United States Department of the Interior
Geological Survey - Water Resources Division

SURFACE WATER RECORDS OF INDIANA

1963

Prepared in cooperation with

Indiana Flood Control and Water Resources Commission
State Department of Conservation, Division of Water Resources
State Highway Commission
State Board of Health
Corps of Engineers, U. S. Army

Copies of this report may be obtained from
District Engineer, Surface Water Branch
U. S. Geological Survey
Room 407, 611 North Park Avenue
Indianapolis, Indiana 46204

CALENDAR FOR WATER YEAR 1963

OCTOBER 1962

S	M	T	W	T	F	S
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JANUARY 1963

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FEBRUARY 1963

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AUGUST 1963

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SEPTEMBER 1963

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SURFACE WATER RECORDS OF INDIANA, 1963

INTRODUCTION

The surface-water records for the 1963 water year for gaging stations, partial-record stations, and miscellaneous sites within the State of Indiana are given in this report. For convenience there are also included records for a few pertinent gaging stations in bordering States. The records were collected and computed by the Water Resources Division of the U. S. Geological Survey, under the direction of Malcolm D. Hale, district engineer, Surface Water Branch.

Through September 30, 1960, the records of discharge and stage of streams and contents and stage of lakes or reservoirs were published in an annual series of U. S. Geological Survey water-supply papers entitled "Surface Water Supply of the United States." Since 1951 there have been 20 volumes in the series; each volume covered an area whose boundaries coincided with those of certain natural drainage areas. The records in Indiana were contained in Parts 3A, 4 and 5 of that series.

Beginning with the 1961 water year, streamflow records and related data have been released by the Geological Survey in annual reports on a State-boundary basis. Distribution of these basic-data reports is limited and primarily for local needs. Records will be published in Geological Survey water-supply papers at 5-year intervals.

COOPERATION

Cooperative agreements between the U. S. Geological Survey and organizations of the State of Indiana for the systematic collection of streamflow records began in 1930. Organizations that supplied data are acknowledged in station descriptions. Organizations that assisted in collecting data through cooperative agreements with the Survey are:

State Department of Conservation, Donald E. Foltz, director, through Division of Water Resources, C. H. Bechert, director; State Highway Commission, David Cohen, chairman, G. E. Goodwin, executive director, and F. L. Ashbaucher, chief engineer; State Board of Health, A. C. Offutt, commissioner, and B. A. Poole, director, Bureau of Environmental Sanitation; Indiana Flood Control and Water Resources Commission, Joe H. Nixon, chairman, J. I. Perrey, chief engineer.

Assistance in the form of funds or services was given by the Corps of Engineers, U. S. Army, in collecting records for 44 gaging stations published in this report.

The following organizations aided in collecting records:

The City of Indianapolis, through its Board of Public Works and Sanitation and its Flood Control Board; cities of Anderson, Bloomington, Muncie, North Vernon, Richmond, and Jasper; Indianapolis Water Co.; Indianapolis Power and Light Co.; Public Service Co. of Indiana; Container Corporation of America; Continental Steel Co.; city of Ft. Wayne Filtration Plant; Indiana and Michigan Electric Co.; Sanitary District of Chicago; and city of Hammond.

DEFINITION OF TERMS AND ABBREVIATIONS

The terms of streamflow and other hydrologic data, as used in this report, are defined as follows:

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of gage height or discharge are obtained. When used in connection with a discharge record, the term is applied only to those gaging stations where a continuous record of discharge is obtained.

DEFINITION OF TERMS AND ABBREVIATIONS

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

Cubic foot per second (cfs) is the rate of discharge of a stream whose channel is 1 square foot in cross-sectional area and whose average velocity is 1 foot per second.

Cubic feet per second per square mile (cfsm) 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.

Runoff in inches (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.

Cfs-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, 1.983471 acre-feet, or 646,317 gallons, and represents a runoff of 0.0372 inch from 1 square mile.

Stage-discharge relation is the relation between gage height and the amount of water flowing in a channel, expressed as volume per unit of time.

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, a long reach of the channel, or an artificial structure.

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.

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

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

DOWNSTREAM ORDER AND STATION NUMBERS

Stations are listed in the same downstream order used in the water-supply papers. Records are listed in a downstream direction along the main stem with all stations on a tributary entering above a main-stem station listed before that station. If a tributary enters between two main-stem stations, it is listed between them. A similar order is followed listing stations on first rank, second rank, and other ranks of tributaries. To indicate the rank of any tributary on which a gaging station is situated and the stream to which it is immediately tributary, each idention in the listing of gaging stations in the table of contents of this report represents one rank. This downstream order and system of indention shows which gaging stations are on tributaries between any two stations on a main stem and the rank of the tributary on which each gaging station is situated.

As an added means of identification, each gaging station and partial-record station has been assigned a station number. The numbers have been assigned in the same downstream order used in the annual series of water-supply papers. In assigning station numbers, no distinction is made between partial-record stations and continuous-record gaging stations, so that 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 numbers to allow for new stations that may be established; hence the numbers are not consecutive.

The complete number for each station, such as 3-3355.00, includes the part number "3" and a six digit station number. In this report, the part number and only the essential digits of the station number are shown. For example, the complete number 3-3355.00 would appear as 3-3355, just to the left of the station name. In this report, the records are listed in downstream order by parts. All records for a drainage basin encompassing more than one State could be arranged in downstream order by assembling pages from the various State reports by station number to include all records in the basin.

EXPLANATION OF DATA

The base data collected at gaging stations consist of records of stage and measurements of discharge. In addition, observations of factors affecting the stage-discharge relation, weather records, and other information are used to supplement base data in determining the daily flow. Records of stage are obtained from a water-stage recorder that gives a continuous chart of the fluctuations (for digital recorders, a tape punched at 15-, 30-, or 60-minute intervals) or from direct readings on a nonrecording gage. Measurements of discharge are made with a current meter by the general methods

adopted by the Geological Survey on the basis of experience in stream gaging since 1888. These methods are described in Water-Supply Paper 888 and are also outlined in standard textbooks on the measurement of stream discharge.

Rating tables giving the discharge for any stage are prepared from stage-discharge relation curves defined by discharge measurements. If extensions to the rating curves are necessary to define the extremes of discharge, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, or computation of flow over dams or weirs), velocity-area studies, and logarithmic plotting. The application of the daily mean gage height, to those rating tables gives the daily mean discharge, from which the monthly and the yearly mean discharge are computed. 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 individual discharge measurements and notes by engineers and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is in effect the shifting-control method.

At some gaging stations the stage-discharge relation is affected by 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 determining discharge. Information required for determining 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. For such stations, the rate of change in stage is used as a factor in determining discharge.

At some gaging stations the stage-discharge relation is affected by ice during the winter, and it becomes impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed on the basis of the gage-height record and occasional winter discharge measurements, consideration being given to the available information on temperature and precipitation, notes by gage observers and engineers, and comparable records of discharge for other stations in the same or nearby basins.

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 the daily discharge. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, float is frozen in the well, or for various other reasons. For such periods the daily discharges are estimated

on the basis of recorded range in stage, adjoining good record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins.

The data in this report generally comprise a description of the station, a skeleton rating table, and a table showing the daily discharge and monthly and yearly discharge of the stream. Records are published for the water year which begins on October 1 and ends on September 30. A calendar for the 1963 water year is shown on page 11 to facilitate finding the day of the week for any date.

The description of the station gives the location, drainage area, records available, type and history of gages, average discharge, extremes of discharge, and general remarks. The location of the gaging station and the drainage area are obtained from the most accurate maps available. River mileage given under "Location" for some stations, is that determined and used by the Corps of Engineers unless otherwise noted. Under "Records available" are given periods for which there are published records for the present station or for stations generally equivalent to the present one. Under "Gage" are given the type of gage currently in use and the datum of the gage above mean sea level, and a condensed history of the types, locations, and datums of previous gages used during the period of records available. The references to "datum of 1929" and adjustments of other years are to the datum and adjustments of the U. S. Coast and Geodetic Survey. Under "Average discharge" is given the average discharge for the number of years indicated. It is not given for stations having fewer than five complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. Under "Extremes" are given the maximum discharge and gage height; the minimum discharge if there is little or no regulation; the minimum daily discharge if there is extensive regulation (also the minimum discharge if useful); and the minimum gage height if it is significant. In the first paragraph, the data given are for the complete current water year unless otherwise specified. In the second paragraph, the data given are for the periods of record within the calendar year dates in the heading (not necessarily those for the complete years indicated by the heading dates). Reliable information concerning major floods that have occurred outside the period of record are given in the third or last paragraph under "Extremes." Unless otherwise qualified, the maximum discharge corresponds to the crest stage obtained by use of a water-stage recorder, a crest-stage indicator, or a non-recording gage read at the time of the crest. If the maximum gage height did not occur at the same time as the maximum discharge, it is given separately. Information pertaining to the accuracy of the records and to conditions which affect the natural flow at the gaging station is given under "Remarks."

EXPLANATION OF DATA

Skeleton rating tables are published for all stations except those for which the daily discharge for the greater part of the open-water period was determined by the shifting-control method, the slope method, or other special methods involving an equivalent adjustment to the gage height of more than one-tenth foot. Skeleton rating tables generally are not published for canals, ditches or springs.

The daily table gives the discharge corresponding to the daily mean gage height unless there are large or rapid changes in the discharge during a day. For days having large or rapid changes, discharge for the day is computed by averaging the mean discharges for several parts of a day. For digital recorders, the daily mean discharge is always the average of the discharges at each punched reading. For stations equipped with nonrecording gages, the daily discharge corresponds to once-daily readings of the gage or to the mean of twice-daily readings; but for periods of rapidly changing stage the discharge is determined from a gage-height graph based on gage readings.

In the table of daily discharge, the figures for the maximum day and the minimum day for each month are underlined. If the figure is repeated, it is underlined only on the first day of its occurrence.

In the monthly summary below the daily table, the line headed "Total" gives the sum of the daily figures; it is the total cfs-days for the month. The line headed "Mean" gives the average flow in cubic feet per second during the month. Discharge for the month is expressed in cubic feet per second per square mile (line headed "Cfsm"), and in inches (line headed "In").

In the yearly summary below the monthly summary, the figures of maximum are the maximum daily discharges, not the momentary discharges when the water was at crest stage. Likewise, the minimums in this summary are the minimum daily discharges.

Subsequent to July 27, 1961, all stations east of the new time-zone boundary line between Eastern Standard and Central Standard time have been operated on Eastern Standard time. Peak discharges and their times of occurrence and corresponding gage heights for most stations are listed below the table of daily and monthly discharge. All independent peaks above the selected base are given. The base discharge, which is given in parentheses, is selected so that an average of about three peaks a year can be presented. Peak discharges are not published for any stream for which the peaks are subjected to substantial control by man. Time of day is expressed in 24-hour time, for example, 12:30 a.m. is 0030, 1:30 p.m. is 1330.

Footnotes to the table of daily discharge indicate periods for which discharge was computed or estimated by unusual or special methods because of no gage-height record, ice effect, or other conditions that reduce the degree of accuracy of the records. The footnotes are either reference footnotes, with corresponding symbols used in the table of daily discharge to indicate the days included, or general footnotes, introduced by the word "Note," in which the days included are stated. The methods used in computing data for such footnoted periods have been explained in preceding paragraphs.

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

The accuracy of streamflow data 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 observations of stage, measurements of discharge, and interpretation of records.

The station description states the degree of accuracy of the records. "Excellent" indicates that, in general, the error in the daily records is believed to be less than 5 percent; "good," less than 10 percent; "fair," less than 15 percent; and "poor," probably more than 15 percent. The records of monthly and yearly mean discharge and runoff are, in general, more nearly accurate than the daily records.

Discharge at some stations, as indicated by the monthly mean, may vary widely from natural runoff, owing to 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 when relatively large negative adjustments are made or when evaporation is large in comparison with the observed discharge.

GPO 811-767-2

SURFACE WATER RECORDS OF INDIANA, 1963

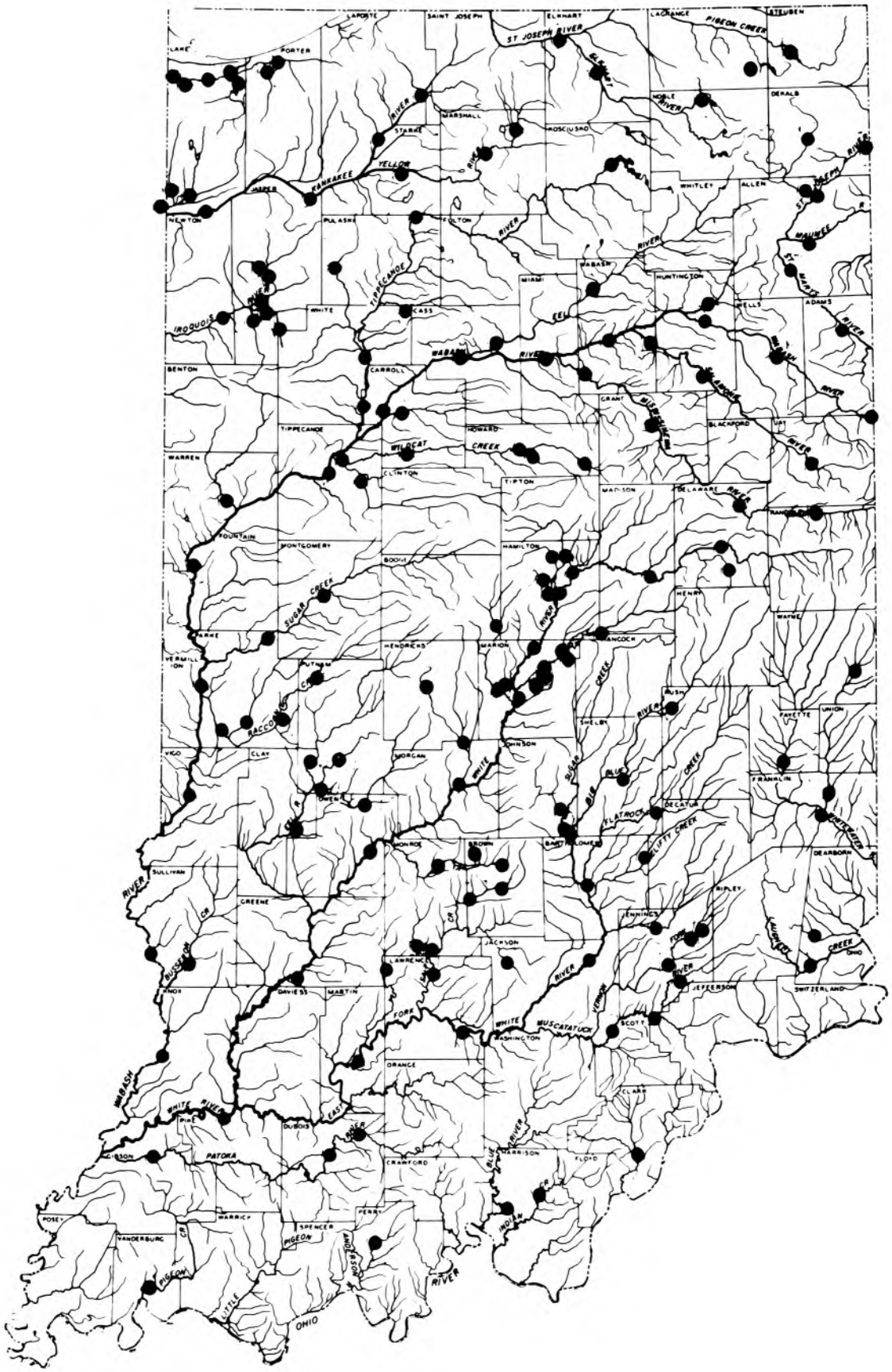
SUPPLEMENTAL DATA

Data collected at partial-record stations and at miscellaneous sites are given at the end of this report. The data are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations, and the second is a table of discharge measurements at miscellaneous sites. Data on records available on lakes in Indiana are given in a third table.

A compilation of records for the area covered by this report through September 1950 has been published as Water-Supply Papers 1305(3A), 1307(4), and 1308(5). These reports contain a summary of monthly and annual discharges for all previously published records as well as some records not contained in the annual series of water-supply papers. All records were re-examined and revised where warranted. Estimates of discharge were made to fill short gaps whenever practical.

Information of a more detailed nature than that published for most of the gaging stations is on file in the district office, such as discharge measurements and recorder charts or nonrecording-gage readings. Most gaging-station records in the State through 1959 have been analyzed with an electronic computer to give: (1) the number of days in each year that the daily discharge was between selected limits (duration tables); (2) the lowest mean discharge for selected numbers of consecutive days in each year; and (3) the highest mean discharge for selected numbers of consecutive days in each year.

MAP SHOWING LOCATION OF GAGING STATIONS IN INDIANA



MIAMI RIVER BASIN

3-2750. Whitewater River near Alpine, Ind.

Location.--Lat 39°34'23", long 85°09'27", in sec. 14, T. 13 N., R. 12 E., on right bank, 500 ft downstream from highway bridge, 0.4 mile downstream from Wilson Creek, 1.6 miles northeast of Alpine, and 4.7 miles upstream from Bear Creek.

Drainage area.--539 sq mi.

Records available.--October 1928 to September 1963. Prior to October 1936, published as West Fork Whitewater River near Alpine.

Gage.--Water-stage recorder. Datum of gage is 750.19 ft above mean sea level, datum of 1929. Prior to Nov. 9, 1928, staff gage at same site and datum.

Average discharge.--35 years, 538 cfs.

Extremes.--Maximum discharge during year, 35,900 cfs Mar. 5 (gage height, 16.47 ft); minimum, 53 cfs Sept. 25-29 (gage height, 2.76 ft).

1928-63: Maximum discharge, 37,100 cfs (revised) Jan. 14, 1937 (gage height, 16.61 ft); minimum, 14 cfs Sept. 22, 1931; minimum daily, 30 cfs Aug. 6, 1934.

Revisions.--Figures of maximum discharge for the water years 1937 and 1949 have been revised to 37,100 cfs Jan. 14, 1937 (gage height, 16.61 ft) and 35,900 cfs Jan. 5, 1949 (gage height, 16.53 ft), superseding figures published in WSP 1335 and 1143 respectively.

Remarks.--Records good except those for periods of ice effect, which are fair.

Rating tables, water year 1962-63, except for periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 4

4.1	91
4.5	202
5.0	408
6.0	1,180

Mar. 5 to Sept. 30

2.7	46	8.0	3,610
3.0	82	10.0	6,520
3.5	170	12.0	10,000
4.0	305	14.0	15,400
5.0	696	15.0	20,300
6.0	1,280	16.0	29,900

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	102	105	143	119	146	124	3,230	603	245	120	106	74
2	107	107	143	119	170	124	1,620	517	232	120	100	72
3	135	102	143	117	190	130	1,140	458	220	120	92	73
4	127	102	143	114	190	886	1,020	421	260	110	91	72
5	122	102	140	112	183	*26,300	850	386	388	108	88	72
6	117	102	137	112	374	7,550	696	369	369	110	90	70
7	117	102	137	112	830	2,480	649	353	290	120	102	67
8	196	102	132	112	360	1,860	603	337	245	110	95	67
9	202	107	130	112	264	1,860	538	305	220	107	91	67
10	164	119	128	119	206	2,610	497	290	208	106	88	65
11	143	114	123	732	180	1,360	458	290	208	102	87	67
12	132	114	120	774	158	1,140	421	275	182	102	88	64
13	127	114	118	384	152	1,520	403	1,180	182	105	95	63
14	122	114	116	317	140	1,280	386	568	182	142	90	62
15	124	109	114	270	138	960	369	421	170	120	85	62
16	130	119	112	240	133	1,490	353	369	160	110	83	63
17	* 127	170	112	202	127	3,980	353	353	160	107	81	62
18	109	241	* 114	180	127	1,740	403	337	160	102	77	62
19	102	234	117	160	180	2,990	538	305	* 150	102	92	59
20	105	209	122	150	223	5,880	606	321	150	534	130	58
21	114	* 202	119	135	170	* 2,110	439	* 290	150	322	110	58
22	119	189	119	125	* 125	1,280	1,670	275	140	208	101	57
23	114	176	114	* 120	124	1,140	* 3,980	260	140	* 170	95	57
24	112	170	107	115	123	905	1,860	245	130	150	88	55
25	112	164	112	180	122	795	1,140	232	130	140	88	55
26	109	158	112	180	122	905	850	232	130	130	88	55
27	107	158	107	180	122	1,360	696	295	130	130	* 87	* 55
28	105	155	117	190	124	1,020	559	391	130	120	86	54
29	107	152	117	190	----------	795	559	337	120	110	83	53
30	105	149	119	167	------	696	696	337	131	120	83	56
31	105	------	119	164	------	927	------	290	------	110	77	------
Total	3,819	4,261	3,806	6,303	5,503	78,197	27,582	11,642	5,712	4,367	2,837	1,876
Mean	123	142	123	203	197	2,522	919	376	190	141	91.5	62.5
Cfsm	0.228	0.263	0.228	0.377	0.365	4.68	1.71	0.698	0.353	0.262	0.170	0.116
In.	0.26	0.29	0.26	0.43	0.38	5.40	1.91	0.80	0.39	0.30	0.20	0.13

Calendar year 1962: Max 6,500 Min 100 Mean 484 Cfsm 0.898 In. 12.19
Water year 1962-63: Max 26,300 Min 53 Mean 427 Cfsm 0.792 In. 10.75

Peak discharge (base, 6,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	0500	16.47	35,900				
3-20	1300	10.93	8,030				
4-23	1600	10.20	6,840				

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 10-14, 31, Jan. 1, 2, 15, 16, 18-25, 27-29, Feb. 3, 4, 15, 16, 21-25, 28. Mean daily gage heights computed from twice-daily readings of wire-weight gage by observer Aug. 1 to Sept. 30.

3-2755. East Fork Whitewater River at Richmond, Ind.

Location.--Lat 38°48'24", long 84°54'26", in SE¼ sec. 7, T. 13 N., R. 1 W., on left bank, 50 ft downstream from highway bridge, three-quarters of a mile south of Richmond, and 2 miles upstream from Short Creek.
Drainage area.--123 sq mi.
Records available.--April 1949 to September 1963.
Gage.--Water-stage recorder (digital recorder after Aug. 1, 1963). Datum of gage is 854.01 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission). Prior to July 27, 1949, wire-weight gage at same site and datum.
Average discharge.--14 years, 121 cfs.
Extremes.--Maximum discharge during year, 11,500 cfs Mar. 4 (gage height, 11.72 ft); minimum, 3.6 cfs Sept. 13 (gage height, 0.14 ft).
1949-63: Maximum discharge, 14,100 cfs Jan. 21, 1959 (gage height, 12.44 ft), from rating curve extended above 5,000 cfs on basis of contracted-opening measurement of peak flow; maximum gage height, 12.49 ft Jan. 15, 1950; minimum discharge, 0.6 cfs Sept. 21, 1955; minimum gage height, -0.12 ft Sept. 16, 1959.
Maximum stage known, 15.0 ft in March 1913, from floodmarks (discharge not determined).
Remarks.--Records good except those for periods of ice effect, which are fair. Some regulation at low flow by powerplant above station. During periods of low flow, the City of Richmond diverts a small amount of water for municipal supply which is returned at the sewage plant below the gage.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.2	6.3	2.0	460
.3	12	2.5	660
.4	20	4.0	1,340
.6	43	6.0	2,660
.8	77	8.0	4,370
1.0	123	9.0	5,670
1.5	275		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	17	16	19	19	22	580	183	57	21	17	10
2	27	17	16	19	34	26	347	143	50	21	15	8.7
3	74	16	18	19	50	43	254	121	48	20	14	11
4	28	17	20	18	46	4,380	257	105	50	18	13	10
5	22	19	20	16	43	* 3,980	195	105	55	17	13	10
6	19	18	22	15	100	1,470	157	95	46	21	13	9.3
7	22	18	22	16	213	460	138	82	40	30	56	8.9
8	56	18	19	16	79	420	118	75	34	23	17	7.5
9	32	24	18	17	53	480	109	70	29	17	18	8.7
10	28	39	16	26	43	480	93	63	31	16	15	8.2
11	26	27	15	204	35	311	82	63	30	16	12	7.9
12	26	26	13	101	30	275	75	57	24	17	19	8.4
13	23	22	12	58	28	402	75	86	22	27	28	6.4
14	20	20	13	52	26	275	72	72	21	83	16	7.2
15	35	17	14	46	22	183	67	53	21	27	12	7.6
16	35	44	15	42	21	372	63	53	20	30	12	8.9
17	* 29	74	16	39	20	1,020	63	63	20	21	11	8.7
18	25	63	* 19	39	28	440	67	60	17	18	11	9.3
19	17	46	20	36	53	* 956	111	50	* 18	30	50	11
20	22	* 37	22	36	* 52	845	136	62	17	223	25	8.0
21	17	32	20	28	39	402	102	* 46	18	46	23	8.3
22	17	27	20	22	33	275	323	42	19	37	* 16	7.2
23	16	22	19	* 24	28	223	*1,600	37	19	* 27	14	7.2
24	16	20	16	22	24	186	500	36	17	24	13	8.1
25	17	18	16	21	22	157	311	37	17	21	19	8.3
26	16	18	16	20	20	367	223	38	18	19	14	* 9.6
27	16	18	16	18	20	402	168	99	18	20	13	8.4
28	16	17	18	17	21	257	140	138	17	20	13	8.3
29	17	17	45	17	---------	192	166	126	19	23	14	7.6
30	17	16	24	19	------	168	239	107	20	20	12	9.0
31	17	------	21	18	-----	246	------	72	------	19	12	-------
Total	765	784	577	1,060	1,202	19,715	6,831	2,439	832	972	550	257.7
Mean	24.7	26.1	18.6	34.2	42.9	636	228	78.7	27.7	31.4	17.7	8.59
Cfsm	0.201	0.212	0.151	0.278	0.349	5.17	1.85	0.640	0.225	0.255	0.144	0.070
In.	0.23	0.24	0.17	0.32	0.36	5.96	2.06	0.74	0.25	0.29	0.17	0.08

Calendar year 1962: Max 2,440 Min 12 Mean 95.5 Cfsm 0.776 In. 10.53
Water year 1962-63: Max 4,380 Min 6.4 Mean 98.6 Cfsm 0.802 In. 10.87

Peak discharge (base, 2,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-4	2030	11.72	11,500				
4-23	0700	6.78	3,290				

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 11, 12, 14, 25, 26, Jan. 3, 14, 15, 21, 24, 25, 27, 28, Feb. 3-6, 11, 15, 16, 20-27.

3-2760. East Fork Whitewater River at Brookville, Ind.

Location.--Lat 39°26'00", long 85°00'11", in NE¼NE¼ sec. 20, T. 9 N., R. 2 W., on right bank, 65 ft downstream from bridge on State Highway 101, 0.9 mile northeast of Brookville, and 1.8 miles upstream from mouth.

Drainage area.--382 sq mi.

Records available.--March 1954 toSeptember 1963.

Gage.--Water-stage recorder. Datum of gage is 623.76 ft above mean sea level, datum of 1929. Prior to May 22, 1954, wire-weight gage at site, 65 ft upstream at same datum.

Average discharge.--9 years, 378 cfs.

Extremes.--Maximum discharge during year, 28,000 cfs Mar. 5 (gage height, 15.1 ft from floodmarks); minimum, 26 cfs Sept. 23-29; minimum gage height, -0.32 ft, Sept. 25-27).
1954-63: Maximum discharge, 36,100 cfs Jan. 21, 1959 (gage height, 16.50 ft); minimum, 18 cfs Sept. 19, 1955; minimum gage height, that of Sept. 25-27, 1963.

Remarks.--Records good except those for periods of ice effect and no gage-height record, which are poor.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 10-16, Oct. 18 to Nov. 9, Nov. 12-17, Nov. 19 to Dec. 11, Dec. 24-29)

Oct. 1 to 1500 Mar. 4

-0.10	42	3.5	2,260
.2	88	4.0	2,890
.7	205	5.0	4,380
1.2	389	7.0	8,500
2.3	1,060		

1501 Mar. 4 to Sept. 30

-0.35	24	.4	165	3.0	2,070
- .3	27	.8	320	5.0	4,800
- .2	36	1.0	420	8.0	10,700
.0	70	1.5	720	11.0	17,300
.2	110	2.0	1,100		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	53	57	67	70	65	180	1,850	650	189	100	54	40
2	68	56	67	75	110	220	1,100	530	159	74	50	38
3	118	54	65	65	250	350	755	445	147	66	48	34
4	122	57	64	60	180	7,380	900	370	159	60	47	34
5	79	67	60	58	135	16,400	620	345	165	58	46	34
6	100	64	64	58	230	5,640	530	310	165	58	44	34
7	79	60	64	58	700	1,280	445	280	144	62	54	34
8	324	64	62	58	342	860	345	258	130	60	76	33
9	142	70	60	58	205	860	370	238	120	62	58	32
10	98	160	60	70	175	900	345	223	110	58	54	30
11	81	140	60	845	162	650	285	209	110	54	48	31
12	74	118	60	438	152	590	262	195	110	50	44	30
13	67	98	60	252	120	755	262	1,800	100	48	50	29
14	64	86	60	178	112	685	238	753	94	66	47	29
15	67	77	60	160	96	470	220	420	90	108	39	29
16	* 84	77	60	140	88	1,480	202	345	88	74	38	28
17	145	98	60	125	96	3,200	226	345	86	68	37	28
18	92	220	60	115	96	* 1,360	246	320	82	62	48	28
19	74	175	* 68	110	120	1,900	565	254	78	56	70	27
20	67	* 135	66	100	* 178	2,500	1,470	246	78	530	88	27
21	92	122	66	80	150	1,100	650	223	* 74	220	64	27
22	70	104	63	85	94	755	2,020	* 195	70	130	50	27
23	64	98	60	65	110	620	3,010	183	66	115	45	26
24	60	88	57	55	116	530	* 1,610	174	68	* 98	41	26
25	59	83	57	* 80	100	470	980	159	66	82	46	26
26	57	81	57	80	95	755	720	153	64	74	44	26
27	60	77	57	70	85	940	560	147	62	66	* 42	* 26
28	57	75	60	70	85	720	470	620	62	62	41	26
29	67	74	62	70	---------	560	395	310	60	60	40	26
30	59	70	65	70	------	470	860	420	62	58	40	27
31	57	------	70	70	------	747	------	238	------	58	41	-------
Total	2,700	2,805	1,921	3,888	4,447	55,327	22,511	11,358	3,058	2,797	1,534	892
Mean	87.1	93.5	62.0	125	159	1,785	750	366	102	90.2	49.5	29.7
Cfsm	0.228	0.245	0.162	0.327	0.416	4.67	1.96	0.958	0.267	0.236	0.130	0.078
In.	0.26	0.27	0.19	0.38	0.43	5.38	2.19	1.10	0.30	0.27	0.15	0.09

Calendar year 1962: Max 6,560 Min 47 Mean 335 Cfsm 0.877 In. 11.89
Water year 1962-63: Max 16,400 Min 26 Mean 310 Cfsm 0.812 In. 11.01

Peak discharge (base, 4,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	about 0100	15.1	28,000	5-13	1000	6.64	7,740
3-16	2130	5.45	5,520				

* Discharge measurement made on this day.

Note.--No gage-height record Dec. 12-23, Jan. 30 to Feb. 1, Mar. 1-3, Aug. 16, 17, 19-25. Stage-discharge relation affected by ice Dec. 30 to Jan. 10, Jan. 15-29, Feb. 2-7, 17-21, 23, 25-28. Discharge computed from twice-daily wire-weight gage readings, Oct. 1 to Dec. 11, Dec. 24 to Jan. 29, Feb. 2-28, Mar. 4-16, 18, 19, 22-31, Apr. 3-19, 21, Apr. 25 to May 12, May 14 to Aug. 15, Aug. 18, Aug. 26 to Sept. 30.

3-2765. Whitewater River at Brookville, Ind.

Location.--Lat 39°24'24", long 85°00'45", in NW¼ sec. 32, T. 9 N., R. 2 W., on right bank at downstream side of highway bridge, 0.3 mile downstream from East Fork and 1.1 miles south of Brookville.

Drainage area.--1,239 sq mi.

Records available.--June 1915 to September 1917, October 1917 to May 1920 (gage heights only), and July 1923 to September 1963. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 595.71 ft above mean sea level, datum of 1929. July 1923 to Sept. 27, 1928, chain gage at same site and datum. Prior to July 1923, chain gage at same site at datum 1.5 ft higher.

Average discharge.--42 years (1915-17, 1923-63), 1,267 cfs.

Extremes.--Maximum discharge during year, 64,500 cfs Mar. 5 (gage height, 24.91 ft); minimum, 97 cfs Sept. 27 (gage height, 0.41 ft).
1915-20, 1923-63: Maximum discharge, 81,800 cfs Jan. 21, 1959 (gage height, 27.78 ft); from rating curve extended above 45,000 cfs on basis of contracted-opening measurement of peak flow; minimum, 49 cfs Jan. 5, 1935; minimum gage height, 0.12 ft Sept. 21, 1955.
Maximum stage known, 39.0 ft Mar. 25, 1913 (present datum), from floodmarks (discharge not determined).

Remarks.--Records good except those for periods of ice effect, which are fair.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Feb. 8 to Mar. 3, July 27 to Sept. 30)

0.2	79	4.0	2,530
.4	121	6.0	5,250
.7	200	10.0	12,900
1.0	288	14.0	22,500
1.5	490	18.0	34,100
2.0	775	21.0	45,200
3.0	1,550	23.0	55,000

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	214	242	272	256	272	553	5.760	1.730	590	304	200	157
2	227	227	272	272	363	658	3.430	1.380	540	288	197	154
3	311	227	256	242	710	995	2.420	1.220	515	272	189	151
4	321	227	256	227	540	18.500	2.220	1.060	590	256	186	149
5	256	227	256	227	445	* 52.000	1.820	980	816	256	176	146
6	256	227	256	227	680	21.500	1.550	910	1.060	256	170	144
7	242	227	256	227	1.640	4.740	1.380	808	680	256	189	138
8	389	227	242	227	980	2.860	1.220	775	590	256	214	136
9	360	227	242	227	620	2.640	1.140	742	515	256	214	124
10	304	359	242	256	540	3.300	980	680	468	242	207	119
11	272	371	227	1.900	468	2.320	910	650	445	242	200	126
12	256	304	227	1.640	424	2.020	840	620	445	227	184	138
13	242	288	227	808	402	2.220	808	7.410	402	227	240	128
14	242	272	227	515	360	2.120	742	2.960	402	295	298	124
15	227	256	214	460	321	1.640	710	1.460	381	310	200	121
16	* 242	256	214	410	321	5.090	680	1.220	381	272	181	119
17	288	406	214	370	321	12.000	680	1.220	360	256	173	114
18	256	490	214	340	321	* 4.100	808	1.220	340	242	162	114
19	242	490	* 227	320	402	5.540	1.460	910	340	227	184	112
20	242	* 445	242	300	* 515	9.420	4.790	875	340	1.220	387	112
21	242	402	242	290	490	4.540	1.730	808	* 321	732	280	110
22	242	381	242	304	341	2.640	4.560	* 710	321	445	214	106
23	242	340	227	242	362	2.120	6.500	650	304	424	197	106
24	242	321	214	* 200	381	1.730	* 4.380	620	288	* 360	184	103
25	242	304	214	242	340	1.550	2.530	590	288	304	186	103
26	242	288	214	272	321	2.120	2.020	565	288	272	* 267	101
27	227	288	200	256	304	2.750	1.640	565	272	242	195	* 97
28	242	288	214	256	304	4.570	1.380	1.080	272	227	178	117
29	272	272	242	256	---------	1.640	1.380	808	272	227	173	114
30	256	272	242	256	------	1.460	2.320	808	272	214	165	110
31	242	------	256	256	-----	3.840	-----	680	------	214	160	-------
Total	8.080	9.151	7.290	12.281	13.488	183.176	62.788	36.714	13.098	9.821	6.350	3.693
Mean	261	305	235	396	482	5,909	2,093	1,184	437	317	205	123
Cfsm	0.211	0.246	0.190	0.320	0.389	4.77	1.69	0.956	0.353	0.256	0.165	0.099
In.	0.24	0.27	0.22	0.37	0.41	5.50	1.89	1.10	0.39	0.30	0.19	0.11

Calendar year 1962 : Max 18,200 Min 200 Mean 1,061 Cfsm 0.856 In. 11.62
Water year 1962-63 : Max 52,000 Min 97 Mean 1,003 Cfsm 0.810 In. 10.99

Peak discharge (base, 12,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	0230	24.91	64,500				
3-17	0200	12.65	19,000				
5-13	1230	10.97	15,200				

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Jan. 15-20, 22-31, Feb. 4-6.

