38.95	38.98	38.77	38.80	38.82	39.26	39.49	39.04
20	40.56	39.84	39.81	39.13	38.63	39.06	38.91	38.94	38.93	39.29	39.58	39.18
25	40.47	39.66	39.57	39.08	38.93	38.74	38.85	38.65	39.25	39.46	39.17	39.41
EOM	40.58	39.62	39.14	38.96	38.97	38.62	38.90	38.86	39.42	39.36	39.10	39.41

WTR YR 1989 LOW 40.78 OCT 13

## KNOX COUNTY

383247087361001. Local number, KN 7.

LOCATION.--Lat 38°32'47", long 87°36'10", in SE¼SE¼NW¼ sec.2, T.1 N., R.11 W., Knox County, Hydrologic Unit 05120113, in the right-of-way of Sixth Street Road, 9.8 mi south of Vincennes.

Owner: Michael J. Kelley.

AQUIFER.--Sand and gravel Quaternary age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 43 ft, cased to 16 ft, slotted to 19 ft, open end.

INSTRUMENTATION.--Water-level recorder. Prior to April 1968, hand-taped monthly.

DATUM.--Elevation of land-surface datum is 405 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of floor of shelter, 2.42 ft above land-surface datum.

PERIOD OF RECORD.--November 1956 to December 1972, January 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.57 ft below land-surface datum, May 3, 1983; lowest, 11.35 ft below land-surface datum, Feb. 1-13, 1977.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	10.83	10.61	10.18	9.09	8.06	7.44	3.31	8.02	8.30	7.91	9.38	9.27
10	10.82	10.56	10.21	7.28	8.62	7.55	4.12	8.43	8.67	8.72	9.57	9.56
15	10.84	10.46	10.26	8.00	6.29	7.92	5.22	8.72	8.67	9.01	9.68	9.64
20	10.84	10.34	10.30	8.34	7.39	6.59	6.86	8.90	8.88	8.95	9.82	9.40
25	10.80	10.19	10.31	8.81	7.92	6.93	7.59	7.74	9.02	8.67	9.62	9.38
EOM	10.83	10.18	9.76	8.82	8.25	2.98	8.01	8.48	9.18	9.17	9.55	9.51

WTR YR 1989 HIGH 2.96 APR 4

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	10.83	10.68	10.20	9.40	8.18	8.58	3.52	8.17	8.77	8.14	9.41	9.35
10	10.83	10.58	10.23	7.55	8.69	7.61	4.28	8.51	8.75	8.82	9.59	9.58
15	10.85	10.48	10.29	8.07	6.96	8.09	5.56	8.76	8.73	9.05	9.71	9.65
20	10.84	10.43	10.32	8.53	7.48	8.29	7.03	8.93	8.90	9.03	9.83	9.41
25	10.81	10.20	10.32	8.84	7.96	7.13	7.68	7.93	9.04	8.74	9.66	9.44
EOM	10.84	10.19	9.79	8.85	8.40	3.16	8.07	8.57	9.22	9.23	9.58	9.56

WTR YR 1989 LOW 10.85 OCT 12



## GROUND-WATER DATA

307

## KOSCIUSKO COUNTY

412554085450001. Local number, KO 6.

LOCATION.--Lat 41°25'54", long 85°45'00", in NW¼SW¼NW¼ sec.5, T.34 N., R.7E., Kosciusko County, Hydrologic Unit 04050001, west end of North Shore Drive and Lakeview Park in Syracuse, Indiana.  
 Owner: U.S. Geological Survey.

AQUIFER.--Sand of Pleistocene age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 2 in., depth 23 ft, cased to 20 ft, screened to 23 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 870 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of floor of shelter, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--November 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.94 ft below land-surface datum, Apr. 15, 16, 1985; lowest, 10.64 ft below land-surface datum, Feb. 9, 1979, Oct. 7, 13, 14, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	10.60	10.54	10.06	10.03	9.92	10.12	9.85	9.79	9.31	9.42	9.50	9.71
10	10.59	10.41	10.08	9.94	9.98	10.17	9.81	9.80	9.27	9.49	9.59	9.66
15	10.62	10.27	10.12	9.91	10.02	10.13	9.81	9.81	9.25	9.50	9.63	9.70
20	10.59	10.14	10.19	9.92	10.04	10.08	9.81	9.79	9.25	9.46	9.66	9.73
25	10.59	10.07	10.13	9.92	10.10	10.07	9.80	9.79	9.30	9.39	9.68	9.78
EOM	10.57	10.03	10.02	9.90	10.10	10.00	9.79	9.76	9.38	9.46	9.72	9.86

WTR YR 1989 HIGH 9.25 JUN 13

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	10.63	10.54	10.06	10.04	9.92	10.12	9.86	9.79	9.34	9.44	9.52	9.72
10	10.61	10.50	10.08	9.95	9.99	10.17	9.81	9.81	9.28	9.50	9.60	9.68
15	10.63	10.30	10.15	9.91	10.02	10.13	9.81	9.81	9.25	9.51	9.64	9.71
20	10.60	10.17	10.20	9.93	10.05	10.13	9.81	9.81	9.26	9.49	9.67	9.74
25	10.61	10.08	10.13	9.93	10.10	10.08	9.81	9.80	9.32	9.40	9.70	9.79
EOM	10.58	10.03	10.03	9.91	10.10	10.00	9.79	9.77	9.39	9.47	9.73	9.87

WTR YR 1989 LOW 10.64 OCT 7

## KOSCIUSKO COUNTY

412556085513401. Local number, KO 9.

LOCATION.--Lat 41°25'56", long 85°51'34", in SW¼E¼NW¼ sec.5, T.34 N., R.6 E., Kosciusko County, Hydrologic Unit 04050001, on the north edge of property owned by the Dome Pipeline Corporation, on County Road 50 West, 1.5 mi northwest of Milford.  
 Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 4 in., depth 102 ft, cased to 99 ft, screened to 102 ft.

INSTRUMENTATION.--Water-stage recorder.

DATUM.--Elevation of land-surface datum is 830.90 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of floor of shelter, 3.2 ft above land-surface datum.

PERIOD OF RECORD.--October 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 7.24 ft below land-surface datum, Apr. 8, 9, 1985; lowest, 14.33 ft below land-surface datum, Aug. 10, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	14.27	13.72	12.60	12.41	12.05	12.13	12.03	11.71	11.33	11.59	12.70	13.17
10	14.29	13.67	12.53	12.22	12.04	12.18	11.76	11.82	11.07	11.81	12.81	13.15
15	14.31	13.54	12.51	12.07	12.04	12.18	11.55	11.90	10.97	11.91	12.99	13.16
20	14.13	13.28	12.49	12.00	12.03	12.23	11.52	11.97	11.00	12.10	13.04	13.19
25	13.93	12.98	12.50	11.98	12.10	12.21	11.53	12.03	11.11	12.19	13.08	13.22
EOM	13.80	12.72	12.47	11.97	12.14	12.15	11.63	12.12	11.35	12.43	13.13	13.24

WTR YR 1989 HIGH 10.97 JUN 15

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	14.28	13.74	12.62	12.43	12.06	12.17	12.06	11.74	11.44	11.66	12.71	13.19
10	14.29	13.68	12.54	12.25	12.04	12.19	11.82	11.84	11.09	11.83	12.88	13.15
15	14.31	13.58	12.53	12.09	12.06	12.24	11.57	11.92	10.98	11.95	13.01	13.17
20	14.17	13.34	12.51	12.02	12.04	12.26	11.52	11.99	11.01	12.11	13.05	13.20
25	13.96	13.04	12.51	11.99	12.12	12.22	11.54	12.05	11.13	12.21	13.09	13.22
EOM	13.82	12.75	12.47	11.99	12.16	12.16	11.67	12.13	11.41	12.47	13.14	13.25

WTR YR 1989 LOW 14.32 OCT 16



## GROUND-WATER DATA

## LAGRANGE COUNTY

414318085200601. Local number, LG 2.

LOCATION.--Lat 41°43'18", long 85°20'06", in SW¼SE¼NE¼ sec.26, T.38 N., R.10 E., Lagrange County, Hydrologic Unit 04050001, on northeast corner of intersection of State Highway 120 and County Road 475 East, and 1.2 mi west of Brighton.

Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 5 in., depth 86 ft, cased to 80 ft, screened to 86 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 911.02 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of floor of shelter, 3.0 ft above land-surface datum.

PERIOD OF RECORD.--May 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 10.99 ft below land-surface datum, Apr. 3, 1982; lowest, 16.93 ft below land-surface datum, Aug. 14, 15, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	16.60	16.11	15.39	15.09	14.89	14.85	14.99	14.73	14.35	14.34	15.39	15.12
10	16.59	16.05	15.30	14.99	14.90	14.85	14.97	14.74	14.07	14.49	15.53	15.11
15	16.59	15.97	15.24	14.96	14.91	14.84	14.87	14.74	13.90	14.67	15.57	15.11
20	16.50	15.85	15.17	14.93	14.89	14.90	14.81	14.73	13.82	14.83	15.32	15.13
25	16.35	15.69	15.15	14.91	14.91	14.94	14.77	14.74	13.79	15.04	15.20	15.15
EOM	16.20	15.53	15.11	14.89	14.93	14.97	14.76	14.65	14.05	15.26	15.14	15.19

WTR YR 1989 HIGH 13.79 JUN 23

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	16.60	16.13	15.42	15.11	14.92	14.87	15.00	14.74	14.41	14.37	15.47	15.12
10	16.59	16.06	15.31	15.00	14.91	14.87	14.98	14.74	14.10	14.56	15.55	15.12
15	16.60	15.99	15.25	14.97	14.93	14.90	14.88	14.75	13.92	14.70	15.63	15.12
20	16.52	15.88	15.19	14.96	14.90	14.92	14.82	14.75	13.83	14.87	15.48	15.14
25	16.38	15.72	15.16	14.93	14.93	14.95	14.78	14.76	13.80	15.08	15.21	15.16
EOM	16.23	15.55	15.12	14.90	14.95	14.99	14.76	14.72	14.09	15.30	15.15	15.19

WTR YR 1989 LOW 16.61 OCT 1

## LAGRANGE COUNTY

414158085253401. Local number, LG 3.

LOCATION.--Lat 41°41'58", long 85°25'34", in SE¼SE¼SE¼ sec.36, T.38 N., R.9 E., Lagrange County, Hydrologic Unit 04050001, at northwest corner of intersection of State Highway 9 and County Road 400 North, at edge of woods, and 1.4 mi south of Howe.

Owner: U.S. Geological Survey.

AQUIFER.--Fine to medium sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 6 in., depth 40 ft, cased to 35 ft, screened to 40 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 870 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of floor of shelter, 3.7 ft above land-surface datum.

PERIOD OF RECORD.--June 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.48 ft below land-surface datum, Mar. 21, 1982; lowest, 8.82 ft below land-surface datum, Sept. 2, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	8.41	7.50	6.51	6.69	6.82	7.08	6.72	6.59	5.61	6.69	7.57	7.92
10	8.41	7.38	6.63	6.40	6.86	7.20	6.53	6.67	5.69	6.88	7.71	7.96
15	8.43	7.01	6.74	6.42	6.94	7.23	6.59	6.78	5.91	7.02	7.81	7.97
20	7.78	6.59	6.84	6.58	7.01	7.16	6.72	6.81	6.11	7.17	7.84	8.02
25	7.57	6.32	6.82	6.73	7.09	7.10	6.73	6.86	6.30	7.30	7.88	8.06
EOM	7.50	6.35	6.66	6.78	7.12	6.99	6.67	6.63	6.50	7.45	7.92	8.11

WTR YR 1989 HIGH 5.56 JUN 6

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	8.42	7.50	6.52	6.71	6.84	7.11	6.79	6.61	5.72	6.74	7.60	7.93
10	8.42	7.49	6.65	6.43	6.88	7.21	6.53	6.70	5.76	6.92	7.74	7.97
15	8.44	7.07	6.77	6.47	6.96	7.25	6.62	6.80	5.95	7.05	7.81	7.98
20	7.89	6.67	6.87	6.64	7.02	7.18	6.73	6.82	6.14	7.20	7.86	8.03
25	7.59	6.34	6.86	6.74	7.09	7.11	6.80	6.87	6.34	7.32	7.89	8.07
EOM	7.52	6.39	6.66	6.80	7.14	7.01	6.67	6.81	6.53	7.47	7.93	8.13

WTR YR 1989 LOW 8.44 OCT 15

## GROUND-WATER DATA

309

## LAKE COUNTY

411038087284701. Local number, LK 12.

LOCATION.--Lat 41°10'38", long 87°28'47", in SW¼NE¼SW¼ sec.32, T.32 N., R.9 W., Lake County, Hydrologic Unit 07120001, on the northern edge of Kankakee River State Park, 2.0 mi southwest of Schneider.  
Owner: U.S. Geological Survey.

AQUIFER.--Dolomite of Silurian age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 82 ft, cased to 52 ft, open end.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 630.59 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of floor of shelter, 2.55 ft above land-surface datum.

REMARKS.--Water level may be affected by pumping.

PERIOD OF RECORD.--March 1967 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.15 ft below land-surface datum, Jan. 12, 1973; lowest, 17.92 ft below land-surface datum, Aug. 27, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	11.56	9.02	6.82	5.38	4.79	4.67	3.97	4.00	2.64	3.49	8.64	9.25
10	11.01	8.65	6.64	5.15	4.73	4.60	3.88	4.06	2.67	4.65	9.49	7.89
15	10.57	8.06	6.54	4.98	4.67	4.50	3.89	4.08	2.77	6.61	10.31	7.34
20	10.11	7.62	6.31	5.00	4.72	4.41	3.94	3.99	3.03	8.09	11.12	7.15
25	9.77	7.23	6.01	4.90	4.73	4.35	3.95	3.96	3.22	7.80	10.96	6.96
EOM	9.38	7.04	5.49	4.83	4.73	4.27	4.02	3.40	3.35	8.27	10.33	6.60

WTR YR 1989 HIGH 2.62 JUN 7

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	11.83	9.12	7.06	5.51	4.91	4.87	4.14	4.15	2.72	3.69	8.81	9.63
10	11.17	8.79	6.85	5.30	4.86	4.70	4.02	4.52	2.83	5.09	9.75	8.16
15	10.82	8.42	6.67	5.13	4.86	4.81	3.98	4.32	2.91	6.97	10.48	7.60
20	10.29	7.75	6.43	5.19	4.91	4.51	4.14	4.06	3.10	8.35	11.23	7.35
25	9.92	7.38	6.10	5.10	5.05	4.49	4.09	4.30	3.33	7.92	11.14	7.30
EOM	9.59	7.14	5.69	4.96	4.89	4.40	4.30	3.66	3.52	8.32	10.71	6.89

WTR YR 1989 LOW 12.30 OCT 1

## LAKE COUNTY

41355908727031. Local number, LK 13.

LOCATION.--Lat 41°35'59", long 87°27'03", in SW¼NW¼SW¼ sec.34, T.36 N., R.9 W., Lake County, Hydrologic Unit 04040001, at the Gibson Woods Nature Preserve on the north side of Hammond.  
Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 6.0 in., depth 23 ft, cased to 18 ft, screened to 23 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 591.91 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.50 ft above land-surface datum.