3-2767. South Hogan Creek near Dillsboro, Ind.

Location.--Lat 38°01'47", long 85°02'17", in NW¼ sec. 7, T. 4 N., R. 2 W., on left downstream abutment of bridge on county road at Dillsboro station, 1¼ miles northeast of Dillsboro, and 1½ miles downstream from Whitaker Creek.

Drainage area.--38.2 sq mi.

Records available.--July 1961 to September 1963. Occasional low-flow measurements, water year 1960.

Gage.--Water-stage recorder. Datum of gage is 571.00 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 8,630 cfs Mar. 4 (gage height, 10.82 ft); no flow for many days.
1961-63: Maximum discharge, that of Mar. 4, 1963; no flow at times each year.
Flood of Jan. 21, 1959, reached a stage of 14.00 ft (discharge, 16,300 cfs, computed from contracted-opening).

Remarks.--Records fair.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.2	0	2.5	109
1.3	.4	2.8	180
1.4	1.1	3.0	230
1.5	2.2	3.5	380
1.6	4.3	4.0	590
1.7	7.9	5.0	1,110
1.8	14	6.0	1,780
2.0	27	7.0	2,710
2.2	50		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	2.4	1.8	7.9	2.7	416	113	22	1.2	0	0	
2	0	2.0	2.1	4.8	159	91	50	14	.9	0	0	
3	4.6	1.7	1.7	4.0	94	59	34	11	.7	0	0	
4	4.6	1.5	1.5	4.0	32	2,180	29	8.4	1.1	0	0	
5	2.0	1.5	1.5	4.8	24	924	22	6.6	3.1	0	0	
6	1.7	1.4	1.5	5.8	29	250	21	5.8	2.4	0	0	
7	1.0	1.3	1.4	5.8	29	72	18	4.6	2.0	.1	0	
8	.8	1.3	1.4	5.1	15	46	15	4.3	69	.1	0	
9	.7	1.8	1.3	7.1	7.9	56	15	3.8	18	.1	0	
10	.9	23	1.2	25	10	69	12	3.4	5.1	0	0	
11	1.1	16	.9	270	19	143	11	2.9	5.4	0	0	
12	1.0	7.9	.8	55	9.4	117	10	2.7	4.3	0	0	
13	.8	4.8	.7	26	7.4	65	8.9	4.6	8.0	0	0	
14	.6	3.6	.6	b 14	5.4	41	8.4	18	27	.1	0	
15	* .4	2.9	b .5	b 10	4.3	31	7.0	9.4	9.4	0	0	
16	.8	2.7	b .5	b 8.4	3.1	1,350	6.6	5.4	3.8	0	0	
17	2.4	4.0	*b .5	7.4	3.4	531	7.4	50	2.2	0	0	
18	2.4	7.5	b .5	7.9	6.6	82	6.6	41	1.5	0	0	
19	2.0	15	b 1.2	7.0	* 13	796	6.6	14	1.1	0	0	
20	1.4	8.9	b 2.1	7.0	12	* 172	10	* 10	* .9	.1	0	
21	1.2	5.8	4.6	4.6	10	62	8.4	11	.8	2.3	0	
22	1.1	4.8	4.8	* 3.1	4.6	38	* 6.6	g 6.2	.6	1.2	0	
23	.8	3.4	4.0	b 2.7	2.7	30	6.6	g 4.6	.4	.5	0	
24	.7	* 2.7	2.7	b 2.5	4.8	25	5.8	g 3.6	.3	.3	0	
25	.6	2.6	2.4	b 2.5	5.8	23	5.1	g 3.1	.2	* .2	0	
26	.6	2.2	2.2	b 2.6	4.8	54	4.6	g 2.6	.2	.1	* 0	
27	.6	2.1	1.8	b 2.7	2.6	86	4.3	g 2.6	.1	0	0	
28	.9	1.9	1.5	b 2.9	6.3	40	4.3	g 2.7	.1	0	0	*
29	5.2	1.9	15	2.9	---------	29	5.1	g 2.6	0	.1	0	
30	5.4	1.9	20	2.9	------	25	38	g 2.2	0	0	0	
31	3.6	------	15	b 2.9	------	166	------	g 1.7	------	0	0	-------
Total	49.9	140.5	97.7	519.3	527.8	8,069	500.3	284.8	169.8	5.2	0	0
Mean	1.61	4.68	3.15	16.8	18.8	260	16.7	9.19	5.66	0.168	0	0
Cfsm	0.042	0.123	0.082	0.440	0.492	6.81	0.437	0.241	0.148	0.0044	0	0
In.	0.05	0.14	0.09	0.51	0.51	7.85	0.49	0.28	0.17	0.005	0	0

Calendar year 1962 : Max 2,350 Min 0 Mean 42.8 Cfsm 1.12 In. 15.22
Water year 1962-63 : Max 2,180 Min 0 Mean 28.4 Cfsm 0.743 In. 10.10

Peak discharge (base, 2,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-4	2000	10.82	8,630				
3-16	2100	8.53	4,640				

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
g Gage-height computed from twice-daily readings of wire-weight gage.

3-2770. Laughery Creek near Farmers Retreat, Ind.

Location.--Lat 38°57'05", long 85°04'22", in sec. 2, T. 4 N., R. 3 W., on right bank, 2 miles southeast of Farmers Retreat and 3 3/4 miles downstream from Bear Creek.

Drainage area.--248 sq mi.

Records available.--October 1940 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 526 ft (by barometer). Prior to Apr. 16, 1941, staff gage at same site and datum.

Average discharge.--23 years, 275 cfs.

Extremes.--Maximum discharge during year, 16,200 cfs Mar. 4 (gage height, 13.80 ft); minimum, no flow Sept. 28, 29.
1940-63: Maximum discharge, 47,800 cfs Jan. 21, 1959 (gage height, 21.13 ft), from rating curve extended above 14,000 cfs on basis of slope-area measurement of peak flow; no flow at times in most years.

Remarks.--Records good. Some regulation at low flow by mill above the station.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 14-16, Sept. 9-30)

Oct. 1 to Mar. 3

0.3	1.2	1.2	40
.4	2.2	1.5	82
.5	3.5	2.0	185
.6	5.4	3.0	440
.7	8.2	5.0	1,200
.8	12	6.0	1,740
.9	16		

Mar. 4 to Sept. 30

0.12	0.0	.8	14	4.0	825
.2	.5	.9	19	5.0	1,260
.3	1.2	1.0	26	6.0	1,880
.4	2.3	1.2	44	8.0	4,000
.5	4.0	1.5	89	10.0	7,150
.6	6.4	2.0	213	11.0	9,170
.7	9.4	3.0	490		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.0	17	20	65	33	599	2,170	490	26	5.3	3.4	7.6
2	2.9	31	19	60	360	1,210	702	252	23	4.0	2.6	5.8
3	7.7	24	18	40	390	575	401	158	20	3.4	2.0	3.8
4	21	18	18	35	600	4,250	291	114	25	2.9	1.9	3.4
5	14	16	17	33	500	8,960	216	91	35	2.6	1.6	2.9
6	10	14	16	31	385	4,270	174	77	44	8.4	1.4	2.3
7	7.4	15	17	31	272	860	151	64	58	16	1.2	1.8
8	5.2	13	16	31	210	490	127	56	60	7.6	1.2	1.4
9	4.6	13	14	32	180	401	112	50	94	5.8	1.1	1.3
10	3.7	82	10	38	140	430	97	45	97	4.8	1.0	.8
11	2.4	52	10	685	115	645	86	42	60	3.6	.8	.4
12	2.0	53	9.6	692	101	650	77	40	45	2.9	.8	.5
13	1.9	63	9.2	298	74	520	70	38	31	2.6	1.3	.5
14	2.6	41	8.5	149	63	373	68	319	23	3.6	1.5	.5
15	* 2.0	33	7.6	132	48	278	62	239	41	3.4	1.2	.5
16	2.4	30	7.4	96	44	2,600	57	119	45	4.0	1.1	2.3
17	21	44	* 7.1	80	41	6,280	58	200	36	3.4	1.0	1.7
18	8.9	62	7.4	62	37	2,080	53	442	24	3.6	1.1	1.2
19	7.6	79	7.1	51	* 38	* 3,420	54	376	20	3.0	1.2	1.0
20	6.5	71	11	51	42	2,270	162	* 213	* 19	12	1.6	.8
21	24	65	17	46	42	720	487	145	14	10	1.5	.5
22	20	55	24	* 41	42	460	* 200	117	12	52	1.4	.5
23	15	51	24	36	40	317	203	86	8.5	54	1.2	.4
24	11	* 36	21	34	38	252	187	66	8.2	33	19	.2
25	8.9	33	21	33	37	213	117	53	7.3	* 22	45	.2
26	8.2	30	21	32	34	312	87	47	5.8	14	* 73	.1
27	8.2	27	19	32	30	980	75	43	5.0	10	34	.1
28	6.5	24	16	32	28	580	64	41	4.8	7.6	22	* 0
29	31	23	131	32	---	345	66	40	4.8	7.0	17	0
30	21	21	108	32	---	265	200	34	7.0	5.8	9.8	.1
31	13	---	65	34	---	529	---	31	---	4.8	7.6	---
Total	302.6	1,136	716.9	3,076	3,964	46,134	6,874	4,128	903.4	323.1	260.5	42.6
Mean	9.76	37.9	23.1	99.2	142	1,488	229	133	30.1	10.4	8.40	1.42
Cfsm	0.039	0.153	0.093	0.400	0.573	6.00	0.923	0.536	0.121	0.042	0.034	0.0057
In.	0.04	0.17	0.11	0.46	0.60	6.92	1.03	0.62	0.14	0.05	0.04	0.006

Calendar year 1962: Max 4,470 Min 1.7 Mean 222 Cfsm 0.895 In. 12.15
Water year 1962-63: Max 8,960 Min 0.0 Mean 186 Cfsm 0.750 In. 10.19

Peak discharge (base, 6,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-4	2130	13.80	16,200				
3-16	2230	11.50	10,200				

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 14, 31, Jan. 1-4, 22, 25-27, Feb. 3, 4, 8-11, 16, 21-24, 26, 27.

3-2940. Silver Creek near Sellersburg, Ind.

Location.--Lat 38°22'15", long 85°43'35", in SW¼ lot 68, Clark Military Grant, on upstream side of Straws Mill bridge on Watson Road, 0.3 mile downstream from Pleasant Run, 2.4 miles southeast of Sellersburg, and 11.9 miles upstream from mouth.

Drainage area.--188 sq mi.

Records available.--October 1954 to September 1963.

Gage.--Wire-weight gage read twice daily. Crest-stage gage since May 11, 1959. Altitude of gage is 430 ft (from topographic map).

Average discharge.--9 years, 218 cfs.

Extremes.--Maximum discharge during year, 5,320 cfs Mar. 5 (gage height, 20.40 ft); no flow part of Sept. 24.
1954-63: Maximum discharge, 19,600 cfs Jan. 22, 1959 (gage height, 30.89 ft from floodmarks), from rating curve extended above 6,300 cfs on basis of contracted-opening measurements of peak flow, at site 5.2 miles upstream, (drainage area, 164 sq mi), adjusted to gage site; no flow at times each year.

Remarks.--Records poor.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge in cubic feet per second)
(Shifting-control method used Oct. 22-29, Oct. 31 to Nov. 4, Nov. 8, May 25 to June 4, June 8-13, June 15 to July 6, Sept. 23-30)

Oct. 1 to Feb. 28

3.6	0	4.0	2.5	5.0	71
3.7	.1	4.1	4.8	6.0	202
3.8	.5	4.2	9.8	8.0	630
3.9	1.2	4.7	44		

Mar. 1 to Sept. 30

3.5	0	4.1	7.9	8.0	635
3.6	.2	4.2	12	10.0	1,090
3.7	.7	4.5	28	14.0	2,100
3.8	1.6	5.0	71	18.0	3,800
3.9	3.1	5.5	134	20.0	5,000
4.0	5.1	6.0	221		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.4	1.9	14	105	20	424	281	120	8.6	0.7	14	4.2
2	71	1.9	9.0	59	28	561	201	71	5.6	.3	8.9	3.5
3	471	1.9	9.8	44	68	221	165	59	5.6	10	5.1	1.2
4	126	2.0	9.8	40	66	758	142	42	* 12	4.6	4.2	3.3
5	66	2.9	* 8.3	37	* 54	4,640	120	34	37	1.8	* 3.8	8.6
6	31	* 2.9	4.8	35	60	3,280	107	33	30	54	4.2	7.0
7	30	3.4	4.8	33	68	723	94	25	24	82	4.2	4.6
8	30	2.7	4.8	32	68	* 421	* 82	* 20	16	* 22	3.8	2.6
9	* 15	5.8	4.8	* 33	53	341	71	20	7.9	12	3.1	1.3
10	14	24	3.9	57	48	321	71	20	5.6	6.7	120	* 1.3
11	10	28	2.5	477	105	937	60	19	11	3.8	27	1.6
12	11	23	2.5	347	111	1,100	48	14	7.6	2.4	10	2.7
13	15	24	1.6	180	71	481	37	14	5.6	2.4	120	114
14	7.1	27	1.2	99	48	301	45	14	29	24	88	21
15	6.6	23	1.2	76	40	221	44	16	15	19	22	8.2
16	7.7	24	1.1	58	32	1,330	39	23	7.9	18	14	5.1
17	3.6	31	1.2	49	26	3,350	45	194	5.6	12	8.6	5.1
18	3.9	49	1.9	40	27	1,070	44	173	5.6	6.7	4.6	4.4
19	5.2	71	2.7	36	33	1,900	37	76	3.5	6.7	5.1	2.7
20	7.1	49	7.7	32	33	2,120	59	71	3.8	98	10	3.3
21	3.9	47	36	29	33	701	45	107	5.6	88	8.9	2.7
22	1.9	41	36	25	30	503	70	59	3.5	43	5.1	1.5
23	1.5	27	36	22	14	361	134	37	3.5	251	4.0	.2
24	.9	20	34	20	21	251	197	24	1.8	181	3.1	.1
25	1.9	15	24	18	27	221	65	17	1.8	44	3.3	.2
26	1.9	17	23	17	32	1,030	52	17	1.8	25	4.2	.2
27	1.9	18	28	16	25	679	40	17	1.8	18	4.6	.2
28	1.9	11	31	15	20	361	34	17	1.6	10	4.6	.2
29	2.0	16	136	14	---------	241	34	17	.8	20	48	.2
30	3.9	15	195	14	------	221	94	16	.8	39	9.2	.2
31	2.8	------	143	16	------	421	------	8.6	------	27	5.1	-------
Total	956.1	625.4	819.6	2,075	1,261	29,490	2,557	1,394.6	269.9	1,133.1	580.7	211.4
Mean	30.8	20.8	26.4	66.9	45.0	951	85.2	45.0	9.00	36.6	18.7	7.05
Cfsm	0.164	0.111	0.140	0.356	0.239	5.06	0.453	0.239	0.048	0.195	0.099	0.038
In.	0.19	0.12	0.16	0.41	0.25	5.83	0.51	0.28	0.05	0.22	0.11	0.04

Calendar year 1962: Max 7,000 Min 0.0 Mean 187 Cfsm 0.995 In. 13.51
Water year 1962-63: Max 4,640 Min 0.1 Mean 113 Cfsm 0.601 In. 8.17

Peak discharge (base, 2,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	2300	20.40	5,320				
3-17	0700	18.76	4,230				
3-20	0200	17.20	3,400				

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 12, 13, 15-18, Jan. 4-8, 13, 16, 18-31.

3-3025. Indian Creek near Corydon, Ind.

Location.--Lat 38°16'35", long 86°06'35", in SE¼ sec. 6, T. 3 S., R. 4 E., on upstream side of bridge on State Highway 335, 0.6 mile upstream from Raccoon Branch and 4½ miles north of Corydon.

Drainage area.--129 sq mi.

Records available.--October 1943 to September 1963. Prior to October 1961, published as Big Indian Creek near Corydon.

Gage.--Water-stage recorder. Datum of gage is 577.12 ft above mean sea level, datum of 1929. Dec. 9, 1948 to June 12, 1952, recorder records for stages above 6.3 ft. Prior to Dec. 9, 1948, wire-weight gage at same site and datum.

Average discharge.--20 years, 172 cfs.

Extremes.--Maximum discharge during year, 5,940 cfs Mar. 17 (gage height, 14.42 ft); minimum, 0.6 cfs Sept. 20, 27-30 (gage height, 4.20 ft).

1943-63: Maximum discharge, 23,800 cfs Jan. 21, 1959 (gage height, 22.22 ft), from rating curve extended above 7,000 cfs on basis of contracted-opening measurement of peak flow; no flow at times during 1943-44, 1951-54, 1959, minimum gage height, 4.17 ft Aug. 22-25, 1962.

Remarks.--Records fair.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Sept. 20-30)

Oct. 1 to Mar. 4				Mar. 5 to Sept. 30			
4.4	4.4	6.0	124	4.0	0	5.6	106
4.7	14	7.0	370	4.1	1.7	6.2	225
5.0	29	8.0	820	4.3	6.7	6.8	410
5.5	66			4.5	13	8.0	940
				4.8	26	10.0	2,050
				5.2	57	13.0	4,500

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.9	13	18	75	20	454	275	54	20	6.2	21	8.2
2	14	15	17	60	44	460	225	39	19	47	16	6.2
3	458	12	16	55	132	224	190	36	18	26	13	4.8
4	92	11	16	50	80	633	170	32	19	15	11	17
5	43	11	15	45	66	3,750	131	30	34	10	9.2	21
6	30	10	14	44	57	1,450	122	27	41	15	7.9	9.8
7	27	11	14	43	55	756	106	24	25	64	7.0	6.4
8	26	13	13	41	49	512	92	22	18	40	6.2	4.8
9	22	19	12	39	40	370	86	21	17	19	6.2	4.8
10	17	43	*12	38	38	335	75	20	16	13	260	5.4
11	14	56	10	108	62	889	64	20	16	9.8	38	5.1
12	12	41	8.8	189	* 66	898	57	19	14	7.9	20	7.0
13	10	33	6.7	132	66	*534	52	19	14	10	482	76
14	23	* 28	5.7	*70	57	352	48	20	82	81	102	26
15	* 22	24	5.4	60	40	275	* 43	23	43	* 61	41	12
16	16	24	5.4	50	36	2,040	41	26	22	26	24	7.9
17	14	27	6.0	45	34	3,240	39	247	17	17	18	5.6
18	13	33	6.5	40	34	848	37	175	14	13	14	4.0
19	13	49	6.7	35	34	990	44	86	12	11	* 12	2.8
20	12	57	8.8	30	35	1,040	106	* 112	* 17	35	10	1.9
21	11	51	26	27	32	622	61	122	15	86	9.8	1.5
22	9.4	45	66	25	25	410	57	79	14	24	8.9	1.1
23	8.2	37	50	24	21	305	77	55	12	220	7.9	* .9
24	6.7	31	35	23	22	250	61	42	9.8	138	7.0	.9
25	6.2	27	30	21	28	225	50	36	8.6	45	15	.9
26	6.2	24	27	20	33	933	44	31	7.9	27	10	.9
27	6.2	22	25	19	28	666	38	30	7.3	20	7.3	.8
28	6.5	21	23	18	28	450	35	31	6.7	22	6.2	.6
29	11	20	170	17	---------	335	34	37	6.2	41	5.9	.6
30	9.7	19	300	17	- - - - -	275	43	31	6.2	50	11	.6
31	11	- - - - -	120	18	- - - - -	335	- - - - -	24	- - - - -	34	11	- - - - -
Total	975.0	827	1,089.0	1,478	1,262	24,856	2,503	1,570	571.7	1,233.9	1,218.5	245.5
Mean	31.5	27.6	35.1	47.7	45.1	802	83.4	50.6	19.1	39.8	39.3	8.18
Cfsm	0.244	0.214	0.272	0.370	0.350	6.22	0.647	0.392	0.148	0.309	0.305	0.063
In.	0.28	0.24	0.31	0.43	0.36	7.17	0.72	0.45	0.17	0.36	0.35	0.07

Calendar year 1962: Max 4,380 Min 0.7 Mean 142 Cfsm 1.10 In. 14.93
Water year 1962-63: Max 3,750 Min 0.6 Mean 104 Cfsm 0.806 In. 10.91

Peak discharge (base, 4,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	0730	13.84	5,300				
3-17	0030	14.42	5,940				

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 23 to Jan. 4, Jan. 14-31.

3-3030. Blue River near White Cloud, Ind.

Location.--Lat 38°14'15", long 86°13'50", in NW¼ SE¼ sec. 19, T. 3 S., R. 3 E., on left bank, 400 ft downstream from Spring Creek, 0.2 mile upstream from bridge on State Highway 62, and three-quarters of a mile north of White Cloud.

Drainage area.--461 sq mi.

Records available.--October 1930 to September 1963. Monthly figures only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 434.30 ft above mean sea level, datum of 1929. Prior to Nov. 16, 1938, staff gage at same site and datum.

Average discharge.--33 years, 610 cfs.

Extremes.--Maximum discharge during year, 11,200 cfs Mar. 5 (gage height, 13.08 ft); minimum, 22 cfs Oct. 1; minimum gage height, 1.65 ft Sept. 30.

1930-63: Maximum discharge, 28,500 cfs Jan. 22, 1959 (gage height, 23.07 ft), from rating curve extended above 22,000 cfs on basis of contracted-opening measurement of peak flow; minimum, 9.2 cfs Oct. 1, 1941; minimum gage height, 1.40 ft Sept. 20, 1940, Sept. 30, 1941.

Remarks.--Records good except those for periods of ice effect, which are poor.

Rating table, water year 1962-63, except periods of ice effect
(gage height, in feet, and discharge, in cubic feet per second)

1.6	20	3.0	370
1.7	29	4.0	930
1.9	53	6.0	2,460
2.1	90	10.0	6,900
2.5	190	13.0	11,100

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	50	74	310	76	412	1,270	415	175	84	187	76
2	53	50	70	255	120	1,340	1,060	370	150	100	132	63
3	115	56	70	220	250	870	930	310	135	187	106	53
4	115	56	68	184	350	1,320	810	272	132	96	92	50
5	106	53	65	169	310	9,750	690	238	205	112	80	44
6	104	50	62	163	255	6,740	600	220	238	188	72	46
7	108	50	60	155	255	2,730	570	190	238	290	68	44
8	92	53	56	152	238	1,640	510	181	181	350	63	39
9	78	63	56	150	220	1,270	460	166	145	205	60	38
10	67	142	*53	148	205	1,060	415	158	125	122	74	36
11	58	155	50	372	238	1,480	370	152	115	92	104	33
12	53	150	45	810	*272	*2,640	350	142	104	76	92	44
13	96	140	44	630	290	1,800	330	135	98	90	254	223
14	76	*120	41	*415	255	1,200	310	132	112	350	395	184
15	*70	100	40	310	238	930	*290	130	272	*255	255	166
16	92	92	41	272	190	2,360	290	150	205	205	152	90
17	96	98	41	238	190	7,940	272	330	138	152	106	63
18	88	108	43	220	181	3,910	272	540	108	110	86	49
19	74	140	43	205	172	3,830	290	438	94	92	*72	43
20	67	181	45	187	169	6,640	310	*370	*100	104	65	40
21	62	178	90	166	166	2,730	290	310	104	208	58	37
22	56	175	155	140	150	1,720	290	310	90	310	55	33
23	50	155	160	120	135	1,270	310	272	80	172	50	*31
24	45	135	160	110	125	1,060	370	238	74	866	48	30
25	44	115	140	100	132	930	310	220	67	568	55	29
26	41	102	120	95	150	3,480	290	205	62	290	56	29
27	40	94	110	90	135	3,000	272	187	58	205	56	28
28	40	86	95	85	130	1,960	255	205	55	166	62	27
29	46	84	299	80	----------	1,410	238	255	53	205	56	27
30	52	78	540	76	------	1,130	272	205	49	220	50	25
31	55	------	460	74	-----	1,270	-----	190	----	238	74	-------
Total	2,162	3,109	3,396	6,701	5,597	79,822	13,296	7,636	3,762	6,708	3,135	1,720
Mean	69.7	104	110	216	200	2,575	443	246	125	216	101	57.3
Cfsm	0.151	0.226	0.239	0.469	0.434	5.59	0.961	0.534	0.271	0.469	0.219	0.124
In.	0.17	0.25	0.28	0.54	0.45	6.44	1.07	0.62	0.30	0.54	0.25	0.14

Calendar year 1962 : Max 14,900 Min 19 Mean 534 Cfsm 1.16 In. 15.72
Water year 1962-63 : Max 9,750 Min 23 Mean 375 Cfsm 0.813 In. 11.05

Peak discharge (base, 7,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	2100	13.08	11,200				
3-17	1700	11.65	9,050				
3-20	0530	10.82	7,940				

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 25-28, Jan. 22 to Feb. 4, Feb. 24-28.

3-3033. Middle Fork Anderson River at Bristow, Ind.

Location.--Lat 38°08'19", long 86°43'16", in E½ sec. 27, T. 4 S., R. 3 W., at bridge on State Highway 145 at Bristow, 2.0 miles downstream from Coon Branch, and 6.0 miles upstream from Sulphur Fork Creek.

Drainage area.--41.9 sq mi.

Records available.--August 1961 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 395.00 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 3,110 cfs Mar. 17 (gage height, 16.65 ft); no flow Oct. 1, Sept. 25, 26.
1961-63: Maximum discharge, 3,400 cfs Jan. 22, 1962 (gage height, 16.84 ft); no flow for many days each year.
Flood of Jan. 21, 1959, reached a stage of 20.0 ft (from floodmark), discharge 15,000 cfs (from rating curve extended above 7,000 cfs on basis of logarithmic plotting). This is the maximum flood since 1905, from information by local resident.

Remarks.--Records fair.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to May 16				May 17 to Sept. 30			
6.75	0	8.0	41	6.9	0	8.0	33
6.8	.1	10.0	181	7.0	.3	10.0	171
6.9	.6	11.0	251	7.1	1.0	12.0	355
7.0	1.5	12.0	355	7.2	2.2	13.0	550
7.1	2.8	13.0	550	7.3	4.0	14.0	910
7.2	4.3	14.0	910	7.5	9.0		
7.3	6.4	15.0	1,500				
7.5	14	16.0	2,400				

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	6.2	3.8	22	4.5	158	58	14	6.9	0.7	5.0	0.9
2	.1	4.9	3.6	17	28	105	45	10	5.2	42	3.8	.6
3	2.4	3.8	3.4	16	35	48	39	8.6	4.2	22	3.0	.5
4	3.8	3.4	3.4	14	22	327	36	7.7	27	6.7	2.2	.4
5	1.7	3.2	3.2	13	19	1,580	31	6.7	14	3.6	1.7	1.3
6	1.2	3.1	3.1	17	19	372	29	6.1	11	15	1.3	.9
7	.8	3.8	3.1	17	20	117	25	5.5	8.0	152	.9	.6
8	.5	4.5	2.8	16	16	70	23	4.8	5.0	42	.6	.4
9	.2	6.7	2.5	15	14	56	21	4.2	3.4	19	.5	.3
10	.2	20	* 2.1	14	17	49	18	4.2	2.2	9.4	.4	.2
11	.2	16	1.6	72	31	462	16	11	1.8	6.2	.5	.4
12	.2	12	1.1	39	* 25	* 203	14	8.6	1.4	4.2	.5	.4
13	.2	9.5	.7	25	23	89	13	6.1	33	41	.5	11
14	.6	* 8.0	.6	18	19	55	12	5.4	68	189	* .3	2.2
15	* .8	6.7	.7	* 15	13	42	11	4.7	16	* 33	.1	1.0
16	3.1	7.0	.8	12	11	1,200	* 11	25	11	20	.1	.6
17	5.4	12	.8	11	10	1,100	11	562	7.2	12	.1	.3
18	5.1	16	1.0	12	11	213	9.8	68	5.0	8.0	.1	.2
19	3.0	22	1.4	12	12	410	25	33	* 3.4	6.2	.1	.1
20	1.8	17	2.2	11	12	165	29	38	7.4	5.4	.5	.1
21	1.3	15	25	7.0	9.5	83	17	29	8.2	5.2	1.1	.1
22	.9	12	23	6.0	6.0	55	14	21	4.5	3.8	.9	.1
23	.6	8.3	16	6.7	5.1	44	12	* 17	2.7	50	.8	* .1
24	.4	7.0	9.9	5.6	9.2	38	10	14	1.7	210	.7	.1
25	.3	6.4	8.6	b 4.5	14	57	8.8	12	1.2	27	.7	0
26	.3	5.6	8.3	b 4.0	11	562	8.1	11	.8	15	.7	0
27	.2	5.1	6.4	b 4.0	8.9	154	7.3	11	.5	10	.7	.1
28	.3	4.7	5.6	b 3.0	8.9	86	6.9	14	.4	8.2	6.9	.1
29	2.1	4.3	144	b 3.0	------	58	7.5	25	.3	9.8	62	.1
30	12	4.0	73	b 3.0	------	62	20	13	.2	12	4.2	.1
31	8.3	------	31	b 3.5	------	86	------	9.0	------	6.7	1.5	------
Total	58.0	258.2	392.7	438.3	434.1	8,106	588.4	1,009.6	261.6	995.1	102.4	23.2
Mean	1.87	8.61	12.7	14.1	15.5	261	19.6	32.6	8.72	32.1	3.30	.77
Cfsm	.045	.206	.303	.337	.370	6.23	.468	.778	.208	.766	.079	.018
In.	.05	.23	.35	.39	.39	7.19	.52	.90	.23	.88	.09	.02

Calendar year 1962 : Max 1,490 Min 0 Mean 39.9 Cfsm .952 In. 12.94
Water year 1962-63 : Max 1,580 Min 0 Mean 34.7 Cfsm .828 In. 11.24

Peak discharge (base, 2,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	0415	16.23	2,620				
3-17	0045	16.65	3,110				

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice Jan. 25 to Feb. 1.

3-3221. Pigeon Creek at Evansville, Ind.

Location.--Lat 37°59'45", long 87°31'30", in SW¼ sec. 15, T. 6 S., R. 10 W., on left bank at downstream side of Oak Hill Road bridge at Evansville and 7.1 miles upstream from mouth.

Drainage area.--326 sq mi.

Records available.--October 1960 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 352.24 ft above mean sea level, datum of 1929. Auxiliary water-stage recorder 1.3 miles downstream from base gage.

Extremes.--Maximum discharge during year, 3,990 cfs Mar. 19 (gage height, 22.60 ft); minimum, 1.5 cfs Aug. 19, 21-23.
1960-63: Maximum discharge, 12,100 cfs May 10, 1961 (gage height, 27.94 ft); minimum daily, reverse flow of 302 cfs Apr. 15, 1962 (backwater from Ohio River); minimum discharge unaffected by backwater, 1.3 cfs Oct. 15-17, 1961.

Remarks.--Records poor.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27	24	8.8	192	11	234	1,410	27	38	143	15	6.8
2	43	16	7.3	93	16	788	1,370	32	24	70	9.1	3.8
3	43	11	6.8	70	26	741	1,010	25	18	21	5.4	5.3
4	35	8.8	7.8	56	94	872	988	22	15	15	3.6	47
5	23	8.3	8.8	53	84	2,860	700	18	14	16	3.6	13
6	29	8.3	9.4	63	63	2,650	400	20	15	36	3.0	18
7	25	9.4	9.4	77	84	3,090	250	18	15	101	2.8	13
8	24	8.8	8.3	74	108	2,810	150	15	15	380	2.4	8.0
9	23	9.4	6.8	70	74	2,250	90	14	13	210	2.4	5.4
10	19	11	6.3	67	59	1,320	60	18	12	70	2.4	3.8
11	16	9.4	6.3	482	88	* 1,310	55	90	15	30	2.0	3.0
12	17	30	6.8	891	131	1,440	50	120	12	15	3.0	2.8
13	66	75	6.3	726	87	1,550	45	70	16	22	5.4	2.6
14	123	90	* 5.4	211	* 63	1,430	40	90	14	158	3.0	2.2
15	36	* 51	5.4	* 116	47	1,360	35	50	12	120	2.4	2.0
16	20	36	4.5	71	33	1,920	34	700	15	40	2.0	2.0
17	12	30	4.5	b 50	26	3,030	34	450	12	25	2.0	2.0
18	* 9.4	36	5.8	b 40	26	3,140	* 33	250	10	* 45	1.6	2.0
19	11	45	7.8	b 35	30	3,830	35	150	9.1	35	1.6	2.0
20	9.4	37	14	b 30	36	* 3,440	84	95	11	20	1.8	2.0
21	7.3	33	81	b 25	34	3,030	100	60	* 16	70	* 1.5	2.2
22	7.3	27	211	b 20	32	2,610	55	40	29	38	1.5	2.2
23	9.4	19	101	b 18	23	1,940	46	30	19	14	1.6	2.2
24	12	15	54	16	20	1,510	42	* 25	14	6.8	1.8	* 2.2
25	13	12	32	15	28	1,640	34	23	11	4.5	2.0	2.4
26	13	10	29	b 14	36	2,020	28	22	9.1	3.6	2.0	2.4
27	12	9.4	23	b 13	31	1,880	25	32	7.2	9.0	1.8	2.4
28	13	9.4	20	b 12	27	1,830	25	78	7.2	50	25	2.4
29	23	9.4	577	b 12	---	1,750	25	298	202	105	100	2.6
30	61	9.4	992	b 11	---	1,580	26	140	202	190	34	2.8
31	44	---	553	11	---	1,530	---	63	---	48	17	---
Total	825.8	708.0	2819.5	3,634	1,417	61,385	7,279	3,085	821.6	2110.9	262.7	170.5
Mean	26.6	23.6	91.0	117	50.6	1,980	243	99.5	27.4	68.1	8.47	5.68
Cfsm	0.082	0.072	0.279	0.359	0.155	6.07	0.745	0.305	0.084	0.209	0.026	0.017
In.	0.09	0.08	0.32	0.41	0.16	7.00	0.83	0.35	0.09	0.24	0.03	0.02

Calendar year 1962 : Max 5,440 Min -302 Mean 325 Cfsm 0.997 In. 13.51
Water year 1962-63 : Max 3,830 Min 1.5 Mean 232 Cfsm 0.712 In. 9.62

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Nov. 19, 20, Apr. 5-17, 21, 29, 30, May 5, 6, 8-23, July 6-12, 15-20, Sept. 8-23.

3-3225. Wabash River near New Corydon, Ind.

Location.--Lat 40°33'50", long 84°48'10", in SE¼ sec. 3, T. 24 N., R. 15 E., first principal meridian, on left bank, 10 ft downstream from county bridge on Indiana-Ohio State line road, 2 miles east of New Corydon and 2 3/4 miles downstream from Beaver Creek, and at mile 465.6.

Drainage area.--258 sq mi.

Records available.--April 1951 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 830.10 ft above mean sea level, datum of 1929. Prior to June 23, 1953, wire-weight gage at same site and datum.

Average discharge.--12 years, 187 cfs.

Extremes.--Maximum discharge during year, about 5,000 cfs Mar. 6; maximum gage height, 19.42 ft Mar. 5 (ice jam); minimum discharge, 2.5 cfs Sept. 24 (gage heignt, 6.55 ft).

1951-63: Maximum discharge, 8,720 cfs Jan. 22, 1959 (gage height, 20.47 ft, from floodmarks); minimum, 0.7 cfs Sept. 13, 1954; minimum gage height, 5.40 ft Aug. 18, 1951.

Remarks.--Records fair except those for periods of ice effect, which are poor. Flow slightly affected by regulation of Grand Lake Reservoir, diversion from or into St. Marys River basin, and into Miami and Erie Canal.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1, 2)

6.56	2.9	12.0	500
6.6	4.5	13.0	730
7.0	22.5	14.0	1,080
7.5	47	16.0	2,230
8.5	107	18.0	4,350
9.5	179	19.0	5,850
11.0	340		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	11	6.3	6.3	5.4	10	107	113	19	26	* 14	4.5
2	9.0	11	6.8	5.8	5.6	11	139	* 83	16	* 17	11	4.5
3	14	9.9	5.8	6.3	5.6	12	113	68	14	14	14	4.1
4	18	9.4	5.4	* 5.8	5.6	500	179	56	15	12	13	3.7
5	12	9.4	6.8	6.3	7.0	1,000	179	59	63	9.9	8.6	4.5
6	11	9.4	6.3	7.6	20	4,700	162	59	40	8.1	6.8	4.5
7	12	9.4	5.4	7.6	70	3,100	113	50	30	9.4	8.1	5.0
8	14	9.4	6.8	6.8	140	1,540	77	44	32	10	8.6	5.4
9	18	9.0	6.8	7.2	101	* 730	71	37	40	12	7.6	4.5
10	20	10	5.0	9.9	65	576	65	34	42	8.6	7.2	3.3
11	18	15	5.0	18	44	695	59	31	28	7.6	6.3	4.5
12	13	11	7.5	120	30	398	37	30	19	7.2	5.4	5.8
13	12	10	2.9	113	24	956	30	37	15	7.6	5.8	5.4
14	12	11	2.9	47	19	530	26	37	15	20	8.1	4.1
15	11	11	4.1	40	17	197	24	34	14	8.6	6.3	4.5
16	17	12	5.8	28	17	181	23	28	12	9.9	5.4	4.1
17	14	26	6.8	20	17	858	36	27	9.9	9.0	5.0	3.3
18	11	59	6.8	17	15	459	89	32	9.9	8.1	5.0	3.7
19	10	32	6.3	16	17	409	119	27	10	9.0	5.4	4.1
20	11	19	9.4	14	34	1,380	365	22	9.9	142	7.6	3.7
21	15	14	18	11	43	446	113	21	11	101	* 9.4	5.0
22	12	13	20	8.5	45	293	119	19	8.6	44	6.3	4.5
23	11	10	19	6.5	30	207	1,050	17	8.6	23	5.8	3.3
24	11	8.6	17	5.0	20	170	315	15	7.2	16	5.4	2.9
25	9.9	8.1	14	5.0	15	132	146	14	7.2	13	5.4	* 4.1
26	9.0	5.8	11	5.0	10	* 125	101	14	8.1	11	4.5	4.5
27	8.6	* 5.8	8.6	5.0	10	162	83	14	8.1	9.4	3.3	3.3
28	7.2	7.6	8.1	5.0	* 10	139	68	18	26	9.0	4.1	4.1
29	7.2	7.6	8.1	* 5.4	---------	113	88	37	126	73	4.5	2.9
30	* 9.0	6.8	8.1	5.4	------	95	197	37	50	77	4.5	5.4
31	13	------	7.6	5.4	------	83	-----	* 25	------	23	4.5	------
Total	380.9	391.2	258.4	569.8	842.2	20,207	4,293	1,139	714.5	755.4	216.9	127.2
Mean	12.3	13.0	8.34	18.4	30.1	652	143	36.7	23.8	24.4	7.00	4.24
Cfsm	0.048	0.050	0.032	0.071	0.117	2.53	0.554	0.142	0.092	0.095	0.027	0.016
In.	0.06	0.06	0.04	0.08	0.12	2.92	0.62	0.16	0.10	0.11	0.03	0.02

Calendar year 1962: Max 4,500 Min 2.9 Mean 139 Cfsm 0.539 In. 7.31
Water year 1962-63: Max 4,700 Min 2.9 Mean 81.9 Cfsm 0.317 In. 4.32

Peak discharge (base, 2,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-6	unknown	-	about 5,000				

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Jan. 21 to Feb. 8, Feb. 21 to Mar. 6.

3-3230. Wabash River at Bluffton, Ind.

Location.--Lat 40°44', long 85°11', in sec. 4, T. 26 N., R. 12 E., on downstream side of left abutment of Main Street Bridge in Bluffton, 2 miles downstream from Sixmile Creek and at mile 434.5.

Drainage area.--506 sq mi.

Records available.--October 1930 to September 1963. Gage-height records collected at same site since December 1910 are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 793.01 ft above mean sea level, datum of 1929. Prior to Mar. 31, 1934, chain gage at same site and datum. Mar. 31 to Dec. 5, 1934, staff gage at nearby site at same datum.

Average discharge.--33 years, 395 cfs.

Extremes.--Maximum discharge during year, about 7,500 cfs Mar. 7 (gage height, 13.62 ft, backwater from ice); minimum daily, 6.0 cfs Dec. 13-14, result of freezeup; minimum gage height, 0.86 ft Sept. 29.

1930-63: Maximum discharge, 11,800 cfs Feb. 15, 1950 (gage height, 16.07 ft); minimum, 3.9 cfs July 18, 1936; minimum gage height, 0.84 ft Sept. 24, 1944.

Maximum stage known, about 21.0 ft Mar. 25, 26, 1913, on basis of gage readings published in newspapers (discharge, 25,000 cfs, from rating curve extended above 11,700 cfs on basis of a rainfall-runoff relation).

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Flow slightly affected by regulation of Grand Lake Reservoir, diversion from or into St. Marys River basin, and into Miami and Erie Canal.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Nov. 6, Sept. 27-30)

0.76	6.4	2.0	149
.9	9.6	2.5	265
1.0	13	3.0	410
1.1	18	6.0	1,560
1.3	35	10.0	3,800
1.5	59	12.0	5,390
1.7	89	14.0	8,300

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.6	12	13	12	* 10	16	350	* 380	63	131	* 76	9.6
2	7.6	12	13	* 12	11	15	475	292	47	* 73	41	9.6
3	9.6	13	14	12	11	15	380	204	36	42	27	9.9
4	8.2	15	13	13	11	16	321	160	37	25	21	9.3
5	8.7	16	13	13	15	1,000	410	149	122	19	19	9.0
6	7.8	15	13	14	25	3,000	350	145	306	16	19	9.0
7	11	15	14	14	45	7,000	321	138	204	14	18	9.0
8	13	15	14	14	90	* 5,640	252	111	134	13	16	8.7
9	13	14	14	15	140	3,280	171	93	255	13	14	11
10	12	14	12	18	182	3,100	140	79	265	12	14	14
11	12	14	10	35	138	1,960	123	70	215	12	14	14
12	11	14	8.0	80	94	1,660	111	60	149	12	19	14
13	12	14	6.0	120	72	1,800	94	72	94	16	17	13
14	14	15	6.0	160	57	1,660	73	76	65	29	16	12
15	16	17	8.0	130	46	1,560	62	84	48	33	14	9.9
16	15	20	10	70	40	1,120	54	69	40	31	13	8.2
17	13	19	12	50	33	1,000	59	62	33	28	13	7.8
18	12	21	12	35	35	1,360	101	58	28	20	13	7.6
19	11	38	13	25	40	1,520	265	75	24	24	16	7.6
20	16	69	14	23	45	1,480	780	75	22	379	15	7.6
21	16	53	15	18	50	1,660	920	59	21	920	* 15	7.4
22	14	36	15	15	60	1,480	475	49	20	416	14	7.4
23	14	26	16	12	70	920	996	41	18	171	13	7.4
24	14	21	19	10	60	615	1,560	34	18	91	14	8.4
25	15	18	23	10	45	410	1,560	30	17	59	13	* 7.4
26	14	16	23	10	30	* 380	771	26	16	41	12	7.2
27	14	* 15	19	10	* 20	510	321	26	15	30	10	7.0
28	13	15	17	10	17	510	228	32	14	24	11	6.8
29	13	14	16	10	---------	380	193	74	22	25	11	6.6
30	* 13	13	14	10	------	278	215	115	278	34	10	6.8
31	13	------	13	10	-----	228	-----	* 86	------	142	9.9	------
Total	383.5	609	422.0	990	1,492	45,573	12,131	3,024	2,626	2,895	547.9	273.2
Mean	12.4	20.3	13.6	31.9	53.3	1,470	404	97.5	87.5	93.4	17.7	9.11
Cfsm	0.025	0.040	0.027	0.063	0.105	2.91	0.798	0.193	0.173	0.185	0.035	0.018
In.	0.03	0.04	0.03	0.07	0.11	3.36	0.89	0.22	0.19	0.21	0.04	0.02

Calendar year 1962: Max 5,600 Min 6.0 Mean 320 Cfsm 0.632 In. 8.58
Water year 1962-63: Max 7,000 Min 6.0 Mean 194 Cfsm 0.383 In. 5.48

Peak discharge (base, 3,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-7	0430	13.62	About 7,500				

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 10-16 Feb. 18-20, Mar. 7. No gage-height record Jan. 10 to Feb. 9, Feb. 21 to Mar. 6.

3-3235. Wabash River at Huntington, Ind.

Location.--Lat 40°51'20", long 85°29'53", in SW¼ NE¼ sec. 27, T. 28 N., R. 9 E., on right bank at the Huntington Water and Light Plant, 2 miles south of Huntington, 3¼ miles upstream from Little River, and at mile 409.

Drainage area.--710 sq mi.

Records available.--January 1951 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 700.04 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission). Prior to July 5, 1951, staff gage at same site and datum.

Average discharge.--12 years, 591 cfs.

Extremes.--Maximum discharge during year, 9,120 cfs Mar. 8 (gage height, 16.72 ft); maximum gage height, 18.90 ft Mar. 5 (ice jam); minimum, 4.3 cfs Oct. 2 (gage height, 9.09 ft).
1951-63: Maximum discharge, 14,900 cfs Feb. 10, 1959; maximum gage height, 23.20 ft Feb. 10, 1959 (backwater from ice); minimum, 4.3 cfs Oct. 8, 1956, Oct. 2, 1963; minimum gage height, 8.98 ft Oct. 8, 1956.
Flood in March 1913 reached a stage of 22.7 ft (from high-water mark by Corps of Engineers).

Remarks.--Records poor.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 8, 10-17, Apr. 22-23)

9.0	1.5	10.0	430
9.1	14	13.0	3,420
9.3	60	15.0	5,870
9.5	125	18.0	10,400
9.7	223		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.4	28	33	21	18	45	415	515	201	223	129	20
2	4.3	13	30	20	18	43	690	524	150	122	94	20
3	6.0	22	33	21	19	40	645	385	129	87	66	19
4	11	13	33	22	19	800	566	301	122	66	50	19
5	6.0	16	40	23	23	2,500	524	281	133	50	37	18
6	9.4	22	35	23	30	*5,000	532	287	263	40	35	18
7	7.7	30	30	24	35	7,000	481	274	392	35	33	18
8	6.0	26	42	24	35	*8,500	422	236	268	* 28	30	18
9	* 16	13	33	25	37	*6,290	314	195	361	30	30	17
10	26	26	16	26	42	4,120	242	163	574	26	30	17
11	20	16	13	28	57	2,570	206	150	549	24	30	21
12	24	18	* 11	30	111	2,170	184	129	400	22	33	24
13	26	20	10	32	108	*2,270	163	138	261	24	40	25
14	22	20	10	37	100	2,270	142	154	178	35	33	26
15	20	* 28	12	42	90	1,990	122	154	133	37	35	25
16	20	20	16	* 47	87	1,620	111	150	108	63	35	25
17	28	45	20	70	66	1,260	108	142	90	55	26	* 24
18	24	42	22	120	52	1,420	163	142	78	47	24	20
19	22	42	23	100	* 60	1,620	317	129	66	45	28	16
20	24	45	24	80	75	1,900	830	* 150	66	82	26	15
21	33	87	25	65	75	1,720	1,200	146	55	789	* 26	15
22	28	84	26	54	111	1,720	* 392	125	50	690	25	15
23	28	72	28	46	129	1,260	735	111	47	348	25	15
24	28	60	35	40	111	880	1,620	100	40	189	24	15
25	30	52	37	32	94	645	1,720	90	35	125	24	15
26	18	45	35	25	75	574	1,200	84	30	90	23	16
27	26	45	31	20	60	780	583	81	28	69	22	15
28	13	37	28	17	50	780	392	94	28	55	21	15
29	20	37	26	17	----------	645	335	272	24	47	21	14
30	24	33	24	17	- - - - -	540	385	321	34	42	21	14
31	20	- - - - -	18	18	- - - - -	422	- - - - -	268	- - ----	42	20	- - - - - -
Total	599.8	1,057	799	1,166	1,787	63,394	15,739	6,291	4,893	3,627	1,096	554
Mean	19.3	35.2	25.8	37.6	63.8	2,045	525	203	163	117	35.4	18.5
Cfsm	0.027	0.050	0.036	0.053	0.090	2.88	0.739	0.286	0.230	0.165	0.050	0.026
In.	0.03	0.06	0.04	0.06	0.09	3.32	0.82	0.33	0.26	0.19	0.06	0.03

Calendar year 1962 : Max 5,900 Min 4.3 Mean 401 Cfsm 0.565 In. 7.67
Water year 1962-63 : Max 8,500 Min 4.3 Mean 277 Cfsm 0.390 In. 5.29

Peak discharge (base, 5,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-8	0630	16.72	9,120				

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 10-22, Dec. 26 to Jan. 18, Jan. 20 to Feb. 6, Feb. 26 to Mar. 7. Gage height computed from once-daily observer's readings, Oct. 1-8, Dec. 10-11, Jan. 14-15, Jan. 20 to Feb. 1, Feb. 12-13, Feb. 22 to Mar. 2. No gage-height record Aug. 22 to Sept. 30.

GPO 811-767-3

3-3240. Little River near Huntington, Ind.

Location.--Lat 40°54'14", long 85°24'22", in NE¼ NW¼ sec. 9, T. 28 N., R. 10 E., on right bank on upstream side of highway bridge, 5 miles east of Huntington.

Drainage area.--266 sq mi.

Records available.--October 1943 to September 1963. 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.

Gage.--Water-stage recorder (digital starting Mar. 20). Datum of gage is 728.10 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1948, wire-weight gage 4 miles downstream at datum 8.79 ft lower. Oct. 1, 1948, to Sept. 5, 1950, wire-weight gage at present site and datum.

Average discharge.--20 years, 232 cfs.

Extremes.--Maximum discharge during year, about 2,200 cfs Mar. 6 (gage height, 14.89 ft, backwater from ice); minimum daily, 2.5 cfs Oct. 1; minimum gage height, 1.49 ft Sept. 19, 20.
1943-63: Maximum discharge, 5,990 cfs Jan. 4, 1950; maximum gage height, 18.43 ft Feb. 11, 1959; minimum discharge, 1.0 cfs Oct. 8, 1946, site and datum then in use; minimum gage height since October 1948, 1.30 ft Oct. 1, 1949.

Remarks.--Records good except those for periods of ice effect or backwater from temporary dam, which are poor.

Rating table, water year 1962-63, except period of ice effect or backwater from temporary dam
(gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 9 to Nov. 8)

1.3	1.3	3.0	98
1.4	2.7	3.5	152
1.5	4.9	4.0	224
1.7	11	6.0	616
2.0	23	10.0	1,590
2.5	54		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.5	5.2	9.0	8.5	7.0	17	144	67	31	18	12	5.2
2	3.0	7.1	8.7	8.0	7.0	16	172	53	26	20	9.9	5.2
3	4.0	8.1	9.0	8.0	7.4	16	122	47	24	13	10	5.6
4	4.0	8.1	9.0	8.0	8.0	300	116	43	29	11	10	5.9
5	4.0	9.0	9.7	8.5	10	1,000	84	45	42	10	9.7	5.8
6	3.5	9.7	10	8.8	12	* 2,100	68	40	55	9.7	9.6	5.0
7	4.0	10	8.2	9.0	13	* 2,000	58	35	120	9.4	9.4	4.8
8	5.0	11	8.0	9.0	14	1,800	51	33	94	* 8.6	8.5	4.9
9	15	11	7.6	9.2	14	1,620	46	32	157	8.7	8.1	4.8
10	6.6	11	7.4	9.2	13	810	41	29	273	8.6	7.8	4.6
11	4.2	10	7.2	9.2	12	434	38	27	296	8.5	7.5	4.5
12	3.4	11	* 7.2	9.2	11	354	34	25	129	8.1	7.6	6.0
13	3.6	11	7.0	9.2	11	454	32	27	74	9.2	8.7	7.3
14	4.0	11	8.0	9.4	10	* 334	31	30	51	19	9.2	7.2
15	5.8	* 10	10	9.6	10	178	29	26	38	19	7.8	5.0
16	4.2	11	12	* 9.6	10	152	29	24	30	17	7.0	4.4
17	5.5	15	13	10	11	296	31	24	26	20	7.0	* 4.2
18	6.9	16	14	15	20	208	622	30	23	16	7.0	4.1
19	4.5	14	15	22	* 40	192	589	30	20	16	8.1	4.0
20	5.8	12	16	18	50	362	1,100	30	21	480	8.8	4.6
21	12	11	17	15	40	181	432	* 29	19	156	* 8.5	5.4
22	11	10	17	13	35	111	211	28	17	59	6.9	6.0
23	7.2	9.7	16	11	30	104	* 172	25	15	39	6.4	5.4
24	8.1	10	14	10	26	106	124	23	14	26	6.1	5.1
25	7.5	10	13	9.3	24	95	97	21	14	20	6.0	4.8
26	6.4	9.0	12	8.8	22	122	80	20	12	16	5.6	4.4
27	5.5	8.7	11	8.2	20	251	67	20	12	14	5.5	4.1
28	5.2	9.4	11	7.8	18	162	56	30	11	13	5.6	4.0
29	4.9	9.0	10	7.4	------	105	56	96	18	19	5.5	4.1
30	4.9	9.0	9.5	7.0	------	88	75	63	50	19	5.7	4.4
31	5.2	------	9.0	* 7.0	------	75	------	40	------	14	5.2	------
Total	177.4	307.0	335.5	311.9	505.4	14,043	4,807	1,092	1,736	1,124.8	240.7	150.8
Mean	5.72	10.2	10.8	10.1	18.1	453	160	35.2	57.9	36.3	7.77	5.03
Cfsm	.022	.036	.041	.038	.068	1.70	.602	.132	.218	.137	.029	.019
In.	.02	.04	.05	.04	.07	1.96	.67	.15	.24	.16	.03	.02

Calendar year 1962: Max 2,700 Min 2.5 Mean 155 Cfsm .583 In. 7.91
Water year 1962-63: Max 2,100 Min 2.5 Mean 68.0 Cfsm .256 In. 3.47

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 7 to Mar. 8. Backwater from temporary dam Oct. 1-8.

3-3242. Salamonie River at Portland, Ind.

Location.--Lat 40°25'40", long 85°02'20", in SE¼ sec. 23, T. 23 N., R. 13 E., on right bank at downstream side of county road bridge, 2.4 miles downstream from Butternut Creek, 3.2 miles west of Portland, and 3.7 miles downstream from Little Salamonie River.

Drainage area.--86.0 sq mi.

Records available.--September 1959 to September 1963.

Gage.--Water-stage recorder from July 5, 1960 to date. Datum of gage is 877.59 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission). Prior to Oct. 1, 1960, wire-weight gage at site, 1.4 miles upstream at 6.43 ft higher datum.

Extremes.--Maximum discharge during year, 3,460 cfs Mar. 5 (gage height, 16.96 ft); minimum, 0.8 cfs Sept. 2, 3 (gage height, 1.48 ft) 1959-63: Maximum discharge, that of Mar. 5, 1963; minimum, 0.6 cfs Oct. 31, 1960.

Remarks.--Records good except those below 30 cfs, which are fair and those for periods of no gage-height record or ice effect, which are poor.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 8-10, May 2)

1.4	0.6	3.0	83
1.5	1.8	4.0	196
1.6	3.7	7.0	682
1.7	6.2	12.0	1,890
1.8	10	16.0	3,140
2.0	21		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.0	3.0	3.0	5.5	2.7	14	70	102	4.6	g 61	7.1	1.5
2	3.0	3.0	2.3	5.5	2.7	16	68	* 62	3.9	* 22	4.9	1.1
3	3.3	3.0	3.2	6.5	3.0	21	53	44	4.2	10	4.9	1.5
4	4.5	3.0	3.6	* 10	4.5	500	150	32	33	6.2	3.0	3.0
5	5.0	3.0	3.5	8.0	7.0	3,140	56	38	148	4.9	2.8	2.8
6	4.0	3.0	3.9	7.0	15	1,640	42	34	38	4.4	3.5	3.0
7	3.7	3.0	3.8	7.5	30	394	34	28	23	3.9	4.6	2.5
8	3.5	3.0	4.5	8.0	70	* 154	30	24	17	9.5	3.0	2.1
9	3.5	3.2	3.5	9.0	40	136	28	21	12	4.9	3.0	g 2.5
10	4.0	3.5	3.0	10	25	361	24	18	11	4.4	2.6	g 3.0
11	7.0	2.0	2.8	30	20	316	23	13	28	4.2	2.1	g 2.6
12	6.0	3.0	2.6	75	16	224	20	10	g 14	4.4	2.1	g 2.3
13	4.0	3.0	2.5	35	13	553	21	14	g 8.7	5.4	4.1	g 2.5
14	3.5	3.2	2.5	20	10	185	19	13	g 7.9	16	2.8	g 2.1
15	3.5	2.8	2.6	16	9.0	92	19	10	g 5.6	7.1	2.8	g 2.0
16	3.5	11	3.0	16	9.0	146	19	9.1	g 5.1	8.3	2.8	g 1.5
17	3.2	64	3.5	18	9.0	747	34	11	5.1	g 5.4	2.5	g 2.6
18	3.5	63	4.5	13	10	213	77	11	5.1	g 5.9	2.3	g 2.3
19	4.0	26	6.0	10	20	647	140	7.9	4.9	g 5.3	5.2	g 2.3
20	5.0	14	7.0	8.0	35	886	637	12	5.6	209	7.5	g 2.3
21	4.5	11	10	6.5	25	184	105	8.3	g 4.2	69	* 3.9	g 2.1
22	4.0	7.1	15	5.0	20	97	102	7.5	g 3.9	31	2.5	g 2.0
23	5.0	6.2	12	4.5	16	83	741	7.9	g 3.2	g 18	2.1	g 1.6
24	4.5	4.6	9.0	3.5	13	65	163	6.2	g 2.6	g 16	2.3	g 2.6
25	3.5	3.9	7.0	3.0	12	53	g 79	5.9	g 3.2	g 8.3	5.1	*g 2.1
26	3.0	4.6	6.6	2.8	11	* 79	g 56	4.9	g 3.7	g 5.6	2.6	2.3
27	2.8	* 4.2	6.2	2.7	11	172	g 39	5.4	g 3.7	g 4.6	2.5	2.1
28	2.7	3.2	6.0	2.7	* 12	83	g 34	7.5	g 4.2	g 5.4	2.5	2.1
29	2.8	3.5	5.8	* 2.7	---------	53	80	16	31	g 30	2.8	1.8
30	2.9	2.8	5.6	2.7	- - - - -	44	296	14	g 59	g 50	2.3	1.5
31	* 3.0	- - - - -	5.5	2.7	- - - - -	38	- - - -	* 6.8	- - - -	*g 14	1.8	- - - - -
Total	119.4	273.8	160.0	356.8	470.9	11,336	3,259	604.4	503.4	654.1	104.0	65.7
Mean	3.85	9.13	5.16	11.5	16.8	366	109	19.5	16.8	21.1	3.35	2.19
Cfsm	0.045	0.106	0.060	0.134	0.195	4.26	1.27	0.227	0.195	0.245	0.039	0.025
In.	0.05	0.12	0.07	0.15	0.20	4.91	1.42	0.26	0.22	0.28	0.04	0.03

Calendar year 1962 : Max 2,100 Min 1.4 Mean 74.7 Cfsm 0.869 In. 11.78
Water year 1962-63 : Max 3,140 Min 1.1 Mean 49.1 Cfsm 0.571 In. 7.75

Peak discharge (base, 1,400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	0430	16.96	3,460				
3-20	0030	11.21	1,660				

* Discharge measurement made on this day.
g Computed from twice-daily wire-weight gage readings.
Note.--No gage-height record Oct. 1 to Nov. 8. Stage-discharge relation affected by ice Dec. 10 to Mar. 4.

3-3243. Salamonie River near Warren, Ind.

Location.--Lat 40°42'45", long 85°27'13", in SW¼ sec. 12, T. 26 N., R. 9 E., on right downstream side of county road bridge, 1,700 ft downstream from unnamed tributaries entering from the right and left, 4,000 ft upstream from abandoned concrete and stone dam, and 2.4 miles northwest of Warren.

Drainage area.--422 sq. mi.

Records available.--March 1957 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 784.75 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission). Prior to July 28, 1960, wire-weight gage at same site and datum.

Average discharge.--6 years, 388 cfs.

Extremes.--Maximum discharge during year, about 6,500 cfs Mar. 6 (gage height, 16.94 ft, ice jam); minimum daily, 6.5 cfs Sept. 22-24; minimum gage height, 5.66 ft Sept. 8, 9.
1957-63: Maximum discharge, 13,200 cfs Feb. 10, 1959 (gage height, 17.05 ft); minimum, 5.0 cfs Sept. 18, 19, 1959; minimum gage height, that of Sept. 8, 9, 1963.

Remarks.--Records fair except those for periods of ice effect, no gage-height record, or indefinite stage-discharge relation, which are poor.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	20	22	12	* 19	12	428	* 569	60	26	* 56	13
2	16	22	20	* 12	19	12	614	289	50	71	50	13
3	24	20	20	12	19	12	348	182	45	* 65	40	13
4	30	24	20	13	19	b 1,500	283	128	44	41	30	12
5	30	26	22	13	22	b 4,500	295	146	62	30	23	12
6	30	22	20	14	25	b 6,000	194	146	463	24	21	11
7	26	26	20	14	35	b 6,200	142	106	221	20	20	11
8	26	26	20	14	45	4,820	114	83	124	18	19	11
9	28	26	20	14	80	1,860	98	74	425	16	19	11
10	32	30	17	15	150	1,330	83	68	232	15	18	10
11	41	30	16	16	110	1,390	74	59	416	14	17	10
12	36	30	15	36	80	958	65	50	238	14	19	10
13	28	30	14	150	60	1,630	59	56	142	17	36	10
14	26	30	14	94	50	2,090	56	74	90	38	25	9.5
15	24	38	14	68	40	808	53	65	68	47	21	9.0
16	24	41	15	56	32	464	50	50	53	47	18	8.5
17	22	44	16	36	28	1,190	59	47	41	30	17	8.0
18	26	161	17	26	26	1,860	110	51	36	26	16	7.5
19	26	172	19	22	28	1,010	331	80	34	30	17	7.5
20	36	86	19	20	31	2,090	1,380	65	38	448	18	7.0
21	34	62	20	20	37	2,090	1,140	62	34	658	17	7.0
22	30	50	30	20	45	658	432	59	32	274	* 16	6.5
23	34	38	32	20	60	392	2,040	50	28	126	15	6.5
24	34	34	30	20	30	319	2,540	45	26	80	15	* 6.5
25	26	30	24	19	20	254	894	40	24	53	16	7.0
26	22	28	19	19	15	* 303	464	35	23	40	* 18	7.0
27	19	* 24	17	19	*g 12	808	295	50	22	31	17	8.0
28	17	22	16	19	12	708	216	67	21	26	16	8.0
29	19	22	15	19	----------	348	182	406	20	23	16	8.0
30	* 20	22	15	19	------	232	457	197	21	20	15	8.0
31	20	------	14	19	------	177	------	* 71	------	41	14	------
Total	819	1,236	592	870	1,149	46,025	13,496	3,470	3,133	2,409	675	276.5
Mean	26.4	41.2	19.1	28.1	41.0	1,485	450	112	104	77.7	21.8	9.22
Cfsm	0.063	0.098	0.045	0.067	0.097	3.52	1.07	0.265	0.246	0.184	0.052	0.022
In.	0.07	0.11	0.05	0.08	0.10	4.06	1.19	0.31	0.27	0.21	0.06	0.02

Calendar year 1962: Max 6,540 Min 8.3 Mean 340 Cfsm 0.806 In. 10.93
Water year 1962-63: Max 6,200 Min 6.5 Mean 203 Cfsm 0.481 In. 6.53

Peak discharge (base, 3,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-6	Unknown	--	About 6,500				

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice
g Computed from wire-weight gage reading.
Note.--No gage-height record Jan. 23 to Feb. 26, Feb. 28 to Mar. 3. Stage-discharge relation indefinite May 23-26, June 1-5, June 24-30, July 8-13, July 26 to Sept. 30.

3-3245. Salamonie River at Dora, Ind.

Location.--Lat 40°48'42", long 85°41'02", in NE¼ sec. 12, T. 27 N., R. 7 E., on right bank, 1½ miles northwest of Dora, and 3 miles upstream from mouth.

Drainage area.--553 sq mi.

Records available.--November 1923 to September 1963. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 673.96 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission). Prior to Oct. 1, 1951, wire-weight or chain gage at site 1.5 miles upstream at datum 688.59 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Oct. 1, 1951 to Oct. 8, 1961, water-stage recorder located on left bank, 2,000 ft upstream at datum 679.77 ft above mean sea level, datum of 1929 (levels by Corps of Engineers).

Average discharge.--39 years (1924-63), 506 cfs.

Extremes.--Maximum discharge during year, 6,760 cfs Mar. 7 (gage height, 10.39 ft); maximum gage height, 13.34 ft Mar. 4 (ice jam); minimum, 17 cfs Sept. 27-29 (gage height, 2.21 ft); minimum gage height, 2.20 ft Sept. 19, 20.
1923-63: Maximum discharge, 16,500 cfs May 18, 1943 (gage height, 14.75 ft, from graph based on gage readings, site and datum then in use); minimum observed, 8.2 cfs Aug. 3, 1934 (gage height, 1.11 ft, site and datum then in use).

Remarks.--Records good except those for periods of ice effect, which are poor.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 15, Sept. 27-30)

2.1	16	3.5	345
2.2	24	4.0	600
2.5	60	8.0	3,980
2.9	138	11.0	7,660

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31	35	35	23	33	21	305	790	235	40	45	28
2	31	34	35	22	33	20	820	600	174	36	81	28
3	34	34	35	22	33	20	600	390	133	70	74	27
4	33	34	34	23	33	1,000	415	288	128	83	56	26
5	34	35	34	23	33	* 5,500	440	305	243	66	47	25
6	35	34	34	25	50	* 5,920	390	305	726	53	44	24
7	36	35	36	25	70	* 6,620	270	252	660	42	41	22
8	* 39	34	37	25	90	* 5,920	214	218	325	* 40	39	23
9	40	33	37	25	140	* 3,580	180	184	1,060	38	39	23
10	39	33	37	27	190	1,940	152	158	790	35	36	22
11	39	32	* 36	30	250	* 1,860	133	141	790	34	34	22
12	52	31	32	35	180	* 1,600	119	126	570	32	35	22
13	50	32	29	50	140	1,600	108	158	345	36	81	22
14	45	* 33	27	170	100	2,540	100	177	232	45	54	21
15	46	33	28	110	80	* 1,260	94	164	158	44	49	20
16	42	39	29	80	58	720	89	147	121	62	42	20
17	38	45	30	60	45	992	92	133	100	66	39	* 18
18	38	44	32	45	45	2,280	144	131	89	59	36	18
19	38	178	34	40	50	1,680	340	133	78	57	40	18
20	42	177	37	35	* 57	2,020	1,220	* 184	78	846	41	18
21	44	108	42	35	70	2,620	2,020	150	71	1,180	* 38	18
22	44	81	50	35	90	1,345	* 825	136	63	755	34	18
23	42	66	56	35	100	600	1,400	126	59	345	33	18
24	42	59	50	34	60	465	2,960	108	54	207	33	18
25	44	52	40	34	40	415	1,940	96	52	133	35	18
26	45	45	35	34	30	390	755	85	49	96	40	18
27	42	42	30	34	23	789	490	83	45	76	35	17
28	40	40	28	33	21	1,050	345	127	44	62	33	17
29	39	38	27	33	----------	630	288	1,180	42	56	34	18
30	38	36	26	33	------	415	368	790	41	49	31	19
31	36	------	25	33	-----	305	-----	368	----	46	29	-------
Total	1,238	1,552	1,077	1,268	2,144	56,117	17,616	8,233	7,555	4,789	1,328	626
Mean	39.9	51.7	34.7	40.9	76.6	1,810	587	266	252	154	42.8	20.9
Cfsm	0.072	0.093	0.063	0.074	0.139	3.27	1.06	0.481	0.456	0.278	0.077	0.038
In.	0.08	0.10	0.07	0.09	0.14	3.77	1.18	0.55	0.51	0.32	0.09	0.04

Calendar year 1962: Max 7,060 Min 25 Mean 464 Cfsm 0.839 In. 11.50
Water year 1962-63: Max 6,620 Min 17 Mean 284 Cfsm 0.514 In. 6.94

Peak discharge (base, 4,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-7	1900	10.39	6,760				

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 8-21, Dec. 24 to Mar. 5.

3-3250. Wabash River at Wabash, Ind.

Location.--Lat 40°47'25", long 85°49'13", in sec. 14, T. 27 N., R. 6 E., on right bank on upstream side of Wabash Street bridge in Wabash, 7 miles downstream from Salamonie River, and at mile 387.2.

Drainage area.--1,733 sq mi.

Records available.--August 1923 to September 1963. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 642.66 ft above mean sea level, datum of 1929. Prior to Jan. 16, 1934, chain gage, and Jan. 16, 1934, to Sept. 30, 1954, wire-weight gage at same site and datum.

Average discharge.--40 years, 1,472 cfs.

Extremes.--Maximum discharge during year, 17,800 cfs Mar. 8 (gage height, 18.44 ft); minimum, 29 cfs Sept. 30 (gage height, 1.83 ft).
1923-63: Maximum discharge, 49,600 cfs May 18, 1943; maximum gage height, 24.44 ft Feb. 11, 1959, (ice jam); minimum discharge observed, 17 cfs Aug. 4, 5, 9, 1934, July 21, 22, 1936; minimum gage height, 1.66 ft Aug. 4, 5, 9, 1934.
Maximum stage known, 28.7 ft Mar. 26, 1913, from floodmark, determined by Corps of Engineers (discharge, 90,000 cfs, from rating curve extended above 49,000 cfs).

Remarks.--Records good except those for periods of ice effect, which are poor.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 8-16, Mar. 12, 13, Apr. 22, 23)

Oct. 1 to 0159 Mar. 8				0200 Mar. 8 to Sept. 30			
1.9	50	7.0	2,500	1.8	26	5.0	1,150
2.3	113	12.0	7,300	2.1	62	8.0	3,630
3.0	275	16.0	13,000	2.5	138	13.0	9,130
4.0	630	17.0	15,000	3.0	275	18.0	17,000
5.0	1,100			4.0	650		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	66	81	100	80	95	108	830	1,200	520	177	112	46
2	66	79	99	80	98	105	1,430	1,220	405	260	216	46
3	74	79	97	80	101	105	1,430	875	320	202	216	47
4	74	76	97	80	103	4,000	1,080	695	305	188	138	46
5	79	84	99	83	105	10,000	970	650	355	155	112	44
6	82	73	102	86	110	12,000	970	440	810	120	100	41
7	82	76	100	86	117	14,600	785	560	1,220	102	91	40
8	* 87	81	93	86	130	17,000	695	560	875	* 91	83	40
9	85	81	85	88	160	14,100	605	440	1,610	80	78	40
10	87	73	76	90	190	8,120	480	405	1,790	75	73	38
11	92	73	* 69	92	230	5,320	405	355	1,790	70	68	36
12	95	68	62	95	245	4,200	355	305	1,290	64	72	35
13	97	64	60	95	200	* 4,010	340	370	785	67	118	35
14	89	* 67	58	98	155	4,800	305	388	560	108	110	38
15	84	72	62	120	143	3,630	275	355	422	102	89	38
16	90	90	66	* 170	135	2,640	245	340	340	125	85	* 43
17	89	108	74	207	130	2,290	260	305	290	167	82	42
18	89	123	80	232	* 180	3,540	878	305	245	148	68	42
19	90	167	83	245	220	3,540	1,110	290	216	145	78	43
20	104	275	86	195	270	4,100	3,260	* 355	202	835	* 85	42
21	113	207	90	170	305	4,400	3,540	340	188	1,640	73	37
22	106	207	93	150	330	3,350	* 1,950	305	165	1,720	65	35
23	108	173	100	130	270	2,290	1,790	275	150	875	59	33
24	109	153	105	115	230	1,570	4,400	245	136	560	58	33
25	102	143	112	107	190	1,290	3,820	216	123	355	59	33
26	108	133	100	101	165	1,080	2,470	188	112	260	62	33
27	97	123	94	94	145	1,640	1,410	188	106	202	56	32
28	93	113	90	90	120	2,030	920	245	100	162	52	31
29	87	108	86	89	---------	1,500	740	1,140	94	145	52	31
30	79	104	84	90	------	1,020	830	1,170	91	123	52	30
31	81	------	80	92	------	830	------	740	------	114	48	------
Total	2,784	3,354	2,682	3,616	4,872	139,208	38,578	15,465	15,615	9,437	2,710	1,150
Mean	89.8	112	86.5	117	174	4,491	1,286	499	520	304	87.4	38.3
Cfsm	0.052	0.065	0.050	0.068	0.100	2.59	0.742	0.288	0.300	0.175	0.050	0.022
In.	0.06	0.07	0.06	0.08	0.10	2.99	0.83	0.33	0.33	0.20	0.06	0.02

Calendar year 1962 : Max 14,800 Min 54 Mean 1,167 Cfsm 0.673 In. 9.14
Water year 1962-63 : Max 17,000 Min 30 Mean 656 Cfsm 0.379 In. 5.13

Peak discharge (base, 11,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-8	0200	18.44	17,800				

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 9 to Jan. 16, Jan. 21 to Mar. 6.