PERIOD OF RECORD.--July 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.24 ft below land-surface datum, Apr. 6, 1988; lowest, 5.15 ft below land-surface datum, Sept. 10, 1986.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	4.64	3.48	2.26	1.24	1.81	1.19	1.00	1.59	.57	2.77	3.08	3.29
10	4.74	1.32	2.41	1.63	2.01	1.04	1.17	1.85	.98	3.21	3.25	2.76
15	4.92	2.11	2.44	1.70	1.91	1.06	1.30	2.08	1.03	3.29	3.15	2.66
20	3.96	1.62	2.36	1.63	2.00	.90	1.38	1.14	1.45	1.44	3.37	3.27
25	3.77	2.02	1.80	1.48	2.01	1.09	1.60	.58	2.14	2.52	3.72	3.52
EOM	3.75	2.07	1.72	1.54	2.03	1.08	1.71	.70	2.19	2.87	3.62	3.78

WTR YR 1989 HIGH .26 JUN 1

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	4.67	3.49	2.29	2.03	1.87	1.37	1.03	1.89	.65	2.99	3.39	3.48
10	4.86	2.23	2.52	1.73	2.09	1.22	1.22	1.93	1.07	3.49	3.61	2.99
15	4.99	2.25	2.56	1.77	2.05	1.19	1.35	2.12	1.08	3.48	3.22	2.89
20	3.97	1.84	2.50	1.82	2.07	1.01	1.43	1.49	1.55	2.08	3.73	3.45
25	3.79	2.07	1.95	1.82	2.12	1.15	1.68	1.97	2.37	2.72	3.88	3.69
EOM	3.80	2.16	1.80	1.59	2.15	1.14	1.80	1.31	2.46	2.95	3.95	3.92

WTR YR 1989 LOW 4.99 OCT 15

## GROUND-WATER DATA

## LA PORTE COUNTY

413700086445401. Local number, LP 8.

LOCATION.--Lat 41°37'00", long 86°44'54", in NE¼SE¼NW¼ sec.34, T.37 N., R.3 W., La Porte County, Hydrologic Unit 07120001, at the west end of Soldiers Memorial Park in La Porte.

Owner: State of Indiana.

AQUIFER.--Sand and gravel of Quaternary age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 3.0 in., depth 22 ft, cased to 20 ft, screened to 22 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 802.79 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of floor of shelter, 3.70 ft above land-surface datum.

PERIOD OF RECORD.--May 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.84 ft below land-surface datum, May 24, 25, 1983; lowest, 7.04 ft below land-surface datum, Mar. 8-11, 1978.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	5.66	5.62	5.54	5.17	5.57	5.36	5.26	5.45	---	5.91	---	6.04
10	6.27	4.48	5.61	5.24	5.63	5.24	5.47	5.67	---	5.74	6.42	5.87
15	6.44	5.55	5.71	5.39	5.55	5.52	5.48	5.72	---	5.98	6.13	5.86
20	5.88	4.91	5.37	5.48	5.66	5.46	5.49	5.64	---	5.89	6.21	6.13
25	5.83	5.44	5.45	5.44	5.67	5.51	5.54	5.23	5.68	6.04	6.49	6.26
EOM	5.97	5.38	5.38	5.49	5.68	5.39	5.53	---	5.78	---	6.02	6.34

WTR YR 1989 HIGH 4.41 NOV 9

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	6.49	5.80	5.55	5.57	5.57	5.55	5.31	5.60	---	5.92	---	6.06
10	6.32	5.43	5.64	5.36	5.66	5.60	5.47	5.68	---	5.86	6.42	5.95
15	6.45	5.55	5.72	5.43	5.67	5.61	5.48	5.72	---	5.99	6.48	5.96
20	5.88	5.31	5.64	5.56	5.68	5.48	5.50	5.74	---	5.94	6.46	6.15
25	5.89	5.46	5.50	5.58	5.71	5.55	5.58	5.86	5.69	6.05	6.50	6.26
EOM	6.00	5.46	5.43	5.52	5.74	5.46	5.56	---	5.80	---	6.12	6.34

WTR YR 1989 LOW 6.57 OCT 1

## LA PORTE COUNTY

412350086512801. Local number, LP 9.

LOCATION.--Lat 41°23'50", long 86°51'28", in SE¼SW¼NE¼ sec.15, T.34 N., R.4 W., La Porte County, Hydrologic Unit 07120001, at the intersection of County Roads 1450 South and 825 West, 3.0 mi southeast of Wanatah.

Owner: U.S. Geological Survey.

AQUIFER.--Sand of Pleistocene age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 32 ft, cased to 27 ft, screened to 32 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 706.81 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of floor of shelter, 1.60 ft above land-surface datum.

PERIOD OF RECORD.--June 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.56 ft below land-surface datum, Apr. 5, 1985; lowest, 8.28 ft below land-surface datum, Oct. 16, 17, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	8.25	7.66	---	5.58	5.43	5.70	4.63	5.47	3.19	5.09	6.13	6.75
10	8.26	7.48	6.23	5.01	5.52	5.72	4.71	5.70	3.80	5.41	6.31	6.54
15	8.27	7.05	6.34	5.05	5.69	5.67	4.81	5.82	3.96	5.69	6.45	6.49
20	7.86	---	6.40	5.29	5.72	5.68	5.07	5.90	4.27	5.87	6.58	6.56
25	7.74	---	6.18	5.39	5.84	5.69	5.20	5.96	4.54	5.93	6.72	6.65
EOM	7.69	---	5.70	5.26	5.95	5.37	5.42	4.65	4.83	6.02	6.84	6.75

WTR YR 1989 HIGH 2.81 JUN 2

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	8.25	7.67	---	5.65	5.48	5.82	4.68	5.57	3.32	5.17	6.21	6.77
10	8.26	7.64	6.29	5.07	5.59	5.79	4.75	5.73	3.88	5.51	6.35	6.60
15	8.27	7.13	6.40	5.14	5.76	5.79	4.89	5.85	4.03	5.74	6.47	6.51
20	7.91	---	6.48	5.43	5.76	5.73	5.10	5.95	4.32	5.91	6.62	6.58
25	7.76	---	6.20	5.47	5.89	5.75	5.26	6.01	4.57	5.95	6.74	6.66
EOM	7.70	---	5.74	5.33	6.00	5.39	5.47	5.57	4.86	6.05	6.85	6.77

WTR YR 1989 LOW 8.28 OCT 16

## GROUND-WATER DATA

311

## LA PORTE COUNTY

413139086341401. Local number, LP 10.

LOCATION.--Lat 41°31'40", long 86°34'10", in SE1SW1NE1 sec.31, T.36 N., R.1 W., La Porte County, Hydrologic Unit 07120001, 200 ft north of the manager's residence at the Mixsawbah Fish Hatchery and 2.6 mi southeast of Stillwell.

Owner: State of Indiana.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 6 in., depth 104 ft, cased to 102 ft, screened to 104 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 695 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of floor of shelter, 3.60 ft above land-surface datum.

PERIOD OF RECORD.--August 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.88 ft below land-surface datum, Feb. 24, 1985; lowest, 9.61 ft below land-surface datum, Sept. 17, 18, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	9.17	8.17	6.31	5.90	6.38	6.90	5.24	7.40	6.73	7.94	8.28	8.56
10	9.12	7.73	6.58	4.95	6.53	6.92	6.37	7.62	7.17	8.03	8.42	8.53
15	9.13	7.13	6.95	5.66	6.77	6.78	6.74	7.72	7.28	8.14	8.51	8.42
20	8.73	6.18	6.83	6.14	6.73	6.69	7.07	7.78	7.44	8.12	8.59	8.44
25	8.43	5.99	5.77	6.20	6.88	6.79	7.20	7.83	7.66	8.18	8.66	8.55
EOM	8.27	6.02	5.27	6.03	7.05	6.65	7.40	7.94	7.80	8.24	8.70	8.60

WTR YR 1989 HIGH 4.68 DEC 28

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	9.18	8.19	6.38	6.01	6.48	6.96	5.46	7.50	6.78	7.99	8.32	8.59
10	9.13	8.00	6.80	5.34	6.70	7.01	6.48	7.65	7.23	8.08	8.44	8.54
15	9.13	7.26	7.00	5.91	6.94	7.03	6.82	7.74	7.32	8.15	8.53	8.44
20	8.80	6.58	6.95	6.41	6.82	6.79	7.12	7.81	7.48	8.13	8.60	8.46
25	8.48	6.12	6.00	6.45	6.95	6.94	7.28	7.86	7.69	8.21	8.69	8.56
EOM	8.29	6.20	5.48	6.14	7.15	6.76	7.42	7.96	7.82	8.26	8.72	8.62

WTR YR 1989 LOW 9.27 OCT 1

## LA PORTE COUNTY

412839086533101. Local number, LP 11.

LOCATION.--Lat 41°28'39", long 86°53'31", in SW1SW1SW1 sec.16, T.35 N., R.4 W., La Porte County, Hydrologic Unit 07120001, in the northeast corner of intersection of U.S. Highway 421 and County Road 900 South.

Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 100 ft, cased to 95 ft, screened to 100 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 760 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of floor of shelter, 4.1 ft above land-surface datum.

REMARKS.--Water level may be affected by pumpage.

PERIOD OF RECORD.--June 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.52 ft below land-surface datum, July 2, 1983; lowest, 10.18 ft below land-surface datum, Oct. 17, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	10.06	9.95	7.57	6.94	6.47	---	6.33	6.57	5.71	6.49	7.08	8.25
10	10.10	9.78	7.61	6.24	6.50	6.87	6.13	6.79	5.78	6.64	7.37	8.32
15	10.16	8.88	7.75	6.16	---	6.78	6.11	6.90	5.86	6.83	7.54	8.42
20	9.96	8.33	7.82	6.29	---	6.77	6.27	6.97	6.03	6.96	7.71	8.52
25	9.95	7.81	7.80	6.42	---	6.71	6.36	7.04	6.17	7.14	7.97	8.59
EOM	9.96	7.60	7.15	6.40	---	6.63	6.57	7.06	6.34	6.90	8.14	8.71

WTR YR 1989 HIGH 5.70 JUN 6

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	10.08	9.95	7.66	7.01	6.51	---	6.44	6.69	5.73	6.53	7.18	8.29
10	10.11	9.92	7.68	6.27	6.52	6.91	6.17	6.82	5.82	6.70	7.41	8.35
15	10.17	9.05	7.90	6.21	---	6.93	6.15	6.93	5.89	6.86	7.60	8.44
20	9.98	8.36	7.95	6.43	---	6.85	6.29	7.05	6.05	7.02	7.79	8.55
25	9.96	7.88	7.88	6.50	---	6.78	6.41	7.11	6.18	7.19	8.00	8.62
EOM	9.98	7.65	7.22	6.48	---	6.67	6.61	7.10	6.36	6.95	8.19	8.73

WTR YR 1989 LOW 10.18 OCT 17



## GROUND-WATER DATA

## LA PORTE COUNTY

413434086434701. Local number, LP 12.

LOCATION.--Lat 41°34'34", long 86°43'47", in NE¼NE¼NW¼ sec.14, T.36 N., R.3 W., La Porte County, Hydrologic Unit 07120001, on County Road 150 West, at La Porte Municipal Airport, 1.6 mi south of La Porte.

Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 6 in., depth 77 ft, cased to 71 ft, screened to 77 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 805 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of floor of shelter, 3.70 ft above land-surface datum.

REMARKS.--Water level may be affected by pumpage.

PERIOD OF RECORD.--July 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 15.59 ft below land-surface datum, May 29-31, 1983; lowest, 22.64 ft below land-surface datum, Nov. 11, 12, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	22.31	22.58	22.30	22.06	21.24	21.30	21.47	21.22	21.15	20.94	21.24	21.64
10	22.33	22.60	22.24	22.00	21.20	21.35	21.51	21.23	21.05	21.07	21.34	21.65
15	22.40	22.60	22.18	21.85	21.21	21.30	21.45	21.23	20.96	21.09	21.43	21.67
20	22.48	22.53	22.15	21.65	21.19	21.40	21.39	21.24	20.91	21.11	21.47	21.70
25	22.51	22.44	22.13	21.43	21.22	21.43	21.31	21.26	20.87	21.19	21.56	21.73
EOM	22.56	22.36	22.10	21.28	21.23	21.47	21.28	21.35	20.93	21.21	21.60	21.76

WTR YR 1989 HIGH 20.86 JUN 26

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	22.32	22.58	22.33	22.07	21.26	21.33	21.50	21.24	21.18	20.99	21.27	21.64
10	22.33	22.63	22.25	22.01	21.21	21.37	21.53	21.24	21.06	21.07	21.36	21.66
15	22.43	22.63	22.21	21.90	21.23	21.39	21.45	21.24	20.98	21.09	21.44	21.68
20	22.48	22.56	22.16	21.70	21.20	21.43	21.42	21.26	20.92	21.15	21.48	21.70
25	22.52	22.46	22.14	21.48	21.25	21.46	21.33	21.28	20.88	21.19	21.57	21.73
EOM	22.57	22.38	22.12	21.31	21.27	21.48	21.28	21.37	20.94	21.22	21.61	21.76

WTR YR 1989 LOW 22.64 NOV 11

## MARION COUNTY

393855086120701. Local number, MA 34.

LOCATION.--Lat 39°38'55", long 86°12'07", in NE¼NW¼NE¼ sec.21, T.14 N., R.3 E., Marion County, Hydrologic Unit 05120201, about 0.5 mi northwest of Glenns Valley.

Owner: U.S. Geological Survey.

AQUIFER.--Coarse sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 6 in., depth 66 ft, cased to 61 ft, screened to 66 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 670.73 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.70 ft above land-surface datum.

PERIOD OF RECORD.--July 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.25 ft below land-surface datum, May 26, 1989; lowest, 8.84 ft below land-surface datum, Nov. 23-25, 1987.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	8.27	6.93	6.87	6.14	6.05	5.81	4.72	4.94	4.17	5.70	5.54	5.54
10	8.30	6.27	6.93	6.06	6.22	5.66	4.97	5.13	4.83	5.86	6.06	5.06
15	8.33	6.88	7.02	5.98	6.21	5.74	5.10	5.32	5.00	5.87	6.15	4.32
20	7.61	6.53	7.05	6.04	6.12	5.09	5.21	5.38	5.20	5.45	6.14	5.02
25	7.82	6.72	6.81	6.19	6.03	5.57	5.33	5.01	5.40	5.75	5.94	5.18
EOM	7.88	6.81	6.42	6.04	6.08	5.10	4.79	4.75	5.63	5.96	5.66	5.32

WTR YR 1989 HIGH 3.25 MAY 26

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	8.28	7.10	6.89	6.57	6.08	6.05	4.84	5.06	4.61	5.76	6.13	5.59
10	8.31	7.35	6.98	6.10	6.28	5.75	5.00	5.21	4.89	5.92	6.11	5.30
15	8.34	6.93	7.04	6.00	6.24	5.81	5.13	5.36	5.05	5.92	6.18	4.67
20	7.74	7.00	7.09	6.12	6.19	5.84	5.23	5.45	5.24	5.75	6.26	5.06
25	7.84	6.77	6.94	6.21	6.07	5.61	5.36	5.09	5.45	5.82	6.02	5.21
EOM	7.89	6.84	6.46	6.06	6.14	5.19	4.99	4.82	5.68	5.99	5.74	5.34

WTR YR 1989 LOW 8.34 OCT 15



## GROUND-WATER DATA

313

## MARION COUNTY

394632086092701. Local number, MA 35.

LOCATION.--Lat 39°46'32", long 86°09'27", in NW¼SW¼NW¼ sec.1, T.15 N., R.3 E., Marion County, Hydrologic Unit 05120201, in the northeast corner of the intersection of Meridian and North Streets in Indianapolis.  
 Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 83 ft, cased to 77.5 ft, screened to 83 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 716.40 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.50 ft above land-surface datum.

PERIOD OF RECORD.--September 1987 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 32.14 ft below land-surface datum, May 1, 1988; lowest, 36.95 ft below land-surface datum, Sept. 25, 1987.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	35.46	34.28	33.87	34.24	33.91	33.53	33.32	32.93	33.27	34.03	35.01	34.68
10	35.14	34.20	33.89	34.19	33.91	33.49	33.14	32.91	33.43	34.29	34.94	---
15	35.02	34.10	34.13	34.08	33.80	33.51	32.99	32.91	33.52	34.46	34.80	---
20	34.87	34.00	34.16	34.00	33.69	33.40	32.94	33.02	33.54	34.45	34.70	---
25	34.61	33.90	34.11	33.97	33.63	33.39	32.97	33.07	33.74	34.46	34.98	---
EOM	34.41	33.91	34.20	33.87	33.57	33.55	33.11	33.29	34.10	34.64	35.05	---

WTR YR 1989 HIGH 32.87 MAY 16

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	35.55	34.35	34.03	34.47	33.94	33.71	33.43	33.07	33.52	34.50	35.27	35.07
10	35.43	34.45	34.25	34.35	33.97	33.54	33.23	33.04	33.58	34.71	35.24	---
15	35.09	34.40	34.47	34.21	33.85	33.60	33.06	33.00	33.87	34.71	35.19	---
20	35.01	34.12	34.35	34.04	33.80	33.47	32.99	33.17	33.89	34.84	34.96	---
25	34.65	33.94	34.13	34.05	33.70	33.63	33.24	33.54	34.03	34.92	35.27	---
EOM	34.60	33.96	34.54	33.94	33.65	33.61	33.37	33.67	34.42	35.08	35.41	---

WTR YR 1989 LOW 36.17 OCT 1

## MARION COUNTY

394626086100201. Local number, MA 36.

LOCATION.--Lat 39°46'26", long 86°10'02", in SW¼SW¼NE¼ sec.2, T.15 N., R.3 E., Marion County, Hydrologic Unit 05120201, in the southwest corner of the intersection of West and Michigan Streets in Indianapolis.  
 Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 70.6 ft, cased to 65.1 ft, screened to 70.6 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 710.06 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--September 1987 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 28.57 ft below land-surface datum, Apr. 26, 1988; lowest, 33.12 ft below land-surface datum, Sept. 24, 25, 1987.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	32.51	31.64	31.17	31.41	31.09	30.39	29.70	29.45	29.70	30.30	30.76	31.01
10	32.39	31.48	31.23	31.40	31.00	30.27	29.62	29.47	29.77	30.39	30.84	30.95
15	32.26	31.30	31.31	31.34	30.93	30.13	29.45	29.48	29.83	30.50	30.89	30.71
20	32.13	31.15	31.40	31.30	30.84	29.99	29.35	29.54	29.92	30.57	30.93	30.42
25	31.99	31.03	31.46	31.27	30.72	29.83	29.31	29.62	30.01	30.61	30.95	30.22
EOM	31.80	31.06	31.44	31.19	30.54	29.70	29.42	29.67	30.14	30.67	31.02	30.05

WTR YR 1989 HIGH 29.31 APR 25

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	32.52	31.67	31.17	31.43	31.11	30.42	29.72	29.47	29.71	30.31	30.79	31.03
10	32.41	31.50	31.24	31.41	31.01	30.30	29.64	29.48	29.79	30.42	30.86	30.97
15	32.28	31.34	31.35	31.35	30.94	30.14	29.48	29.49	29.85	30.52	30.90	30.81
20	32.16	31.18	31.42	31.30	30.86	30.02	29.36	29.58	29.92	30.58	30.93	30.47
25	32.02	31.04	31.47	31.28	30.74	29.86	29.31	29.63	30.03	30.62	30.96	30.26
EOM	31.84	31.09	31.45	31.22	30.59	29.73	29.44	29.67	30.16	30.69	31.03	30.08

WTR YR 1989 LOW 32.54 OCT 1

## GROUND-WATER DATA

## MARION COUNTY

394732086115501. Local number, MA 37.

LOCATION.--Lat 39°47'32", long 86°11'55", in SE1/4NE1/4 sec. 33, T.16N., R.3W., Marion County, Hydrologic Unit 05120201, on the South Grove Municipal Golf Course property, west of the 11th fairway and east of White River Parkway in Indianapolis.  
Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene Epoch.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 6 in., depth 74 ft, cased to 69 ft, screened to 74 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 690 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.35 ft above land-surface datum.

PERIOD OF RECORD.--July 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.13 ft below land-surface datum, Sept. 27, 1989; lowest, 10.54 ft below land-surface datum, Aug. 18, 1988.

## FROM ADR

## HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	8.37	7.57	7.04	6.81	8.03	6.61	6.84	7.86	7.89	6.74	7.29	7.02
10	8.28	7.41	6.90	6.40	8.27	6.48	7.21	7.98	6.85	7.01	7.04	5.75
15	8.64	7.35	7.14	7.87	7.15	6.30	7.71	8.18	6.87	6.85	7.56	6.20
20	8.15	7.07	7.16	6.76	6.86	7.60	6.59	8.48	7.03	6.90	7.54	5.56
25	7.93	6.98	7.10	6.85	6.69	7.93	8.04	8.04	6.55	7.36	7.44	5.35
EOM	7.68	7.02	6.76	6.60	6.69	7.87	7.63	7.85	6.95	7.14	8.57	5.71

WTR YR 1989 HIGH 5.13 SEP 27

## FROM ADR

## LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	8.43	7.79	7.21	6.96	8.10	6.85	7.11	8.01	8.04	6.82	7.42	7.75
10	8.48	7.53	7.14	7.59	8.36	6.64	7.34	8.18	7.14	7.20	7.13	6.15
15	8.80	7.52	7.19	7.92	7.43	6.52	7.79	8.36	7.00	6.92	7.66	6.55
20	9.28	7.16	7.39	6.92	6.93	7.67	6.84	8.58	7.12	7.05	7.59	5.95
25	7.99	7.07	7.17	6.97	6.81	8.14	8.25	8.58	7.11	7.98	7.55	5.53
EOM	7.78	7.11	6.82	7.80	6.82	8.14	7.88	8.11	7.04	7.25	8.67	6.10

WTR YR 1989 LOW 9.28 OCT 20

## MARION COUNTY

## WATER-QUALITY RECORDS

394732086115501. Local number, MA 37.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED AS CA (MG/L) (00915)	
JUL 25...	1530	9.35	738	477	7.2	8.4	13.0	0.5	390	63	100	
DATE		MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY WAT WH TOT FET FIELD (MG/L AS CACO3) (00410)	ALKA- LITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)*	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, ORTHO, TOTAL (MG/L AS P) (70507)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
JUL 25...	33	6.1	1.3	323	327	67	14	476	<0.10	0.08	2100	

\*In March 1989, the National Water-Quality Laboratory discovered a bias in the turbidimetric method for sulfate analysis, indicating that concentrations below 75 mg/L have a median positive bias of 2 mg/L above the true concentration for the period between 1982 and 1989. Sulfate concentrations in this report have not been corrected for this bias.

## GROUND-WATER DATA

315

## MARTIN COUNTY

383659086545901. Local number, MT 5.

LOCATION.--Lat 38°36'59", long 86°54'59", in SE¼NE¼SW¼ sec.12, T.2 N., R.5 W., Martin County, Hydrologic Unit 05120208, on private property 0.25 mi southwest of Whitfield.  
 Owner: Joseph Arvin.

AQUIFER.--Sandstone of Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 143 ft, cased to 53 ft, open end.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 565 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of floor of shelter, 2.80 ft above land-surface datum.

PERIOD OF RECORD.--May 1958 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 23.91 ft below land-surface datum, Apr. 14, 1980; lowest, 34.10 ft below land-surface datum, Jan. 1, 5, 22, 23, 1960, and Dec. 18, 19, 1964.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	30.06	29.28	30.26	29.44	29.46	28.58	28.15	27.34	27.11	27.20	26.93	27.31
10	29.61	29.73	30.08	29.98	29.34	28.79	28.36	27.52	27.27	27.25	27.34	27.03
15	29.92	29.84	30.04	29.69	29.25	28.02	27.91	27.42	27.10	27.27	27.06	27.13
20	29.95	29.62	29.75	29.56	28.60	28.27	27.90	27.26	27.17	26.88	27.04	27.26
25	29.83	29.96	30.00	29.49	28.76	28.35	27.55	27.02	27.23	27.45	27.08	27.22
EOM	30.05	30.05	29.74	28.95	28.68	27.97	27.70	27.34	27.30	27.15	27.04	27.14

WTR YR 1989 HIGH 26.80 SEP 22

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	30.20	29.49	30.48	29.91	29.61	28.73	28.25	27.46	27.22	27.27	27.00	27.36
10	29.89	30.33	30.29	30.05	29.62	29.07	28.48	27.62	27.44	27.32	27.41	27.17
15	30.05	30.22	30.44	29.79	29.60	28.73	27.98	27.51	27.19	27.33	27.16	27.21
20	30.10	30.34	29.94	30.00	29.04	28.61	28.06	27.44	27.26	27.00	27.12	27.34
25	29.97	30.06	30.30	29.61	29.27	28.42	27.66	27.13	27.29	27.52	27.14	27.37
EOM	30.33	30.18	29.96	29.24	29.02	28.32	27.85	27.44	27.44	27.24	27.19	27.30

WTR YR 1989 LOW 30.56 DEC 2

## MONTGOMERY COUNTY

400247086482101. Local number, MY 7.

LOCATION.--Lat 40°02'47", long 86°48'21", in NE¼NW¼SW¼ sec.31, T.19 N., R.3 W., Montgomery County, Hydrologic Unit 05120110, on the county right-of-way at the intersection of State Highway 32 and County Road 525 East, and 4.5 mi east of Crawfordsville.  
 Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 111 ft, cased to 107 ft, screened to 109 ft, open end.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 801 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of floor of shelter, 2.38 ft above land-surface datum.

PERIOD OF RECORD.--July 1967 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 26.10 ft below land-surface datum, Apr. 13, 1974; lowest, 32.55 ft below land-surface datum, Oct. 30, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	32.22	32.10	31.45	31.01	30.51	30.50	30.03	29.62	29.21	29.91	30.55	30.59
10	32.19	32.19	31.37	31.01	30.51	30.56	30.00	29.67	29.22	30.28	30.72	30.24
15	32.38	32.08	31.31	30.79	30.54	30.25	29.88	29.74	29.16	30.52	30.72	29.67
20	32.38	31.77	31.29	30.68	30.37	30.29	29.85	29.70	29.29	30.34	30.83	29.27
25	32.29	31.56	31.36	30.60	30.45	30.24	29.79	29.45	29.47	30.41	30.91	29.12
EOM	32.41	31.46	31.17	30.38	30.44	30.14	29.78	29.35	29.72	30.46	30.84	29.09

WTR YR 1989 HIGH 29.08 SEP 22

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	32.29	32.13	31.55	31.16	30.60	30.55	30.07	29.65	29.26	30.00	30.58	30.64
10	32.27	32.34	31.44	31.06	30.57	30.64	30.05	29.72	29.29	30.37	30.74	30.29
15	32.42	32.22	31.45	30.81	30.63	30.43	29.91	29.77	29.21	30.57	30.76	29.80
20	32.42	31.92	31.38	30.81	30.51	30.44	29.90	29.76	29.32	30.49	30.88	29.36
25	32.37	31.63	31.46	30.69	30.58	30.26	29.82	29.63	29.50	30.43	30.95	29.18
EOM	32.52	31.48	31.20	30.47	30.55	30.23	29.85	29.38	29.76	30.51	30.91	29.14

WTR YR 1989 LOW 32.55 OCT 30

## MORGAN COUNTY

393423086161001. Local number, MG 4.

LOCATION.--Lat 39°34'23", long 86°16'10", in NW¼NW¼ sec.13, T.13 N., R.2 E., Morgan County, Hydrologic Unit 05120201, on east side of County Road 850 East, 0.4 mi north of County Road 950 North, and 1.1 mi north of Waverly.

Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 6 in., depth 60 ft, cased to 56 ft, screened to 60 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 645 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of floor of shelter, 2.90 ft above land-surface datum.

PERIOD OF RECORD.--May 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 8.27 ft below land-surface datum, Apr. 7, 1985; lowest, 16.09 ft below land-surface datum, Nov. 2-4, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	15.85	15.99	15.45	15.40	14.31	14.01	11.84	11.17	10.23	11.53	12.26	11.76
10	15.91	15.90	15.48	15.13	14.29	13.87	11.12	11.24	10.35	11.78	12.38	11.33
15	15.97	15.79	15.55	14.85	14.30	13.62	11.03	11.31	10.53	11.95	12.54	10.60
20	15.95	15.69	15.61	14.64	14.24	13.37	11.13	11.44	10.78	12.08	12.72	10.21
25	15.99	15.58	15.65	14.51	14.14	13.11	11.25	11.26	11.03	12.01	12.81	10.39
EOM	16.05	15.50	15.48	14.36	14.10	12.79	11.17	10.30	11.34	12.10	12.80	10.68

WTR YR 1989 HIGH 10.21 SEP 18

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	15.87	16.02	15.46	15.42	14.33	14.05	12.13	11.21	10.27	11.58	12.31	11.91
10	15.92	15.96	15.49	15.18	14.30	13.91	11.17	11.26	10.39	11.83	12.42	11.49
15	15.98	15.82	15.57	14.90	14.31	13.64	11.05	11.36	10.58	11.98	12.58	10.82
20	15.96	15.74	15.63	14.65	14.25	13.46	11.15	11.46	10.82	12.10	12.74	10.22
25	16.00	15.60	15.66	14.53	14.16	13.15	11.30	11.31	11.08	12.03	12.85	10.43
EOM	16.06	15.51	15.51	14.39	14.11	12.85	11.25	10.31	11.38	12.14	12.83	10.74

WTR YR 1989 LOW 16.09 NOV 2

## NEWTON COUNTY

405105087173301. Local number, NE 6.

LOCATION.--Lat 40°51'05", long 87°17'33", in SE¼SW¼ sec.23, T.28 N., R.8 W., Newton County, Hydrologic Unit 07120002, on the right-of-way of County Road 1000 South, 1.0 mi south of Foresman.

Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 80 ft, cased to 76 ft, screened to 78 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 654.10 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of floor of shelter, 2.15 ft above land-surface datum.