3-3255. Mississinewa River near Ridgeville, Ind.

Location.--Lat 40°17', long 85°00', on line between secs. 7 and 8, T. 21 N., R. 14 E., on right bank, 10 ft downstream from highway bridge, 0.8 mile downstream from Mud Creek, and 2 miles east of Ridgeville.

Drainage area.--130 sq mi.

Records available.--August 1946 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 965.28 ft above mean sea level, datum of 1929, (levels by Indiana Flood Control and Water Resources Commission). Prior to Oct. 4, 1950, wire-weight gage at same site and datum then in use.

Average discharge.--17 years, 132 cfs.

Extremes.--Maximum discharge during year, about 6,000 cfs Mar. 5 (gage height, 14.02 ft, ice jam); minimum, 1.2 cfs Sept. 24, 25; minimum gage height, 2.18 ft Oct. 2.
1946-63: Maximum discharge, 13,900 cfs June 10, 1958 (gage height, 16.25 ft), from rating curve extended above 5,000 cfs on basis of contracted-opening measurement of peak flow; minimum, 0.1 cfs Oct. 24, 1946; minimum gage height, 1.65 ft Sept. 11, 1953.

Remarks.--Records good except those for periods of ice effect, which are poor.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 5, 7, 10-16, 18, 19, Oct. 22 to Nov. 10, Nov. 12-15, Nov. 23 to Dec. 7, May 30 to June 1, Sept. 11-30)

Oct. 1 to Mar. 5

2.0	4.8	2.4	22
2.1	7.8	2.5	29
2.2	12	3.0	78
2.3	16	3.5	136

Mar. 6 to Sept. 30

2.6	1.4	3.5	102
2.7	4.7	5.0	404
2.8	9.0	7.0	880
2.9	18	9.0	1,420
3.1	43		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.6	6.5	8.2	7.7	8.6	21	188	121	28	26	5.1	5.1
2	9.4	6.5	7.8	8.2	9.0	23	159	* 88	20	8.6	5.1	4.7
3	19	6.2	6.8	8.7	9.8	35	130	68	20	6.8	6.4	3.4
4	18	6.2	7.1	* 8.7	12	1,000	168	57	22	6.4	5.6	3.4
5	9.0	6.2	8.2	8.7	17	*4,500	112	64	28	6.0	4.7	4.4
6	17	6.2	8.2	8.7	30	1,200	97	57	22	5.6	4.4	5.1
7	12	7.8	6.8	8.7	50	404	92	49	18	6.4	6.4	5.1
8	20	11	6.2	9.0	43	318	70	43	16	6.0	6.8	4.4
9	19	9.0	5.8	12	35	535	65	38	14	5.6	5.6	2.4
10	11	12	5.4	25	30	632	56	36	14	5.6	5.6	2.4
11	7.1	21	5.2	75	25	404	51	33	23	5.6	4.7	2.8
12	7.1	14	5.1	50	20	404	49	28	16	5.6	4.0	3.1
13	7.1	10	5.0	30	16	1,010	47	40	13	6.0	4.7	3.4
14	7.8	7.8	5.0	27	14	382	44	46	12	9.9	6.4	2.8
15	6.8	7.8	5.0	24	13	242	40	46	11	8.6	6.0	2.4
16	7.8	22	5.2	25	13	389	40	29	9.0	6.0	6.0	2.4
17	15	94	6.0	26	14	880	49	28	8.6	6.0	6.6	2.4
18	12	78	7.0	20	15	338	54	26	8.6	5.6	4.7	2.8
19	9.0	44	9.0	17	20	1,300	60	22	8.6	6.4	6.0	2.8
20	16	34	20	14	35	1,260	112	23	8.6	35	9.0	2.8
21	27	28	16	12	28	448	68	20	8.6	16	7.7	2.8
22	14	22	13	11	24	278	70	18	8.1	11	* 6.0	2.8
23	9.0	13	11	9.2	22	228	287	17	7.7	12	6.4	2.8
24	9.0	9.0	10	8.4	21	178	121	16	6.4	7.7	6.4	1.4
25	10	9.0	9.1	8.1	20	150	86	15	* 6.4	6.4	9.0	* 2.8
26	11	7.8	8.8	8.0	20	188	68	15	7.3	5.6	8.1	2.8
27	9.0	7.8	10	8.0	20	* 248	57	15	7.3	5.1	6.4	2.4
28	7.8	* 9.0	9.0	8.0	* 20	168	50	33	7.3	5.1	6.0	2.4
29	6.5	8.6	8.4	8.1	---------	140	150	47	7.3	6.4	6.0	2.8
30	6.2	8.2	8.0	8.2	- - - - - -	112	238	38	9.9	* 8.6	6.0	2.1
31	* 7.1	- - - - - -	7.7	* 8.4	- - - - - -	100	- - - - - -	* 36	- - - - - -	6.4	6.0	- - - - - -
Total	355.3	532.6	254.0	510.8	604.4	17,515	2,878	1,212	396.7	268.0	187.8	93.2
Mean	11.5	17.8	8.19	16.5	21.6	565	95.9	39.1	13.2	8.65	6.06	3.11
Cfsm	0.088	0.137	0.063	0.127	0.166	4.35	0.738	0.301	0.102	0.067	0.047	0.024
In.	0.10	0.15	0.07	0.15	0.17	5.02	0.82	0 35	0.11	0.08	0.05	0.03

Calendar year 1962: Max 3,980 Min 5.0 Mean 116 Cfsm 0.892 In. 12.09
Water year 1962-63: Max 4,500 Min 1.4 Mean 68.0 Cfsm 0.523 In. 7.10

Peak discharge (base, 2,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	unknown	-	about 6,000				
3-19	2330	11.02	2,350				

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 8 to Mar. 6.

3-3260. Mississinewa River near Eaton, Ind.

Location.--Lat 40°20', long 85°19', in NE¼ sec. 31, T. 22 N., R. 11 E., on right bank at downstream side of bridge, 1½ miles upstream from Estey Creek and 2½ miles southeast of Eaton.

Drainage area.--304 sq mi.

Records available.--March 1952 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 880.60 ft above mean sea level, datum of 1929. Prior to Sept. 24, 1954, wire-weight gage at same site and datum.

Average discharge.--11 years, 282 cfs.

Extremes.--Maximum discharge during year, about 9,500 cfs Mar. 5; maximum gage height, 15.68 ft Mar. 5 (ice jam); minimum, 2.8 cfs Sept. 16; minimum gage height, 2.25 ft Sept. 15, 16.
1952-63: Maximum discharge, 19,400 cfs June 10, 1958 (gage height, 18.53 ft) from rating curve extended above 6,000 cfs on basis of contracted-opening measurement of peak flow; minimum, 2.0 cfs Sept. 23, 27, 1954 (gage height, 2.23 ft).

Remarks.--Records good except those for periods of ice effect and no gage-height record, which are poor.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.2	2.1	4.0	246
2.3	4.8	5.0	550
2.4	8.6	6.0	980
2.6	20	7.0	1,530
2.9	47	13.0	6,410
3.3	100	14.0	7,600

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	24	32	38	28	51	360	550	50	18	12	8.6
2	16	23	30	45	29	53	420	* 316	42	21	13	7.8
3	19	23	30	* 43	30	60	316	233	38	25	11	8.2
4	19	23	29	42	32	2,000	420	164	38	17	9.6	7.8
5	26	24	30	42	38	8,000	330	135	82	13	9.1	6.9
6	41	25	32	43	65	6,870	233	144	144	12	8.6	6.5
7	30	26	36	43	90	3,640	185	126	92	11	10	6.2
8	72	26	32	45	130	* 943	144	103	64	10	9.6	5.8
9	58	26	30	46	110	942	126	90	48	9.6	9.1	5.4
10	41	30	29	55	93	1,660	102	83	40	9.6	9.1	5.1
11	35	34	29	120	78	1,180	81	76	39	8.6	9.6	4.8
12	30	37	28	250	64	800	71	69	36	8.2	9.6	5.4
13	24	41	28	160	54	1,660	69	76	40	9.1	10	5.1
14	21	36	27	100	50	1,790	76	102	33	13	10	4.8
15	21	33	27	85	46	625	70	100	28	12	9.6	3.6
16	22	38	28	80	43	644	65	74	26	13	8.6	3.3
17	23	230	30	90	43	2,010	76	68	23	15	8.6	3.3
18	23	302	31	82	44	1,320	102	68	22	12	9.1	3.3
19	21	164	33	66	48	2,080	183	63	20	12	11	3.3
20	34	108	35	53	70	3,920	1,280	60	19	42	12	4.5
21	49	84	42	45	110	1,800	390	55	18	62	12	4.5
22	51	69	50	38	90	710	260	50	17	49	* 13	4.2
23	46	54	45	34	80	550	684	45	15	26	15	4.2
24	37	42	41	30	70	450	542	42	14	20	13	3.6
25	32	36	38	28	60	360	316	40	* 13	* 20	15	* 3.3
26	30	35	36	27	55	360	220	37	13	17	15	3.9
27	27	33	35	26	51	*800	164	41	12	13	12	4.8
28	26	* 32	35	26	* 51	550	135	47	12	13	13	5.8
29	26	30	35	27	----------	375	168	* 86	13	12	13	6.2
30	26	31	34	27	------	274	758	105	21	11	11	6.2
31	* 25	------	33	* 28	------	220	------	66	------	11	9.6	------
Total	966	1,719	1,030	1,864	1,752	46,697	8,346	3,314	1,072	545.1	340.8	156.4
Mean	31.2	57.3	33.2	60.1	62.6	1,506	278	107	35.7	17.6	11.0	5.21
Cfsm	0.103	0.188	0.109	0.198	0.206	4.95	0.914	0.352	0.117	0.058	0.036	0.017
In.	0.12	0.21	0.13	0.23	0.21	5.71	1.02	0.41	0.13	0.07	0.04	0.02

Calendar year 1962 : Max 8,380 Min 15 Mean 297 Cfsm 0.977 In. 13.28
Water year 1962-63 : Max 8,000 Min 3.3 Mean 186 Cfsm 0.612 In. 8.30

Peak discharge (base, 3,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	Unknown	--	About 9,500				
3-20	1330	10.19	4,000				

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 9 to Jan. 12, Jan. 17-22, Feb. 2, 5, 6, 18-20, Feb. 28 to Mar. 5. No gage-height record Jan. 13-16, Jan. 23 to Feb. 1, Feb. 3, 4, 7-17, 21-27.

3-3265. Mississinewa River at Marion, Ind.

Location.--Lat 40°34', long 85°40', in sec. 31, T. 25 N., R. 8 E., on left bank, 12 ft downstream from Highland Avenue Bridge in Marion, 1 mile upstream from Hummels Creek, and 4 miles downstream from Lugar Creek.

Drainage area.--677 sq mi.

Records available.--September 1923 to September 1963. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 774.56 ft above mean sea level, datum of 1929. Prior to Dec. 9, 1933, chain gage at same site and datum.

Average discharge.--40 years, 641 cfs.

Extremes.--Maximum discharge during year, 14,700 cfs Mar. 6 (gage height, 12.83 ft); minimum, 7.8 cfs Aug. 16 (gage height, 0.55 ft), caused by taintor gates above gage being closed temporarily.
1923-63: Maximum discharge, 25,000 cfs Mar. 21, 1927 (gage height, 17.4 ft from graph based on gage readings), from rating curve extended above 18,000 cfs; minimum, 1.1 cfs Apr. 17, 1959; minimum daily, 3.8 cfs Oct. 23, 1940, Oct. 9, 1943; minimum gage height, -0.27 ft Sept. 25, 1935.
Flood of March 1913 reached a stage of 19.2 ft, from information by Indiana Flood Control and Water Resources Commission.

Remarks.--Records good except those for periods of missing gage-height record or ice effect, which are poor. Flow periodically regulated by dam above station.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.6	11	1.5	266
.7	18	2.0	602
.8	28	4.0	2,400
1.0	56	7.0	5,730
1.1	80	13.0	15,000
1.2	113		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	58	80	87	58	66	a 115	1,160	1,340	207	113	61	35
2	61	80	83	58	68	a 115	1,250	830	176	96	56	34
3	75	78	83	61	66	g 300	950	602	170	83	56	35
4	70	80	83	63	68	g 3,000	790	459	165	73	54	35
5	75	87	83	63	83	g 10,000	830	403	170	75	54	34
6	80	83	80	63	96	g 13,600	602	487	207	73	54	35
7	115	83	80	68	207	g 8,360	494	349	343	66	53	33
8	170	80	80	68	306	g 4,010	431	312	266	61	54	32
9	207	80	78	68	330	a 2,500	376	223	202	58	54	33
10	186	80	75	68	244	a 3,000	473	170	203	53	53	33
11	122	80	73	80	165	a 2,500	300	228	389	52	50	33
12	106	80	70	200	151	g 1,900	261	212	330	50	54	33
13	90	87	68	300	122	g 2,700	244	250	207	92	61	33
14	83	83	66	200	100	g 3,300	223	261	160	113	56	29
15	87	83	66	150	83	2,600	212	250	136	93	179	27
16	80	90	66	130	73	1,610	207	244	110	93	28	29
17	78	103	68	120	70	1,900	149	217	106	73	12	32
18	75	422	68	130	63	3,000	279	255	103	63	11	32
19	243	445	73	136	68	2,500	622	223	96	87	28	32
20	132	306	78	113	83	4,460	1,430	223	122	494	24	29
21	127	239	83	87	90	4,460	1,250	212	100	424	40	28
22	155	202	90	72	100	2,000	750	191	93	250	* 44	26
23	146	176	96	66	110	1,160	2,920	170	90	186	41	27
24	132	146	83	64	a 105	950	2,000	160	87	132	38	30
25	122	127	83	63	a 100	* 790	1,070	151	90	100	46	29
26	67	* 113	78	64	*a 100	830	603	146	98	* 90	47	* 30
27	19	103	* 68	66	a 100	1,610	566	181	* 83	78	52	30
28	63	96	66	67	a 100	1,520	445	* 272	78	73	50	30
29	* 83	96	66	70	----------	836	* 438	336	80	70	46	30
30	83	90	63	* 68	------	712	790	266	170	75	42	30
31	83	------	63	66	------	566	------	272	------	70	40	------
Total	3,273	3,978	2,347	2,950	3,317	86,904	22,115	9,895	4,837	3,509	1,538	938
Mean	106	133	75.7	95.2	118	2,803	737	319	161	113	49.6	31.3
Cfsm	0.157	0.196	0.112	0.141	0.174	4.14	1.09	0.471	0.238	0.167	0.073	0.046
In.	0.18	0.22	0.12	0.16	0.18	4.77	1.22	0.54	0.27	0.19	0.08	0.05

Calendar year 1962 : Max 14,700 Min 18 Mean 685 Cfsm 1.01 In. 13.73
Water year 1962-63 : Max 13,600 Min 11 Mean 399 Cfsm 0.589 In. 7.98

Peak discharge (base, 5,600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-6	0800	12.83	14,700				

* Discharge measurement made on this day.
a No gage-height record.
g Computed from twice-daily wire-weight gage readings.
Note.--Stage-discharge relation affected by ice Jan. 12-18, 22-28, Feb. 21-23, Mar. 3-5.

3-3270. Mississinewa River at Peoria, Ind.

Location.--Lat 40°42'24", long 85°57'27", in SW¼ sec. 3, T. 26 N., R. 5 E., on right bank, at Peoria, 3,000 ft downstream from flood control dam, upstream from mouth and 6½ miles southeast of Peru.

Drainage area.--810 sq mi (revised).

Records available.--October 1952 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 660.00 ft above mean sea level, datum of 1929. Prior to Oct. 7, 1954, wire-weight gage and crest-stage gage on highway bridge, 2,500 ft upstream at same datum. Oct. 7, 1954 to Sept. 30, 1962, recorder on right bank at site 2,500 ft upstream at same datum.

Average discharge.--11 years, 711 cfs.

Extremes.--Maximum discharge during year, 16,600 cfs Mar. 6 (gage height, 13.97 ft); minimum, 33 cfs Aug. 19 (gage height, 0.63 ft). 1952-63: Maximum discharge, 28,000 cfs June 11, 1958 (gage height, 19.26 ft, site then in use); minimum, 13 cfs Mar. 15, 1960; minimum daily, 24 cfs Mar. 14, 1960, result of freezeup.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	84	102	119	98	* 80	180	926	* 1,300	282	144	* 93	62
2	84	102	119	* 97	80	180	1,380	1,120	216	126	91	61
3	89	102	110	97	80	190	1,140	780	189	* 107	96	57
4	102	102	110	97	81	4,000	895	605	338	98	89	56
5	95	102	110	97	82	12,000	895	505	340	93	83	57
6	92	110	110	98	90	15,600	780	544	320	91	80	54
7	102	102	110	102	110	* 11,200	630	430	300	91	85	54
8	156	102	105	102	250	* 4,580	530	366	385	89	80	56
9	197	102	102	102	420	* 2,320	438	320	385	85	74	54
10	211	102	100	102	450	2,680	392	248	282	78	73	51
11	200	102	98	110	350	2,680	464	216	480	78	72	53
12	157	95	98	110	300	1,980	295	248	530	76	71	54
13	138	95	98	200	250	2,210	280	340	340	85	107	53
14	119	110	97	350	200	3,250	265	340	230	113	100	50
15	110	102	97	250	150	2,580	248	300	189	143	77	50
16	110	119	97	180	130	1,380	230	282	165	124	164	48
17	102	134	97	160	120	1,810	248	282	146	126	86	46
18	95	138	97	140	110	3,250	234	265	136	105	48	47
19	95	492	97	150	105	2,500	385	282	128	107	35	48
20	243	370	100	167	105	4,110	1,440	248	133	580	38	47
21	178	280	105	134	130	4,820	1,650	230	141	680	56	47
22	138	224	110	110	140	2,530	1,000	220	121	430	* 45	46
23	157	200	114	90	160	1,380	2,540	195	109	248	67	44
24	147	178	116	81	180	1,080	2,370	183	102	189	67	* 41
25	147	157	116	77	195	* 955	1,510	174	100	152	68	42
26	138	* 147	113	76	190	895	940	165	98	126	78	44
27	115	138	112	76	* 180	1,380	680	160	98	109	74	43
28	64	128	110	78	180	1,660	605	* 212	100	100	80	44
29	* 54	119	105	80	---------	1,130	530	780	96	93	80	45
30	97	119	102	80	- - - - -	895	730	480	93	91	73	44
31	102	- - - - -	100	80	- - - - -	725	- - - - -	320	- - - -	93	66	- - - - -
Total	3,918	4,475	3,274	3,771	4,898	96,130	24,650	12,140	6,572	4,850	2,396	1,498
Mean	126	149	106	122	175	3,101	822	392	219	156	77.3	49.9
Cfsm	0.156	0.184	0.131	0.151	0.216	3.83	1.01	0.484	0.270	0.193	0.095	0.062
In.	0.18	0.21	0.15	0.17	0.22	4.42	1.13	0.56	0.30	0.22	0.11	0.07

Calendar year 1962 : Max 14,700 Min 54 Mean 794 Cfsm 0.980 In. 13.54
Water year 1962-63 : Max 15,600 Min 35 Mean 462 Cfsm 0.570 In. 7.74

Peak discharge (base, 6,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-6	1800	13.97	16,600				

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 8 to Jan. 6, Jan. 13-19, 22, 23, Feb. 1-25, Feb. 27 to Mar. 5. No gage-height record Jan. 24-31, Feb. 26.

3-3275. Wabash River at Peru, Ind.

Location.--Lat 40°44'35", long 86°05'45", in sec. 32, T. 27 N., R. 4 E., on right bank at upstream side of bridge on U. S. Highway 31, half a mile southwest of Peru, 4.3 miles downstream from Mississinewa River, and at mile 370.5.

Drainage area.--2,655 sq mi.

Records available.--August 1943 to September 1963. Discharge measurements only during May and July 1943.

Gage.--Water-stage recorder. Datum of gage is 617.94 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Prior to June 20, 1961, wire-weight gage at same site and datum.

Average discharge.--20 years, 2,399 cfs.

Extremes.--Maximum discharge during year, 32,100 cfs Mar. 6 (gage height, 17.58 ft); minimum, 108 cfs Sept. 1, 6, 24; minimum gage height, 1.88 ft Sept. 24.
1943-63: Maximum discharge, 68,000 cfs May 18, 1943 (gage height, 24.46 ft, from floodmark); minimum, 62 cfs Sept. 19, 1945; minimum gage height, 1.70 ft Oct. 5, 26, 1946.
Flood of Mar. 26, 1913, reached a stage of 28.1 ft (discharge, about 115,000 cfs, from rating curve extended above 63,000 cfs).

Remarks.--Records good except those for periods of ice effect, which are poor.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 23 to Apr. 7, Apr. 19, 20, 22, 23, July 27 to Aug. 2)

Oct. 1 to May 1				May 2 to Sept. 30	
1.9	140	6.0	3,890	1.8	90
2.4	365	10.0	10,600	2.2	225
3.0	720	14.0	19,900	2.5	375
4.0	1,570	18.0	33,600	3.0	715
				4.0	1,570
				6.0	3,890

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	167	216	238	195	215	260	1,670	* 2,770	1,110	185	248	123
2	167	216	234	* 190	220	250	2,770	2,890	828	300	* 221	120
3	186	220	238	185	220	240	2,770	2,100	678	* 326	364	114
4	191	216	224	190	230	7,000	2,100	1,570	570	280	261	114
5	191	216	238	195	230	25,000	1,880	1,380	945	252	205	114
6	186	229	252	203	240	31,000	1,880	1,380	985	213	185	114
7	195	224	234	203	252	*29,100	1,570	1,280	1,880	197	185	114
8	256	220	230	207	270	*22,600	1,380	1,070	1,770	182	174	111
9	310	220	215	207	340	17,700	1,200	985	1,990	168	168	114
10	300	224	200	207	502	11,800	1,020	865	2,650	157	168	126
11	340	220	180	216	560	8,560	1,020	715	2,650	150	164	126
12	290	207	170	220	590	* 6,580	790	678	2,540	141	168	120
13	260	216	165	220	475	5,940	720	828	1,770	160	189	117
14	247	216	160	230	* 370	8,380	655	905	1,200	193	256	114
15	234	234	165	270	320	6,940	590	790	828	256	201	117
16	224	252	170	350	290	4,570	560	752	640	230	209	123
17	216	290	180	480	280	4,150	590	715	500	266	243	123
18	216	315	185	560	280	6,760	1,200	678	435	261	160	126
19	216	502	195	590	340	6,580	1,670	678	375	266	154	123
20	295	688	200	500	448	7,660	4,430	715	348	968	150	132
21	340	560	205	450	660	9,500	5,460	715	336	2,430	150	129
22	285	448	212	380	720	6,940	3,890	678	305	2,650	* 138	120
23	270	448	225	320	655	4,020	4,570	605	270	1,670	123	117
24	300	420	240	280	560	2,770	6,760	535	252	985	132	108
25	280	365	280	250	475	* 2,210	5,940	468	230	678	135	111
26	270	* 310	247	230	400	1,990	4,020	405	221	500	135	114
27	247	285	230	215	* 350	2,770	2,650	405	209	405	141	117
28	207	275	215	205	270	4,020	1,990	* 468	205	336	141	117
29	178	275	205	200	---------	3,010	1,570	1,710	217	295	138	123
30	* 191	256	200	205	- - - - -	1,990	1,770	2,210	185	266	132	126
31	216	- - - - -	195	210	- - - - -	1,670	- - - - -	1,470	- - ----	256	123	- - - - - -
Total	7,471	8,983	6,527	8,563	10,762	251,960	69,085	33,413	27,122	15,622	5,561	3,567
Mean	241	299	211	276	384	8,128	2,303	1,078	904	504	179	119
Cfsm	0.091	0.113	0.079	0.104	0.145	3.06	0.867	0.406	0.340	0.190	0.067	0.045
In.	0.10	0.13	0.09	0.12	0.15	3.53	0.97	0.47	0.38	0.22	0.08	0.05

Calendar year 1962: Max 31,700 Min 160 Mean 2,179 Cfsm 0.821 In. 11.12
Water year 1962-63: Max 31,000 Min 108 Mean 1,229 Cfsm 0.463 In. 6.29

Peak discharge (base, 18,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-6	2330	17.58	32,100				

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 8-21, 23, 24, Dec. 27 to Jan. 4, Jan. 12-17, Jan. 20 to Feb. 6, Feb. 9, 14-16, 21, Feb. 26 to Mar. 5. Gage height computed from twice-daily observer's readings Oct. 1 to Feb. 12, Mar. 23-25.

3-3280. Eel River at North Manchester, Ind.

Location.--Lat 40°59', long 85°46', in NE¼ sec. 5, T. 29 N., R. 7 E., on right bank, 200 ft downstream from Main Street Bridge at North Manchester and 1¼ miles upstream from Pony Creek. Records include flow of Pony Creek.
Drainage area.--416 sq mi, includes that of Pony Creek.
Records available.--October 1929 to September 1963. Prior to April 1930, monthly discharge only, published in WSP 1305. Gage-height records since October 1924 are available in the District office.
Gage.--Water-stage recorder. Datum of gage is 738.00 ft above mean sea level, datum of 1929. Prior to July 23, 1953, wire-weight gage or chain gage on downstream side of Second Street Bridge, 700 ft upstream at same datum.
Average discharge.--34 years, 349 cfs.
Extremes.--Maximum discharge during year, about 3,600 cfs Mar. 6 (gage height, 10.30 ft, backwater from ice); minimum, 30 cfs June 26 (gage height, 1.59 ft); minimum gage height, 1.59 ft June 26, Aug. 23-25.
1929-63: Maximum discharge observed, 7,500 cfs Feb. 27, 1936 (gage height, 14.00 ft); minimum not determined, occurred Oct. 7, 1957, due to unusual regulation; minimum daily, 16 cfs Oct. 19, 1956.
Remarks.--Records fair except those for periods of ice effect, which are poor. Diurnal fluctuation caused by grist mill above station.
Revisions.--Some records of daily discharge for the water year 1957 are in error and revised figures are available in the District office. Revisions will be published in the next water supply paper.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 20 to Dec. 6, May 17 to June 6, Aug. 11 to Sept. 9)

1.5	20
1.6	32
1.9	78
2.5	213
3.0	344
5.0	1,070
8.0	2,570
10.0	3,960

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	60	64	61	46	46	64	249	274	91	34	78	57
2	66	64	61	45	46	63	344	225	80	37	70	52
3	73	64	61	45	47	62	314	201	73	37	68	58
4	75	68	61	46	48	350	286	177	70	35	75	61
5	73	64	61	47	49	3,000	261	163	112	35	88	57
6	78	63	63	48	50	3,200	225	151	146	38	86	52
7	76	63	62	48	51	2,000	201	134	237	40	78	52
8	105	64	60	48	53	1,800	177	120	213	42	71	51
9	* 95	64	55	48	55	1,500	165	110	261	* 46	70	51
10	88	63	52	49	56	1,110	151	101	394	38	68	49
11	84	61	49	48	54	762	139	89	410	35	64	48
12	84	57	* 48	55	53	620	127	80	329	34	61	48
13	86	58	47	52	52	655	118	91	249	51	61	57
14	80	* 57	46	49	51	* 620	112	114	201	89	61	57
15	71	58	46	46	50	445	105	118	160	82	61	51
16	82	64	46	* 45	49	360	103	108	130	86	60	* 46
17	93	73	48	45	52	550	108	108	114	151	60	45
18	91	68	50	45	70	620	730	125	99	155	60	42
19	86	64	52	44	* 190	445	585	132	84	278	60	41
20	88	63	52	44	250	515	798	125	73	1,190	* 64	42
21	82	63	52	45	190	428	620	* 112	71	990	63	58
22	75	61	56	47	150	314	428	97	60	585	61	57
23	70	61	64	49	120	274	* 410	88	51	394	57	49
24	80	60	62	51	100	261	428	78	41	274	57	46
25	80	60	58	49	82	249	329	75	32	201	55	49
26	75	60	55	48	75	274	261	70	31	163	57	48
27	70	60	56	48	71	377	225	63	31	132	55	48
28	68	60	60	47	66	360	201	82	31	114	60	46
29	66	61	57	46	----------	286	177	125	31	110	61	45
30	66	61	50	45	------	249	237	118	34	108	64	45
31	66	------	47	45	------	225	------	105	------	91	61	-------
Total	2,432	1,871	1,698	1,463	2,226	22,038	8,614	3,759	3,939	5,695	2,015	1,508
Mean	78.5	62.4	54.8	47.2	79.5	711	287	121	131	184	65.0	50.3
Cfsm	0.189	0.150	0.132	0.113	0.191	1.71	0.690	0.291	0.315	0.442	0.156	0.121
In.	0.22	0.17	0.15	0.13	0.20	1.97	0.77	0.34	0.35	0.51	0.18	0.14

Calendar year 1962 : Max 3,660 Min 41 Mean 284 Cfsm 0.683 In. 9.25
Water year 1962-63 : Max 3,200 Min 31 Mean 157 Cfsm 0.377 In. 5.13

Peak discharge (base, 2,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-6	unknown	-	about 3,600				

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 7 to Mar. 9.

3-3285. Eel River near Logansport, Ind.

Location.--Lat 40°46'55", long 86°15'50", in sec. 14, T. 27 N., R. 2 E., on right bank at downstream side of county bridge on Adamsboro Road, 5½ miles northeast of Logansport and 6.9 miles upstream from mouth.

Drainage area.--791 sq mi.

Records available.--July 1943 to September 1963. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 621.50 ft above mean sea level, datum of 1929. Prior to Aug. 15, 1956, wire-weight gage at same site and datum.

Average discharge.--20 years, 721 cfs.

Extremes.--Maximum discharge during year, 6,360 cfs Mar. 5; maximum gage height, 9.66 ft Mar. 5 (ice jam); minimum, 87cfs Sept. 9 (gage height, 2.83 ft).
1943-63: Maximum discharge, 13,100 cfs Jan. 5, 1950 (gage height, 11.80 ft); minimum, 65 cfs Mar. 16, 1960, result of freezeup (gage height, 2.60 ft).
Flood of May 18, 1943, reached a stage of 13.2 ft, from floodmark (discharge, 17,000 cfs, from rating curve extended above 9,900 cfs by logarithmic plotting).

Remarks.--Records good except those for periods of ice effect, which are poor.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.8	82	4.5	820
3.0	122	6.0	2,220
3.5	268	8.0	5,100
4.0	497	9.0	6,900

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	118	151	141	117	130	185	418	650	268	120	216	98
2	120	149	141	117	134	180	497	555	226	118	200	104
3	127	149	141	121	136	175	555	470	210	115	311	107
4	129	151	141	125	138	1,500	497	418	203	111	305	111
5	132	146	141	128	142	5,200	443	418	195	109	226	120
6	129	151	141	130	146	5,600	392	418	233	111	213	111
7	139	154	139	134	150	3,500	370	347	305	111	195	104
8	151	151	140	136	158	3,300	326	326	418	109	176	109
9	151	157	140	136	170	2,800	305	305	474	107	162	95
10	* 157	149	132	136	180	2,460	286	305	1,020	* 104	154	98
11	151	144	129	139	180	1,610	268	286	1,020	100	144	98
12	141	144	124	136	175	1,250	250	268	745	100	146	98
13	139	* 141	* 120	160	170	1,120	250	268	526	107	160	96
14	134	141	116	* 155	164	1,070	233	286	392	132	144	104
15	134	141	115	145	158	* 820	223	286	305	144	136	109
16	136	154	117	140	155	713	220	268	268	165	129	100
17	136	165	120	135	155	782	250	250	233	154	124	98
18	139	176	125	132	* 155	1,020	1,140	286	210	299	122	* 96
19	144	168	130	130	190	900	1,610	305	195	418	* 136	95
20	173	162	130	130	240	900	1,700	305	186	1,310	136	96
21	178	157	130	135	500	820	1,340	268	173	2,460	129	96
22	176	154	132	142	530	618	940	* 250	165	1,610	124	100
23	165	149	140	152	400	526	820	233	154	1,070	120	107
24	157	151	150	158	310	497	* 782	220	149	713	115	100
25	157	139	140	150	250	470	681	207	144	526	122	98
26	162	139	134	148	220	526	555	197	139	392	118	95
27	162	139	137	146	200	618	470	203	136	326	109	93
28	157	141	142	143	190	681	418	233	132	286	109	93
29	144	141	135	140	---------	586	392	339	129	250	111	95
30	149	141	124	136	------	470	555	418	124	250	115	93
31	149	------	118	132	------	443	------	305	------	233	107	-------
Total	4,536	4,495	4,105	4,264	5,826	41,340	17,186	9,893	9,077	12,160	4,814	3,017
Mean	146	150	132	138	208	1,334	573	319	303	392	155	101
Cfsm	0.185	0.190	0.167	0.174	0.263	1.69	0.724	0.403	0.383	0.496	0.196	0.128
In.	0.21	0.21	0.19	0.20	0.27	1.95	0.81	0.46	0.43	0.57	0.23	0.14

Calendar year 1962 : Max 6,000 Min 115 Mean 573 Cfsm 0.724 In. 9.83
Water year 1962-63 : Max 5,600 Min 93 Mean 331 Cfsm 0.418 In. 5.67

Peak discharge (base, 5,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	2300	9.66	6,360				

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 8 to Jan. 7, Jan. 13 to Mar. 9.

3-3290. Wabash River at Logansport, Ind.