PERIOD OF RECORD.--May 1967 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 7.94 ft below land-surface datum, Mar. 20, 21, 1982; lowest, 18.82 ft below land-surface datum, Oct. 29, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	18.49	18.67	16.70	14.43	13.10	13.12	12.14	12.73	11.16	13.35	14.32	13.67
10	18.56	18.61	16.45	14.00	13.13	12.94	11.98	13.03	11.46	13.77	14.70	12.35
15	18.65	18.35	16.31	13.68	13.27	12.71	12.00	13.32	11.80	14.10	14.90	11.86
20	18.66	17.98	16.03	13.58	13.18	12.66	12.28	13.16	12.25	13.97	15.03	11.88
25	18.67	17.35	15.65	13.48	13.27	12.57	12.57	12.84	12.78	13.99	15.16	12.16
EOM	18.74	17.01	14.80	13.03	13.28	12.65	12.75	11.92	13.17	14.16	15.14	12.50

WTR YR 1989 HIGH 11.13 JUN 6

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	18.52	18.68	16.82	14.54	13.19	13.22	12.22	12.87	11.22	13.42	14.46	13.76
10	18.63	18.65	16.53	14.04	13.19	13.03	12.00	13.11	11.62	13.98	14.75	12.56
15	18.67	18.46	16.33	13.70	13.36	12.95	12.07	13.34	11.90	14.12	14.96	11.94
20	18.68	18.09	16.09	13.69	13.24	12.77	12.31	13.21	12.36	14.01	15.09	11.93
25	18.74	17.44	15.70	13.54	13.36	12.64	12.65	12.91	12.82	14.03	15.19	12.22
EOM	18.79	17.02	14.91	13.14	13.37	12.74	12.80	12.02	13.21	14.23	15.27	12.53

WTR YR 1989 LOW 18.82 OCT 29



## GROUND-WATER DATA

317

## NEWTON COUNTY

405959087282901. Local number, NE 7.

LOCATION.--Lat 40°59'59", long 87°28'29", in SE1SW1SE1 sec.32, T.30 N., R.9 W., Newton County, Hydrologic Unit 07120002, in the Willow Slough Game Preserve, 2.0 mi southwest of Enos.

Owner: State of Indiana.

AQUIFER.--Limestone of Silurian age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 150 ft, cased to 136 ft, open end.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 680.83 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of floor of shelter, 2.03 ft above land-surface datum.

PERIOD OF RECORD.--February 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 34.65 ft below land-surface datum, Apr 14, 1980; lowest, 97.33 ft below land-surface datum, Aug. 29, 30, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	90.03	80.93	74.29	68.34	63.90	60.41	56.98	54.25	51.62	50.65	61.61	---
10	88.54	79.87	73.35	67.73	63.20	59.83	56.62	53.94	51.36	52.78	64.31	---
15	87.19	78.45	72.47	66.91	62.71	59.16	56.05	53.51	50.95	---	---	69.03
20	85.69	77.37	71.30	66.21	61.85	58.68	55.62	53.02	50.61	58.80	---	67.97
25	84.20	76.25	70.52	65.35	61.23	58.18	55.12	52.50	50.44	60.36	---	66.94
EOM	82.49	75.25	69.27	64.38	60.99	57.57	54.82	52.10	50.25	60.74	71.78	66.06

WTR YR 1989 HIGH 50.23 JUL 1

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	90.21	81.17	74.54	68.63	64.17	60.50	57.07	54.30	51.73	50.93	61.97	---
10	88.85	79.94	73.53	67.87	63.40	60.02	56.68	53.98	51.36	53.47	64.78	---
15	87.52	78.89	72.54	66.97	62.80	59.35	56.13	53.57	50.98	---	---	69.27
20	86.00	77.62	71.46	66.32	62.10	58.88	55.75	53.04	50.68	59.22	---	68.19
25	84.45	76.50	70.61	65.61	61.51	58.25	55.21	52.59	50.47	60.45	---	67.15
EOM	82.93	75.37	69.42	64.60	61.04	57.61	54.84	52.12	50.32	60.87	71.78	66.29

WTR YR 1989 LOW 91.15 OCT 1

## NEWTON COUNTY

410428087231501. Local number, NE 8.

LOCATION.--Lat 41°04'28", long 87°25'44", in NW1SW1SW1 sec.2, T.30 N., R.9 W., Newton County, Hydrologic Unit 07120001, in the Beaver Lake Prairie Chicken Refuge, 3.0 mi north of Enos.

Owner: State of Indiana.

AQUIFER.--Limestone of Silurian age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 150 ft, cased to 97 ft, open end.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 663.34 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of floor of shelter, 2.83 ft above land-surface datum.

REMARKS.--Water level may be affected by irrigation pumpage.

PERIOD OF RECORD.--February 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.04 ft below land-surface datum, May 31, 1976; lowest, 98.40 ft below land-surface datum, July 29, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	56.77	42.92	35.74	30.33	26.67	23.79	21.08	18.98	16.93	38.37	58.05	---
10	53.54	41.73	34.83	29.89	26.06	23.30	20.80	18.82	16.85	55.25	69.68	---
15	50.99	40.03	34.08	29.14	25.69	22.69	20.31	18.49	16.46	46.38	71.75	---
20	48.66	38.89	32.96	28.58	24.88	22.37	19.99	18.08	16.22	47.23	72.76	---
25	46.65	37.66	32.34	27.84	24.41	21.98	19.56	17.70	15.96	38.90	59.60	---
EOM	44.48	36.72	31.15	26.99	24.23	21.53	19.42	17.37	20.47	51.98	65.70	---

WTR YR 1989 HIGH 15.87 JUN 27

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	57.28	43.08	36.03	30.62	26.93	23.87	21.15	19.05	17.02	41.83	61.65	---
10	54.10	41.79	35.02	29.99	26.25	23.52	20.89	18.90	16.89	57.93	71.06	---
15	51.52	40.54	34.14	29.18	25.81	22.97	20.37	18.52	16.51	50.21	76.48	---
20	49.17	39.15	33.13	28.73	25.13	22.58	20.12	18.14	16.31	50.91	73.32	---
25	46.95	37.92	32.38	28.08	24.71	22.05	19.62	17.79	16.06	39.55	61.94	---
EOM	44.99	36.82	31.30	27.20	24.31	21.59	19.47	17.48	24.43	53.87	70.21	---

WTR YR 1989 LOW 81.92 AUG 14



## GROUND-WATER DATA

## NEWTON COUNTY

405959087282902. Local number, NE 9.

LOCATION.--Lat 40°59'59", long 87°28'29", in SE1SW1SE1 sec.32, T.30 N., R.9 W., Newton County, Hydrologic Unit 07120002, in the Willow Slough Game Preserve, 2.0 mi southwest of Enos.

Owner: U.S. Geological Survey.

AQUIFER.--Sand of Pleistocene age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 2 in., depth 45 ft, cased to 42 ft, screened to 45 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 681 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of "Y" in well casing, 3.10 ft above land-surface datum.

PERIOD OF RECORD.--May 1978 to current year. Fragmentary record prior to March 1981.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.07 ft below land-surface datum, May 3, 1978; lowest, 15.44 ft below land-surface datum, Oct. 19-21, 26-31, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	15.30	15.39	13.01	12.39	11.90	12.09	11.42	11.51	10.69	12.06	12.81	12.20
10	15.34	15.30	13.01	12.19	12.00	11.88	11.30	11.66	10.78	12.35	13.03	11.96
15	15.42	14.49	13.01	12.05	12.08	11.79	11.27	11.66	10.96	12.23	13.17	11.84
20	15.44	13.96	13.07	12.00	12.08	11.76	11.27	11.65	11.22	12.42	13.28	11.86
25	15.42	13.35	12.91	11.92	12.15	11.75	11.36	11.55	11.54	12.34	13.23	12.06
EOM	15.43	13.07	12.55	11.87	12.16	11.70	11.39	11.11	11.83	12.62	13.25	12.30

WTR YR 1989 HIGH 10.69 JUN 5

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	15.32	15.39	13.02	12.42	11.90	12.15	11.50	11.53	10.70	12.13	12.85	12.25
10	15.35	15.37	13.01	12.24	12.02	11.97	11.30	11.66	10.82	12.43	13.06	12.01
15	15.43	14.63	13.04	12.08	12.09	11.80	11.27	11.68	10.98	12.26	13.17	11.86
20	15.44	14.07	13.09	12.00	12.10	11.78	11.29	11.69	11.26	12.42	13.30	11.89
25	15.43	13.47	12.94	11.96	12.15	11.75	11.36	11.59	11.61	12.36	13.25	12.11
EOM	15.44	13.10	12.61	11.88	12.17	11.70	11.42	11.16	11.90	12.64	13.27	12.35

WTR YR 1989 LOW 15.44 OCT 19

## NEWTON COUNTY

41028087231502. Local number, NE 10.

LOCATION.--Lat 41°04'28", long 87°25'44", in NW1SW1SW1 sec.2, T.30 N., R.9 W., Newton County, Hydrologic Unit 07120001, in the Beaver Lake Prairie Chicken Refuge, 3.0 mi north of Enos.

Owner: U.S. Geological Survey.

AQUIFER.--Sand of Pleistocene age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 2 in., depth 45 ft, cased to 41 ft, screened to 44 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 663 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of "Y" in well casing, 2.65 ft above land-surface datum.

PERIOD OF RECORD.--May 1978 to current year. Fragmentary record prior to March 1981.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.03 ft below land-surface datum, Mar. 16, 1982; lowest, 6.48 ft below land-surface datum, Sept. 30, Oct. 1, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	6.38	---	4.36	---	4.32	---	---	4.95	4.48	4.76	4.92	5.26
10	6.34	---	4.52	---	4.53	4.64	4.16	5.03	4.27	4.93	5.15	5.01
15	6.30	---	---	---	4.54	---	4.39	5.08	4.06	4.92	5.29	4.77
20	6.03	4.54	---	---	4.54	---	4.61	5.15	4.11	4.87	5.37	4.87
25	5.95	4.46	---	---	4.60	---	4.79	5.07	4.33	4.82	5.45	5.01
EOM	---	4.33	---	4.26	4.63	---	4.89	4.70	4.56	4.83	5.52	4.64

WTR YR 1989 HIGH 4.04 JUN 16

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	6.39	---	4.37	---	4.32	---	---	4.98	4.52	4.84	4.95	5.31
10	6.35	---	4.55	---	4.53	4.64	4.17	5.04	4.31	4.95	5.16	5.05
15	6.32	---	---	---	4.54	---	4.41	5.09	4.10	4.92	5.30	4.80
20	6.16	4.55	---	---	4.54	---	4.67	5.15	4.15	4.88	5.38	4.89
25	5.95	4.47	---	---	4.60	---	4.80	5.10	4.40	4.83	5.46	5.04
EOM	---	4.34	---	4.32	4.68	---	4.90	4.75	4.62	4.84	5.55	4.71

WTR YR 1989 LOW 6.48 OCT 1

## GROUND-WATER DATA

319

## NEWTON COUNTY

410235087305901. Local number, NE 11.

LOCATION.--Lat 41°02'35", long 87°30'59", in SW1/4SE1/4 sec.13, T.30 N., R.10 W., Newton County, Hydrologic Unit 07120001, on right-of-way of County Road 300 North, 0.5 mi west of County Road 600 West, and 4.0 mi northwest of Enos.

Owner: U.S. Geological Survey.

AQUIFER.--Limestone of Silurian age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 5 in., depth of 150 ft, cased to 90 ft, open end.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 670 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.30 ft above land-surface datum.

PERIOD OF RECORD.--October 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 22.78 ft below land-surface datum, May 6, 1982; lowest recorded, 98.83 ft below land-surface datum, Aug. 5, 6, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	82.29	73.04	66.52	59.38	53.80	49.19	44.82	42.31	38.71	54.09	56.99	60.61
10	80.28	72.32	65.41	58.86	52.80	48.31	44.39	41.84	38.52	57.94	61.95	59.14
15	79.13	70.69	64.48	57.75	52.24	47.26	43.54	41.09	37.98	57.06	70.31	57.77
20	77.85	69.81	62.87	56.85	50.87	46.78	43.06	40.39	37.64	53.37	66.72	56.54
25	76.51	68.53	62.32	55.60	50.15	46.15	42.39	39.70	37.52	51.54	64.50	55.26
EOM	74.84	67.65	60.69	54.17	49.84	45.39	43.71	39.31	37.22	55.80	61.96	54.09

WTR YR 1989 HIGH 37.22 JUN 30

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	82.39	73.21	66.92	59.87	54.20	49.29	44.91	42.42	38.85	56.65	59.91	60.94
10	80.69	72.69	65.65	59.00	53.17	48.74	44.55	41.92	38.60	60.10	62.30	59.29
15	79.48	71.49	64.66	57.80	52.47	47.77	43.64	41.20	38.07	58.00	71.40	58.07
20	78.31	70.19	63.22	57.12	51.28	47.08	43.30	40.50	37.77	53.77	67.00	56.81
25	76.61	68.84	62.41	56.02	50.64	46.27	42.49	39.82	37.69	51.89	64.92	55.58
EOM	75.47	67.69	60.92	54.54	49.99	45.50	43.86	39.39	37.40	56.62	62.54	54.46

WTR YR 1989 LOW 83.15 OCT 1

## NEWTON COUNTY

410917087285801. Local number, NE 14.

LOCATION.--Lat 41°09'17", long 87°28'58", in NE1/4NW1/4 sec.8, T.31 N., R.9 W., Newton County, Hydrologic Unit 07120001, 1.5 mi west of the intersection of U.S. Highway 41 and State Highway 10, then north 0.5 mi on county road leading to the entrance of the La Salle State Fish and Wildlife Area, then 0.2 mi to wildlife area parking lot. Well is located 100 ft south of the parking lot and 75 ft west of the road. Owner: U.S. Geological Survey.

AQUIFER.--Dolomitic limestone of Silurian/Devonian age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 150 ft, cased to 82 ft, open end.

INSTRUMENTATION.--Water-level recorder, data-collection platform, and incremental encoder.

DATUM.--Elevation of land-surface datum is 636 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.30 ft above land-surface datum.

REMARKS.--Water level may be affected by pumpage.

PERIOD OF RECORD.--August 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 7.29 ft below land-surface datum, Apr. 17, 1988; lowest, 31.19 ft below land-surface datum, Aug. 26, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	21.58	18.00	15.49	13.39	12.14	11.33	10.24	9.82	8.90	9.10	18.57	19.03
10	20.74	17.69	15.14	13.27	11.92	11.24	10.16	9.86	8.82	13.24	19.95	17.61
15	20.33	17.14	14.86	12.96	12.03	10.94	9.94	9.79	8.60	16.31	21.35	16.65
20	19.66	16.68	14.48	12.73	11.71	10.94	9.90	9.65	8.64	18.35	22.54	16.01
25	19.13	16.17	14.27	12.43	11.47	10.72	9.85	9.54	9.00	17.04	21.75	15.53
EOM	18.58	15.86	13.80	12.15	11.42	10.51	9.91	9.34	9.01	17.90	20.68	15.06

WTR YR 1989 HIGH 8.57 JUN 12

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	21.71	18.07	15.63	13.56	12.24	11.42	10.31	10.15	9.01	9.47	18.85	19.38
10	20.92	17.73	15.23	13.31	12.04	11.33	10.21	10.07	8.86	13.93	20.26	17.78
15	20.54	17.35	14.97	12.97	12.25	11.17	9.98	9.91	8.66	16.81	21.58	16.83
20	19.81	16.78	14.57	12.83	11.93	11.04	10.04	9.77	8.70	18.48	22.73	16.14
25	19.21	16.28	14.47	12.56	11.64	10.83	9.93	9.86	9.49	17.16	21.92	15.78
EOM	18.80	15.94	13.87	12.23	11.49	10.53	10.03	9.47	9.12	17.98	21.14	15.17

WTR YR 1989 LOW 22.73 AUG 20

## MOBLE COUNTY

411922085221801. Local number, MO 8.

LOCATION.--Lat 41°19'22", long 85°22'18", in SE¼SW¼SE¼ sec.9, T.33 N., R.10 E., Moble County, Hydrologic Unit 04050001, near the east edge of Chain O'Lakes State Park, and 5.0 mi south of Albion.  
 Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled artesian (revised) well, diameter 6 in., depth 149 ft, cased to 146 ft, screened to 148 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 928 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of floor of shelter, 2.65 ft above land-surface datum.

PERIOD OF RECORD.--December 1966 to September 1971, August 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 28.55 ft below land-surface datum, May 31, 1982; lowest, 32.49 ft below land-surface datum, Jan. 18, 1967.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	30.91	30.37	30.71	30.35	30.34	30.21	30.12	29.82	29.84	29.76	29.75	30.16
10	30.53	30.57	30.62	30.63	30.22	30.26	30.33	30.06	29.85	29.71	30.07	30.00
15	30.79	30.71	30.61	30.34	30.37	29.72	30.01	30.05	29.72	29.83	29.86	30.14
20	30.85	30.52	30.49	30.31	29.95	30.10	30.10	29.88	29.78	29.59	29.87	30.22
25	30.76	30.64	30.64	30.30	30.02	30.08	29.90	29.80	29.77	29.94	30.06	30.16
EOM	30.75	30.66	30.55	30.01	30.14	30.04	30.05	29.97	29.81	29.84	29.96	30.19

WTR YR 1989 HIGH 29.59 JUL 20

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	31.04	30.46	30.89	30.60	30.56	30.36	30.23	29.94	29.91	29.82	29.78	30.19
10	30.70	31.03	30.77	30.73	30.39	30.43	30.42	30.14	29.99	29.76	30.13	30.16
15	30.84	30.99	30.96	30.44	30.57	30.33	30.07	30.08	29.77	29.89	29.93	30.20
20	30.97	30.85	30.69	30.70	30.14	30.38	30.19	30.01	29.85	29.74	29.95	30.26
25	30.88	30.70	30.93	30.51	30.34	30.21	30.00	29.86	29.82	29.98	30.12	30.29
EOM	31.08	30.77	30.66	30.19	30.28	30.20	30.22	30.03	29.93	29.91	30.12	30.27

WTR YR 1989 LOW 31.18 OCT 29

## MOBLE COUNTY

413106085232701. Local number, MO 9.

LOCATION.--Lat 41°31'06", long 85°23'27", in NW¼NE¼SE¼ sec.5, T.35 N., R.10 E., Moble County, Hydrologic Unit 04050001, at the intersection of County Roads 175 East and 1150 North, and 2.0 mi west of Wolcottville.  
 Owner: U.S. Geological Survey.

AQUIFER.--Sand of Pleistocene age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 6 in., depth 44 ft, cased to 39 ft, screened to 42 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 930 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of floor of shelter, 2.60 ft above land-surface datum.

PERIOD OF RECORD.--June 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 8.45 ft below land-surface datum, Mar. 31, Apr. 1, 1985; lowest, 17.55 ft below land-surface datum, Dec. 27, 28, 1978.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	16.54	14.39	11.94	12.24	11.78	13.06	11.50	12.53	10.29	12.54	13.62	14.49
10	16.42	13.52	12.26	10.96	12.11	13.12	11.66	12.92	11.02	12.85	14.09	14.12
15	16.58	12.53	12.64	11.27	12.54	12.74	11.83	13.13	11.48	12.52	14.17	14.16
20	14.56	11.55	12.93	11.77	12.43	12.23	12.26	12.90	11.23	12.68	14.33	14.26
25	14.28	11.30	12.42	11.99	12.66	12.19	12.44	12.27	11.52	13.10	14.56	14.59
EOM	14.34	11.58	11.77	11.38	12.90	12.34	12.58	12.25	12.17	13.40	14.67	14.79

WTR YR 1989 HIGH 10.29 JUN 5

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	16.61	14.43	12.05	12.37	11.84	13.10	11.61	12.63	10.33	12.65	13.69	14.54
10	16.49	14.08	12.37	11.08	12.19	13.22	11.77	13.00	11.25	12.93	14.15	14.28
15	16.61	12.69	12.99	11.51	12.61	13.08	11.96	13.15	11.56	12.62	14.19	14.31
20	14.80	11.66	13.06	12.00	12.49	12.48	12.29	13.15	11.70	12.81	14.36	14.32
25	14.29	11.39	12.58	12.10	12.83	12.30	12.49	12.29	11.61	13.15	14.61	14.66
EOM	14.51	11.69	11.95	11.54	13.02	12.46	12.72	12.31	12.19	13.48	14.73	14.85

WTR YR 1989 LOW 16.74 OCT 13

## GROUND-WATER DATA

321

## NOBLE COUNTY

412405085154501. Local number, MO 11.

LOCATION.--Lat 41°24'05", long 85°15'45", in NW¼NE¼SW¼ sec.16, T.34 N., R.11 E., Noble County, Hydrologic Unit 04100003, on the property of Ron Karst on the south side of County Road 350 North, 0.6 mi west of State Highway 3 and about 22 mi north of Fort Wayne.  
Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 216 ft, cased to 211 ft, screened to 216 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 1,036.94 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.45 ft above land-surface datum.

PERIOD OF RECORD.--November 1987 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 113.24 ft below land-surface datum, Nov. 6, 1988; lowest, 115.00 ft below land-surface datum, Feb. 17, 1989.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	114.23	113.25	114.28	113.96	114.38	114.10	113.95	113.85	114.09	114.21	113.94	114.37
10	113.82	113.69	114.19	114.36	114.31	114.44	114.20	114.10	114.04	114.15	114.32	114.01
15	114.11	113.99	113.96	114.17	114.43	113.57	114.09	114.12	114.03	114.23	114.10	114.22
20	114.13	113.83	113.87	114.06	114.06	114.14	114.20	114.02	114.21	113.93	114.07	114.37
25	113.74	114.03	114.03	114.24	114.11	114.14	113.99	113.80	114.22	114.46	114.24	114.28
EOM	114.08	113.97	114.16	113.77	114.03	113.94	114.03	114.14	114.37	114.17	114.13	114.33

WTR YR 1989 HIGH 113.24 NOV 6

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	114.42	113.45	114.48	114.28	114.56	114.28	114.11	114.01	114.15	114.28	113.97	114.41
10	114.06	114.06	114.35	114.46	114.46	114.63	114.39	114.20	114.27	114.18	114.39	114.19
15	114.21	114.24	114.45	114.24	114.61	114.11	114.12	114.17	114.08	114.30	114.22	114.27
20	114.23	114.12	114.02	114.47	114.35	114.46	114.32	114.08	114.27	114.01	114.22	114.39
25	113.90	114.15	114.44	114.40	114.52	114.21	114.16	113.93	114.27	114.51	114.29	114.46
EOM	114.44	114.07	114.25	113.98	114.16	114.05	114.29	114.16	114.44	114.25	114.23	114.37

WTR YR 1989 LOW 115.00 FEB 17

## NOBLE COUNTY

412405085154504. Local number, MO 14.

LOCATION.--Lat 41°24'05", long 85°15'45",

LANIER BUS. PROD.

in NW¼NE¼SW¼ sec.16, T.34 N., R.11 E., Noble County, Hydrologic Unit

04100003, on the property of Ron Karst on the south side of County Road 350 North, 0.6 mi west of State Highway 3 and about 22 mi north of Fort Wayne.

Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 145 ft, cased to 140 ft, screened to 145 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 1,037.24 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.50 ft above land-surface datum.

PERIOD OF RECORD.--November 1987 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 112.21 ft below land-surface datum, Dec. 15, 1987; lowest, 114.29 ft below land-surface datum, Feb. 17, 1989.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	113.46	112.26	113.35	113.01	113.39	113.29	113.16	112.91	113.20	113.35	113.00	113.49
10	112.84	112.63	113.26	113.51	113.33	113.50	113.55	113.30	113.27	113.24	113.53	113.18
15	113.22	112.94	113.27	113.27	113.57	112.56	113.19	113.26	113.15	113.43	113.20	113.37
20	113.24	112.78	112.95	113.17	112.97	113.17	113.35	113.09	113.34	113.01	113.14	113.49
25	112.94	113.10	113.27	113.25	113.09	113.19	113.06	112.86	113.32	113.57	113.33	113.35
EOM	113.04	113.02	113.30	112.75	113.19	113.04	113.27	113.26	113.43	113.36	113.09	113.39

WTR YR 1989 HIGH 112.26 NOV 5

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	113.71	112.45	113.58	113.36	113.70	113.55	113.34	113.08	113.30	113.45	113.18	113.55
10	113.13	113.38	113.56	113.75	113.65	113.80	113.68	113.43	113.50	113.35	113.62	113.40
15	113.33	113.42	113.76	113.41	113.96	113.47	113.28	113.31	113.24	113.50	113.28	113.48
20	113.47	113.39	113.30	113.83	113.37	113.54	113.50	113.30	113.44	113.21	113.25	113.58
25	113.12	113.21	113.76	113.62	113.59	113.42	113.24	113.03	113.43	113.67	113.45	113.56
EOM	113.59	113.27	113.49	113.07	113.43	113.30	113.54	113.40	113.61	113.44	113.40	113.56

WTR YR 1989 LOW 114.29 FEB 17



## GROUND-WATER DATA

## PARKE COUNTY

393619087043001. Local number, PA 6.

LOCATION.--Lat 39°36'19", long 87°04'30", in SE¼SW¼SE¼ sec.33, T.14 N., R.6 W., Parke County, Hydrologic Unit 05120111, on county right-of-way on north side of road at the Parke-Clay county line, 1.7 mi east of Carbon, 2.6 mi east of State Highway 59, and 6.2 mi north of Brazil.  
Owner: U.S. Geological Survey.

AQUIFER.--Sandstone of Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 155 ft, cased to 46 ft, open end.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 703 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 2.40 ft above land-surface datum.

PERIOD OF RECORD.--July 1967 to August 1971, October 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 11.53 ft below land-surface datum, Apr. 19, 1970; lowest, 16.87 ft below land-surface datum, Oct. 30, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	16.64	16.42	16.55	16.37	15.74	14.99	14.67	14.12	14.11	14.59	15.03	15.60
10	16.53	16.56	16.49	16.42	15.59	15.02	14.62	14.19	14.24	14.77	15.25	15.39
15	16.67	16.57	16.54	16.23	15.46	14.78	14.44	14.15	14.20	14.72	15.48	15.38
20	16.67	16.43	16.41	16.20	15.19	14.82	14.41	14.14	14.23	14.69	15.58	15.39
25	16.62	16.46	16.53	16.06	15.12	14.90	14.37	14.03	14.40	14.88	15.50	15.35
EOM	16.70	16.51	16.44	15.77	15.10	14.68	14.36	14.12	14.51	14.92	15.51	15.31

WTR YR 1989 HIGH 14.02 MAY 26

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	16.70	16.52	16.66	16.55	15.88	15.06	14.73	14.19	14.17	14.67	15.05	15.62
10	16.63	16.76	16.62	16.49	15.69	15.12	14.67	14.24	14.32	14.80	15.32	15.47
15	16.75	16.73	16.67	16.27	15.59	15.03	14.49	14.21	14.25	14.81	15.55	15.44
20	16.75	16.66	16.57	16.36	15.35	14.99	14.50	14.21	14.30	14.74	15.61	15.46
25	16.72	16.52	16.60	16.18	15.29	14.97	14.41	14.10	14.43	14.93	15.56	15.41
EOM	16.81	16.57	16.47	15.88	15.21	14.77	14.39	14.19	14.59	15.01	15.58	15.40

WTR YR 1989 LOW 16.87 OCT 30

## POSEY COUNTY

380758087551001. Local number, PY 3.

LOCATION.--Lat 38°07'58", long 87°55'10", in NW¼NW¼SW¼ sec.31, T.4 S., R.13 W., Posey County, Hydrologic Unit 05120113, on property of the New Harmony Park Board, at the east edge of New Harmony.  
Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 58 ft, cased to 54 ft, screened to 56 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 380 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of floor of shelter, 3.00 ft above land-surface datum.

REMARKS.--Water level affected by Wabash River floods.

PERIOD OF RECORD.--April 1967 to September 1971, September 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.95 ft below land-surface datum, May 14, 1983; lowest, 21.40 ft below land-surface datum, Nov. 4, 8-15, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	20.97	21.37	20.90	20.79	18.93	16.29	9.69	11.44	12.02	12.74	15.13	16.31
10	21.06	21.40	20.93	20.39	18.79	15.69	9.11	11.72	12.17	13.39	15.55	16.04
15	21.14	21.39	21.00	19.90	17.75	15.35	8.95	12.17	11.70	13.96	15.88	15.74
20	21.23	21.20	21.08	19.55	16.91	15.20	10.01	12.66	12.23	14.28	16.21	15.20
25	21.30	21.06	21.17	19.45	16.50	14.58	10.78	12.70	12.88	14.66	16.31	14.93
EOM	21.36	20.93	21.00	19.40	16.48	12.31	11.62	12.49	13.39	14.87	16.50	15.40

WTR YR 1989 HIGH 8.86 APR 12

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	20.99	21.38	20.90	20.85	19.01	16.62	9.78	11.54	12.10	12.83	15.20	16.36
10	21.08	21.40	20.94	20.47	18.82	15.79	9.33	11.80	12.24	13.53	15.63	16.07
15	21.16	21.40	21.02	20.00	18.13	15.43	9.15	12.28	11.77	14.01	15.95	15.82
20	21.24	21.32	21.10	19.57	17.04	15.26	10.15	12.80	12.35	14.38	16.27	15.31
25	21.31	21.08	21.19	19.46	16.60	14.68	10.93	12.78	12.98	14.70	16.37	14.95
EOM	21.37	20.95	21.02	19.42	16.55	13.22	11.68	12.54	13.44	14.93	16.52	15.47

WTR YR 1989 LOW 21.40 NOV 4



## GROUND-WATER DATA

323

## POSEY COUNTY

380546087474301. Local number, PY 5.

LOCATION.--Lat 38°05'46", long 87°47'43", in NE¼NW¼NE¼ sec. 18, T.5S., R.12W., Posey County, Hydrologic Unit 05120113, about 0.5 mi southwest of Wadesville along the west edge of Laurel Hill Cemetery.

Owner: U.S. Geological Survey

AQUIFER.--Sandstone of Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 221 ft., cased to 160 ft., open end.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 464 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.60 ft above land-surface datum.

PERIOD OF RECORD.--September 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 134.52 ft below land-surface datum, Apr. 8, 1989; lowest, 141.98 ft below land-surface datum, Sept. 1, 1988.