Location.--Lat 40°44'47", long 86°22'39", in NE¼ sec. 35, T. 27 N., R. 1 E., 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.--3,751 sq mi.
Records available.--April to September, November and December 1903, March to November 1904, March 1905 to July 1906, May 1923 to September 1963. 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 U. S. Weather Bureau.
Gage.--Water-stage recorder. Datum of gage is 573.28 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). April 1903 to July 1906, chain gage at site 150 ft upstream at datum 2.12 ft higher. May 1923 to Mar. 15, 1925, chain gage at site 150 ft upstream at datum 0.19 ft higher. Mar. 16, 1925, to Mar. 31, 1927 and Oct. 1, 1927, to Feb. 8, 1934, chain gage at site 150 ft upstream at present datum. Apr. 1 to Sept. 30, 1927, staff gage at present site at datum approximately 2.85 ft higher.
Average discharge.--40 years (1923-63), 3,258 cfs.
Extremes.--Maximum discharge during year, about 37,000 cfs Mar. 6 (gage height, 14.09 ft, backwater from ice); minimum, 172 cfs Sept. 27 (gage height, 2.54 ft).
1903-6, 1923-63: Maximum discharge, 89,800 cfs May 18, 1943 (gage height, 21.32 ft); minimum, 97 cfs Sept. 25, 1941; minimum daily, 135 cfs Sept. 26, 1941; minimum gage height, 2.27 ft July 23, 1936.
Maximum stage known, 25.3 ft Mar. 26, 1913, from floodmarks (discharge, 140,000 cfs, estimated).
Remarks.--Records good except those for periods of ice effect, which are poor.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.5	146
2.7	260
3.1	590
3.5	1,100
5.0	4,120
6.0	6,700
10.0	21,400

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	302	362	437	320	345	420	2,440	3,270	1,440	386	500	274
2	302	370	419	315	350	410	3,480	3,690	1,180	464	500	267
3	330	362	419	310	360	400	4,120	2,850	1,020	563	612	267
4	330	378	410	310	365	10,000	3,270	2,240	885	491	748	267
5	338	386	410	310	375	27,000	2,850	1,940	1,350	473	545	288
6	330	386	410	312	385	35,000	2,640	1,840	1,260	446	491	267
7	366	394	394	315	400	* 31,000	2,240	1,840	1,940	410	455	267
8	491	378	394	318	425	25,000	1,940	1,540	2,240	378	419	274
9	473	378	365	320	490	20,000	1,740	1,350	2,140	354	402	260
10	* 500	378	345	323	660	15,000	1,440	1,260	3,480	* 323	378	247
11	473	370	325	328	820	11,700	1,440	1,100	3,480	309	362	241
12	473	370	310	330	820	8,940	1,180	1,020	3,270	295	370	235
13	394	* 362	* 306	330	700	7,300	1,100	1,100	2,340	330	394	235
14	370	362	300	* 350	600	9,960	1,020	1,350	1,640	419	419	241
15	354	386	302	380	510	* 8,940	950	1,260	1,180	437	437	254
16	354	446	308	415	465	6,120	950	1,100	1,020	527	362	247
17	309	482	312	470	460	5,060	1,020	1,100	885	482	419	241
18	295	509	320	689	* 500	7,940	2,240	1,100	760	581	370	* 235
19	338	623	330	612	540	8,600	3,480	1,100	689	772	* 362	222
20	473	885	335	678	720	9,280	5,840	1,100	656	1,540	346	228
21	590	808	345	645	860	11,400	7,300	1,100	* 634	4,120	330	228
22	527	689	350	473	1,000	8,940	5,580	* 1,020	623	3,900	338	222
23	464	634	350	420	885	5,320	5,840	885	563	2,850	302	228
24	455	590	384	390	800	3,900	* 8,260	885	* 527	1,740	302	210
25	446	536	446	370	720	3,480	7,620	796	500	1,260	323	203
26	437	509	410	360	620	3,270	5,320	748	473	950	316	197
27	419	482	394	350	540	3,690	3,480	748	455	796	309	192
28	402	464	370	330	460	5,060	2,640	808	437	678	323	203
29	338	455	350	330	---------	4,340	2,240	1,670	419	612	316	197
30	309	437	340	330	------	3,060	2,540	2,850	402	563	309	192
31	346	------	325	330	-----	2,640	-----	2,040	----	527	302	-------
Total	12,328	14,171	11,215	12,063	16,175	303,170	96,200	46,700	37,888	27,976	12,361	7,129
Mean	398	472	362	389	578	9,780	3,207	1,506	1,263	902	399	238
Cfsm	0.106	0.126	0.097	0.104	0.154	2.61	0.855	0.401	0.337	0.240	0.106	0.063
In.	0.12	0.14	0.11	0.12	0.16	3.01	0.95	0.46	0.38	0.28	0.12	0.07

Calendar year 1962 : Max 38,100 Min 295 Mean 3,034 Cfsm 0.809 In. 10.99
Water year 1962-63 : Max 35,000 Min 192 Mean 1,637 Cfsm 0.436 In. 5.92

Peak discharge (base, 22,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-6	2100	14.09	about 37,000				

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 9-23, Dec. 28 to Jan. 17, Jan. 23 to Feb. 10, Feb. 13-22, Feb. 24 to Mar. 10.

3-3295. Wabash River at Delphi, Ind.

Location.--Lat 40°35'26", long 86°41'54", in SE¼ sec. 24, T. 25 N., R. 3 W., on downstream side of second pier from left abutment of highway bridge, 1 mile west of Delphi, 1.6 miles upstream from Deer Creek, 8.6 miles upstream from Tippecanoe River, and at mile 330.8.

Drainage area.--4,032 sq mi.

Records available.--October 1939 to September 1963. Prior to January 1940 monthly discharge only, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 519.90 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark). Prior to July 19, 1942, wire-weight gage at same site and datum.

Average discharge.--24 years, 3,421 cfs.

Extremes.--Maximum discharge during year, about 50,000 cfs Mar. 6 (gage height, about 23 ft); minimum, 178 cfs Sept. 27, 28, 30; (gage height, 1.01 ft).

1939-63: Maximum discharge, 85,300 cfs May 19, 1943 (gage height, 25.60 ft), maximum gage height, 27.48 ft Feb. 11, 1959 (ice jam), minimum daily discharge, 158 cfs Sept. 19, 20, 1941.

Maximum stage known, 28.4 ft Mar. 26, 1913, from information by State Highway Commission (discharge, about 145,000 cfs, from rating curve extended above 82,000 cfs by logarithmic plotting).

Remarks.--Records good except those for periods of missing gage-height record or ice effect, which are poor.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 12-24, Sept. 11-30)

0.89	182	10.0	10,700
1.0	220	14.0	17,000
2.0	720	18.0	26,000
3.0	1,500	22.0	42,500
5.0	3,600	23.0	50,000

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	410	510	535	390	405	500	2,890	3,120	1,770	460	560	285
2	* 385	535	510	380	420	500	3,240	3,840	1,410	438	535	270
3	438	535	510	370	430	490	4,080	3,240	1,230	535	560	275
4	438	535	510	370	440	14,000	3,600	2,560	1,020	560	720	270
5	438	535	485	375	460	44,000	3,000	2,150	1,140	510	* 665	260
6	438	535	485	380	460	43,000	2,780	1,950	1,500	510	560	265
7	438	535	* 485	380	480	*39,500	2,560	1,860	1,590	460	510	260
8	780	535	460	380	500	29,800	2,150	1,770	2,350	438	485	260
9	692	* 510	430	385	550	21,900	1,860	* 1,590	2,250	410	460	265
10	638	510	400	390	680	16,800	1,680	1,410	2,890	* 385	438	256
11	638	510	370	400	*820	11,800	* 1,500	1,320	3,360	360	410	220
12	610	485	360	400	900	* 9,350	1,410	1,140	3,480	360	385	220
13	585	485	355	400	820	8,000	1,230	1,140	2,780	385	385	* 210
14	535	485	355	* 450	700	9,200	1,140	1,410	2,050	460	410	206
15	510	485	362	475	610	9,500	1,060	1,410	1,590	460	438	206
16	510	535	375	500	570	6,950	980	1,320	1,230	535	438	213
17	485	585	390	560	550	5,270	1,020	1,230	1,020	560	385	210
18	485	585	410	660	580	7,100	1,520	1,140	910	535	460	206
19	460	610	420	720	650	8,750	3,240	1,140	810	691	438	202
20	638	720	420	820	860	8,600	4,330	1,140	750	2,350	410	202
21	780	980	420	720	1,000	10,600	6,530	1,140	720	3,240	385	206
22	780	875	420	580	1,100	9,650	6,110	1,060	692	4,080	335	206
23	692	750	440	500	1,000	6,250	5,410	* 980	638	3,360	335	202
24	610	720	460	470	900	4,330	7,400	910	* 585	2,250	310	202
25	610	665	500	450	820	3,600	7,700	840	560	1,590	335	196
26	585	610	490	430	720	3,360	5,690	780	535	1,230	335	185
27	585	585	470	410	620	3,360	4,080	780	510	945	310	182
28	560	560	450	400	515	4,590	3,000	875	485	810	310	182
29	560	535	425	400	---------	4,590	2,450	980	485	720	335	182
30	485	535	410	400	- - - - - -	3,480	2,560	2,670	460	638	310	182
31	485	- - - - - -	400	400	- - - - - -	3,000	- - - - - -	2,450	- - - - - -	585	310	- - - - - -
Total	17,283	17,575	13,512	14,345	13,560	356,820	96,200	49,345	40,800	30,850	13,262	6,686
Mean	558	586	436	463	663	11,510	3,207	1,592	1,360	995	428	223
Cfsm	0.138	0.145	0.108	0.115	0.164	2.85	0.795	0.395	0.337	0.247	0.106	0.055
In.	0.16	0.16	0.12	0.13	0.17	3.29	0.89	0.46	0.38	0.28	0.12	0.06

Calendar year 1962: Max 37,000 Min 355 Mean 3,161 Cfsm 0.784 In. 10.63
Water year 1962-63: Max 48,000 Min 182 Mean 1,850 Cfsm 0.459 In. 6.22

Peak discharge (base, 24,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-6	Unknown	About 23	About 50,000				

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 9-13. No gage-height record Dec. 14 to Mar. 6, Mar. 9-11.

3-3297. Deer Creek near Delphi, Ind.

Location.--Lat 40°36', long 86°37', on line between SE¼ sec. 22 and NE¼ sec. 27, T. 25 N., R. 2 W., on downstream side of left wingwall of highway bridge, 3 miles northeast of Delphi and 4½ miles upstream from mouth.

Drainage area.--278 sq mi.

Records available.--October 1943 to September 1963. Prior to March 1944 monthly discharge only, published in WSP 1305.

Gage.--Water-stage recorder. Altitude of gage is 542 ft (by barometer). Prior to Sept. 18, 1950, wire-weight gage at same site and datum.

Average discharge.--20 years, 242 cfs.

Extremes.--Maximum discharge during year, 5,800 cfs Mar. 4 (gage height, 11.58 ft); minimum, 12 cfs Sept. 20, 28 (gage height, 2.03 ft).
1943-63: Maximum discharge, 14,400 cfs June 10, 1958 (gage height, 18.26 ft); minimum, 5.6 cfs Sept. 27, 1954.
Flood in May 1943 reached a stage of 19.8 ft, from floodmarks (discharge, 18,000 cfs, from rating curve extended above 8,000 cfs by logarithmic plotting).

Remarks.--Records good except those for periods of ice effect, which are poor.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 11)

Oct. 1 to Mar. 31

2.2	24
2.6	69
3.0	142
3.5	280
4.0	460
6.0	1,470
9.0	3,550
12.0	6,200

Apr. 1 to Sept. 30

1.95	9.5
2.0	14
2.2	31
2.5	63
3.0	142

Note.--Same as preceding table above 3.0 ft.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	47	42	34	25	35	544	385	192	35	40	19
2	* 26	46	42	37	25	35	480	296	140	33	38	18
3	37	45	41	41	25	40	348	249	119	30	36	18
4	39	45	42	45	27	2,500	280	206	112	29	33	17
5	33	46	* 43	52	29	5,300	220	179	122	27	* 31	16
6	33	45	42	53	40	3,200	179	154	142	29	31	14
7	48	45	41	* 53	60	1,300	154	136	117	30	31	16
8	269	* 45	39	53	52	730	132	* 128	210	29	29	15
9	220	45	36	52	45	683	119	120	284	27	30	14
10	127	45	34	52	41	636	105	117	154	*26	30	13
11	92	43	32	49	* 39	* 522	* 96	110	411	24	27	14
12	71	43	30	45	36	422	89	100	*312	22	26	* 15
13	63	43	28	39	35	404	84	166	179	27	27	14
14	51	42	28	35	33	385	80	234	126	39	26	14
15	53	43	31	33	32	280	76	192	104	36	25	14
16	52	49	35	31	32	234	75	142	89	39	24	13
17	48	58	40	30	33	264	86	124	80	38	23	13
18	45	62	42	29	36	280	100	117	72	33	22	13
19	44	63	44	28	44	439	112	104	67	77	31	13
20	83	63	45	27	65	590	348	100	71	1,240	31	13
21	147	60	46	26	57	366	296	93	64	683	29	14
22	138	56	45	26	47	249	297	84	59	366	26	13
23	106	54	41	25	40	192	1,140	79	53	220	24	13
24	85	52	38	25	39	164	830	75	49	130	23	14
25	71	48	36	25	38	154	522	71	47	94	24	14
26	63	46	34	25	37	238	366	67	44	75	21	13
27	58	45	32	24	36	348	280	70	43	62	20	13
28	54	43	31	24	35	312	220	87	42	55	21	13
29	52	43	30	24	----------	234	206	428	39	52	23	14
30	49	43	31	24	------	192	367	441	37	47	22	15
31	48	------	32	24	------	213	------	280	------	43	20	-------
Total	2,329	1,453	1,153	1,090	1,083	20,941	8,231	5,134	3,580	3,697	844	432
Mean	75.1	48.4	37.2	35.2	38.7	676	274	166	119	119	27.2	14.4
Cfsm	0.270	0.174	0.134	0.127	0.139	2.43	0.986	0.597	0.428	0.428	0.098	0.052
In.	0.31	0.19	0.15	0.15	0.14	2.80	1.10	0.69	0.48	0.49	0.11	0.06

Calendar year 1962 : Max 3,310 Min 24 Mean 248 Cfsm 0.892 In. 12.10
Water year 1962-63 : Max 5,300 Min 13 Mean 137 Cfsm 0.493 In. 6.67

Peak discharge (base, 2,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-4	2000	11.58	5,800				

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 8-20, Dec. 24 to Jan. 5, Jan. 14 to Mar. 4.

3-3305. Tippecanoe River at Oswego, Ind.

Location.--Lat 41°19'14", long 85°47'21", in NE¼ NE¼ sec. 14, T. 33 N., R. 6 E., on left bank 10 ft downstream from dam at Tippecanoe Lake Outlet in Oswego and 3 miles east of Leesburg.

Drainage area.--115 sq mi.

Records available.--October 1949 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 830.00 ft above mean sea level, datum of 1929. Prior to Aug. 12, 1953, staff gage at same site and datum.

Average discharge.--14 years, 105 cfs.

Extremes.--Maximum discharge during year, 237 cfs Mar. 17; maximum gage height, 7.06 ft Mar. 16; minimum, 2.3 cfs Sept. 19; minimum gage height, 4.53 ft Sept. 30.
1949-63: Maximum discharge, 700 cfs Oct. 17, 1954 (gage height, 8.64 ft); minimum, 1.7 cfs Nov. 13, 14, 1956; minimum gage height, 4.36 ft Sept. 8, 1953.

Remarks.--Records fair. Occasional regulation by flashboards at lake outlet.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	9.9	18	10	6.5	9.3	194	46	35	20	20	12
2	17	9.6	19	10	6.6	9.1	186	76	36	20	22	11
3	17	10	20	10	6.7	11	178	80	36	17	28	11
4	16	9.9	21	10	6.8	18	171	76	34	15	29	11
5	18	9.4	22	10	7.0	35	157	131	32	14	28	9.1
6	17	20	22	9.7	7.0	58	150	178	32	13	28	8.5
7	18	31	23	9.5	7.0	72	143	157	33	11	27	8.2
8	31	29	22	9.1	7.0	88	136	118	32	9.5	26	8.0
9	44	28	20	8.7	7.0	114	130	99	36	* 8.0	25	7.4
10	* 41	29	18	8.2	6.8	132	124	68	36	6.8	25	6.0
11	41	31	16	7.8	6.6	144	112	60	39	6.0	23	3.5
12	41	33	* 15	7.4	6.5	163	107	54	39	5.2	22	3.7
13	41	33	14	7.2	6.5	190	97	45	40	5.2	21	3.7
14	41	33	14	7.0	6.4	* 204	92	22	42	6.8	20	3.5
15	64	* 31	15	6.8	6.4	220	73	22	43	6.8	19	3.3
16	88	31	16	* 6.8	6.6	220	57	22	42	8.0	18	2.9
17	84	31	16	6.6	7.0	237	42	22	40	12	17	* 2.9
18	76	29	16	6.5	9.0	234	41	22	39	17	16	2.9
19	68	27	16	6.4	*e 24	234	35	24	38	25	16	2.5
20	64	25	16	6.4	e 35	234	23	27	36	81	* 16	4.1
21	58	23	15	6.3	e 29	218	11	* 27	35	124	16	5.2
22	50	22	14	6.2	e 22	218	10	29	33	157	16	5.5
23	47	20	14	6.2	e 17	202	* 10	30	31	157	16	5.8
24	47	19	13	6.2	14	202	11	31	29	150	16	5.8
25	41	18	13	6.2	12	202	12	31	26	150	15	5.8
26	38	18	12	6.2	11	202	13	32	25	136	13	6.0
27	32	17	12	6.2	10	202	15	30	25	107	12	6.0
28	11	16	11	6.2	9.6	194	18	31	22	88	11	6.3
29	11	16	11	6.3	---	186	24	32	21	84	11	6.6
30	11	17	11	6.3	---	194	34	35	20	66	11	6.8
31	10	---	10	6.4	---	186	---	36	---	20	13	---
Total	1,201	675.8	495	232.8	307	4,832.4	2,406	1,693	1,007	1,546.3	596	185
Mean	38.7	22.5	16.0	7.51	11.0	156	80.2	54.6	33.6	49.9	19.2	6.17
Cfsm	0.337	0.196	0.139	0.065	0.096	1.36	0.697	0.475	0.292	0.434	0.167	0.054
In.	0.39	0.22	0.16	0.07	0.10	1.57	0.78	0.55	0.33	0.50	0.19	0.06

Calendar year 1962: Max 356 Min 6.5 Mean 72.3 Cfsm 0.629 In. 8.54
Water year 1962-63: Max 237 Min 2.5 Mean 41.6 Cfsm 0.362 In. 4.92

* Discharge measurement made on this day.
e Stage-discharge relation indefinite.
Note.--Stage-discharge relation affected by ice Dec. 8-23, Jan. 14-21, Feb. 1-18, Feb. 24 to Mar. 5. No gage-height record Dec. 24 to Jan. 13, Jan. 22-31.

GPO 811-767-4

3-3315. Tippecanoe River near Ora, Ind.

Location.--Lat 41°10', long 86°34', in NE¼ sec. 7, T. 31 N., R. 1 W., on right bank at downstream side of highway bridge, 1.3 miles southwest of Ora and 2.0 miles downstream from Osborn ditch.

Drainage area.--839 sq mi.

Records available.--September 1943 to September 1963. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Altitude of gage is 694 ft (by barometer). Prior to July 30, 1956, wire-weight gage on upstream side of bridge at same datum.

Average discharge.--20 years, 795 cfs.

Extremes.--Maximum discharge during year, about 7,000 cfs Mar. 5 (gage height, unknown); minimum, 116 cfs Oct. 2 (gage height, 4.44 ft); minimum gage height, 4.37 ft July 12.
1943-63: Maximum discharge, 7,800 cfs Apr. 5, 1950 (gage height, 14.40 ft); minimum, that of Oct. 2, 1962; minimum gage height, 4.15 ft Aug. 14, 1944, Oct. 16, 17, 1946.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1-7, Aug. 1-9)

Oct. 1 to Mar. 5		Mar. 6 to Sept. 30	
4.2	100	4.4	148
4.7	200	5.0	282
5.2	314	7.0	840
		9.0	1,550
		11.0	2,680

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	118	233	200	170	140	170	936	750	332	190	690	179
2	116	222	200	180	150	170	968	720	319	234	662	168
3	132	211	200	190	150	220	936	662	294	294	662	179
4	* 136	211	* 200	210	150	4,000	872	606	282	223	690	190
5	150	211	200	220	150	6,500	840	606	270	190	606	190
6	160	211	200	240	180	5,400	780	578	270	179	* 550	190
7	180	* 222	200	260	250	4,500	750	* 550	270	179	494	179
8	255	222	190	270	230	3,500	720	522	384	168	466	179
9	255	211	180	* 280	210	3,200	* 662	550	634	158	410	168
10	255	222	160	270	200	3,000	634	550	810	158	384	158
11	255	222	150	240	190	2,500	578	550	* 750	* 158	332	158
12	233	222	140	220	* 180	2,100	550	494	690	148	319	* 179
13	222	211	130	190	170	1,800	522	494	606	158	319	168
14	211	211	130	180	160	* 1,550	494	494	522	246	319	179
15	211	211	150	170	160	1,470	466	438	466	294	294	179
16	211	233	170	170	160	1,350	466	410	410	358	282	179
17	211	244	200	160	170	1,280	438	384	384	720	258	168
18	211	255	220	160	200	1,240	550	438	358	1,070	246	158
19	233	266	230	160	230	1,170	410	466	319	1,310	246	158
20	266	255	240	150	320	1,210	720	466	306	1,680	258	158
21	302	244	250	150	280	1,170	750	438	294	2,020	246	190
22	290	233	240	150	240	1,100	720	384	270	2,320	234	190
23	290	233	220	150	200	1,030	750	358	258	2,260	223	190
24	278	222	200	150	190	968	720	332	246	1,970	212	190
25	278	211	190	140	180	904	634	319	234	1,730	212	179
26	302	200	180	140	180	936	606	306	223	1,510	201	168
27	314	200	170	140	180	968	550	294	212	1,280	190	158
28	302	200	170	140	170	936	494	332	201	1,100	190	158
29	290	200	160	140	---	904	466	384	201	1,000	201	179
30	266	200	160	140	---	904	578	384	190	872	190	168
31	255	---	160	140	---	904	---	358	---	780	179	---
Total	7,188	6,649	5,790	5,670	5,370	57,054	19,560	14,617	11,005	24,957	10,765	5,234
Mean	232	222	187	183	192	1,840	652	472	367	805	347	174
Cfsm	0.277	0.265	0.223	0.218	0.229	2.19	0.777	0.563	0.437	0.959	0.414	0.207
In.	0.32	0.30	0.26	0.25	0.24	2.52	0.87	0.65	0.49	1.11	0.48	0.23

Calendar year 1962: Max 4,260 Min 116 Mean 647 Cfsm 0.771 In. 10.49
Water year 1962-63: Max 6,500 Min 116 Mean 476 Cfsm 0.567 In. 7.72

* Discharge measurement made on this day.
Note.--No gage-height record Jan. 15 to Feb. 11, Feb. 13 to Mar. 13. Stage-discharge relation affected by ice Dec. 8 to Jan. 14, Feb. 12.

3-3323. Little Indian Creek near Royal Center, Ind.

Location.--Lat 40°53', long 86°35', in NW¼ sec. 13, T. 28 N., R. 2 W., on right bank at downstream side of county road bridge, 2.9 miles upstream from mouth, 3.2 miles downstream from Fredericks ditch, and 4.8 miles northwest of Royal Center.

Drainage area.--35.0 sq mi.

Records available.--July 1959 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 692.73 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, about 500 cfs Mar. 5 (gage height, unknown); minimum, 2.6 cfs Aug. 18 (gage height, 0.83 ft); minimum gage height, 0.81 ft July 30, 31.
1959-63: Maximum discharge, that of Mar. 5, 1963; minimum, 1.4 cfs Apr. 25, 1959 (gage height, 0.70 ft); minimum gage height, 0.63 ft Mar. 16, 1960.
Maximum stage known, 11.2 ft in Spring of 1957, from information by local residents.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Sept. 6-23)

0.8	2.8
.9	5.0
1.0	9.0
1.5	31
2.0	60
4.0	190

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.0	7.0	5.0	4.5	3.0	4.5	15	54	48	9.8	3.5	4.1
2	* 3.2	6.2	4.8	4.5	3.1	4.5	15	33	48	8.2	3.9	4.1
3	5.9	6.2	4.8	5.0	3.1	5.0	13	26	48	6.2	3.5	4.6
4	4.6	6.6	4.8	5.0	3.1	110	12	22	51	6.2	4.1	4.8
5	6.6	7.0	* 5.0	5.5	4.0	400	13	20	48	5.0	3.9	4.8
6	5.4	6.2	4.6	5.5	5.0	180	11	18	51	5.0	* 4.1	4.6
7	5.6	* 6.6	8.2	6.0	7.0	60	10	16	48	4.8	3.7	4.6
8	39	6.2	4.8	7.0	10	50	10	*15	45	4.6	3.5	4.8
9	17	5.8	4.6	*b 7.5	8.0	68	9.4	14	66	4.1	3.5	4.6
10	11	5.8	4.0	b 7.0	6.5	45	* 8.6	16	69	4.1	3.5	4.6
11	8.2	5.4	3.7	b 6.0	5.5	32	8.6	15	63	* 3.9	3.0	4.6
12	7.4	5.4	3.5	b 5.5	* 5.0	32	8.2	14	* 40	3.5	4.6	* 4.8
13	6.6	5.4	3.5	5.0	4.5	45	8.6	22	32	5.7	6.6	4.3
14	6.2	5.0	b 3.5	4.5	4.3	* 41	7.8	18	29	8.2	3.9	4.1
15	6.2	5.0	b 4.0	4.0	4.0	34	7.8	16	26	3.9	3.0	4.1
16	7.0	6.2	b 4.5	4.0	4.0	30	7.8	16	26	4.8	2.8	4.1
17	7.4	11	b 5.5	3.5	4.0	34	15	19	27	3.7	3.0	4.1
18	6.6	9.8	b 5.5	3.5	4.5	26	127	22	28	3.2	2.8	4.3
19	5.8	7.8	b 6.0	3.5	6.0	39	75	19	31	5.8	5.4	4.6
20	29	7.8	6.0	3.5	10	34	69	20	31	38	4.3	5.0
21	33	7.4	6.5	3.0	8.0	24	38	19	29	14	3.2	5.8
22	18	6.6	6.0	3.0	6.0	17	36	19	28	12	3.2	4.8
23	14	5.8	6.0	3.0	5.5	16	42	19	24	16	3.2	4.8
24	11	5.4	5.5	3.0	5.0	15	31	20	19	7.4	3.2	4.6
25	9.8	5.4	5.0	3.0	4.9	14	25	22	15	4.8	9.1	4.6
26	8.6	5.0	5.0	3.0	4.7	20	20	24	14	3.9	5.0	4.6
27	7.8	5.0	4.5	3.0	4.6	19	17	27	13	3.5	3.9	4.6
28	7.8	5.0	4.0	3.0	4.5	15	15	34	13	3.5	4.3	4.6
29	7.0	4.8	4.0	3.0	----------	13	17	51	12	3.7	4.8	4.6
30	7.0	5.0	4.0	3.0	- - - - - -	11	72	66	,11	3.2	4.1	4.8
31	7.4	- - - - - -	4.0	3.0	- - - - -	12	- - - - -	48	- - ----	3.5	4.1	- - - - - -
Total	323.1	187.8	150.8	133.5	147.8	1450.0	764.8	764	1033	214.2	124.7	137.4
Mean	10.4	6.26	4.86	4.31	5.28	46.8	25.5	24.6	34.4	6.91	4.02	4.58
Cfsm	0.297	0.179	0.139	0.123	0.151	1.34	0.729	0.703	0.983	0.197	0.115	0.131
In.	0.34	0.20	0.16	0.14	0.16	1.54	0.81	0.81	1.10	0.23	0.13	0.15

Calendar year 1962 : Max 298 Min 3.0 Mean 27.2 Cfsm 0.777 In. 10.55
Water year 1962-63 : Max 400 Min 2.8 Mean 14.9 Cfsm 0.426 In. 5.77

Peak discharge (base, 250 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	Unknown	Unknown	500				

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Dec. 10-13, Dec. 20 to Jan. 8, Jan. 13 to Mar. 13.

3-3324. Big Monon Creek near Francesville, Ind.

Location.--Lat 40°59', long 86°52', in NE¼ sec. 10, T. 29 N., R. 4 W., on right bank at downstream side of county road bridge, 1.1 miles east of Francesville, 1.6 miles downstream from unnamed tributary from right bank, and 10.2 miles upstream from mouth.

Drainage area.--145 sq mi.

Records available.--August 1959 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 653.17 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, about 1,800 cfs Mar. 6 (gage height, 14.29 ft, backwater from ice); minimum, 10 cfs Sept. 11; minimum gage height, 1.16 ft July 13.
1959-63: Maximum discharge, 2,100 cfs Apr. 24, 1961 (gage height, 13.27 ft); maximum gage height, that of Mar. 6, 1963; minimum, that of Sept. 11, 1963; minimum gage height, 1.10 ft Sept. 21, 1959.
Maximum stage known, about 18.60 ft in Spring of 1957, from information by local residents.

Remarks.--Records good except those for periods of doubtful gage-height record, which are fair, and those for periods of no gage-height record, or ice effect, which are poor.

Rating tables, water year 1962-63, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 26 to Nov. 19, May 7 to June 8)

Oct. 1 to Mar. 5		Mar. 6 to Sept. 30			
1.3	22	1.2	13	5.0	390
1.8	54	1.5	28	9.0	1,010
2.6	126	2.0	63	12.0	1,700
		3.0	155		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	34	a 35	29	19	15	d 145	175	47	24	25	16
2	25	33	a 35	30	20	25	d 126	135	43	30	28	15
3	28	32	a 36	33	21	65	d 135	117	43	d 22	38	16
4	* 32	33	a 39	40	23	320	d 135	104	44	d 21	30	16
5	32	34	* 42	50	26	1,600	d 135	108	43	d 21	27	16
6	31	34	41	60	27	1,700	d 135	99	49	d 22	*29	16
7	35	33	44	60	22	1,440	d 145	* 90	59	d 22	29	22
8	121	* 33	50	* 59	18	868	d 145	81	152	d 23	28	17
9	62	32	45	55	15	530	d 145	76	297	d 21	24	14
10	47	32	40	50	13	338	* 72	81	274	d 20	22	13
11	40	31	38	45	12	217	68	81	*185	*d 16	22	13
12	36	30	36	42	*12	195	63	76	126	14	21	*16
13	35	30	35	40	12	206	63	81	104	19	22	16
14	32	30	35	37	12	195	59	72	90	72	20	35
15	32	32	35	35	12	155	59	63	72	36	19	30
16	37	40	36	33	12	155	59	68	63	54	18	21
17	35	45	37	31	12	165	63	72	55	55	19	20
18	32	42	39	29	20	155	72	94	49	48	20	19
19	32	40	41	28	28	155	68	86	46	47	22	19
20	42	a 38	42	26	25	217	72	76	49	135	24	21
21	54	a 37	42	25	23	175	63	72	44	86	21	23
22	46	a 36	42	24	21	135	72	68	40	90	21	22
23	40	a 36	41	23	20	135	90	63	37	72	19	21
24	38	a 36	39	22	18	135	81	59	36	55	18	25
25	38	a 35	37	21	17	126	72	59	32	46	20	22
26	36	a 35	36	20	16	a 234	68	55	31	38	19	20
27	35	a 35	34	20	15	155	63	54	31	34	18	18
28	33	a 35	33	19	15	165	55	59	29	33	19	18
29	32	a 35	31	19	----------	155	68	59	26	28	20	19
30	31	a 35	30	19	- - - - - -	145	185	59	24	24	23	18
31	33	- - - - - -	29	19	- - - - - -	135	- - - - - -	52	- - ----	25	20	- - - - - - -
Total	1,206	1,043	1,175	1,043	506	10,411	2,781	2,494	2,220	1,253	705	577
Mean	38.9	34.8	37.9	33.6	18.1	336	92.7	80.5	74.0	40.4	22.7	19.2
Cfsm	0.268	0.240	0.261	0.232	0.125	2.32	0.639	0.555	0.510	0.279	0.157	0.132
In.	0.31	0.27	0.30	0.27	0.13	2.68	0.71	0.64	0.57	0.32	0.18	0.15

Calendar year 1962 : Max 1,110 Min 17 Mean 127 Cfsm 0.876 In. 11.86
Water year 1962-63 : Max 1,700 Min 12 Mean 69.6 Cfsm 0.480 In. 6.53

Peak discharge (base, 1,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-6	0630	14.29	About 1,800				

* Discharge measurement made on this day.
a No gage-height record.
d Doubtful gage-height record.
Note.--Stage-discharge relation affected by ice Dec. 9 to Mar. 6.

3-3325. Tippecanoe River near Monticello, Ind.

Location.--Lat 40°47', long 86°45', in sec. 21, T. 27 N., R. 3 W., at Norway plant of Northern Indiana Public Service Co., 2 miles north of Monticello.

Drainage area.--1,710 sq mi.

Records available.--October 1931 to September 1963.

Average discharge.--32 years, 1,458 cfs.

Extremes.--Maximum daily discharge during year, 11,400 cfs Mar. 5; minimum daily, 131 cfs Jan. 23.
1931-63: Maximum daily discharge, 16,800 cfs June 13, 1958; minimum daily, 103 cfs July 27, 1934.

Remarks.--Discharge computed on basis of records of operation of powerplant and flow over dam.

Cooperation.--Records of daily discharge furnished by Northern Indiana Public Service Co.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	261	456	304	239	174	257	1,750	1,740	521	348	686	326
2	239	413	369	347	261	283	1,570	1,680	521	369	1,070	261
3	304	413	369	239	304	369	1,560	1,340	620	339	413	254
4	326	413	391	326	261	6,720	1,200	1,300	391	304	919	230
5	369	326	326	239	218	11,400	1,280	1,240	391	402	653	268
6	326	413	391	369	283	9,330	1,200	877	456	261	705	306
7	391	348	174	304	369	6,700	1,110	974	434	434	735	306
8	616	391	434	261	304	5,950	1,020	1,060	767	283	570	344
9	616	434	218	369	261	7,480	916	855	1,290	239	620	306
10	537	369	218	391	283	7,180	916	916	2,010	261	521	192
11	345	282	218	369	283	4,750	784	916	1,900	196	521	268
12	369	434	218	304	326	3,880	855	817	1,280	268	521	306
13	369	391	196	261	207	3,290	784	898	1,040	326	522	230
14	389	239	169	239	304	2,810	784	768	1,000	521	500	306
15	451	499	369	196	196	2,310	636	850	873	326	391	230
16	434	412	239	239	369	2,080	636	603	653	702	456	306
17	369	434	369	196	196	2,250	955	867	603	354	478	268
18	391	413	434	239	261	1,920	1,660	735	636	908	391	268
19	261	391	326	283	521	2,170	1,540	751	636	1,270	517	192
20	612	456	391	218	413	2,060	1,540	768	537	3,260	391	281
21	616	434	348	218	391	1,840	1,300	751	521	2,440	391	267
22	592	369	391	326	521	1,570	1,300	570	521	2,500	413	298
23	552	398	326	131	391	1,570	1,430	665	521	2,690	391	268
24	434	413	283	196	413	1,430	1,430	570	478	2,750	302	268
25	478	413	326	304	370	1,430	1,200	586	365	2,680	420	230
26	413	369	239	282	315	1,580	959	521	261	1,860	375	268
27	434	348	283	261	326	1,600	1,130	437	499	1,740	214	192
28	521	391	284	174	337	1,430	727	603	348	1,720	391	230
29	413	348	304	174	---	1,430	916	636	391	827	391	192
30	478	391	261	326	---	1,300	1,810	686	391	1,500	283	282
31	369	---	282	217	---	1,430	---	686	---	890	261	---
Total	13,275	11,801	9,450	8,237	8,858	99,799	34,898	26,666	20,855	32,968	15,412	7,943
Mean	428	393	305	266	316	3,219	1,163	860	695	1,063	497	265
Cfsm	0.250	0.230	0.178	0.156	0.185	1.88	0.680	0.503	0.406	0.622	0.291	0.155
In.	0.29	0.26	0.21	0.18	0.19	2.17	0.76	0.58	0.45	0.72	0.34	0.17

Calendar year 1962: Max 9,990 Min 155 Mean 1,336 Cfsm 0.781 In. 10.61
Water year 1962-63: Max 11,400 Min 131 Mean 795 Cfsm 0.465 In. 6.32

3-3330. Tippecanoe River near Delphi, Ind.

Location.--Lat 40°37', long 86°45', in sec. 16, T. 25 N., R. 3 W., on right bank 2 miles northeast of Springboro, 2 miles downstream from Big Creek, and 5 miles northwest of Delphi.

Drainage area.--1,857 sq mi.

Records available.--March to December 1903, March to December 1904, March 1905 to July 1906, November and December 1908, July 1939 to September 1963. Published as "at Springboro" 1903.

Gage.--Water-stage recorder. Datum of gage is 552.01 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Mar. 14, 1903, to July 20, 1906, and Nov. 2 to Dec. 31, 1908, chain gage at site 5½ miles downstream at different datum.

Average discharge.--24 years (1939-63), 1,583 cfs.

Extremes.--Maximum discharge during year, 15,700 cfs Mar. 4 (gage height, 12.43 ft); minimum daily, 160 cfs Jan. 23.
1903-6, 1908, 1939-63: Maximum discharge, 22,600 cfs Feb. 10, 1959 (gage height, 15.10 ft); minimum daily, 1 cfs Nov. 2, 3, 1954, caused by repair work at Oakdale Dam, 6½ miles upstream.

Remarks.--Records good except those for periods of doubtful gage-height record, which are fair, and those for periods of no gage-height record or ice effect, which are poor. Flow regulated by powerplant above station.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.2	155
2.3	190
2.7	360
3.5	945
5.0	2,430
7.0	5,060
11.0	12,400
13.0	17,200

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	399	486	367	274	b 290	200	2,080	1,920	615	400	694	560
2	* 304	493	431	b 290	b 300	210	1,950	1,950	545	275	1,490	367
3	380	493	307	b 310	b 330	400	1,550	1,410	784	240	549	552
4	427	430	504	b 400	b 300	8,500	1,530	1,460	674	387	1,400	376
5	420	308	426	350	b 250	13,300	1,330	1,340	550	527	523	306
6	350	566	499	425	316	10,600	1,330	967	698	485	889	388
7	602	460	* 300	350	344	7,590	1,330	1,140	562	416	970	675
8	730	452	393	* 333	403	6,660	1,140	1,220	923	293	679	383
9	657	* 403	299	467	290	7,720	1,040	1,110	1,230	300	943	465
10	643	345	b 250	462	b 310	8,170	1,090	949	2,260	* 294	566	381
11	438	274	b 230	443	* 325	5,300	* 979	957	2,140	345	665	380
12	466	484	b 220	b 350	294	* 4,420	813	998	* 1,380	418	712	462
13	466	545	b 210	b 300	b 270	3,560	918	1,130	1,200	344	875	376
14	466	400	b 192	b 250	295	3,060	910	* 845	1,210	304	509	297
15	466	412	b 400	b 220	b 260	2,550	814	946	949	483	510	529
16	466	620	286	b 260	434	2,300	747	914	591	997	510	327
17	412	536	462	b 220	b 270	2,420	1,260	954	979	507	701	417
18	466	499	455	b 250	364	2,100	1,770	923	702	1,030	514	* 415
19	340	391	392	b 320	431	2,400	1,830	926	596	1,530	830	328
20	850	585	457	b 250	559	2,480	1,790	893	790	4,480	526	412
21	767	459	421	b 250	433	2,170	1,320	894	510	3,010	528	288
22	546	560	480	b 350	549	1,670	1,500	678	535	3,120	528	405
23	676	401	379	b 160	450	1,820	1,930	822	587	3,000	531	404
24	452	475	365	b 250	450	1,460	1,440	676	550	2,910	538	350
25	618	532	360	b 340	400	1,640	1,410	609	480	2,340	787	413
26	452	332	b 340	b 300	350	1,740	1,320	583	396	1,980	542	363
27	452	448	b 310	b 230	360	1,730	1,310	642	387	2,120	453	292
28	639	485	b 310	b 200	380	1,720	899	823	615	2,050	377	421
29	452	237	b 270	b 200	------	1,410	1,030	696	455	989	542	295
30	534	433	b 320	b 350	------	1,540	2,260	879	456	1,700	393	293
31	486	------	277	b 230	------	1,600	------	770	------	1,410	303	------
Total	15,072	13,730	11,098	9,504	10,017	112,640	40,580	30,912	24,133	39,574	20,567	11,920
Mean	512	458	358	307	358	3,634	1,353	997	804	1,277	663	397
Cfsm	.276	.247	.193	.165	.193	1.96	.729	.537	.433	.688	.357	.214
In.	.32	.20	.22	.19	.20	2.26	.81	.62	.48	.79	.41	.24

Calendar year 1962 : Max 10,600 Min 190 Mean 1,462 Cfsm .787 In. 10.68
Water year 1962-63 : Max 13,300 Min 160 Mean 933 Cfsm .502 In. 6.82

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Dec. 7, Feb. 23 to Mar. 4, June 24, 25. Computed from doubtful gage-height record Jan. 5-7, 9-11, Feb. 11, 18, Mar. 5-12.

3-3334.5 Wildcat Creek near Jerome, Ind.

Location.--Lat 40°26'29", long 85°55'08", on line between secs. 13 and 14, T. 23 N., R. 5 E., on right bank at downstream side of bridge on county road, 1100 East, 0.5 miles downstream from Mud Creek and 1.5 miles southeast of Jerome.

Drainage area.--148 sq mi.

Records available.--July 1961 to September 1963.

Gage.--Water-stage recorder. Datum of the gage is 820.00 ft above mean sea level, datum of 1929 (unadjusted).

Extremes.--Maximum discharge during year, 3,390 cfs Mar. 4 (gage height, 11.21 ft); minimum daily, 2.0 cfs, Sept. 10, 28.
1961-63: Maximum discharge, 3,990 cfs Jan. 26, 1962 (gage height, 11.98 ft); minimum daily, that of Sept. 10, 28, 1963.
Maximum stage known, about 18 ft March 1913, from information by local residents.

Remarks.--Records fair except those for periods of ice effect, which are poor.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 12-16, Aug. 14-18, Sept. 18, 19)

Oct. 1 to Mar. 4

1.5	5.3	4.0	333
1.6	8.3	5.0	555
1.7	12	7.0	1,220
1.8	18	10.0	2,670
2.0	33	11.0	3,270
3.0	150		

Mar. 5 to Sept. 30

1.37	2.0	2.5	90
1.4	2.6	3.0	164
1.5	5.3	4.0	404
1.6	8.3	5.0	690
1.7	12	7.0	1,380
1.8	18	11.0	3,270
2.0	35		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	20	22	11	6.0	7.6	684	202	24	11	16	3.5
2	11	19	22	12	6.0	7.6	570	148	22	25	13	3.0
3	11	18	21	12	6.0	14	378	118	22	59	11	2.5
4	12	18	22	13	6.0	1,500	261	97	24	32	10	3.0
5	13	22	22	14	6.0	2,810	182	90	28	20	9.0	3.5
6	13	22	22	14	10	1,620	148	74	30	13	9.0	3.5
7	19	21	21	15	20	720	118	68	23	11	11	3.0
8	65	19	20	15	16	458	104	64	22	9.0	12	3.0
9	105	17	20	16	14	458	84	58	19	8.0	10	3.0
10	70	16	18	17	12	486	71	53	19	6.0	9.4	2.0
11	48	15	16	20	11	352	63	48	33	5.6	8.0	2.5
12	39	* 14	14	18	10	300	57	43	27	5.6	8.0	3.0
13	33	13	12	15	9.5	514	53	60	21	15	* 9.4	3.5
14	30	13	12	13	9.0	458	49	65	19	28	7.7	3.5
15	30	13	12	11	8.4	300	45	53	15	24	6.2	3.0
16	29	16	12	10	8.2	274	44	47	14	22	5.3	3.0
17	29	37	* 13	9.2	8.0	630	48	47	13	23	5.0	3.0
18	28	60	15	8.6	* 14	486	52	45	12	26	4.5	* 2.6
19	28	51	18	8.2	20	542	82	37	12	23	7.0	2.6
20	39	44	22	7.8	22	660	213	* 38	13	321	10	2.8
21	111	43	20	7.4	18	404	132	32	* 12	542	8.0	3.0
22	93	39	19	* 7.0	15	236	111	30	9.4	261	7.0	3.0
23	* 63	32	17	6.8	13	182	* 458	28	8.7	140	5.0	2.8
24	45	28	15	6.6	11	156	378	26	8.3	* 90	4.5	2.3
25	38	25	13	6.5	10	140	224	24	8.0	63	4.0	2.3
26	34	24	11	6.4	9.0	182	156	24	7.4	48	3.5	2.7
27	30	23	11	6.3	8.0	* 352	118	27	7.1	37	3.0	2.5
28	27	23	10	6.2	7.6	261	97	36	7.1	30	3.5	2.0
29	25	23	10	6.1	--------	173	104	35	8.7	27	4.5	2.2
30	23	22	11	6.0	------	132	202	30	11	22	4.0	2.5
31	21	------	11	6.0	-----	134	-----	26	----	19	3.5	-------
Total	1,172	750	504	331.1	313.7	14,949.2	5,286	1,773	499.7	1,966.2	232.0	84.8
Mean	37.8	25.0	16.3	10.7	11.2	482	176	57.2	16.7	63.4	7.48	2.83
Cfsm	0.255	0.169	0.110	0.072	0.076	3.26	1.19	0.386	0.113	0.428	0.051	0.019
In.	0.29	0.19	0.13	0.08	0.08	3.76	1.33	0.45	0.13	0.49	0.06	0.02

Calendar year 1962 : Max 2,650 Min 10 Mean 132 Cfsm 0.892 In. 12.09
Water year 1962-63 : Max 2,810 Min 2.0 Mean 76.3 Cfsm 0.516 In. 7.01

Peak discharge (base, 1,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-4	2300	11.21	3,390				

* Discharge measurement made on this day.

Note.--No gage-height record Oct. 28 to Nov. 11, July 6-12, Aug. 2-6, Aug. 19 to Sept. 17, Sept. 20-30; stage-discharge relation affected by ice Dec. 15-19, 24-31, Jan. 16 to Feb. 17, Feb. 19 to Mar. 3.

3-3336. Kokomo Creek near Kokomo, Ind.

Location.--Lat 40°26'28", long 86°05'20", midway on line between secs. 16 and 17, T. 23 N., R. 4 E., on left bank at upstream side of county road bridge, 3.4 miles southeast of Kokomo, and 4.2 miles upstream from mouth.

Drainage area.--24.3 sq mi.

Records available.--July 1959 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 807.68 ft above mean sea level, datum of 1929 (unadjusted).

Extremes.--Maximum discharge during year, 513 cfs Mar. 4 or 5 (gage height, 7.35 ft, from floodmarks); minimum daily, 0.5 cfs Sept. 28-30; minimum gage height, 1.35 ft Sept. 8.
1959-63: Maximum discharge, that of Mar. 4 or 5, 1963; maximum gage height, 8.63 ft Jan. 26, 1962 (ice jam); minimum, 0.4 cfs Aug. 27, 28, Sept. 13-15, 1959; minimum gage height, 1.30 ft Aug. 12, 27, 1959.

Remarks.--Records fair except those for periods of no gage-height record, indefinite stage-discharge relation and ice effect, which are poor.

Rating table, water year 1962-63, except periods of indefinite stage-discharge relation and ice effect
(gage height, in feet, and discharge, in cubic feet per second)

1.3	0.3
1.4	0.8
1.5	1.9
1.6	3.7
1.7	6.5
2.0	19
2.5	48
4.0	166
6.0	355
8.0	585

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.9	4.5	4.3	1.9	1.4	1.7	110	37	4.3	2.2	1.9	0.6
2	1.9	4.0	4.3	2.0	1.4	1.7	70	31	3.7	2.2	1.7	.6
3	2.5	3.7	4.3	2.3	1.4	3.6	48	25	3.4	1.7	1.6	.6
4	2.2	3.7	4.3	2.3	1.4	a 320	41	21	13	1.6	1.4	.6
5	2.0	4.3	4.3	2.5	1.4	a 430	32	19	29	1.5	1.3	.6
6	2.3	3.7	4.3	2.6	2.5	199	28	17	25	1.9	1.4	.6
7	5.6	3.4	4.0	2.6	5.0	86	23	15	14	1.9	2.1	.6
8	55	3.4	4.0	2.6	4.3	62	20	14	12	1.6	1.5	.6
9	26	3.4	3.7	2.8	3.2	70	18	13	9.5	1.5	1.3	.6
10	14	3.4	3.2	3.0	3.0	66	14	12	14	1.4	1.2	.6
11	11	3.4	3.0	3.4	2.6	52	13	10	41	1.4	1.0	.6
12	9.8	* 3.4	2.3	3.0	2.3	45	12	9.1	18	1.3	1.0	.6
13	8.4	3.2	2.2	2.3	2.1	70	12	65	12	2.2	* 1.2	.6
14	7.2	3.0	2.5	1.9	2.0	55	10	48	9.1	3.7	1.2	.6
15	7.6	3.0	2.6	1.5	1.9	41	9.5	27	7.2	2.3	1.1	.6
16	7.6	4.0	3.2	1.4	1.8	42	9.5	26	6.2	2.3	1.1	.6
17	6.5	7.2	* 3.2	1.4	1.8	90	11	16	5.1	1.9	1.1	.6
18	5.9	9.8	3.2	1.6	* 3.9	58	12	13	4.5	1.5	1.1	* .6
19	5.9	8.0	3.7	1.8	6.9	86	21	10	4.0	* 4.3	1.8	.6
20	19	7.6	4.0	1.6	6.4	82	32	* 9.8	4.5	94	1.7	.6
21	32	8.0	3.2	1.5	4.0	48	23	8.4	* 3.4	36	1.4	.6
22	* 18	7.2	3.4	1.4	3.0	36	26	6.9	3.0	17	1.2	.8
23	12	5.7	3.2	1.4	2.5	32	* 86	5.9	2.6	10	1.0	.6
24	9.1	4.8	2.5	1.4	2.3	29	52	5.7	2.5	6.5	1.0	.6
25	7.6	4.5	2.3	1.4	2.1	25	40	5.1	2.3	5.1	.9	.6
26	6.9	4.3	2.2	1.4	1.9	32	31	4.8	2.3	4.0	.7	.6
27	5.9	4.5	2.0	1.4	1.8	48	25	5.7	2.3	3.2	.7	.6
28	5.9	4.5	1.9	1.4	1.7	* 40	22	6.5	2.2	3.0	.6	.5
29	5.4	4.5	1.9	1.4	----------	31	22	5.7	3.7	3.0	.6	.5
30	5.1	4.3	2.3	1.4	- - - - - -	25	41	5.9	2.5	2.3	.6	.5
31	5.1	- - - - - -	2.0	1.4	- - - - - -	31	- - - - - -	4.8	- - - - - -	2.0	.6	- - - - - -
Total	315.3	142.4	97.5	60.0	76.0	2,238.0	914.0	503.3	266.3	224.5	37.0	17.9
Mean	10.2	4.75	3.15	1.94	2.71	72.2	30.5	16.2	8.88	7.24	1.19	0.597
Cfsm	0.420	0.195	0.130	0.080	0.112	2.97	1.26	0.667	0.365	0.298	0.049	0.025
In.	0.48	0.22	0.15	0.09	0.12	3.42	1.41	0.77	0.41	0.34	0.06	0.03

Calendar year 1962 : Max 406 Min 1.2 Mean 21.0 Cfsm 0.864 In. 11.74
Water year 1962-63 : Max 430 Min 0.5 Mean 13.4 Cfsm 0.551 In. 7.50

Peak discharge (base, 260 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-4	unknown	7.35	513				

* Discharge measurement made on this day.
a No gage-height record.
Note.--Stage-discharge record affected by ice Dec. 25-29, Jan. 16 to Feb. 7, Feb. 12-17, Feb. 24 to Mar. 2; stage-discharge relation indefinite Aug. 1 to Sept. 30.

3-3337. Wildcat Creek at Kokomo, Ind.

Location.--Lat 40°28', long 86°09', in NW¼ sec. 2, T. 23 N., R. 3 E., on right bank in Kokomo, 0.3 mile downstream from Kokomo Creek, 0.4 mile upstream from Dixon Road Bridge and on property of Continental Steel Corporation.

Drainage area.--245 sq mi.

Records available.--October 1955 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 777 ft (from topographic map).

Average discharge.--8 years, 222 cfs.

Extremes.--Maximum discharge during year, 2,760 cfs Mar. 6 (gage height, 7.05 ft); minimum, 14 cfs Sept. 8 (gage height, 1.07 ft). 1955-63: Maximum discharge, 8,100 cfs Feb. 10, 1959 (gage height, 10.83 ft); minimum, 5.0 cfs Sept. 30, 1956; minimum gage height, 1.05 ft Dec. 4, 18, 1960.

Remarks.--Records Oct. 1 to Apr. 6 are poor, and Apr. 7 to Sept. 30 are fair.

Rating table, water year 1962-63 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1-7, 11-20, 24-26, Apr. 23-25, June 20, 21, 27-29)

1.0	12	2.5	211
1.1	17	3.0	365
1.2	24	4.0	760
1.6	57	5.0	1,280
2.0	107	7.0	2,760

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	25	57	116	29	21	24	1,000	382	54	52	37	17
2	28	52	112	30	22	24	800	295	49	53	38	18
3	52	50	104	31	23	48	600	236	50	46	34	24
4	35	50	52	32	25	550	450	186	81	38	29	24
5	30	52	44	34	35	1,900	300	176	179	44	34	23
6	28	48	44	36	45	2,600	250	144	107	46	40	23
7	45	48	44	35	60	1,620	224	121	79	40	43	19
8	239	48	40	30	50	760	186	106	75	46	36	15
9	165	48	37	30	40	600	154	102	55	45	36	21
10	154	48	34	35	35	700	134	46	151	44	29	23
11	107	46	31	50	30	500	111	40	280	44	26	24
12	89	* 44	28	45	29	450	97	40	144	43	35	32
13	76	44	26	40	28	450	92	229	99	105	* 33	29
14	59	44	25	35	27	650	84	118	78	56	30	28
15	59	44	27	30	26	500	80	86	59	44	29	23
16	59	63	32	25	25	450	75	103	51	80	30	21
17	52	58	* 37	25	25	500	103	114	52	49	25	30
18	52	53	40	25	25	550	109	94	48	48	22	* 29
19	49	52	43	30	* 35	600	163	84	45	168	59	24
20	130	52	46	28	60	800	280	* 84	65	430	32	23
21	144	52	42	26	50	600	280	68	* 41	550	29	22
22	165	53	39	* 24	40	400	295	59	35	382	30	19
23	* 134	55	36	24	30	300	* 510	57	30	236	29	23
24	111	80	33	23	28	250	590	52	28	165	28	24
25	93	86	31	23	26	200	435	48	27	* 106	27	24
26	75	85	30	23	25	250	312	50	26	81	28	24
27	73	88	29	23	25	* 500	236	83	26	62	29	24
28	61	109	29	22	24	350	186	109	26	49	34	21
29	61	118	28	22	----------	250	227	108	57	49	27	19
30	65	118	28	22	- - - - - -	200	295	85	49	45	25	23
31	61	- - - - - -	28	22	- - - - - -	200	- - - - - -	72	- - - - - -	41	22	- - - - - -
Total	2,576	1,845	1,315	909	914	17,776	8,658	3,577	2,146	3,287	985	693
Mean	83.1	61.5	42.4	29.3	32.6	573	289	115	71.5	106	31.8	23.1
Cfsm	0.339	0.251	0.173	0.120	0.133	2.34	1.18	0.469	0.292	0.433	0.130	0.094
In.	0.39	0.28	0.20	0.14	0.14	2.70	1.32	0.54	0.33	0.50	0.15	0.10

Calendar year 1962: Max 4,600 Min 25 Mean 230 Cfsm 0.939 In. 12.75
Water year 1962-63: Max 2,600 Min 15 Mean 122 Cfsm 0.498 In. 6.79

Peak discharge (base, 2,100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-6	1000	7.05	2,760				

* Discharge measurement made on this day.

Note.--No gage-height record Dec. 8 to Mar. 2, Mar. 9 to Apr. 6, May 11, 12, June 22-26. Doubtful gage-height record Oct. 1 to Dec. 7, Mar. 3-8.

3-3340. Wildcat Creek at Owasco, Ind.

Location.--Lat 40°27'50", long 86°38'15", in SE¼SE¼ sec. 4, T. 23 N., R. 2 W., on left bank, 500 ft downstream from State Highway 39 bridge, half a mile northwest of Owasco and 15 miles upstream from South Fork Wildcat Creek.

Drainage area.--390 sq mi.

Records available.--October 1943 to September 1963. Prior to March 1944, monthly discharge only, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 624.63 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1950, wire-weight gage 500 ft upstream at same datum.

Average discharge.--20 years, 368 cfs.

Extremes.--Maximum discharge during year, 6,860 cfs Mar. 6 (gage height, 10.18 ft); maximum gage height, 10.34 ft Mar. 5 (result of ice jam); minimum, 18 cfs Sept. 25, 26 (gage height, 1.10 ft).
1943-63: Maximum discharge, 10,200 cfs Jan. 5, 1950 (gage height, 13.3 ft), from rating curve extended above 6,700 cfs; minimum observed, 10 cfs Sept. 25, 1944.
Flood in May 18, 1943, reached a stage of 14.0 ft, from floodmarks.

Remarks.--Records fair.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used July 17-19, Aug. 12, 13, 18-20 Aug. 23 to Sept. 30)

0.9	18	3.0	520
1.2	36	5.0	1,520
1.6	82	7.0	2,820
2.0	157	9.0	4,860
2.5	314	11.0	8,400

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	44	100	157	48	25	32	885	565	157	93	95	40
2	40	98	148	48	25	32	1,140	542	139	68	84	35
3	50	93	142	52	25	60	1,040	431	124	75	87	30
4	58	88	* 142	53	* 45	1,300	790	370	122	66	87	28
5	62	92	109	57	60	4,500	610	314	169	54	75	32
6	47	92	90	62	70	6,500	475	279	362	50	72	40
7	85	90	81	55	100	4,770	389	245	211	64	87	43
8	530	* 82	74	* 49	70	1,680	350	211	182	66	87	39
9	353	87	71	55	60	1,080	296	196	170	50	79	30
10	* 228	82	67	58	52	1,040	* 262	182	146	49	71	27
11	196	82	56	71	46	885	228	148	700	49	67	24
12	153	82	50	66	42	745	196	131	* 413	45	55	24
13	135	78	47	52	40	700	182	220	245	54	54	25
14	120	82	45	45	38	835	170	468	182	93	75	39
15	107	79	50	41	35	790	157	* 262	146	116	67	44
16	100	85	54	39	33	610	153	196	129	116	64	43
17	96	102	58	37	33	655	157	211	109	105	61	50
18	95	122	64	35	50	885	211	211	98	75	50	42
19	87	109	78	33	70	985	228	182	93	* 81	55	* 39
20	98	107	84	31	100	1,040	431	182	95	1,710	75	32
21	236	102	85	30	80	1,040	453	170	111	1,180	87	30
22	228	105	70	29	60	745	431	148	92	935	60	25
23	228	102	64	28	50	542	610	133	79	610	* 54	22
24	182	103	58	27	45	431	835	127	68	389	57	22
25	153	122	53	27	40	389	790	120	60	279	57	20
26	133	126	48	26	37	431	565	114	60	211	56	20
27	122	129	45	26	35	520	431	122	60	170	45	20
28	112	129	42	25	33	610	350	182	60	144	54	20
29	107	157	43	25	-------	542	314	389	61	126	53	23
30	98	153	44	25	------	410	475	262	56	114	46	24
31	107	------	46	25	-----	389	-----	196	----	105	41	-------
Total	4,390	3,060	2,265	1,280	1,399	35,173	13,604	7,509	4,699	7,342	2,057	932
Mean	142	102	73.1	41.3	50.0	1,135	453	242	157	237	66.4	31.1
Cfsm	0.364	0.262	0.187	0.106	0.128	2.91	1.16	0.621	0.403	0.608	0.170	0.080
In.	0.42	0.29	0.22	0.12	0.13	3.36	1.29	0.72	0.45	0.70	0.20	0.09

Calendar year 1962: Max 7,220 Min 40 Mean 392 Cfsm 1.01 In. 13.63
Water year 1962-63: Max 6,500 Min 20 Mean 229 Cfsm 0.587 In. 7.99

Peak discharge (base, 3,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-6	2330	10.18	6,860				

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 11-18, 22-31, Jan. 14 to Mar. 5. No gage-height record Jan. 24, 25, 28, 29.

3-3345. South Fork Wildcat Creek near Lafayette, Ind.

Location.--Lat 40°25'04", long 86°46'05", in SW¼ sec. 21, T. 23 N., R. 3 W., on right bank 40 ft upstream from bridge on State Highway 26, one-half mile upstream from Middle Fork, 4¼ miles upstream from mouth, and 5 miles east of Lafayette.

Drainage area.--246 sq mi.

Records available.--October 1943 to September 1963. Prior to March 1944 monthly discharge only, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 563.45 ft above mean sea level (State Highway Department of Indiana bench mark). Prior to July 29, 1954, wire-weight gage at site 40 ft downstream at same datum.

Average discharge.--20 years, 236 cfs.

Extremes.--Maximum discharge during year, 6,420 cfs Mar. 4 (gage height, 12.23 ft); minimum, 22 cfs Sept. 17, 24-30; minimum gage height, 1.21 ft July 12, 13.

1943-63: Maximum discharge, 12,600 cfs June 10, 1958 (gage height, 15.28 ft), from rating curve extended above 6,000 cfs on basis of contracted-opening measurement at 16.8 ft; minimum, 15 cfs Sept. 18, 19, 22, 1944.

Flood in May 1943 reached a stage of 16.8 ft, from floodmarks (discharge, 17,900 cfs, by contracted-opening method).

Remarks.--Records fair except those for periods of ice effect, which are poor.

Rating table, water year 1961-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 10-17, Oct. 20, Oct. 22 to Nov. 6, Nov. 17-26, May 2-9, 13-16, June 11, 12, July 17, 19)

1.1	17	3.0	466
1.2	26	5.0	1,260
1.4	50	8.0	2,670
1.8	120	11.0	5,020
2.2	215		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	41	62	52	37	25	28	980	303	56	68	60	30
2	40	60	50	38	25	28	900	230	54	54	53	30
3	44	59	50	40	25	40	580	188	52	44	49	29
4	49	58	* 50	41	* 35	3,570	448	159	54	40	49	28
5	44	54	54	42	40	4,720	348	141	56	37	46	29
6	41	56	54	44	50	* 2,800	288	126	54	38	46	29
7	56	54	54	44	60	1,340	244	114	82	42	52	28
8	266	* 53	50	* 44	50	860	202	106	68	40	52	29
9	303	52	45	45	45	700	176	98	62	34	47	28
10	163	50	42	46	40	700	* 154	96	62	33	74	26
11	* 112	50	40	50	37	541	141	91	128	29	54	27
12	87	50	37	53	35	448	130	86	* 96	29	44	26
13	75	49	35	50	33	430	124	96	75	33	42	26
14	67	49	35	45	31	466	116	* 133	62	52	41	25
15	60	49	37	42	29	348	104	124	56	56	40	25
16	58	53	40	39	28	288	102	100	50	* 68	37	24
17	56	65	45	37	28	413	104	95	45	100	36	22
18	54	77	50	35	35	503	104	89	45	95	36	23
19	50	86	53	33	50	466	112	82	44	100	42	* 23
20	108	82	54	31	60	660	156	77	45	980	* 62	24
21	364	79	54	29	50	466	139	75	44	1,140	49	24
22	258	75	50	28	45	318	128	68	40	940	41	24
23	176	67	46	27	40	258	297	64	40	466	37	24
24	130	60	43	26	35	215	303	62	37	303	36	22
25	106	59	40	26	32	215	230	59	35	202	37	22
26	93	54	37	26	30	303	176	56	35	154	46	22
27	80	54	34	26	29	430	154	59	35	124	35	22
28	74	54	33	26	28	364	137	82	34	98	35	22
29	68	54	33	25	---	273	141	80	33	86	36	22
30	65	53	34	25	- - -	230	288	72	41	75	35	22
31	64	- - -	35	25	- - -	252	- - -	62	- - -	67	33	- - -
Total	3,252	1,777	1,366	1,125	1,050	22,673	7,506	3,273	1,620	5,627	1,382	757
Mean	105	59.2	44.1	36.3	37.5	731	250	106	54.0	182	44.6	25.2
Cfsm	0.427	0.241	0.179	0.148	0.152	2.97	1.02	0.431	0.220	0.740	0.181	0.102
In.	0.49	0.27	0.21	0.17	0.16	3.42	1.14	0.50	0.24	0.85	0.21	0.11

Calendar year 1962: Max 3,500 Min 33 Mean 213 Cfsm 0.866 In. 11.74
Water year 1962-63: Max 4,720 Min 22 Mean 141 Cfsm 0.573 In. 7.77

Peak discharge (base, 3,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-4	1800	12.23	6,420				

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 9-18, Dec. 23 to Jan. 3, Jan. 13 to Mar. 3.

3-3350. Wildcat Creek near Lafayette, Ind.

Location.--Lat 40°26'26", long 86°49'46", on line between north half of secs. 13 and 14, T. 23 N., R. 4 W., on downstream side of county highway bridge, 2 miles east of corporate limits of Lafayette, 2½ miles upstream from mouth, and 3 miles downstream from South Fork Wildcat Creek.

Drainage area.--791 sq mi.

Records available.--May 1954 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 527.66 ft above mean sea level, datum of 1929 (Indiana Flood Control and Water Resources Commission bench mark). Prior to June 13, 1957, wire-weight gage at present site and datum.

Average discharge.--9 years, 746 cfs.

Extremes.-- Maximum discharge during year, 10,700 cfs Mar. 6 (gage height, 14.40 ft); minimum daily, 52 cfs Jan. 29-Feb. 2; minimum gage height, 2.54 ft Sept. 26-28.
1954-63: Maximum discharge, 25,000 cfs June 10, 1958 (gage height, 21.52 ft), from rating curve extended above 18,000 cfs by logarithmic plotting; minimum, 46 cfs Sept. 27-29, 1954 (gage height, 2.40 ft).

Remarks.--Records good except those for periods of no gage-height record or ice effect, which are poor.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 25, 31, Apr. 8-22)

Oct. 1 to Mar. 5		Mar. 6 to Sept. 30	
2.7	86	2.5	56
3.0	176	2.7	103
3.5	395	3.0	199
4.0	690	3.5	413
6.0	2,200	4.0	700
10.0	5,900	6.0	2,200
13.0	9,150	10.0	5,900
		14.0	10,200

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	113	205	246	95	52	64	2,040	895	298	168	196	88
2	110	198	246	100	52	64	2,360	830	257	164	138	88
3	119	191	238	100	80	120	1,960	700	226	138	178	86
4	128	183	* 234	110	* 110	2,600	1,480	605	214	129	174	83
5	137	183	225	120	140	9,000	1,170	518	210	120	171	78
6	125	183	187	120	170	* 9,590	960	464	427	126	171	80
7	132	180	169	120	200	* 7,170	798	413	365	126	174	85
8	1,100	173	153	110	150	3,720	700	389	277	129	164	88
9	892	* 169	150	* 130	120	2,360	605	342	277	118	161	83
10	534	169	137	140	100	2,280	546	342	233	112	171	80
11	* 395	166	110	150	95	1,960	* 491	298	689	112	158	78
12	322	166	100	140	90	1,560	438	257	* 728	109	151	78
13	267	163	95	120	80	1,400	413	342	438	118	145	76
14	242	160	90	100	75	1,560	389	667	320	145	142	74
15	213	160	100	90	72	1,400	365	* 491	273	207	145	83
16	194	173	110	80	68	1,100	342	365	233	* 222	142	96
17	180	194	120	76	66	1,170	365	342	207	269	135	86
18	173	238	130	72	100	1,560	389	365	182	277	129	86
19	169	242	150	68	140	1,720	438	365	174	229	138	* 83
20	206	229	180	65	200	2,040	667	320	178	2,790	* 142	80
21	534	221	160	62	150	1,800	700	320	174	2,840	145	78
22	625	213	140	60	120	1,320	667	277	171	2,200	132	76
23	476	213	130	58	100	960	960	253	154	1,320	120	74
24	395	194	120	56	90	830	1,170	253	138	830	115	69
25	345	202	110	54	80	765	1,100	245	132	546	109	67
26	289	213	100	54	74	830	830	233	129	389	112	65
27	263	221	90	53	70	1,030	635	237	129	298	106	65
28	238	221	88	53	66	1,100	546	308	123	261	103	65
29	221	229	88	52	----------	960	518	575	120	229	100	69
30	213	254	90	52	------	798	798	464	120	210	90	71
31	202	------	92	52	------	765	------	365	------	207	93	------
Total	9,552	5,907	4,378	2,712	2,910	63,596	24,840	12,840	7,596	15,138	4,400	2,349
Mean	308	197	141	87.5	104	2,051	828	414	253	488	142	78.3
Cfsm	0.389	0.249	0.178	0.111	0.131	2.59	1.05	0.523	0.320	0.617	0.180	0.099
In.	0.45	0.28	0.21	0.13	0.14	2.99	1.17	0.60	0.36	0.71	0.21	0.11

Calendar year 1962: Max 10,300 Min 88 Mean 748 Cfsm 0.946 In. 12.87
Water year 1962-63: Max 9,590 Min 52 Mean 428 Cfsm 0.541 In. 7.36

Peak discharge (base, 6,300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-6	0600	14.40	10,700				

* Discharge measurement made on this day.

Note.--No gage-height record Dec. 11 to Mar. 5. Stage-discharge relation affected by ice on most days during this period.

3-3355. Wabash River at Lafayette, Ind.

Location.--Lat 40°25'19", long 86°53'49", in sec. 20, T. 23 N., R. 4 W., on right bank 20 ft downstream from Brown Street Bridge in Lafayette, 5.1 miles downstream from Wildcat Creek, and at mile 311.9.

Drainage area.--7,247 sq mi.

Records available.--February 1901 to January 1902, March to December 1902, January to May 1903, (gage heights only), October 1923 to September 1963. Monthly discharge only for some periods, published in WSP 1305. Gage-height records collected at same site since October 1913 are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 504.14 ft above mean sea level, datum of 1929. Oct. 7, 1923 to Nov. 20, 1933, chain gage at same site and datum. Prior to May 2, 1903, staff gage half a mile upstream at different datum.

Average discharge.--40 years (1923-63), 6,298 cfs.

Extremes.--Maximum discharge during year, about 63,000 cfs Mar. 6 (gage height, 22.62 ft, ice jam); minimum, 449 cfs Jan. 13 (gage height, 0.47 ft), result of freezeup.
1901-3, 1923-63: Maximum discharge, 131,000 cfs May 19, 1943 (gage height, 28.47 ft); minimum, 265 cfs Jan. 12, 1954; minimum gage height, 0.24 ft Aug. 15, 18, 1901.
Maximum stage known, 32.9 ft Mar. 26, 1913, from floodmark, determined by U. S. Weather Bureau (discharge, 190,000 cfs, estimated).