## FROM ADR

## HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	140.02	139.00	138.86	137.31	136.45	135.83	134.96	134.98	135.99	136.39	137.82	138.01
10	139.86	139.18	138.55	137.36	136.24	135.73	134.90	135.19	136.20	136.74	138.04	137.86
15	139.79	139.08	138.46	137.09	136.71	135.59	134.61	135.31	135.96	136.93	138.24	137.62
20	139.77	138.70	138.02	137.10	135.97	135.44	134.54	135.39	135.79	136.89	138.52	137.58
25	139.62	138.83	137.95	136.83	135.95	135.47	134.77	135.68	136.05	137.06	138.34	137.33
EOM	139.59	138.84	137.58	136.49	136.02	135.28	135.15	135.91	136.45	137.45	138.01	137.29

WTR YR 1989 HIGH 134.52 APR 8

## FROM ADR

## LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	140.09	139.15	139.05	137.63	136.67	135.95	135.17	135.10	136.12	136.45	138.05	138.15
10	140.08	139.37	138.82	137.51	136.40	135.95	134.97	135.28	136.25	136.85	138.13	137.94
15	139.91	139.28	138.60	137.18	137.03	135.88	134.69	135.51	136.03	137.03	138.32	137.71
20	139.88	139.08	138.16	137.25	136.29	135.69	134.68	135.58	135.88	136.92	138.60	137.61
25	139.70	138.95	137.98	137.02	136.17	135.53	134.85	135.78	136.09	137.12	138.41	137.45
EOM	139.82	138.84	137.72	136.60	136.12	135.38	135.33	136.07	136.56	137.50	138.13	137.30

WTR YR 1989 LOW 140.15 OCT 6

## POSEY COUNTY

## WATER-QUALITY RECORDS

380546087474301. Local number, PY 5.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L) AS CACO3 (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED TOTAL (MG/L) AS CA (00915)
SEP 01...	1220	142.30	809	861	8.3	8.5	14.0	1.1	5	0	1.3
DATE	MAGNE- SIUM, DIS- SOLVED (MG/L) AS MG (00925)	SODIUM, DIS- SOLVED (MG/L) AS NA (00930)	POTAS- SIUM, DIS- SOLVED (MG/L) AS K (00935)	ALKA- LITY WAT WH TOT FET FIELD (MG/L AS CACO3) (00410)	ALKA- LITY LAB (MG/L) AS CACO3 (90410)	SULFATE DIS- SOLVED (MG/L) AS SO4 (00945)*	CHLO- RIDE, DIS- SOLVED (MG/L) AS CL (00940)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L) AS N (00631)	PHOS- PHORUS, ORTHO, TOTAL (MG/L) AS P (70507)	IRON, DIS- SOLVED TOTAL (UG/L) AS FE (01046)
SEP 01...	0.33	210	1.5	412	429	7.9	20	520	<0.10	0.09	11

\*In March 1989, the National Water-Quality Laboratory discovered a bias in the turbidimetric method for sulfate analysis, indicating that concentrations below 75 mg/L have a median positive bias of 2 mg/L above the true concentration for the period between 1982 and 1989. Sulfate concentrations in this report have not been corrected for this bias.

## GROUND-WATER DATA

## PULASKI COUNTY

405916086530701. Local number, PU 6.

LOCATION.--Lat 40°59'16", long 86°53'07", in NW¼SE¼SW¼ sec.4, T.29 N., R.4 W., Pulaski County, Hydrologic Unit 05120106, on private property at the north edge of Francesville.  
 Owner: Earl Overmeyer.

AQUIFER.--Limestone of Devonian age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 8 in., depth 663 ft, cased to 11 ft, open end.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 678.60 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of floor of shelter, 3.00 ft above land-surface datum.

REMARKS.--Water level affected by pumpage and earthquakes.

PERIOD OF RECORD.--July 1956 to February 1971, January 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.03 ft below land-surface datum, June 15, 1958; lowest, 25.33 ft below land-surface datum, Nov. 22, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	23.65	24.71	22.71	21.86	18.35	16.86	15.92	18.57	15.97	17.50	17.37	16.75
10	23.73	24.90	21.63	20.41	18.36	15.88	15.03	19.09	15.84	18.40	18.37	15.37
15	23.98	24.74	23.99	19.21	17.70	15.25	14.03	19.18	15.80	17.99	18.33	14.63
20	24.42	24.49	23.65	18.89	16.22	18.97	13.83	19.14	16.20	17.76	18.68	14.46
25	24.56	23.72	23.80	18.62	16.23	18.44	18.28	18.97	16.76	17.51	19.19	14.88
EOM	24.70	23.21	22.47	16.81	15.96	17.73	18.70	18.34	17.28	17.19	19.34	15.29

WTR YR 1989 HIGH 13.66 APR 17

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	23.72	24.87	22.97	22.15	18.68	16.98	16.06	18.98	16.27	18.00	17.73	17.14
10	23.90	25.10	24.17	20.76	18.73	16.10	15.22	19.40	16.17	19.59	18.58	15.71
15	24.06	24.93	24.40	19.57	18.02	15.87	14.15	19.61	16.08	18.32	18.78	15.51
20	24.63	24.71	24.28	19.55	16.62	19.35	18.60	19.55	16.49	18.09	19.76	14.75
25	24.65	23.91	24.08	18.91	16.95	18.74	18.55	19.27	16.94	18.33	19.45	15.16
EOM	24.88	23.33	22.76	18.40	16.24	17.92	19.08	18.97	17.56	17.59	19.72	15.61

WTR YR 1989 LOW 25.33 NOV 22

## PULASKI COUNTY

410739086365201. Local number, PU 7.

LOCATION.--Lat 41°07'39", long 86°36'52", in NE¼NE¼NW¼ sec.23, T.31 N., R.2 W., Pulaski County, Hydrologic Unit 05120106, in the Winamac State Fish and Game Area, 0.8 mi southwest of Beardstown.  
 Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 105 ft, cased to 98 ft, screened to 100 ft, open end.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 715.26 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of floor of shelter, 2.50 ft above land-surface datum.

PERIOD OF RECORD.--August 1967 to September 1971, September 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.69 ft below land-surface datum, June 15, 1981; lowest, 11.86 ft below land-surface datum, Nov. 6-9, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	11.73	11.78	10.53	10.16	9.59	9.96	9.43	9.36	7.72	9.09	9.57	9.40
10	11.74	11.69	10.51	9.89	9.65	9.97	9.20	9.55	8.00	9.33	9.87	9.33
15	11.81	11.29	10.59	9.64	9.76	9.91	9.14	9.59	8.01	9.44	9.88	9.31
20	11.78	11.06	10.55	9.61	9.72	9.88	9.22	9.40	8.27	9.51	9.98	9.42
25	11.80	10.78	10.56	9.56	9.79	9.83	9.27	8.92	8.57	9.54	10.09	9.56
EOM	11.77	10.62	10.31	9.53	9.87	9.79	9.38	8.59	8.78	9.54	10.10	9.76

WTR YR 1989 HIGH 7.72 JUN 5

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	11.75	11.82	10.56	10.22	9.64	9.98	9.53	9.44	7.76	9.17	9.62	9.42
10	11.79	11.77	10.57	9.98	9.70	10.01	9.24	9.58	8.08	9.41	9.91	9.35
15	11.83	11.40	10.61	9.67	9.83	10.06	9.18	9.61	8.04	9.45	9.91	9.33
20	11.81	11.13	10.63	9.68	9.76	9.95	9.25	9.51	8.31	9.53	10.03	9.45
25	11.82	10.83	10.57	9.63	9.84	9.87	9.30	9.05	8.60	9.57	10.11	9.59
EOM	11.81	10.63	10.34	9.56	9.94	9.83	9.42	8.63	8.81	9.62	10.21	9.78

WTR YR 1989 LOW 11.86 NOV 6

## PULASKI COUNTY

405605086551701. Local number, PU 8.  
 LOCATION.--Lat 40°56'05", long 86°55'17", in SE1/4SE1/4 sec.30, T.29 N., R.4 W., Pulaski County, Hydrologic Unit 05120106, at the Arrowhead Country Resource Conservation and Development Office property, 11 mi east of Rensselaer on State Highway 114.  
 Owner: U.S. Geological Survey.

AQUIFER.--Limestone of Middle Silurian Period, Wabash Formation.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 6 in., depth 102 ft, cased to 12 ft, open end.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 683.76 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.50 ft above land-surface datum.

PERIOD OF RECORD.--August 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.50 ft below land-surface datum, June 1, 1989; lowest, 11.74 ft below land-surface datum, Aug. 25, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	11.53	11.33	6.48	4.21	3.70	3.46	2.18	3.67	2.16	4.39	4.64	3.16
10	11.52	10.69	6.29	3.31	3.82	3.66	2.95	3.72	3.24	4.96	5.27	2.11
15	11.56	10.09	6.58	3.55	3.83	3.54	3.17	3.84	3.21	4.29	5.33	2.11
20	11.46	9.50	6.21	3.57	3.58	3.09	3.41	3.52	3.60	4.04	5.43	3.15
25	11.45	7.15	5.62	3.58	3.67	3.27	3.53	3.54	3.89	4.05	5.40	3.51
EOM	11.37	6.82	4.25	3.34	3.72	3.48	3.77	2.74	4.15	4.44	4.44	3.78

WTR YR 1989 HIGH 1.50 JUN 1

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	11.56	11.36	6.64	4.45	3.79	3.54	2.36	3.87	2.45	4.63	4.77	3.31
10	11.56	11.15	6.58	3.57	4.01	3.78	3.00	3.76	3.32	5.08	5.37	2.47
15	11.59	10.19	6.72	3.72	3.98	3.82	3.27	3.89	3.32	4.35	5.78	2.38
20	11.50	9.73	6.60	3.76	3.70	3.19	3.47	3.60	3.65	4.07	5.66	3.25
25	11.49	7.40	5.68	3.83	3.77	3.45	3.62	3.74	3.94	4.14	5.46	3.58
EOM	11.43	6.93	4.36	3.42	3.93	3.65	3.83	2.96	4.22	4.48	5.10	3.85

WTR YR 1989 LOW 11.63 OCT 13

## RANDOLPH COUNTY

401532085085301. Local number, RA 3.  
 LOCATION.--Lat 40°15'32", long 85°08'53", in NE1/4NE1/4 sec.23, T.21 N., R.12 E., Randolph County, Hydrologic Unit 05120103, at the east edge of Purdue University Agriculture Experiment Station, about 5.5 mi north of Farmland.  
 Owner: U.S. Geological Survey.

AQUIFER.--Limestone of Silurian age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 54 ft, cased to 33 ft, open end.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 970 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of floor of shelter, 3.85 ft above land-surface datum.

PERIOD OF RECORD.--October 1966 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 7.84 ft below land-surface datum, June 6, 1981; lowest, 15.18 ft below land-surface datum, Oct. 12, 13, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	14.99	14.60	13.18	11.79	10.67	10.15	8.45	9.76	9.64	11.35	10.64	10.04
10	14.84	14.42	13.13	10.87	10.86	9.86	9.19	9.70	10.14	11.62	11.14	9.99
15	15.02	14.08	13.32	10.66	10.99	9.34	9.44	9.80	10.11	11.20	11.34	9.01
20	14.95	13.86	13.21	10.72	10.33	9.67	9.41	9.99	10.56	9.07	11.53	9.68
25	14.97	13.44	13.18	10.91	10.13	9.58	9.65	9.49	11.04	9.83	11.55	10.37
EOM	14.85	13.19	11.89	10.28	10.29	8.96	9.85	9.36	11.28	10.23	11.21	10.82

WTR YR 1989 HIGH 8.07 APR 4

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	15.05	14.68	13.31	11.99	10.80	10.51	8.72	9.89	9.71	11.46	10.69	10.14
10	14.99	14.61	13.35	11.01	10.98	10.23	9.29	9.74	10.30	11.71	11.22	10.31
15	15.06	14.30	13.53	10.78	11.08	9.82	9.58	9.90	10.22	11.25	11.42	9.13
20	15.05	14.07	13.41	11.03	10.54	10.01	9.49	10.15	10.63	9.43	11.58	9.84
25	15.03	13.49	13.27	11.03	10.32	9.73	9.70	9.68	11.09	9.92	11.60	10.42
EOM	14.97	13.30	11.98	10.38	10.49	9.03	9.98	9.52	11.33	10.33	11.31	10.89

WTR YR 1989 LOW 15.18 OCT 12

## GROUND-WATER DATA

## ST. JOSEPH COUNTY

414138086265101. Local number, SJ 30.

LOCATION.--Lat 41°41'38", long 86°26'51", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.32, T.38 N., R.1 E., St. Joseph County, Hydrologic Unit 07120001, 4.1 mi southeast of New Carlisle.

Owner: U.S. Geological Survey.

AQUIFER.--Sand of Pleistocene age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 5 in., depth 87.5 ft, cased to 83.3 ft, screened to 87.5 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 737 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of floor of shelter, 3.20 ft above land-surface datum.

PERIOD OF RECORD.--May 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.50 ft below land-surface datum, Mar. 20, 1982; lowest, 10.03 ft below land-surface datum, Oct. 15-17, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	10.01	9.00	6.65	6.73	7.57	9.13	8.56	8.13	7.80	8.24	8.37	8.64
10	10.02	8.95	6.93	6.32	7.78	9.35	8.08	8.28	7.63	8.17	8.50	8.62
15	10.02	7.98	7.14	6.48	8.01	9.26	7.97	8.36	7.67	8.12	8.57	8.57
20	9.52	7.29	7.47	6.78	8.28	9.07	8.02	8.45	7.83	8.18	8.65	8.52
25	9.30	6.69	6.92	7.09	8.62	8.93	8.07	8.52	7.98	8.27	8.73	8.53
EOM	9.09	6.66	6.62	---	8.80	8.79	8.15	8.59	8.11	8.31	8.79	8.63

WTR YR 1989 HIGH 6.26 JAN 11

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	10.01	9.01	6.84	6.85	7.63	9.20	8.63	8.19	7.92	8.28	8.41	8.65
10	10.02	8.98	6.97	6.41	7.86	9.35	8.13	8.31	7.66	8.22	8.52	8.63
15	10.03	8.12	7.26	6.54	8.09	9.27	7.97	8.39	7.70	8.13	8.59	8.58
20	9.60	7.43	7.50	6.91	8.33	9.11	8.03	8.48	7.85	8.23	8.67	8.52
25	9.34	6.75	7.12	7.12	8.68	8.95	8.09	8.54	8.00	8.28	8.74	8.55
EOM	9.12	6.74	6.65	---	8.86	8.80	8.17	8.64	8.13	8.33	8.80	8.64

WTR YR 1989 LOW 10.03 OCT 15

## ST. JOSEPH COUNTY

413120086055601. Local number, SJ 31.

LOCATION.--Lat 41°31'20", long 86°05'56", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.31, T.36 N., R.4 E., St. Joseph County, Hydrologic Unit 07120001, 4 mi west of Wakarusa.

Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 6 in., depth 109 ft, cased to 104 ft, screened to 109 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 830.50 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.40 ft above land-surface datum.

PERIOD OF RECORD.--August 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 8.37 ft below land-surface datum, Mar. 1, 1987; lowest, 12.64 ft below land-surface datum, Oct. 6, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	12.55	10.97	9.69	9.23	9.02	9.19	8.70	---	---	9.57	10.21	10.87
10	12.45	10.79	9.64	9.21	9.08	9.30	8.73	---	---	9.75	10.41	10.74
15	12.54	10.42	9.64	9.14	9.13	9.04	8.75	---	---	9.90	10.48	10.74
20	12.10	10.13	9.60	9.11	9.08	9.03	8.87	---	---	9.89	10.61	10.79
25	11.64	9.89	9.55	9.13	9.14	8.98	8.90	---	9.23	10.10	10.70	10.84
EOM	11.37	9.70	9.33	8.90	9.12	8.89	---	---	9.39	10.16	10.77	10.90

WTR YR 1989 HIGH 8.62 APR 8

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	12.62	11.03	9.73	9.31	9.09	9.25	8.74	---	---	9.69	10.27	10.89
10	12.49	10.86	9.71	9.26	9.12	9.36	8.77	---	---	9.80	10.47	10.78
15	12.56	10.57	9.74	9.16	9.23	9.17	8.79	---	---	9.97	10.54	10.77
20	12.18	10.26	9.69	9.23	9.18	9.12	8.90	---	---	9.93	10.68	10.80
25	11.69	9.95	9.61	9.19	9.22	9.03	8.92	---	9.32	10.13	10.73	10.86
EOM	11.51	9.72	9.35	8.97	9.18	8.94	---	---	9.42	10.22	10.81	10.93

WTR YR 1989 LOW 12.64 OCT 6



## GROUND-WATER DATA

327

## SHELBY COUNTY

393943085490901. Local number, SH 2.

LOCATION.--Lat 39°39'43", long 85°49'09", in SW¼SW¼NW¼ sec.13, T.14 N., R.6 E., Shelby County, Hydrologic Unit 05120204, on the county right-of-way at the intersection of County Roads 950 North and 200 West, 3.0 mi south of Carrollton.  
Owner: U.S. Geological Survey.