Remarks.--Records good, except for periods of ice effect and no gage-height record, which are poor. Flow regulated at low stages by powerplants upstream. Records of water temperatures for the water year 1963 are given in WSP 1948.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.7	610	10.0	15,000
1.1	950	14.0	23,600
1.3	1,140	15.0	26,900
3.0	3,230		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,000	1,340	1,450	1,040	920	1,200	5,300	6,890	3,510	1,190	1,920	900
2	1,100	1,450	1,340	1,040	940	1,200	3,190	7,210	2,820	1,090	1,920	900
3	1,000	1,450	1,340	1,140	960	1,200	3,360	6,730	2,560	995	1,920	900
4	1,200	1,450	1,340	1,190	980	10,000	7,690	5,450	2,300	1,190	1,920	840
5	1,300	1,290	1,340	1,190	1,000	40,000	6,410	4,850	2,040	1,190	1,920	840
6	1,400	1,340	1,340	1,090	1,100	60,000	5,770	4,400	2,690	1,290	1,680	840
7	2,000	1,450	1,340	1,290	1,200	* 57,000	5,450	3,950	2,950	1,190	1,560	900
8	2,690	1,340	1,090	1,140	1,300	45,000	4,700	4,100	3,510	1,040	1,680	900
9	2,950	1,340	900	1,190	1,500	35,000	4,250	3,510	4,250	* 950	1,450	850
10	2,170	1,290	800	1,450	1,400	29,000	3,950	3,230	5,000	905	1,560	800
11	2,040	1,340	800	1,340	1,300	24,500	3,650	3,230	6,410	860	1,290	800
12	1,800	1,140	950	1,140	1,300	17,400	3,230	2,950	* 6,250	950	1,290	800
13	1,680	1,450	900	770	1,300	14,000	3,370	* 3,090	6,090	950	1,290	800
14	1,560	1,340	905	1,000	1,200	13,200	2,820	3,510	4,250	1,240	1,340	760
15	1,450	1,190	1,090	1,100	1,200	14,000	2,820	3,230	3,370	1,340	1,140	760
16	1,450	1,290	1,100	1,000	1,200	11,600	2,690	3,230	2,820	1,560	1,190	740
17	1,340	1,560	1,140	1,000	1,100	9,720	2,560	2,690	2,430	2,040	1,190	720
18	1,240	1,560	1,200	1,100	1,100	10,100	3,650	2,950	2,170	2,040	1,140	* 720
19	1,340	1,560	1,200	1,200	1,200	12,600	5,450	2,820	2,040	2,560	1,290	770
20	1,680	1,560	1,290	1,300	* 1,500	13,200	6,730	2,690	2,040	9,890	1,340	730
21	2,430	1,920	1,340	1,140	1,400	14,200	9,040	2,690	1,800	10,600	1,140	730
22	2,560	2,040	1,240	1,000	1,400	13,800	9,210	2,690	1,560	9,890	1,140	690
23	2,170	1,800	1,290	940	1,400	10,400	9,550	2,300	1,560	3,190	* 1,000	770
24	* 2,040	1,560	1,090	930	1,400	7,850	* 10,700	2,300	1,560	6,730	1,000	730
25	1,800	1,560	1,040	920	1,400	6,730	11,400	2,560	1,450	5,610	1,100	730
26	1,800	1,680	1,140	920	1,300	6,570	9,550	1,920	1,290	4,700	1,200	730
27	1,680	1,340	995	920	1,300	* 6,730	7,370	1,920	1,140	3,650	1,100	650
28	1,680	1,450	1,040	920	1,300	7,690	5,610	2,040	1,290	3,370	1,000	650
29	1,560	1,450	1,190	920	---	8,020	4,700	2,560	1,240	2,950	950	730
30	1,450	* 1,450	1,190	920	---	6,730	5,610	3,800	1,190	2,300	900	650
31	1,450	---	1,240	920	---	6,090	---	4,400	---	2,690	900	---
Total	53,010	43,980	35,650	33,160	34,600	514,730	179,780	109,890	83,580	95,140	41,460	23,330
Mean	1,710	1,466	1,150	1,070	1,236	16,600	5,993	3,545	2,786	3,069	1,337	778
Cfsm	0.236	0.202	0.159	0.148	0.171	2.29	0.827	0.489	0.384	0.423	0.184	0.107
In.	0.27	0.23	0.18	0.17	0.18	2.64	0.92	0 56	0.43	0.49	0.21	0.12

Calendar year1962 : Max 45,000 Min 800 Mean 5,793 Cfsm 0.799 In. 10.84
Water year1962-63 : Max 60,000 Min 650 Mean 3,420 Cfsm 0.472 In. 6.40

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 9-11, 13, 16, 18-19, Jan. 14-20, Jan. 22 to Mar. 10; no gage-height record Oct. 1-7, Aug. 23 to Sept. 18.

3-3357. Big Pine Creek near Williamsport, Ind.

Location.--Lat 40°19', long 87°17', in SE¼ sec. 26, T. 22 N., R. 8 W., on upstream side of highway bridge, 1.6 miles north of city limits of Williamsport, and 2.5 miles upstream from mouth.

Drainage area.--329 sq. mi.

Records available.--October 1955 to September 1963.

Gage.--Wire-weight gage, read twice daily, and crest-stage gage. Datum of gage is 511.68 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission).

Average discharge.--8 years, 259 cfs.

Extremes.--Maximum discharge during year, 7,440 cfs Mar. 4 (gage height, 12.80 ft); minimum, 7.9 cfs Sept. 29; minimum gage height, 2.80 ft July 10-13.
1955-63: Maximum discharge, 12,600 cfs Feb. 10, 1959 (gage height, 16.00 ft from floodmark), from rating curve extended above 6,000 cfs on basis of contracted-opening measurement; minimum daily, 7.0 cfs Oct. 10, 1956.

Remarks.--Records poor.

Rating tables, water year 1962-63, except periods of ice effect or indefinite stage-discharge relation
(gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Sept. 18-30)

Oct. 1 to Mar. 3		Mar. 4 to Sept. 30			
2.8	9.0	2.6	7.5	4.0	230
2.9	14	2.8	17	6.0	1,070
3.0	21	3.0	32	8.0	2,360
3.2	46	3.2	56	12.0	6,400
3.6	120	3.5	109		
4.0	230				

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	24	14	15	14	16	450	350	37	24	35	13
2	25	23	14	15	14	16	390	313	35	20	28	12
3	30	23	* 16	15	14	70	313	263	34	19	25	12
4	33	28	19	15	14	3,000	246	213	33	18	25	11
5	32	29	22	16	* 15	* 5,320	165	175	78	18	24	11
6	31	28	23	18	20	2,600	142	151	71	21	23	11
7	25	* 28	20	* 20	35	1,400	121	136	175	23	23	10
8	22	26	20	21	31	870	107	117	730	* 21	22	11
9	39	25	19	21	28	690	* 89	93	450	19	22	11
10	25	25	19	23	25	530	78	89	* 263	18	22	11
11	* 20	23	18	23	23	430	73	87	213	17	22	10
12	20	22	17	21	21	410	71	86	125	17	22	10
13	20	21	14	21	20	370	71	* 86	95	17	22	10
14	20	21	13	20	19	330	65	78	86	20	22	9.5
15	20	26	14	19	18	280	60	71	78	23	21	9.0
16	88	32	15	18	18	230	57	71	70	23	21	8.5
17	204	38	17	17	18	246	63	71	60	22	20	8.5
18	200	36	19	16	22	246	99	68	43	196	19	* 8.3
19	168	31	21	16	27	350	125	62	38	263	* 21	8.3
20	78	29	24	15	38	450	119	59	38	470	27	8.3
21	64	26	21	15	30	370	89	52	38	820	26	8.3
22	59	24	19	14	25	246	263	48	33	970	24	9.6
23	52	23	18	14	22	151	690	45	29	570	23	8.3
24	46	22	17	14	19	133	650	43	27	330	21	8.3
25	45	21	17	14	17	129	470	41	28	207	19	8.3
26	43	20	16	14	16	170	280	41	31	125	17	8.3
27	40	18	16	14	16	207	178	42	31	75	16	8.3
28	32	17	16	14	16	201	144	48	31	36	15	8.3
29	28	16	15	14	---------	161	109	48	30	30	14	7.9
30	25	15	15	14	------	161	296	48	29	41	14	8.3
31	25	------	15	14	------	185	------	41	------	40	13	------
Total	1,577	740	543	520	595	21,968	6,073	3,136	3,059	4,513	668	287.3
Mean	50.9	24.7	17.5	16.8	21.2	709	202	101	102	146	21.5	9.58
Cfsm	0.155	0.075	0.053	0.051	0.064	2.16	0.614	0.307	0.310	0.444	0.065	0.029
In.	0.18	0.08	0.06	0.06	0.07	2.49	0.68	0.35	0.35	0.51	0.07	0.03

Calendar year 1962: Max 2,760 Min 13 Mean 259 Cfsm 0.787 In. 10.67
Water year 1962-63: Max 5,320 Min 7.9 Mean 120 Cfsm 0.365 In. 4.93

Peak discharge (base, 2,800 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-4	Unknown	12.80	7,440				

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 24 to Jan. 7, Jan. 15 to Feb. 6, Feb. 8 to Mar. 4. Stage-discharge relation indefinite Aug. 25 to Sept. 17. No gage-height record Oct. 10-14, Dec. 18-22, Jan. 23-27, June 2-4.

3-3360. Wabash River at Covington, Ind.

Location.--Lat 40°08'24", long 87°24'20", in sec. 35, T. 20 N., R. 9 W., near center of span on downstream side of highway bridge at Covington, 2.9 miles downstream from Opossum Run, 3.6 miles upstream from Spring Creek, and at mile 271.1.

Drainage area.--8,208 sq mi.

Records available.--October 1939 to September 1963. Gage-height records collected at site three-eighths of a mile downstream January 1927 to December 1930 and at present site since December 1930 are contained in reports of U. S. Weather Bureau.

Gage.--Wire-weight gage read twice daily. Datum of gage is 473.97 ft above mean sea level, datum of 1929.

Average discharge.--24 years, 7,091 cfs.

Extremes.--Maximum discharge during year, 60,500 cfs Mar. 8 (gage height, 25.70 ft, backwater from ice); minimum discharge observed, 820 cfs Sept. 15, 16, 20, 22, 23, 26, 29, minimum gage height observed, 3.10 ft Sept. 29.
1939-63: Maximum discharge, 147,000 cfs May 20, 1943 (gage height, 32.44 ft); minimum observed, 487 cfs Sept. 29, 1941 (gage height, 1.81 ft).
Maximum stage known, 35.1 ft in March 1913, from floodmark determined by U. S. Weather Bureau (discharge, 200,000 cfs estimated).

Remarks.--Records good except those for periods of ice effect, which are poor.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 6		Mar. 7 to Sept. 30	
3.1	1,000	3.1	820
3.5	1,350	7.0	5,250
6.0	4,300	13.0	15,200
		19.0	29,600

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,450	1,550	1,750	1,400	1,100	1,400	3,520	7,600	4,120	1,500	2,000	1,000
2	1,350	1,450	1,650	1,300	1,100	1,400	9,640	7,750	3,640	1,400	1,900	1,000
3	1,450	1,650	* 1,650	1,200	1,100	1,400	9,480	7,600	3,180	1,400	1,900	1,000
4	1,450	1,550	1,550	1,300	1,100	9,000	3,680	7,300	2,630	1,400	1,800	1,000
5	1,450	1,550	1,550	1,400	1,200	25,000	3,050	6,100	2,520	1,500	1,900	1,000
6	1,450	1,450	1,550	1,300	1,200	45,000	6,850	5,530	2,190	1,600	2,100	950
7	1,550	* 1,650	1,550	1,200	1,300	* 53,000	6,400	4,480	2,080	1,500	1,900	950
8	1,750	1,650	1,450	1,400	1,500	* 60,000	5,810	4,240	2,960	1,400	1,700	1,000
9	* 2,760	1,650	1,450	1,300	1,600	* 52,000	* 5,120	4,120	3,400	1,300	1,700	1,000
10	2,880	1,650	1,200	1,400	1,500	46,000	4,480	4,000	* 4,730	1,220	1,500	900
11	2,290	1,550	1,000	1,500	1,400	* 40,000	3,760	3,760	5,950	1,220	1,500	1,020
12	2,070	1,650	900	1,300	1,300	31,000	3,640	3,400	6,850	1,220	1,400	920
13	1,850	1,450	1,000	1,200	1,300	24,400	3,640	* 3,290	6,250	1,300	1,400	920
14	1,850	1,650	1,000	1,100	1,300	17,600	3,400	3,180	5,250	1,300	1,300	870
15	1,750	1,650	1,000	1,100	1,300	15,600	3,290	2,960	4,120	1,420	1,400	870
16	1,750	1,650	1,100	1,200	1,300	14,600	3,070	3,180	3,400	1,420	1,300	870
17	1,650	1,750	1,200	1,200	1,300	12,600	2,960	3,180	2,960	1,530	1,300	970
18	1,650	1,960	1,300	1,100	1,400	11,300	2,960	3,070	2,520	1,970	1,400	* 870
19	1,550	1,960	1,500	1,100	1,400	12,900	3,640	2,960	2,410	2,300	* 1,600	920
20	1,650	1,850	1,500	1,100	1,500	15,400	5,670	2,850	2,190	3,760	1,500	870
21	2,070	1,850	1,500	1,100	1,500	15,200	5,390	2,850	2,080	10,800	1,400	870
22	2,400	2,070	1,500	1,000	1,500	16,000	9,640	2,740	1,970	11,000	1,300	820
23	2,760	2,070	1,400	1,000	1,500	13,300	10,300	2,740	1,860	10,100	1,200	870
24	2,520	1,960	1,400	1,000	1,500	10,500	11,200	2,630	1,750	8,200	1,200	870
25	2,290	1,850	1,200	1,000	1,500	8,200	11,900	2,520	1,750	5,120	1,200	870
26	2,070	1,750	1,200	1,000	1,500	7,450	12,200	2,410	1,640	4,360	1,200	870
27	2,070	1,750	1,200	1,000	1,400	7,300	11,000	2,410	1,600	3,640	1,200	920
28	1,960	1,650	1,200	1,000	1,400	7,300	7,900	2,190	1,600	2,850	1,200	870
29	1,850	1,750	1,200	1,000	----------	8,520	6,550	3,290	1,600	3,070	1,100	820
30	1,750	1,850	1,300	1,000	---------	8,520	6,700	3,180	1,600	2,960	1,100	870
31	1,650	----------	1,400	1,100	---------	7,900	----------	3,400	----------	2,200	1,100	----------
Total	58,990	51,470	41,350	36,300	38,000	604,790	201,840	120,910	90,800	95,960	45,700	27,550
Mean	1,903	1,716	1,334	1,171	1,357	19,510	6,728	3,900	3,027	3,095	1,474	918
Cfsm	0.232	.209	.163	0.143	0.165	2.38	0.820	0.475	0.369	0.377	0.180	0.112
In.	0.27	0.23	0.19	0.16	0.17	2.74	0.91	0.55	0.41	0.43	0.21	0.12

Calendar year 1962: Max 49,200 Min 900 Mean 7,084 Cfsm 0.863 In. 11.71
Water year 1962-63: Max 60,000 Min 820 Mean 3,873 Cfsm 0.472 In. 6.39

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 17 to Jan. 13, Feb. 7-20, Mar. 4-12. No gage-height record Dec. 10-16, Jan. 14 to Feb. 6, Feb. 21 to Mar. 3, June 27 to July 10, July 13, 14, July 31 to Sept. 10.

3-3390. Vermilion River near Danville, Ill.

Location.--Lat 40°05'53", long 87°35'37", in SE¼NW¼ sec. 22, T. 19 N., R. 11 W., on left bank 1.5 miles upstream from Stony Creek and 2½ miles southeast of Danville.

Drainage area.--1,279 sq mi (revised).

Records available.--October 1914 to September 1921, June 1928 to September 1963. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 503.33 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Nov. 12, 1914, to Aug. 6, 1921, and June 13, 1928, to Jan. 9, 1935, chain gage at downstream side of Chicago & Eastern Illinois Railroad bridge 0.3 mile upstream at same datum.

Average discharge.--42 years, 894 cfs.

Extremes.--Maximum discharge during year, 18,200 cfs Mar. 6 (gage height, 21.00 ft); minimum, 36 cfs Sept. 29.
1914-21, 1928-63: Maximum discharge, 48,700 cfs Mar. 13, 1939 (gage height, 28.59 ft); minimum daily, 2 cfs Oct. 9-14, 1920, Aug. 10, 1930.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Flow regulated at times by storage at Lake Vermilion on North Fork Vermilion River, 4½ miles above station (usable capacity, 7,440 acre-ft in 1940), and by Danville sewage-disposal plant.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.2	36	6.0	2,200
2.5	84	14.0	9,300
3.0	215	20.0	16,600
3.5	430	21.0	18,200
4.0	700		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	113	118	113	76	b 45	b 90	4,080	2,440	179	104	63	74
2	116	108	120	76	b 45	95	4,080	1,880	152	91	63	57
3	113	106	113	78	b 45	151	2,920	1,440	138	78	69	52
4	130	111	106	80	b 47	5,330	2,040	1,140	142	73	57	48
5	* 140	104	104	82	b 50	15,400	1,440	1,440	179	69	48	45
6	130	102	104	82	63	17,100	1,220	1,400	646	136	61	51
7	125	95	97	84	111	*13,200	1,140	1,000	515	170	73	48
8	118	99	108	86	* 111	4,440	879	830	450	188	52	42
9	116	* 93	b 85	86	99	2,680	781	712	425	135	63	41
10	111	93	b 80	* 86	102	2,440	694	629	335	104	54	41
11	104	93	b 70	93	b 95	2,000	590	530	490	88	52	52
12	104	118	b 60	b 82	b 90	1,760	490	490	536	78	52	52
13	97	118	b 60	b 70	b 80	1,640	470	440	* 362	95	54	42
14	95	120	b 60	b 66	b 76	1,520	435	420	561	135	49	42
15	132	123	b 65	b 64	b 70	1,280	410	* 395	465	161	48	41
16	152	130	76	b 64	69	1,280	380	366	299	150	48	40
17	123	182	76	b 64	65	1,920	380	322	229	111	48	40
18	116	194	84	b 58	65	1,480	* 380	330	194	93	44	41
19	113	194	* 95	b 58	86	2,840	380	312	164	80	107	40
20	212	152	106	b 56	142	3,540	348	290	150	192	113	41
21	240	145	b 100	b 54	200	2,680	317	262	138	215	125	40
22	358	135	b 95	b 48	b 150	1,760	317	236	128	232	106	40
23	353	123	b 90	b 46	b 135	1,360	400	212	113	188	73	40
24	286	116	b 85	b 45	b 120	1,000	460	200	111	150	60	37
25	243	108	b 85	b 45	b 110	935	495	197	108	120	55	37
26	152	99	b 80	b 45	b 100	1,140	420	197	93	93	51	39
27	140	97	b 70	b 45	b 95	1,600	376	206	84	78	51	39
28	135	97	71	b 45	b 90	1,720	330	229	109	69	63	* 39
29	130	95	71	b 45	--------	1,280	452	226	298	55	* 73	36
30	128	102	74	b 45	- - - - - -	1,040	2,280	215	130	54	113	39
31	120	- - - - - -	74	b 45	- - - - - -	2,180	- - - - - -	200	- - - - - -	* 54	99	- - - - - -
Total	4,745	3,570	2,677	1,999	2,556	96,881	29,384	19,186	7,923	3,639	2,087	1,316
Mean	153	119	86.4	64.5	91.3	3,125	979	619	264	117	67.3	43.9
Cfsm	0.120	0.093	0.068	0.050	0.071	2.44	0.765	0.484	0.206	0.091	0.053	0.034
In.	0.14	0.10	0.08	0.06	0.07	2.82	0.85	0.56	0.23	0.11	0.06	0.04

Calendar year 1962 : Max 11,700 Min 60 Mean 1,328 Cfsm 1.04 In. 14.09
Water year 1962-63 : Max 17,100 Min 36 Mean 482 Cfsm 0.377 In. 5.12

Peak discharge (base, 6,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-6	0700	21.00	18,200				

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice; no gage-height record Dec. 10-14.

3-3395. Sugar Creek at Crawfordsville, Ind.

Location.--Lat 40°02'56", long 86°53'58", in NW¼ sec. 32, T. 19 N., R. 4 W., on left bank 327 ft upstream from Crawfordsville Electric Light and Power Co.'s dam, half a mile upstream from bridge on State Highway 43, and 1 mile downstream from Walnut Fork Creek.

Drainage area.--509 sq mi.

Records available.--June 1938 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 657.77 ft above mean sea level, datum of 1929.

Average discharge.--25 years, 473 cfs.

Extremes.--Maximum discharge during year, 15,100 cfs Mar. 4 (gage height, 11.17 ft); minimum, 9.8 cfs Sept. 28, 29 (gage height, 1.06 ft).
1938-63: Maximum discharge, 26,300 cfs June 28, 1957 (gage height, 14.48 ft), minimum, 1.8 cfs Sept. 28, 1954.
Maximum stage known, 17.3 ft in March 1913, from information by local resident (discharge, about 36,000 cfs).

Remarks.--Records fair except those for periods of ice effect, which are poor.

Rating table, water year 1962-63, except for periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.1	24
1.5	143
2.0	371
2.4	640
3.0	1,460
4.0	3,350
7.0	7,420
11.0	14,600

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept
1	46	120	92	51	50	58	4,070	1,060	104	43	46	35
2	46	113	92	51	50	58	2,590	690	98	* 117	40	32
3	61	107	92	51	50	150	1,640	526	* 92	86	35	29
4	48	104	89	51	50	7,700	1,290	429	89	51	32	27
5	48	104	89	53	52	*14,400	925	366	101	40	32	24
6	48	101	89	58	* 70	6,880	690	322	107	46	51	24
7	51	98	83	62	280	2,780	560	282	107	54	* 133	24
8	57	95	80	66	190	1,740	460	258	117	46	80	29
9	149	89	68	68	140	1,830	371	* 234	98	40	60	27
10	130	89	68	80	117	2,120	317	212	86	32	51	* 24
11	95	89	66	107	98	1,460	277	204	126	29	51	24
12	80	92	62	173	83	1,130	253	188	120	24	48	22
13	122	* 92	58	110	77	1,460	234	184	98	40	43	22
14	169	89	58	90	71	1,380	220	234	98	104	38	20
15	158	83	60	80	70	925	204	216	89	95	32	20
16	123	98	63	75	68	860	196	188	80	63	29	18
17	104	173	68	70	66	1,920	200	188	71	57	27	16
18	92	239	* 74	66	66	1,550	200	184	66	43	24	16
19	83	216	83	63	92	2,020	229	165	63	43	156	16
20	432	180	89	60	* 123	2,400	400	154	60	735	208	15
21	1,380	165	83	58	110	1,460	366	147	60	762	136	14
22	690	150	80	56	90	925	1,500	133	60	366	86	14
23	429	133	71	54	80	640	2,780	126	54	229	66	14
24	297	117	60	52	70	560	1,740	120	48	165	57	12
25	* 225	110	58	50	62	* 491	* 1,130	117	46	120	48	12
26	196	104	56	50	58	1,170	800	113	43	95	43	12
27	169	98	54	50	58	1,460	560	123	43	77	40	12
28	147	88	53	50	58	1,060	460	150	40	68	38	11
29	140	98	52	50	----------	690	460	147	38	60	40	11
30	133	101	51	50	------	526	1,130	126	35	54	40	11
31	123	------	51	50	------	1,590	------	117	------	48	38	------
Total	6,071	3,535	2,192	2,055	2,449	63,393	26,252	7,703	2,337	3,832	1,848	587
Mean	196	118	70.7	66.3	87.5	2,045	875	248	77.9	124	59.6	19.6
Cfsm	0.385	0.232	0.139	0.130	0.172	4.02	1.72	0.487	0.153	0.244	0.117	0.039
In.	0.44	0.26	0.16	0.15	0.18	4.64	1.92	0.56	0.17	0.28	0.13	0.04

Calendar year 1962 : Max 14,200 Min 34 Mean 472 Cfsm 0.927 In. 12.59
Water year 1962-63 : Max 14,400 Min 11 Mean 335 Cfsm 0.658 In. 8.93

Peak discharge (base, 4,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-4	2400	11.17	15,100				
4-1	0700	4.48	4,230				

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 12-15, 25-31, Jan. 3-7, Jan. 13 to Mar. 4.

GPO 811-767-5

3-3400. Sugar Creek near Byron, Ind.

Location.--Lat 39°55'52", long 87°07'33", in SW¼ sec. 8, T. 17 N., R. 6 W., on right bank, 30 ft upstream from highway bridge, 2½ miles northwest of Byron, and 5 miles downstream from Indian Creek.

Drainage area.--668 sq mi.

Records available.--October 1940 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 538.92 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Prior to Nov. 18, 1941, staff gage at same site and datum.

Average discharge.--23 years, 646 cfs.

Extremes.--Maximum discharge during year, 17,000 cfs Mar. 4 (gage height, 15.84 ft); minimum, 31 cfs Sept. 23 (gage height, 1.81 ft). 1940-63: Maximum discharge, 32,200 cfs June 28, 1957 (gage height, 22.98 ft), minimum observed 12 cfs Sept. 21, 1941; minimum gage height observed, 1.70 ft Aug. 8, 1941.

Remarks.--Records good except those for periods of ice effect, which are poor.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to July 1				July 2 to Sept. 30	
2.0	49	6.0	2,440	1.8	32
2.3	97	9.0	5,320	2.0	56
2.8	228	12.0	9,600	2.4	132
3.3	430	13.0	11,200	3.0	315
4.5	1,150	16.0	17,500	4.0	820
				5.0	1,540

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	71	176	149	80	76	86	4,360	1,330	146	56	78	51
2	73	167	136	80	76	86	2,930	1,010	134	* 179	71	49
3	104	162	136	80	76	300	2,080	760	* 125	150	66	49
4	84	157	136	80	76	3,800	1,630	640	123	100	60	48
5	90	157	139	86	80	* 15,900	1,220	530	125	76	55	47
6	84	* 151	141	94	110	3,790	940	480	132	96	59	45
7	81	151	* 134	100	450	3,250	820	408	132	98	217	44
8	* 93	144	125	110	300	1,900	* 670	385	194	83	144	51
9	117	139	118	* 130	220	1,900	555	* 340	159	70	97	47
10	196	136	110	140	170	2,350	480	320	132	62	81	* 45
11	149	132	100	160	150	1,540	408	280	146	58	70	43
12	123	144	95	240	130	1,300	362	230	176	55	73	42
13	522	146	90	180	120	1,380	340	262	149	69	72	41
14	340	136	90	140	110	1,540	320	262	136	150	62	40
15	245	134	92	130	110	1,080	299	320	125	137	56	38
16	215	151	100	120	100	1,010	280	262	114	108	53	38
17	176	245	110	110	100	1,900	280	262	105	86	55	37
18	151	340	120	100	120	1,810	299	262	99	79	49	36
19	134	320	130	96	160	2,260	362	245	90	70	425	35
20	512	280	150	92	200	2,710	555	222	83	823	370	35
21	1,540	245	130	88	160	1,630	555	206	81	950	224	34
22	1,080	228	120	85	140	1,150	1,300	190	81	565	141	33
23	640	212	110	82	120	880	3,250	179	76	400	104	32
24	455	184	95	78	100	760	2,170	173	71	260	85	32
25	340	167	90	76	90	760	1,380	173	68	185	74	32
26	299	159	86	76	86	1,720	1,010	159	65	147	67	32
27	262	157	84	76	86	1,810	820	159	62	121	62	32
28	225	146	82	76	86	1,380	640	193	60	108	60	32
29	209	136	80	76	----------	940	692	196	57	96	58	34
30	193	146	80	76	------	760	1,540	176	56	86	58	34
31	184	------	80	76	------	2,760	------	157	------	* 81	54	-------
Total	8,987	5,348	3,438	3,213	3,802	76,442	32,597	10,871	3,302	5,604	3,200	1,188
Mean	290	178	111	104	136	2,466	1,087	351	110	181	103	39.6
Cfsm	0.434	0.266	0.166	0.156	0.204	3.69	1.63	0.525	0.165	0.271	0.154	0.059
In.	0.50	0.30	0.19	0.18	0.21	4.25	1.82	0.61	0.18	0.31	0.18	0.07

Calendar year 1962 : Max 15,900 Min 71 Mean 649 Cfsm 0.972 In. 13.20
Water year 1962-63 : Max 15,900 Min 32 Mean 433 Cfsm 0.648 In. 8.80

Peak discharge (base, 6,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-4	2000	15.84	17,000				

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 10 to Mar. 4.

3-3405. Wabash River at Montezuma, Ind.

Location.--Lat 39°47'33", long 87°22'26", in sec. 35, T. 16 N., R. 9 W., in downstream side of first pier from left bank of bridge on U. S. Highway 36 at Montezuma, 2.0 miles upstream from Raccoon Creek, 4.9 miles downstream from Sugar Creek, and at mile 240.

Drainage area.--11,100 sq mi, approximately.

Records available.--October 1927 to September 1963 in reports of Geological Survey. July 1924 to September 1927 (gage heights only) in reports of Indiana Department of Conservation.

Gage.--Water-stage recorder. Datum of gage is 457.75 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Oct. 1, 1927 to Sept. 11, 1934, chain gage and Sept. 12, 1934 to July 12, 1950, wire-weight gage, at same site and datum.

Average discharge.--36 years, 9,383 cfs.

Extremes.--Maximum discharge during year, 69,800 cfs Mar. 8 (gage height, 25.48 ft, backwater from ice); minimum discharge, 952 cfs Sept. 30 (gage height, 2.07 ft).
1927-63: Maximum discharge, 184,000 cfs May 20, 1943 (gage height, 32.83 ft); minimum observed, 560 cfs Sept. 24, 1941; minimum gage height, 1.43 ft Aug. 3, 10, 1934.
Maximum stage known, 34.0 ft Mar. 27, 1913, from floodmarks (discharge, 230,000 cfs, estimated).

Remarks.--Records good except those for periods of no gage-height record and ice effect, which are poor.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 6				Mar. 7 to Sept. 30			
2.2	1,310	14.0	24,000	2.1	995	16.0	27,500
2.8	2,050	21.0	45,700	3.0	1,920	21.0	45,700
7.0	9,110	23.0	59,900	8.0	10,200	24.0	69,200

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,050	2,330	2,330	1,700	1,500	2,000	21,600	12,400	4,610	1,920	2,850	1,460
2	2,050	2,330	2,190	1,800	1,500	1,900	19,600	12,000	4,270	* 1,800	2,710	1,260
3	2,050	2,330	2,190	1,800	1,500	1,800	17,600	11,000	3,610	1,800	2,170	1,260
4	2,050	2,330	2,190	1,800	1,500	15,000	15,800	10,000	* 3,300	1,680	2,300	1,260
5	2,050	2,330	2,190	1,800	1,600	40,000	13,600	3,700	3,150	1,680	2,040	1,260
6	2,050	* 2,330	2,190	1,700	1,700	55,000	11,400	3,180	3,000	1,920	2,430	* 1,260
7	2,190	2,190	* 2,190	1,700	1,800	64,000	10,000	7,330	3,450	2,040	3,150	1,170
8	* 2,050	2,330	2,050	1,800	2,000	* 68,000	* 9,060	* 6,480	3,770	1,920	2,430	1,170
9	2,470	2,330	1,900	1,900	2,400	* 66,000	8,350	6,140	4,270	1,800	2,170	1,260
10	3,590	2,190	1,400	2,000	2,200	62,000	7,500	5,800	4,950	1,680	2,040	1,260
11	3,430	2,190	1,300	* 1,900	2,100	56,000	6,820	5,290	5,460	1,570	1,920	1,170
12	2,950	2,190	1,400	1,800	2,100	50,600	6,310	4,950	6,650	1,460	1,920	1,170
13	2,790	2,190	1,500	1,400	2,100	42,700	5,800	4,610	6,990	1,460	1,800	1,120
14	3,110	2,190	1,500	1,500	1,900	31,800	5,290	4,610	6,310	1,680	* 1,680	1,120
15	2,630	2,330	1,600	1,600	1,900	23,200	5,120	4,780	5,460	1,680	1,680	1,120
16	2,630	2,330	1,700	1,600	1,900	21,100	4,780	4,780	4,610	1,920	1,680	1,080
17	2,470	2,330	1,800	1,600	1,800	20,400	4,610	4,610	3,770	1,920	1,570	1,080
18	2,330	2,790	1,900	1,700	1,800	17,800	4,440	4,270	3,300	2,040	1,460	1,120
19	2,190	2,790	1,900	1,800	1,900	19,000	5,290	4,100	3,000	2,300	2,040	1,080
20	2,470	2,790	2,000	1,800	2,300	22,800	6,990	3,930	2,710	3,300	2,710	1,080
21	4,230	2,630	2,100	1,700	2,200	21,800	8,010	3,770	2,570	3,520	2,300	1,040
22	4,720	2,790	2,000	1,600	2,200	20,000	10,200	3,610	2,570	11,000	1,920	1,040
23	4,390	2,950	2,000	1,500	2,200	13,400	13,400	3,610	2,430	10,400	1,680	1,040
24	3,910	2,790	1,800	1,500	2,200	15,400	13,800	3,450	2,300	8,880	1,570	1,040
25	3,590	2,630	1,700	1,500	2,200	12,200	13,800	3,300	2,170	7,330	1,570	1,040
26	3,110	2,470	1,700	1,500	2,100	12,200	13,600	3,150	2,170	6,140	1,460	1,040
27	2,950	2,470	1,700	1,500	2,100	13,000	12,000	3,000	2,040	5,290	1,460	1,040
28	2,790	2,330	1,700	1,500	2,100	12,800	9,600	3,000	1,920	4,270	1,570	1,040
29	2,630	2,190	1,800	1,500	---	12,200	8,350	3,000	1,920	3,770	1,460	995
30	2,630	2,330	1,800	1,500	---	12,600	11,600	3,150	2,040	3,450	1,460	995
31	2,470	---	1,800	1,500	---	13,000	---	3,770	---	2,850	1,460	---
Total	87,020	72,720	57,520	51,500	54,800	844,700	304,320	170,770	103,770	109,470	60,660	34,070
Mean	2,807	2,424	1,855	1,661	1,957	27,250	10,140	5,509	3,626	3,531	1,957	1,136
Cfsm	0.253	0.218	0.167	0.150	0.176	2.45	0.914	0.496	0.327	0.318	0.176	0.102
In.	0.29	0.24	0.19	0.17	0.18	2.82	1.02	0.57	0.36	0.37	0.20	0.11

Calendar year 1962: Max 57,400 Min 1,300 Mean 9,851 Cfsm 0.887 In. 12.04
Water year 1962-63: Max 68,000 Min 995 Mean 5,360 Cfsm 0.483 In. 6.52

* Discharge measurement made on this day.
Note.--No gage-height record Jan. 24 to Mar. 6; stage-discharge relation affected by ice Dec. 9 to Jan. 23, Mar. 7-11.

3-3408. Raccoon Creek near Fincastle, Ind.

Location.--Lat 39°48'45", long 86°57'14", in SW¼ sec. 22, T. 16 N., R. 5 W., on left bank at downstream side of county road bridge, 8,350 ft upstream from Ramp Creek and 3.1 miles northwest of Fincastle.

Drainage area.--132 sq mi.

Records available.--August 1957 to September 1963.

Gage.--Water-stage recorder. Datum of the gage is 686.03 ft above mean sea level, datum of 1929.

Average discharge.--6 years, 132 cfs.

Extremes.--Maximum discharge during year, 9,820 cfs Mar. 5 (gage height, 14.03 ft); minimum discharge, 3.3 cfs Sept. 30 (gage height, 1.72 ft); minimum gage height, 1.65 ft Sept. 14-23.

1957-63: Maximum discharge, 15,100 cfs Jan. 26, 1962; maximum gage height, 15.68 ft Jan. 26, 1962 (ice jam); minimum discharge, that of Sept. 3, 1963.

Maximum flood known, 39,900 cfs June 28, 1957 (gage height, 19.10 ft) from slope-area measurement obtained immediately after the flood.