AQUIFER.--Limestone of Devonian age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 150 ft, cased to 128 ft, open end.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 816.10 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of floor of shelter, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--September 1966 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 15.90 ft below land-surface datum, May 27, 1968; lowest, 22.65 ft below land-surface datum, Feb. 7, 1977.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	22.34	20.81	19.90	19.45	18.90	18.76	16.50	17.79	17.77	19.31	19.68	18.08
10	22.31	20.22	20.05	18.61	19.09	18.22	17.13	17.98	18.10	19.49	19.31	18.03
15	22.38	19.77	20.21	18.44	19.29	17.61	17.60	18.24	18.52	18.93	19.62	17.23
20	21.33	19.78	20.38	18.58	18.81	---	18.15	18.49	18.84	19.09	19.71	17.20
25	21.36	19.58	20.51	18.89	18.51	17.82	18.40	17.71	19.17	19.53	18.82	18.11
EOM	21.51	19.70	19.38	18.66	18.62	17.43	17.91	17.45	19.48	19.54	18.41	18.60

WTR YR 1989 HIGH 16.46 APR 4

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	22.36	21.18	19.98	19.56	19.01	18.93	16.61	17.86	17.89	19.36	19.82	18.22
10	22.33	20.41	20.14	18.64	19.12	18.55	17.23	18.04	18.26	19.59	19.38	18.45
15	22.39	19.88	20.41	18.50	19.34	17.93	17.73	18.35	18.60	18.98	19.67	17.49
20	21.46	19.96	20.45	18.80	18.93	---	18.18	18.54	18.92	19.19	19.87	17.39
25	21.39	19.59	20.58	18.91	18.61	17.92	18.40	17.82	19.20	19.56	19.03	18.15
EOM	21.59	19.73	19.44	18.70	18.81	17.70	18.09	17.65	19.53	19.64	18.49	18.65

WTR YR 1989 LOW 22.48 OCT 13

## STARKE COUNTY

411342086365601. Local number, SK 2.

LOCATION.--Lat 41°13'42", long 86°36'56", in NW¼NE¼NW¼ sec.14, T.32 N., R.2 W., Starke County, Hydrologic Unit 07120001, on private property in the southeast angle of intersection of U.S. Highway 35 and County Road 500 South, and 5.0 mi south of Knox.  
Owner: Samuel A. Craigmile.

AQUIFER.--Gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 85 ft, cased to 77 ft, screened to 85 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 712.97 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of floor of shelter, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--October 1935 to December 1952 (random instantaneous measurements only), August 1963 to October 1966, June 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.83 ft below land-surface datum, June 17, 1949; lowest, 6.99 ft below land-surface datum, Aug. 2, 1939, Sept. 17, 18, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	6.87	6.51	5.46	5.21	5.26	5.44	4.62	5.36	4.28	5.47	5.33	5.26
10	6.85	6.01	5.53	4.89	5.34	5.53	4.88	5.46	4.73	5.68	5.48	4.87
15	6.89	5.87	5.65	5.06	5.41	5.40	5.02	5.52	4.73	5.77	5.43	5.04
20	6.53	5.35	5.68	5.16	5.42	5.16	5.16	5.36	4.99	5.60	5.46	5.37
25	6.48	5.37	5.31	5.16	5.49	5.21	5.24	5.21	5.22	5.56	5.45	5.54
EOM	6.51	5.38	5.14	5.14	5.53	5.26	5.33	5.17	5.33	5.23	5.45	5.68

WTR YR 1989 HIGH 4.22 JUN 4

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	6.88	6.52	5.48	5.30	5.29	5.46	4.67	5.42	4.37	5.50	5.37	5.28
10	6.89	6.29	5.59	4.98	5.38	5.55	4.91	5.48	4.79	5.76	5.49	4.89
15	6.91	5.90	5.68	5.12	5.45	5.42	5.06	5.53	4.79	5.78	5.49	5.14
20	6.54	5.62	5.73	5.22	5.43	5.20	5.17	5.40	5.02	5.62	5.48	5.41
25	6.50	5.39	5.36	5.23	5.52	5.26	5.26	5.41	5.28	5.58	5.47	5.56
EOM	6.53	5.42	5.19	5.15	5.57	5.30	5.36	5.21	5.35	5.24	5.51	5.69

WTR YR 1989 LOW 6.91 OCT 12



## GROUND-WATER DATA

## STEBEN COUNTY

414204085054002. Local number, SB 6.

LOCATION.--Lat 41°42'04", long 85°05'40", in SE¼SE¼SW¼ sec.36, T.38 N., R.12 W., Steuben County, Hydrologic Unit 04050001, 0.5 east of Panama on the north side of the Lake Gage Congregational Church.  
 Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 6 in., depth 76 ft, cased to 71 ft, screened to 76 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 987.89 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.60 ft above land-surface datum.

PERIOD OF RECORD.--August 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 16.04 ft below land-surface datum, Aug. 26, 1986; lowest, 19.12 ft below land-surface datum, Oct. 17, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	35.15	34.65	34.98	34.36	33.79	33.05	32.71	32.90	33.22	33.44	33.79	34.22
10	34.93	34.87	34.83	34.47	33.78	33.18	32.94	32.92	33.40	33.62	34.04	34.10
15	35.10	34.90	34.91	34.23	33.51	32.91	32.80	32.99	33.22	33.54	34.07	33.93
20	35.11	34.61	34.65	34.17	33.24	32.93	32.81	33.06	33.27	33.42	34.15	33.96
25	34.99	34.83	34.82	34.08	33.28	33.01	32.77	33.02	33.49	33.78	34.16	34.03
EOM	35.22	34.90	34.57	33.75	33.27	32.69	33.06	33.40	33.63	33.73	34.13	34.20

WTR YR 1989 HIGH 32.40 APR 3

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	35.25	34.82	35.12	34.65	33.99	33.25	32.86	32.99	33.36	33.59	33.87	34.29
10	35.07	35.20	35.07	34.62	33.91	33.34	33.10	33.00	33.57	33.70	34.10	34.18
15	35.17	35.11	35.08	34.34	33.73	33.22	32.91	33.12	33.28	33.64	34.21	34.06
20	35.23	35.07	34.87	34.40	33.49	33.14	32.95	33.18	33.38	33.56	34.27	34.03
25	35.19	34.97	34.95	34.18	33.54	33.12	32.90	33.09	33.52	33.83	34.21	34.09
EOM	35.28	34.97	34.66	33.89	33.46	32.92	33.14	33.51	33.75	33.90	34.24	34.28

WTR YR 1989 LOW 35.35 OCT 30

## VANDERBURGH COUNTY

380608087395901. Local number, VA 6.

LOCATION.--Lat 38°06'08", long 87°39'59", in SE¼SW¼NW¼ sec.8, T.5 S., R.11 W., Vanderburgh County, Hydrologic Unit 05120113, on county right-of-way at the intersection of Buente and New Harmony Roads, 1.0 mi southwest of Armstrong.  
 Owner: U.S. Geological Survey.

AQUIFER.--Sandstone of Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 125 ft, cased to 80 ft, open end.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 446.57 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of floor of shelter, 3.40 ft above land-surface datum.

PERIOD OF RECORD.--May 1965 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 24.88 ft below land-surface datum, Apr. 3, 4, 1968; lowest, 35.43 ft below land-surface datum, Sept. 2, 3, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	35.15	34.65	34.98	34.36	33.79	33.05	32.71	32.90	33.22	33.44	33.79	34.22
10	34.93	34.87	34.83	34.47	33.78	33.18	32.94	32.92	33.40	33.62	34.04	34.10
15	35.10	34.90	34.91	34.23	33.54	32.91	32.80	32.99	33.22	33.54	34.07	33.93
20	35.11	34.61	34.65	34.17	33.24	32.93	32.81	33.06	33.27	33.42	34.15	33.96
25	34.99	34.83	34.82	34.08	33.28	33.01	32.77	33.02	33.49	33.78	34.16	34.03
EOM	35.22	34.90	34.57	33.75	33.27	32.69	33.06	33.40	33.63	33.73	34.13	34.20

WTR YR 1989 HIGH 32.40 APR 3

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	35.25	34.82	35.12	34.65	33.99	33.25	32.86	32.99	33.36	33.59	33.87	34.29
10	35.07	35.20	35.07	34.62	33.91	33.34	33.10	33.00	33.57	33.70	34.10	34.18
15	35.17	35.11	35.08	34.34	33.73	33.22	32.91	33.12	33.28	33.64	34.21	34.06
20	35.23	35.07	34.87	34.40	33.49	33.14	32.95	33.18	33.38	33.56	34.27	34.03
25	35.19	34.97	34.95	34.18	33.54	33.12	32.90	33.09	33.52	33.83	34.21	34.09
EOM	35.28	34.97	34.66	33.89	33.46	32.92	33.14	33.51	33.75	33.90	34.24	34.28

WTR YR 1989 LOW 35.35 OCT 30

## GROUND-WATER DATA

329

## VANDERBURGH COUNTY

380626087344401. Local number, VA 7.

LOCATION.--Lat 38°06'26", long 87°34'44", in NE¼NW¼ sec.7, T.5 S., R.10 W., Vanderburgh County, Hydrologic Unit 05120113, 0.5 mi north of Darnstadt on north side of Salem United Church of Christ.  
 Owner: U.S. Geological Survey.

AQUIFER.--Inglefield Sandstone Member, Patoka Formation of Pennsylvanian Period.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 6 in., depth 70 ft, cased to 39.3 ft, open end.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 475.35 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of floor of shelter, 4.04 ft above land-surface datum.

PERIOD OF RECORD.--June 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 20.31 ft below land-surface datum, April 8, 1989;  
 lowest, 25.06 ft below land-surface datum, Oct. 29, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	24.74	23.93	23.67	22.58	22.26	21.53	20.89	21.52	21.97	22.15	22.00	22.79
10	24.22	24.19	23.54	23.00	22.06	21.54	21.10	21.82	22.23	22.07	22.52	22.61
15	24.47	24.07	23.64	22.53	22.00	20.84	20.85	21.86	22.15	21.91	22.35	22.74
20	24.54	23.73	23.44	22.35	21.15	21.20	21.21	21.84	22.19	21.58	22.47	22.86
25	24.52	23.75	23.74	22.41	21.33	21.26	21.26	21.76	22.27	22.17	22.51	22.88
EOM	24.52	23.74	23.05	21.89	21.36	20.89	21.66	22.12	22.38	22.02	22.53	22.78

WTR YR 1989 HIGH 20.31 APR 8

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	24.88	24.18	23.99	23.10	22.45	21.75	20.98	21.65	22.09	22.23	22.07	22.84
10	24.45	24.76	23.73	23.10	22.31	21.85	21.22	21.95	22.40	22.13	22.61	22.77
15	24.58	24.47	24.03	22.60	22.28	21.51	20.89	22.00	22.26	22.00	22.45	22.81
20	24.68	24.45	23.64	22.79	21.55	21.47	21.36	22.06	22.26	21.70	22.51	22.93
25	24.63	23.90	24.05	22.52	21.83	21.33	21.34	21.84	22.34	22.26	22.57	22.99
EOM	24.79	23.85	23.28	22.15	21.77	21.24	21.96	22.21	22.54	22.14	22.66	22.94

WTR YR 1989 LOW 25.06 OCT 29

## VIGO COUNTY

392820087242601. Local number, VI 7.

LOCATION.--Lat 39°28'20", long 87°24'26", in SE¼SE¼NE¼ sec.21, T.12 N., R.9 W., Vigo County, Hydrologic Unit 05120111, on the campus of Indiana State University, in Terre Haute.  
 Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 6 in., depth 70 ft, cased to 67 ft, screened to 70 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 502 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of floor of shelter, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--January 1970 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 41.80 ft below land-surface datum, June 7, 1974; lowest, 51.90 ft below land-surface datum, Sept. 29 to Oct. 1, 1972.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	49.67	49.79	49.90	49.74	48.82	48.61	48.12	47.31	46.43	45.82	46.53	47.15
10	49.73	49.88	49.97	49.60	48.79	48.56	47.91	47.23	46.12	46.04	46.66	46.82
15	49.78	49.99	50.09	49.35	48.68	48.50	47.62	47.18	45.90	46.30	46.83	46.37
20	49.75	50.06	50.11	49.07	48.67	48.57	47.48	47.17	45.79	46.50	47.02	45.83
25	49.70	50.00	50.03	48.98	48.62	48.40	47.42	47.11	45.75	46.53	47.23	45.52
EOM	49.68	49.90	49.90	48.86	48.60	48.27	47.42	46.91	45.76	46.46	47.29	45.49

WTR YR 1989 HIGH 45.47 SEP 27

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	49.67	49.81	49.91	49.78	48.85	48.64	48.15	47.33	46.51	45.85	46.56	47.19
10	49.74	49.91	49.99	49.62	48.83	48.58	47.96	47.24	46.18	46.10	46.70	46.89
15	49.78	50.01	50.13	49.40	48.72	48.54	47.67	47.19	45.92	46.34	46.87	46.49
20	49.76	50.08	50.12	49.11	48.68	48.58	47.50	47.21	45.81	46.53	47.07	45.92
25	49.72	50.02	50.05	48.99	48.64	48.42	47.44	47.14	45.76	46.54	47.27	45.58
EOM	49.69	49.91	49.92	48.88	48.61	48.29	47.44	46.99	45.77	46.47	47.32	45.50

WTR YR 1989 LOW 50.13 DEC 15

## WABASH COUNTY

404424085422801. Local number, WB 3.

LOCATION.--Lat 40°44'24", long 85°42'28", in SE1/4SW1/4 sec.35, T.27 N., R.7 E., Wabash County, Hydrologic Unit 05120101, on State Highway 124, 3.5 mi west of the county line and in the southwest corner of United Telephone Company property.

Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 105 ft, cased to 100 ft, screened to 105 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 850.45 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.50 ft above land-surface datum.

PERIOD OF RECORD.--August 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 44.86 ft below land-surface datum, Apr. 6, 1988; lowest, 48.20 ft below land-surface datum, Oct. 30, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	47.91	47.42	47.91	47.61	47.04	46.67	46.23	45.83	45.44	45.98	46.02	46.55
10	47.99	47.75	47.81	47.58	47.00	46.87	46.23	45.95	45.39	46.15	46.31	46.32
15	47.91	47.84	47.72	47.31	47.03	46.34	46.13	46.05	45.41	46.27	46.28	46.43
20	47.91	47.73	47.62	47.19	46.77	46.62	46.24	45.95	45.62	46.03	46.32	46.49
25	47.71	47.76	47.77	47.19	46.74	46.54	46.05	45.71	45.82	46.31	46.42	46.47
EOM	47.95	47.75	47.70	46.73	46.66	46.31	46.04	45.68	45.98	46.07	46.44	46.53

WTR YR 1989 HIGH 45.28 JUN 9

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	48.06	47.51	48.06	47.93	47.19	46.81	46.33	45.91	45.53	46.04	46.09	46.57
10	47.85	48.01	47.95	47.66	47.12	47.01	46.36	46.02	45.52	46.30	46.40	46.42
15	47.97	48.04	47.99	47.39	47.20	46.67	46.20	46.09	45.43	46.34	46.34	46.48
20	48.00	47.92	47.79	47.45	47.02	46.81	46.30	46.01	45.70	46.09	46.42	46.51
25	47.83	47.87	47.99	47.33	47.01	46.58	46.14	45.91	45.86	46.35	46.48	46.55
EOM	48.17	47.81	47.77	46.90	46.77	46.44	46.17	45.73	46.02	46.17	46.55	46.58

WTR YR 1989 LOW 46.20 OCT 30

## WABASH COUNTY

403948085414601. Local number, WB 4.

LOCATION.--Lat 40°39'48", long 85°41'46", in NE1/4NE1/4 sec. 35, T.26N., R.7E., Wabash County, Hydrologic Unit 05120103, on Richard McMinn's property, 1.3 mi southeast of La Fontaine on America Road.

Owner: U.S. Geological Survey

AQUIFER.--Sand and gravel of the Pleistocene age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 118 ft, cased to 113 ft, screened to 118 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 837 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.30 ft above land-surface datum.

PERIOD OF RECORD.--August 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 38.19 ft below land-surface datum, Nov. 5, 1988; lowest, 44.18 ft below land-surface datum, Sept. 27, 1989.

## FROM ADR

HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	38.74	38.19	38.62	38.86	40.38	41.72	42.17	42.39	42.68	43.26	43.36	43.86
10	38.46	38.48	38.57	39.18	40.63	42.08	42.48	42.64	42.79	43.36	43.72	43.66
15	38.67	38.54	38.49	39.12	40.86	41.57	42.36	42.73	42.81	43.51	43.59	43.87
20	38.69	38.43	38.55	39.19	40.77	42.07	42.56	42.71	43.00	43.30	43.58	43.95
25	38.54	38.49	38.81	39.67	41.28	42.15	42.39	42.57	43.14	43.70	43.75	43.85
EOM	38.73	38.49	38.99	39.67	41.42	42.08	42.50	42.72	43.28	43.46	43.64	43.91

WTR YR 1989 HIGH 38.19 NOV 5

## FROM ADR

LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	38.88	38.26	38.78	39.06	40.49	41.90	42.31	42.45	42.72	43.36	43.41	43.89
10	38.63	38.77	38.69	39.27	40.75	42.22	42.61	42.73	42.96	43.44	43.78	43.82
15	38.75	38.77	38.83	39.20	41.07	42.05	42.39	42.78	42.89	43.57	43.67	43.92
20	38.79	38.67	38.70	39.57	40.98	42.31	42.66	42.82	43.06	43.40	43.69	43.99
25	38.65	38.58	39.09	39.77	41.53	42.21	42.49	42.73	43.17	43.73	43.79	43.99
EOM	38.96	38.56	39.07	39.82	41.65	42.27	42.69	42.79	43.35	43.57	43.79	43.97

WTR YR 1989 LOW 44.18 SEP 27

## GROUND-WATER DATA

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## WABASH COUNTY

## WATER-QUALITY RECORDS

403948085414601. Local number, WB 4. --Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
AUG 04...	1200	38.66	734	754	7.5	7.7	11.5	1.1	330	0	67
DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY WAT WH TOT FET FIELD (MG/L AS CACO3) (00410)	ALKA- LITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)*	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, ORTHO, TOTAL (MG/L AS P) (70507)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
AUG 04...	39	37	2.4	363	351	67	2.7	462	<0.10	0.01	470

\*In March 1989, the National Water-Quality Laboratory discovered a bias in the turbidimetric method for sulfate analysis, indicating that concentrations below 75 mg/L have a median positive bias of 2 mg/L above the true concentration for the period between 1982 and 1989. Sulfate concentrations in this report have not been corrected for this bias.

## WARRICK COUNTY

380624087164801. Local number, WK 4.

LOCATION.--Lat 38°06'24", long 87°16'48", in S½SW¼SW¼ sec.2, T.5 S., R.8 W., Warrick County, Hydrologic Unit 05140201, on Curtis Joseph Hart's property, 4.2 mi north of Booneville on State Highway 61.

Owner: U.S. Geological Survey.

AQUIFER.--Sandstone from lower Dugger Formation of Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 6 in., depth 105 ft, cased to 30 ft, open end.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 446.18 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of floor of shelter, 4.09 ft above land-surface datum.

PERIOD OF RECORD.--June 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 8.78 ft below land-surface datum, Apr. 3, 1989; lowest, 18.20 ft below land-surface datum, Oct. 30, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	17.91	17.38	14.35	13.14	12.17	10.72	10.03	11.22	11.10	10.40	11.15	12.14
10	17.96	16.48	14.43	12.98	12.43	10.94	10.46	11.22	11.03	10.49	11.46	12.13
15	18.09	16.00	14.47	12.63	11.87	10.80	10.70	11.21	10.89	10.35	11.73	11.88
20	18.09	15.16	14.51	12.63	11.19	10.90	10.94	11.29	10.98	10.48	12.01	11.93
25	18.03	14.65	14.60	12.78	11.18	10.76	11.06	11.00	11.18	10.72	11.77	12.20
EOM	18.14	14.32	13.62	12.43	11.22	10.19	11.19	11.14	11.26	10.88	11.93	12.54

WTR YR 1989 HIGH 8.78 APR 3

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	17.96	17.69	14.38	13.31	12.25	11.46	10.19	11.24	11.23	10.48	11.19	12.19
10	18.01	16.51	14.48	13.00	12.47	10.99	10.54	11.24	11.11	10.55	11.53	12.22
15	18.11	16.12	14.57	12.71	12.02	10.91	10.73	11.26	10.94	10.37	11.78	11.91
20	18.13	15.21	14.55	12.75	11.37	11.03	10.96	11.32	11.03	10.54	12.03	11.96
25	18.06	14.71	14.64	12.81	11.24	10.80	11.09	11.03	11.21	10.74	11.79	12.25
EOM	18.19	14.32	13.80	12.47	11.35	10.35	11.23	11.19	11.30	10.95	11.96	12.56

WTR YR 1989 LOW 18.20 OCT 30



## GROUND-WATER DATA

## WAYNE COUNTY

394426085080601. Local number, WE 6.

LOCATION.--Lat 39°44'26", long 85°08'06", in SE¼NW¼NE¼ sec.24, T.15 N., R.12 E., Wayne County, Hydrologic Unit 05080003, on county right-of-way, 750 ft east of State Highway 1, and 4.0 mi south of East Germantown. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 6 in., depth 49 ft, cased to 47 ft, screened to 49 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 888 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of collar in shelter, 3.60 ft above land-surface datum.

PERIOD OF RECORD.--September 1966 to current year.

REVISED RECORDS.--WDR IN-81-1: 1980.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 10.07 ft below land-surface datum, Aug. 3, 1979; lowest, 21.68 ft below land-surface datum, Feb. 1, 1977.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	20.26	20.73	20.10	19.72	17.87	17.62	14.44	12.41	10.88	13.15	14.62	15.98
10	20.36	20.74	20.02	19.45	17.84	17.39	13.61	12.39	11.48	13.36	14.87	16.08
15	20.46	20.65	19.98	18.99	17.87	17.03	13.47	12.41	11.94	13.59	15.11	16.04
20	20.54	20.54	19.97	18.54	17.84	16.70	13.62	12.58	12.31	13.81	15.36	15.95
25	20.61	20.38	20.02	18.19	17.76	16.32	13.74	12.17	12.63	14.05	15.57	15.92
EOM	20.68	20.23	19.89	17.96	17.71	15.81	12.89	10.20	12.91	14.35	15.83	16.00

WTR YR 1989 HIGH 10.10 MAY 29

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	20.28	20.74	20.13	19.75	17.89	17.64	14.71	12.44	10.99	13.19	14.65	16.01
10	20.38	20.78	20.03	19.52	17.85	17.45	13.71	12.40	11.60	13.41	14.91	16.10
15	20.48	20.67	19.98	19.08	17.90	17.08	13.50	12.45	12.01	13.63	15.16	16.08
20	20.56	20.56	19.98	18.61	17.87	16.77	13.64	12.63	12.37	13.86	15.39	15.96
25	20.62	20.41	20.03	18.25	17.80	16.38	13.76	12.23	12.68	14.10	15.61	15.93
EOM	20.69	20.25	19.93	17.99	17.72	16.01	13.06	10.33	12.99	14.40	15.87	16.02

WTR YR 1989 LOW 20.78 NOV 10

## WELLS COUNTY

404331085064701. Local number, WL 4.

LOCATION.--Lat 40°43'31", long 85°06'47", in SE¼NW¼NE¼ sec.12, T.26 N., R.12 E., Wells County, Hydrologic Unit 05120101, 1000 ft south of north entrance to Ouabache State Recreation Area, and 3.5 mi southeast of Bluffton. Owner: U.S. Geological Survey.

AQUIFER.--Silty dolomite of Silurian age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 79 ft, cased to 46 ft, open end.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 826.04 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of floor of shelter, 2.35 ft above land-surface datum.

PERIOD OF RECORD.--January 1967 to current year. (Semi-annual tape-down readings only September 1971 to December 1981.)

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 17.70 ft below land-surface datum, Apr. 4, 1973; lowest, 25.21 ft below land-surface datum, Sept. 24, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	24.92	24.62	---	---	24.17	24.15	22.44	22.22	21.24	22.98	---	23.84
10	24.66	24.64	---	---	24.23	23.99	22.92	22.70	21.99	23.27	23.84	23.48
15	24.85	24.72	---	24.19	24.36	23.71	22.93	22.61	22.11	---	23.79	23.24
20	24.86	---	---	24.31	23.99	23.75	23.03	22.48	22.43	---	23.81	23.27
25	24.90	---	---	24.31	23.87	23.64	22.89	22.05	22.67	---	23.86	23.34
EOM	24.79	---	---	23.88	24.08	23.38	22.42	21.26	22.83	---	23.81	23.45

WTR YR 1989 HIGH 20.98 MAY 29

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	25.02	24.77	---	---	24.32	24.25	22.64	22.72	21.33	23.13	---	23.86
10	24.82	25.07	---	---	24.43	24.14	23.00	22.77	22.17	23.41	23.92	23.55
15	24.89	24.94	---	24.34	24.59	24.21	23.06	22.74	22.26	---	23.92	23.39
20	24.99	---	---	24.64	24.18	23.96	23.17	22.65	22.56	---	23.89	23.41
25	25.00	---	---	24.50	24.04	23.81	23.07	22.48	22.74	---	23.94	23.43
EOM	24.98	---	---	23.98	24.25	23.48	22.49	21.57	22.92	---	23.93	23.53

WTR YR 1989 LOW 25.13 NOV 8



## GROUND-WATER DATA

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## WHITE COUNTY

404914086403001. Local number, WT 4.

LOCATION.--Lat 40°49'14", long 86°40'30", in NW¼SW¼NW¼ sec.5, T.27 N., R.2 E., White County, Hydrologic Unit 05120106, 4.25 mi north of Idaville and in the southwest corner of the Pious Chapel property.

Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 6 in., depth 134 ft, cased to 129 ft, screened to 134 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 683.06 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.20 ft above land-surface datum.

PERIOD OF RECORD.--July 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.78 ft below land-surface datum, Apr. 3, 5, 1988; lowest, 12.45 ft below land-surface datum, Aug. 5, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	6.93	6.45	5.42	4.88	4.44	4.81	4.23	4.51	2.85	4.04	6.44	3.92
10	6.81	6.42	5.42	4.35	---	4.83	4.17	4.64	3.33	9.57	6.54	4.05
15	6.87	6.11	5.52	4.25	---	4.76	4.16	4.71	3.09	8.65	7.28	4.10
20	6.78	5.86	5.48	4.43	---	4.66	4.33	4.22	3.24	6.42	7.38	4.23
25	6.67	5.45	5.52	4.49	---	4.60	4.38	3.71	3.49	4.71	5.55	4.38
EOM	6.57	5.41	4.95	4.28	---	4.64	4.61	3.10	3.79	5.45	5.13	4.63

WTR YR 1989 HIGH 2.85 JUN 3

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	6.97	6.50	5.49	4.98	4.53	4.86	4.31	4.59	2.91	5.54	6.94	3.95
10	6.88	6.52	5.53	4.43	---	4.90	4.20	4.70	3.46	9.80	6.97	4.13
15	6.91	6.26	5.64	4.33	---	4.98	4.23	4.75	3.13	9.75	8.28	4.16
20	6.90	5.98	5.64	4.57	---	4.79	4.37	4.51	3.33	7.33	7.57	4.26
25	6.72	5.50	5.57	4.57	---	4.65	4.42	3.78	3.55	4.79	5.63	4.42
EOM	6.66	5.46	4.97	4.35	---	4.73	4.65	3.16	3.83	6.46	5.27	4.69

WTR YR 1989 LOW 10.40 JUL 18

## WHITLEY COUNTY

410337085264201. Local number, WY 3.

LOCATION.--Lat 41°03'37", long 85°26'42", in NW¼SE¼NW¼ sec.18, T.30 N., R.10 E., Whitley County, Hydrologic Unit 05120104, on the county right-of-way of Evergreen Road, and 0.75 mi north of Laud.

Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 191 ft, cased to 187 ft, screened to 191 ft.

INSTRUMENTATION.--Water-level recorder.

DATUM.--Elevation of land-surface datum is 870 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of floor of shelter, 2.68 ft above land-surface datum.

PERIOD OF RECORD.--December 1966 to September 1971, August 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 49.30 ft below land-surface datum, Mar. 27, 1976; lowest, 52.87 ft below land-surface datum, Dec.21, 1988.

DAY	HIGHEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	52.52	52.11	52.53	52.29	52.17	51.96	51.87	51.73	51.86	51.94	52.05	52.39
10	52.29	52.29	52.46	52.49	52.17	52.10	52.03	51.93	51.88	52.07	52.32	52.25
15	52.47	52.44	52.51	52.38	52.20	51.72	51.86	51.93	51.71	52.13	52.18	52.28
20	52.45	52.36	52.40	52.31	51.98	51.96	51.90	51.87	51.76	51.92	52.18	52.45
25	52.34	52.44	52.62	52.24	51.96	52.00	51.78	51.77	51.86	52.14	52.32	52.41
EOM	52.43	52.40	52.45	51.97	51.96	51.88	51.89	51.96	51.93	52.11	52.31	52.46

WTR YR 1989 HIGH 51.68 JUN 13

DAY	LOWEST WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	52.67	52.22	52.66	52.46	52.39	52.11	52.00	51.85	51.99	52.05	52.13	52.46
10	52.44	52.68	52.71	52.63	52.33	52.24	52.11	52.03	51.97	52.11	52.40	52.35
15	52.57	52.69	52.73	52.46	52.46	52.13	51.94	52.01	51.79	52.22	52.28	52.39
20	52.58	52.68	52.67	52.66	52.19	52.18	52.04	52.00	51.87	52.02	52.28	52.52
25	52.51	52.57	52.78	52.45	52.17	52.12	51.88	51.92	51.91	52.21	52.44	52.52
EOM	52.68	52.52	52.53	52.11	52.10	52.07	52.02	52.06	52.06	52.23	52.43	52.57

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# CALENDAR FOR WATER YEAR 1989

1988

## OCTOBER

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

## NOVEMBER

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## DECEMBER

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1989

## JANUARY

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29	30	31				

## FEBRUARY

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## MARCH

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## APRIL

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30						

## MAY

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## JUNE

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## JULY

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30	31					

## AUGUST

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27	28	29	30	31		

## SEPTEMBER

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17	18	19	20	21	22	23
24	25	26	27	28	29	30