Remarks.--Records good except those for periods of ice effect, which are poor.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Sept. 29, 30)

1.5	1.0	4.0	342
1.6	3.7	6.0	900
1.7	9.0	9.0	2,180
2.0	33	10.0	2,680
2.5	82	11.0	3,250
3.0	156	12.0	4,680

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	28	22	12	12	13	1,100	384	24	12	* 11	11
2	16	27	21	12	13	13	540	264	23	* 65	9.8	9.0
3	19	26	21	13	13	60	363	208	* 21	36	9.0	9.0
4	16	24	20	14	13	4,000	322	164	20	19	8.4	9.0
5	16	25	20	15	14	4,570	245	139	19	13	7.8	8.4
6	16	24	21	15	* 60	1,110	199	116	19	27	12	7.8
7	19	23	19	15	140	342	164	101	19	22	141	7.2
8	19	23	19	15	66	236	139	88	28	18	90	7.2
9	19	23	19	16	47	485	116	* 76	41	12	44	7.2
10	19	22	15	23	36	431	94	70	26	9.8	49	* 6.6
11	19	21	14	60	28	245	82	65	27	7.8	23	6.6
12	21	23	14	110	25	208	76	60	28	7.2	18	6.6
13	70	* 23	14	60	23	283	69	64	27	11	15	6.1
14	447	23	14	46	20	245	64	61	27	14	12	6.1
15	156	21	14	40	19	182	58	53	23	12	11	5.1
16	94	25	14	35	17	253	56	51	23	11	9.0	5.1
17	69	58	15	30	15	570	61	57	19	9.8	8.4	5.1
18	51	76	* 16	25	19	363	69	57	19	7.8	7.8	4.6
19	41	60	18	22	26	870	137	45	17	7.8	74	4.6
20	75	48	21	19	* 33	600	322	44	17	301	280	4.6
21	245	44	20	18	25	322	208	39	16	161	108	4.1
22	* 164	40	19	17	20	236	500	35	15	138	53	4.1
23	101	34	17	16	17	190	940	31	15	136	32	4.1
24	71	28	16	16	16	164	481	31	14	110	24	4.1
25	57	27	15	15	15	* 148	* 322	28	13	45	20	4.1
26	48	24	14	14	14	320	245	27	13	19	18	4.1
27	41	23	14	13	14	384	190	35	13	20	15	3.7
28	37	23	13	13	13	264	156	66	12	17	15	4.1
29	35	23	13	12	---------	217	242	43	12	15	14	3.7
30	31	23	12	12	------	182	630	31	11	13	12	3.3
31	30	------	12	12	------	550	------	27	------	11	11	-------
Total	2,077	912	516	755	773	13,056	8,190	2,560	601	1,308.2	1,162.2	176.3
Mean	67.0	30.4	16.6	24.4	27.6	582	273	82.6	20.0	42.2	37.5	5.88
Cfsm	0.508	0.230	0.126	0.185	0.209	4.41	2.07	0.626	0.152	0.320	0.284	0.045
In.	0.59	0.26	0.14	0.21	0.22	5.08	2.31	0.72	0.17	0.37	0.33	0.05

Calendar year 1962: Max 6,430 Min 8.2 Mean 156 Cfsm 1.18 In. 16.02
Water year 1962-63: Max 4,570 Min 3.3 Mean 102 Cfsm 0.772 In. 10.45

Peak discharge (base, 1,900 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	0030	14.03	9,820				

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 11-19, 23, Dec. 26 to Jan. 2, Jan. 13 to Feb. 8, Feb. 21 to Mar. 4.

3-3409. Raccoon Creek at Ferndale, Ind.

Location.--Lat 39°41'44", long 87°05'01", in SW¼ sec. 33, T. 15 N., R. 6 W., on right bank, 1.2 miles southwest of Ferndale, 1.7 miles northeast of Mansfield, 2.0 miles upstream from Rocky Fork Creek, and 2.4 miles downstream from Mansfield Reservoir dam.

Drainage area.--215 sq mi.

Records available.--October 1956 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 582.36 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark).

Average discharge.--7 years, 239 cfs (adjusted for change in contents).

Extremes.--Maximum discharge during year, 2,500 cfs Mar. 16 (gage height, 8.40 ft); minimum, 24 cfs Jan. 28, 29 (gage height, 1.39 ft). 1956-63: Maximum discharge, 40,500 cfs June 28, 1957 (gage height, 19.87 ft) extended above 5,000 cfs on basis of records for station at Mansfield; minimum daily, 2.7 cfs Oct. 11, 1956.

Remarks.--Records good. Flow regulated since October 1960 by Mansfield Reservoir (capacity, 132,840 acre-ft).

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Nov. 2		Nov. 3 to Sept. 30	
1.5	31	1.4	25
1.7	56	1.8	75
2.0	107	2.6	225
4.0	572	4.0	605
		6.0	1,360
		8.0	2,300

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	287	* 36	40	28	27	29	107	52	46	43	42	43
2	450	117	43	* 27	28	34	583	51	44	43	42	42
3	356	214	46	27	b 28	43	* 962	49	44	42	42	42
4	356	225	49	27	32	440	1,000	48	44	42	42	42
5	356	225	49	28	34	134	962	49	* 44	42	42	42
6	426	225	51	28	64	93	962	49	44	52	45	42
7	426	225	51	28	182	85	962	* 48	44	43	125	42
8	426	225	48	29	145	81	962	48	43	* 41	44	43
9	426	225	44	35	58	96	962	48	44	41	43	44
10	474	225	38	41	64	85	924	49	46	41	42	* 44
11	498	225	35	97	57	85	924	49	44	41	43	47
12	474	248	34	182	42	85	703	51	44	41	51	47
13	474	225	32	116	34	88	54	51	44	44	47	47
14	474	214	27	64	33	85	51	49	44	43	44	44
15	474	214	25	60	28	* 787	48	49	44	42	44	117
16	474	283	27	60	25	1,380	48	51	43	42	44	251
17	426	308	28	56	26	114	48	51	41	42	44	125
18	137	271	34	47	27	101	47	49	41	42	43	182
19	42	295	37	47	34	134	65	47	41	41	48	203
20	64	271	46	47	43	99	56	46	41	51	44	214
21	195	260	51	40	47	94	41	46	41	44	43	214
22	276	271	51	27	46	93	35	44	41	44	43	203
23	206	260	52	27	35	93	38	44	41	44	43	203
24	99	236	51	b 26	30	91	47	44	41	44	43	182
25	74	225	48	b 26	* 33	889	47	44	41	44	44	152
26	55	271	46	b 26	29	* 1,850	47	46	41	44	44	162
27	43	283	34	b 26	26	* 1,750	47	48	41	44	44	182
28	37	271	29	b 25	26	1,050	47	47	41	44	46	182
29	37	* 260	30	* 25	---	1,650	60	46	42	* 44	44	192
30	37	103	30	25	---	2,000	61	46	42	42	44	192
31	37	---	29	26	---	1,300	---	46	---	42	44	---
Total	8,616	6,936	1,235	1,373	1,283	14,938	10,900	1,485	1,282	1,339	1,443	3,567
Mean	278	231	39.8	44.3	45.8	482	363	47.9	42.7	43.2	46.5	119
(ƒ)	-190	-171	+1.0	0	0	+388	+31	+59.0	-28.2	+6.3	+12.2	-70
Adjusted for change in contents in Mansfield Reservoir												
Mean	88	60	40.8	44.3	45.8	870	394	107	14.5	49.5	58.7	49
Cfsm	0.409	0.279	0.190	0.206	0.213	4.05	1.83	0.498	0.067	0.230	0.273	0.228
In.	0.47	0.31	0.22	0.24	0.22	4.67	2.04	0.57	0.07	0.27	0.31	0.25

	Observed						Adjusted					
Calendar year 1962:	Max	1,720	Min	25	Mean	246	Mean	246	Cfsm	1.14	In.	15.47
Water Year 1962-63:	Max	2,000	Min	25	Mean	149	Mean	153	Cfsm	0.712	In.	9.64

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
ƒ Change in contents, equivalent in cubic feet per second, in Mansfield Reservoir, furnished by Corps of Engineers.

3-3412. Little Raccoon Creek near Catlin, Ind.

Location.--Lat 39°40'38", long 87°13'38", in NW¼ sec. 7, T. 14 N., R. 7 W., on left bank at downstream side of county road bridge, 300 ft downstream from unnamed tributary from left bank, 0.4 mile upstream from Sunderland Branch, 1.2 miles southeast of Catlin, 2.4 miles upstream from Weisner Creek, and 3.8 miles upstream from mouth.

Drainage area.--133 sq mi.

Records available.--December 1956 to September 1963 (fragmentary prior to October 1957).

Gage.--Water-stage recorder. Datum of gage is 515.56 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission).

Average discharge.--6 years (1957-63), 125 cfs.

Extremes.--Maximum discharge during year, 6,600 cfs Mar. 5 (gage height, 14.03 ft); minimum, 6.4 cfs Sept. 23-28 (gage height, 1.72 ft).

1956-63: Maximum discharge, 53,400 cfs June 28, 1957 (gage height, 18.27 ft); from rating curve extended above 6,000 cfs on basis of combination contracted-opening, culvert, and flow-over-road measurement of peak flow, at site 8½ miles upstream, adjusted to drainage area at gage; minimum, 4.8 cfs Sept. 25, 1959 (gage height, 1.56).

Remarks.--Records fair except those for periods of ice effect, which are poor.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 6-23, 26-29, Apr. 1-5, 19-24, Apr. 29 to May 3, June 16 to July 20)

Oct. 1 to Mar. 4		Mar. 5 to Sept. 30			
2.0	13	1.7	5.0	3.0	161
2.1	19	1.8	9.0	4.0	355
2.3	34	1.9	15	7.0	1,220
2.6	68	2.1	30	12.0	2,890
3.0	132	2.4	64		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	* 20	18	15	10	12	802	376	29	* 12	8.0	13
2	22	20	18	* 15	11	12	376	252	28	13	* 8.0	12
3	22	19	18	15	11	35	272	195	27	13	8.0	12
4	26	19	19	15	11	2,510	* 242	152	* 27	13	7.6	12
5	25	18	20	17	12	2,470	178	127	27	12	7.6	11
6	22	18	20	17	40	1,040	152	111	25	17	16	11
7	22	19	20	17	100	376	136	* 93	23	28	425	10
8	21	20	20	18	80	292	127	84	22	23	38	10
9	21	20	20	20	53	376	111	76	21	15	22	9.5
10	20	19	20	28	43	376	100	70	20	13	19	9.5
11	18	18	17	55	29	252	95	66	20	12	16	* 9.0
12	18	21	16	72	23	204	92	61	20	11	37	9.0
13	18	23	15	35	19	204	87	61	19	12	32	8.0
14	41	25	15	28	17	213	84	56	21	17	17	8.0
15	28	25	15	24	16	186	79	52	28	17	15	7.6
16	22	29	15	21	15	299	78	51	23	16	13	7.6
17	20	59	16	19	14	551	79	55	20	15	13	7.6
18	18	65	17	17	17	355	93	54	18	13	12	7.6
19	17	53	19	16	20	980	268	48	15	13	142	7.2
20	25	44	23	15	29	470	456	47	15	50	110	7.2
21	69	39	26	14	25	334	195	44	14	68	37	7.2
22	59	37	25	13	20	222	302	41	13	31	24	6.8
23	43	33	21	13	17	178	448	39	12	26	20	6.8
24	33	29	19	12	16	152	232	37	12	23	17	6.8
25	30	26	18	12	15	136	170	36	11	20	15	6.8
26	27	25	16	11	* 14	398	136	35	10	19	15	6.8
27	25	22	16	11	13	376	111	38	11	15	13	6.4
28	24	20	15	10	12	252	101	47	12	13	26	6.8
29	22	* 19	15	* 10	---------	178	492	41	12	11	32	7.2
30	22	18	15	10	------	152	920	34	12	8.5	18	6.8
31	20	------	15	10	------	767	------	31	------	8.5	14	-------
Total	822	822	562	605	702	14,358	7,014	2,510	567	578.0	1,197.2	257.2
Mean	26.5	27.4	18.1	19.5	25.1	463	234	81.0	18.9	18.6	38.6	8.57
Cfsm	0.199	0.206	0.136	0.147	0.189	3.48	1.76	0.609	0.142	0.140	0.290	0.064
In.	0.23	0.23	0.16	0.17	0.20	4.01	1.96	0.70	0.16	0.16	0.33	0.07

Calendar year 1962: Max 4,860 Min 12 Mean 163 Cfsm 1.23 In. 16.64
Water year 1962-63: Max 2,510 Min 6.4 Mean 82.2 Cfsm 0.618 In. 8.38

Peak discharge (base, 1,900 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	0030	14.03	6,600				
3-6	0200	9.74	2,030				

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 11-17, Dec. 23 to Jan. 1, Jan. 13 to Feb. 8, Feb. 13-17, Feb. 21 to Mar. 3.

3-3413. Raccoon Creek at Coxville, Ind.

Location.--Lat 39 39'09", long 87°17'37", in SW¼ sec. 15, T. 14 N., R. 8 W., on right bank at downstream side of covered bridge on county road at Coxville, 0.8 mile upstream from Rock Run, 1.5 miles downstream from Little Raccoon Creek, and 2.1 miles northwest of Rosedale.

Drainage area.--440 sq mi.

Records available.--October 1956 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 494.00 ft above mean sea level, datum of 1929 (Indiana Flood Control and Water Resources Commission bench mark).

Average discharge.--7 years, 489 cfs (adjusted for storage).

Extremes.--Maximum discharge during year, 21,100 cfs Mar. 4 (gage height, 15.85 ft); minimum, 56 cfs Feb. 18, Mar. 2; minimum gage height, 1.98 ft Aug. 4, 5.
1956-63: Maximum discharge, 108,000 cfs June 28, 1957 (gage height, 21.23 ft) from rating curve extended above 35,000 cfs on basis of an estimate made by a slope-area study; minimum daily, 6.5 cfs Oct. 10, 1956.

Remarks.--Records good except those for periods of ice effect, which are poor. Flow regulated since October 1960 by Mansfield Reservoir, (capacity, 132,840 acre-ft).

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 3		Mar. 4 to Sept. 30			
2.1	58	1.9	51	10.0	2,550
2.3	81	2.3	100	11.0	3,150
3.0	196	3.0	209	12.0	4,240
5.0	660	4.0	411	13.0	6,450
		6.0	950	14.0	10,000

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	276	* 88	125	64	60	* 64	1,590	560	100	* 80	66	80
2	435	88	109	* 66	62	66	860	411	100	80	63	80
3	460	196	102	65	64	108	1,300	321	94	87	62	74
4	411	235	102	65	70	7,960	* 1,340	282	* 100	80	61	74
5	411	245	102	65	72	3,240	1,220	245	94	74	61	74
6	435	245	102	66	100	1,750	1,180	227	94	130	62	74
7	485	255	102	66	290	585	1,140	* 218	94	132	795	74
8	460	255	102	66	250	560	1,100	200	87	94	167	73
9	460	255	94	69	150	685	1,100	192	87	80	114	73
10	485	255	90	81	120	585	1,070	175	87	74	100	73
11	510	255	82	159	100	411	1,040	167	94	74	94	* 73
12	510	266	78	245	86	387	1,010	167	94	72	117	72
13	535	276	73	206	76	485	422	167	94	80	240	70
14	535	255	66	170	70	411	282	151	94	94	114	70
15	535	255	58	130	66	368	245	151	100	80	94	68
16	535	276	60	110	62	2,240	227	143	94	74	87	140
17	510	435	64	98	58	1,300	218	159	87	72	87	192
18	320	341	68	86	56	635	227	151	80	72	80	151
19	159	341	76	76	75	1,880	3,760	136	80	70	184	175
20	142	364	81	70	88	860	800	136	80	153	228	192
21	215	319	94	66	94	560	387	128	80	133	121	192
22	319	319	88	62	84	460	411	121	80	94	100	192
23	297	319	82	60	78	411	535	114	80	80	94	192
24	206	297	78	60	72	364	364	114	74	74	87	192
25	159	276	74	60	70	497	301	107	74	74	87	167
26	142	297	70	60	66	2,140	263	107	74	70	80	159
27	117	341	68	59	64	2,060	227	121	74	70	80	175
28	109	319	67	58	63	1,710	209	143	74	70	108	184
29	102	* 319	68	58	---	1,480	525	121	74	72	121	192
30	94	266	68	58	---	2,100	1,260	107	74	* 69	94	192
31	94	---	66	58	---	2,490	---	107	---	66	80	---
Total	10,463	8,253	2,559	2,682	2,556	43,852	24,613	5,649	2,592	2,624	3,928	3,789
Mean	338	275	82.5	86.5	91.3	1,415	820	182	86.4	84.6	127	126
(ƒ)	-190	-171	+1.0	0	0	+388	+31	+59.0	-28.2	+6.3	+12.2	-70
Adjusted for change in contents in Mansfield Reservoir												
Mean	148	104	83.5	86.5	91.3	1,803	851	241	58.2	90.9	139	56.0
Cfsm	0.336	0.236	0.190	0.197	0.208	4.10	1.93	0.548	0.132	0.207	0.316	0.127
In.	0.39	0.26	0.22	0.23	0.22	4.73	2.15	0.63	0.15	0.24	0.36	0.14

	Observed						Adjusted					
Calendar year 1962:	Max	8,430	Min	58	Mean	516	Mean	516	Cfsm	1.17	In.	15.90
Water year 1962-63:	Max	8,240	Min	56	Mean	311	Mean	315	Cfsm	0.716	In.	9.72

* Discharge measurement made on this day.
ƒ Change in contents, equivalent in cubic feet per second, in Mansfield Reservoir; furnished by Corps of Engineers.
Note.--Stage-discharge relation affected by ice Dec. 10-18, Dec. 23 to Jan. 1, Jan. 14 to Feb. 18, Feb. 22 to Mar. 1.

3-3415. Wabash River at Terre Haute, Ind.

Location.--Lat 39°28'00", long 87°25'08", in NW¼ sec. 21, T. 12 N., R. 9 W., on left bank at upstream side of Wabash Avenue Bridge at Terre Haute, 2.2 miles upstream from Sugar Creek, 4 miles downstream from Lost Creek, and at mile 214.4.

Drainage area.--12,200 sq mi, approximately.

Records available.--August 1902 to December 1903 (gage height only), February 1905 to July 1906, October 1927 to September 1963. Gage-height records collected at site 3,300 ft upstream June 1891 to June 1897, and since December 1904 are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 442.90 ft above mean sea level, datum of 1929. Aug. 3, 1902, to Dec. 31, 1903, chain gage at powerhouse 3,400 ft upstream at datum 3.0 ft higher. Feb. 25, 1905 to July 20, 1906, chain gage at Vandalia Railway bridge 2,600 ft upstream at datum 2.2 ft higher. Oct. 1, 1927 to Oct. 27, 1928, staff gage at present site and datum.

Average discharge.--36 years (1927-63), 10,320 cfs.

Extremes.--Maximum discharge during year, 65,900 cfs Mar. 10 (gage height, 22.92 ft); minimum, 1,360 cfs Jan. 23 (gage height, 3.71 ft).
1927-63: Maximum discharge, 189,000 cfs May 20, 1943 (gage height, 30.50 ft); minimum, 690 cfs Aug. 10, 1934 (gage height, 2.40 ft).
Maximum stage known, 31.1 ft Mar. 27, 1913, present site and datum (discharge, 245,000 cfs, estimated).

Remarks.--Records good except those for periods of no gage-height record or those based on the graph of the observer's readings, which are fair. Water for municipal supply for Terre Haute diverted above gage, most of which is returned below.

Rating tables, water year 1962-63 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 4				Mar. 5 to Sept. 30			
3.8	1,480	6.0	5,220	3.7	1,330	19.0	37,000
4.4	2,310	9.0	11,200	6.0	5,300	21.0	49,000
				16.0	25,800	23.0	67,000

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,470	2,470	2,470	1,860	1,540	* 2,000	22,600	14,400	4,580	2,470	3,350	1,880
2	2,470	2,470	2,470	1,860	1,600	2,000	22,800	14,200	4,940	2,300	3,350	1,790
3	2,470	2,470	2,310	1,860	1,600	2,000	20,800	13,200	4,400	* 2,300	3,000	1,630
4	2,470	2,470	2,310	* 1,860	1,600	10,500	* 18,800	12,400	3,870	2,130	2,820	1,630
5	2,470	2,470	2,310	1,860	1,600	37,000	16,800	10,800	3,700	2,040	2,820	1,630
6	2,640	2,470	2,310	1,860	1,660	46,900	14,600	9,800	3,520	2,300	* 2,650	1,630
7	2,640	2,470	2,310	1,860	1,860	54,900	12,800	9,000	* 3,700	2,650	4,050	1,560
8	2,640	2,470	2,310	2,000	2,150	59,500	11,800	* 7,800	4,220	2,650	3,870	1,560
9	2,640	2,470	2,150	2,000	2,470	*64,800	10,800	7,010	4,400	2,470	2,820	1,560
10	3,360	2,470	1,860	2,000	2,310	64,800	9,600	6,630	5,120	2,300	2,650	1,630
11	3,720	2,470	1,660	2,150	2,150	60,500	8,800	6,060	5,300	2,130	2,470	1,560
12	3,360	2,470	1,660	2,310	2,150	54,100	8,000	5,680	6,440	1,960	2,470	* 1,560
13	3,180	2,470	1,600	1,660	2,150	47,600	7,400	5,300	7,400	a 2,100	2,650	1,480
14	3,360	2,470	1,600	1,600	2,000	41,300	6,440	5,120	7,200	a 2,200	2,470	1,480
15	3,180	2,470	1,730	1,600	2,000	32,900	6,060	5,120	6,440	2,300	2,300	1,560
16	3,000	2,470	1,730	1,730	2,000	27,000	5,490	5,300	5,490	2,300	2,130	1,480
17	3,000	2,640	1,860	1,730	1,860	26,100	5,300	5,120	4,580	2,470	2,040	1,480
18	2,820	2,640	2,000	1,860	1,860	22,400	5,300	4,940	4,050	2,470	1,960	1,630
19	2,640	2,640	2,000	1,860	1,860	22,200	5,490	4,580	3,520	2,650	2,130	1,560
20	2,640	2,640	2,150	1,730	2,000	24,900	8,000	4,580	3,350	3,170	3,520	1,560
21	3,360	3,000	2,150	1,600	2,000	24,600	9,200	4,400	3,170	a 5,700	3,170	1,480
22	4,460	2,820	2,150	1,660	2,310	22,800	10,400	4,400	3,000	11,000	2,820	1,480
23	4,460	3,000	2,150	1,480	2,150	21,400	13,600	4,050	2,820	11,800	2,470	1,480
24	4,080	3,000	2,000	1,480	2,310	19,000	15,200	3,870	2,650	10,600	2,130	1,400
25	3,720	2,820	1,860	1,540	2,310	15,400	15,000	3,700	2,650	9,000	2,130	1,480
26	3,360	2,640	1,860	1,540	2,150	14,400	15,200	3,700	2,650	7,400	2,040	1,480
27	3,000	2,640	1,860	1,540	2,150	15,400	14,400	3,520	2,470	6,250	1,960	1,400
28	3,000	* 2,640	1,860	1,480	2,150	15,400	12,200	3,520	2,300	5,300	2,130	1,480
29	2,820	2,470	1,860	* 1,480	---	14,600	10,400	3,520	2,300	4,400	2,300	1,480
30	2,640	2,470	1,860	1,540	---	14,600	12,600	3,520	2,470	4,050	2,040	1,400
31	* 2,640	---	1,860	1,540	---	15,000	---	3,870	---	3,700	1,880	---
Total	94,710	77,580	62,270	54,130	55,950	896,000	355,880	199,110	122,700	126,560	80,590	46,410
Mean	3,055	2,586	2,009	1,746	1,998	28,900	11,860	6,423	4,090	4,083	2,600	1,547
Cfsm	0.250	0.212	0.165	0.143	0.164	2.37	0.972	0.526	0.335	0.335	0.213	0.127
In.	0.29	0.24	0.19	0.16	0.17	2.73	1.08	0.61	0.37	0.39	0.25	0.14

Calendar year 1962: Max 53,300 Min 1,600 Mean 11,000 Cfsm 0.902 In. 12.23
Water year 1962-63: Max 64,800 Min 1,400 Mean 5,950 Cfsm 0.488 In. 6.62

* Discharge measurement made on this day.
a No gage-height record.
Note.--Gage heights based on graph of observer's readings Nov. 1-20, Dec. 1 to Jan. 10, July 6, 8-12, 15-20, 22-26, Sept. 7-11.

3-3420. Wabash River at Riverton, Ind.

Location.--Lat 39°01'13", long 87°34'07", in sec. 30, T. 7 N., R. 10 W., on left bank at downstream side of Illinois Central Railroad bridge at Riverton, 0.6 mile downstream from Turtle Creek, and at mile 162.0.

Drainage area.--13,100 sq mi, approximately.

Records available.--October 1938 to September 1963. Prior to April 1939 monthly discharge only, published in WSP 1305. June 1911 to December 1914 (gage heights only) available in the Corps of Engineers office, Louisville, Ky.

Gage.--Water-stage recorder. Datum of gage is 414.65 ft above mean sea level, datum of 1929. June 23, 1911 to Dec. 31, 1914, staff gage maintained by Illinois Central Railroad at same site and datum. Apr. 18, 1939 to July 17, 1951, wire-weight gage at same site and datum, read twice daily.

Average discharge.--25 years, 11,214 cfs.

Extremes.--Maximum discharge during year, 67,800 cfs Mar. 12, (gage height, 21.19 ft); minimum, 1,510 cfs Sept. 10-18, 22-30; minimum gage height, 0.96 ft Sept. 30.

1938-63: Maximum discharge, 201,000 cfs May 21, 1943 (gage height, 29.36 ft); minimum observed, 858 cfs Sept. 27 to Oct. 1, 1941 (gage height, 0.02 ft).

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 cfs, estimated).

Remarks.--Records good. Records of water temperatures for the water year 1963 are given in WSP 1948.

Rating table, water year 1962-63 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used June 14-18, July 18, 22-30)

0.9	1,420	16.0	32,000
2.0	2,500	18.0	41,000
6.0	8,000	20.0	55,500
12.0	19,500	22.0	76,000

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.620	2.860	2.620	2.070	1.690	2.280	19.500	* 13.900	4.120	4.400	4.260	a 2.200
2	2.620	2.740	2.620	2.070	1.690	2.170	* 24.900	14.500	4.820	3.470	3.600	2.070
3	2.620	2.740	2.500	* 2.070	1.690	2.070	24.600	13.900	4.960	2.620	3.470	2.070
4	2.620	2.620	2.500	2.070	1.690	6.420	22.200	12.900	4.540	2.500	3.100	1.970
5	2.620	2.740	2.390	2.070	1.690	28.500	19.300	11.900	4.400	2.390	2.860	1.970
6	2.620	2.740	2.390	2.070	1.690	35.600	17.100	10.300	4.820	2.390	2.860	1.870
7	2.620	2.740	2.390	2.070	1.870	33.000	14.700	9.600	3.990	2.740	2.740	1.870
8	2.740	2.740	2.390	2.070	2.070	42.800	12.900	8.640	3.990	2.860	3.990	1.870
9	2.740	2.620	2.390	2.070	2.280	50.700	11.700	7.850	4.400	2.740	3.990	1.780
10	2.740	2.740	2.280	2.170	2.390	59.600	10.500	7.400	4.680	2.620	2.980	1.690
11	3.340	2.620	2.170	2.500	2.390	65.700	9.600	6.950	5.240	2.390	2.740	* 1.780
12	3.730	2.740	2.170	2.740	2.280	67.800	8.800	6.360	5.520	2.280	2.620	1.690
13	3.470	2.620	2.170	2.500	2.280	64.700	8.160	5.940	6.650	2.170	2.740	1.690
14	3.340	2.620	2.170	1.870	2.170	60.600	7.550	5.660	10.800	2.620	2.740	1.690
15	3.340	2.620	2.170	1.690	2.170	53.900	6.800	5.520	8.320	2.500	2.620	1.600
16	3.220	2.740	2.170	1.690	2.070	49.100	6.360	5.660	6.950	2.390	2.390	1.510
17	3.100	2.980	2.070	1.870	1.870	44.000	5.940	6.220	5.940	2.390	2.280	1.510
18	2.980	2.980	2.070	1.970	1.970	38.500	5.800	5.940	5.100	6.360	2.170	1.510
19	2.860	3.100	2.070	2.070	1.970	35.600	5.800	5.380	4.400	3.470	2.280	1.600
20	2.740	3.220	2.170	1.870	1.970	33.600	6.650	5.240	3.990	2.980	2.170	1.690
21	2.620	3.220	2.390	1.690	1.970	30.800	8.320	4.960	3.730	3.340	3.220	a 1.600
22	3.340	3.100	2.280	1.690	2.070	29.100	9.120	4.820	3.470	7.100	3.220	a 1.510
23	4.260	3.100	2.390	1.690	2.280	27.000	10.500	4.540	3.340	* 11.100	2.740	1.510
24	4.400	3.100	2.280	1.780	2.280	24.000	13.500	4.400	3.220	11.500	2.500	1.510
25	4.120	3.100	2.280	1.780	2.280	19.800	14.500	4.260	* 2.980	10.700	2.280	1.510
26	3.730	2.980	2.280	1.780	2.280	17.300	14.700	4.120	2.860	9.120	a 2.200	1.510
27	3.470	* 2.860	2.070	1.780	* 2.280	16.500	14.700	4.120	2.740	7.550	a 2.100	1.510
28	3.220	2.860	1.970	1.780	2.280	16.700	13.900	4.260	2.740	6.500	a 2.100	1.510
29	3.220	2.860	2.070	1.690	----------	15.900	11.900	3.990	2.620	5.660	a 2.200	* 1.510
30	* 2.980	2.740	2.070	1.690	---------	15.300	11.700	3.860	3.340	4.820	a 2.300	1.510
31	2.980	----------	2.170	* 1.690	---------	15.700	----------	* 3.860	----------	4.400	a 2.300	----------
Total	97.020	85.440	70.120	60.610	57.610	1.009.740	371.700	216.950	133.670	140.070	85.760	50.820
Mean	3,130	2,848	2,262	1,955	2,058	32,570	12,390	6,998	4,622	4,510	2,766	1,694
Cfsm	0.239	0.217	0.173	0.149	0.157	2.49	0.946	0.534	0.353	0.345	0.211	0.129
In.	0.28	0.24	0.20	0.17	0.16	2.87	1.06	0.62	0.39	0.40	0.24	0.14

Calendar year 1962: Max 55,500 Min 1,970 Mean 12,000 Cfsm 0.916 In. 12.45
Water year 1962-63: Max 67,800 Min 1,510 Mean 6,533 Cfsm 0.499 In. 6.77

* Discharge measurement made on this day.

a No gage-height record.

Note.--Computed from once-daily wire-weight readings Dec. 11-20, Dec. 24 to Jan. 10, Jan. 14 to Feb. 9, Feb. 12-24, Feb. 27 to Mar. 3, July 13, Sept. 2-20, 23-30.

3-3425. Busseron Creek near Carlisle, Ind.

Location.--Lat 38°58'30", long 87°25'35", in W½ sec. 17, T. 6 N., R. 9 W., on right bank 10 ft downstream from bridge on State Highway 58, 1½ miles northwest of Carlisle, and 6 3/4 miles upstream from mouth.

Drainage area.--228 sq mi.

Records available.--October 1943 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 425.36 ft above mean sea level (Indiana State Highway Department bench mark). Prior to Nov. 8, 1950, wire-weight gage at same site and datum.

Average discharge.--20 years, 220 cfs.

Extremes.--Maximum discharge during year, 3,970 cfs Mar. 5 (gage height, 16.37 ft); no flow for part of each day Sept. 24, 25. 1943-63: Maximum discharge, 8,800 cfs Jan. 5, 1950 (gage height, 20.05 ft); maximum gage height, 20.30 ft May 9, 1961; no flow many days in 1954.

Remarks.--Records poor.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge in cubic feet per second)
(Shifting-control method used Sept. 12-30)

Oct. 1 to Dec. 29		Dec. 30 to Sept. 30			
2.4	4.0	2.06	0.1	3.5	57
2.5	6.0	2.1	0.3	5.0	193
2.8	16	2.2	1.0	7.0	470
3.0	25	2.4	3.5	11.0	1,330
3.5	57	2.6	7.7	13.0	1,950
5.0	193	2.8	15	15.0	2,930
7.0	470	3.0	25	16.0	3,650

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.1	20	17	64	* 13	15	1,600	* 95	17	870	4.4	3.4
2	8.7	16	17	46	14	18	* 1,150	64	14	870	4.2	3.0
3	9.3	14	16	41	14	43	334	49	12	338	4.0	2.6
4	8.4	13	17	41	12	1,360	217	41	12	103	4.9	2.6
5	7.8	13	18	41	15	3,490	151	35	63	47	5.8	2.0
6	9.0	14	17	42	26	3,650	131	34	421	36	4.2	1.6
7	15	14	b 11	40	57	3,410	113	29	70	57	4.0	1.3
8	15	19	b 10	41	54	2,250	104	24	35	36	5.1	1.2
9	10	16	b 9.0	45	33	797	95	21	21	22	3.9	1.3
10	10	17	b 8.0	57	26	376	79	22	15	14	3.5	1.3
11	9.0	17	b 7.0	213	23	348	71	18	20	11	3.5	1.2
12	7.5	43	b 6.5	196	18	390	64	21	14	8.6	3.4	1.5
13	9.3	64	6.0	60	15	334	60	24	22	11	3.3	1.3
14	9.9	41	5.8	b 40	12	268	57	24	97	50	7.0	.8
15	10	30	6.9	b 30	9.9	193	54	21	23	39	4.9	.4
16	15	67	8.1	b 23	8.9	981	50	94	16	18	4.3	.3
17	40	281	10	b 20	8.9	2,200	57	582	12	15	3.6	.3
18	19	151	12	b 20	12	1,920	54	214	10	486	3.5	.4
19	15	95	16	b 20	16	2,530	64	100	8.6	60	3.2	.5
20	12	64	24	b 20	21	2,340	95	131	8.3	44	4.3	.6
21	11	54	60	b 15	b 19	1,950	71	91	8.3	44	4.6	.5
22	10	42	68	b 13	b 14	1,200	54	57	7.0	21	3.7	.3
23	9.9	32	49	b 12	12	294	46	42	6.0	* 12	3.4	.2
24	9.0	26	32	b 12	14	205	39	35	* 5.5	9.9	3.4	.1
25	9.0	24	32	b 11	b 18	274	37	29	4.9	7.5	3.4	.1
26	8.1	* 20	27	11	b 16	1,060	34	26	4.6	6.0	* 3.3	.2
27	8.4	20	19	12	* 15	870	31	32	4.8	5.1	3.1	.4
28	9.3	19	17	12	14	380	32	57	4.9	7.0	10	.7
29	* 96	19	218	12	---------	217	54	* 38	4.4	6.5	14	.7
30	57	17	255	12	------	242	161	26	392	5.8	6.5	.8
31	29	------	*122	12	-----	700	-----	18	--------	5.1	4.5	-------
Total	504.7	1,282	1,141.3	1,234	530.7	34,305	5,159	2,094	1,353.3	3,265.5	150.9	31.6
Mean	16.3	42.7	36.8	39.8	19.0	1,107	172	67.5	45.1	105	4.87	1.05
Cfsm	0.071	0.187	0.161	0.175	0.083	4.86	0.754	0.296	0.198	0.461	0.021	0.0046
In.	0.08	0.21	0.19	0.20	0.09	5.60	0.84	0.34	0.22	0.53	0.02	0.005

Calendar year 1962: Max 3,340 Min 5.8 Mean 195 Cfsm 0.855 In. 11.60
Water year 1962-63: Max 3,650 Min 0.1 Mean 140 Cfsm 0.614 In. 8.32

Peak discharge (base, 2,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	0400	16.37	3,970				
3-19	2200	14.80	2,810				

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

3-3430. Wabash River at Vincennes, Ind.

Location.--Lat 38°40'52", long 87°32'04", near center of span on downstream side of bridge on U. S. Highway 50 at Vincennes, Knox County, 4.8 miles downstream from Maria Creek, 5.8 miles upstream from Embarrass River, and at mile 127.8.
Drainage area.--13,700 sq mi, approximately.
Records available.--October 1929 to September 1963. Prior to December 1929 monthly discharge only, published in WSP 1305. Gage-height records collected at same site since November 1904 are contained in reports of U. S. Weather Bureau.
Gage.--Wire-weight gage read twice daily. Datum of gage is 394.43 ft above mean sea level, datum of 1929. Prior to Aug. 14, 1940, staff and chain gages, and Aug. 14, 1940, to Sept. 30, 1946, wire-weight gage, at same site at datum 2.00 ft higher. Since Oct. 1, 1955, auxiliary water-stage recorder 4.7 miles upstream from base gage.
Average discharge.--34 years, 11,398 cfs.
Extremes.--Maximum discharge during year, 56,300 cfs Mar. 13; maximum gage height, 20.71 ft Mar. 13; minimum, 1,600 cfs Sept. 16-19, 21-30; minimum gage height, 2.23 ft Sept. 27, 28, 30.
1929-63: Maximum discharge, 189,000 cfs May 22, 23, 1943 (gage height, 29.33 ft, present datum); minimum observed, 770 cfs Aug. 4, 5, 1934 (gage height, 1.40 ft, present datum).
Flood of Mar. 29, 1913, reached a stage of 26.3 ft, present datum, from floodmarks, determined by Corps of Engineers (discharge, 255,000 cfs, estimated).
Remarks.--Records fair.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Fall used as a factor Mar. 5 to Apr. 15, Apr. 22 to May 6; shifting-control method used Dec. 17 to Jan. 23, Feb. 8-28, Mar. 3, 4)

2.2	1,530
3.0	2,890
8.0	14,800
16.0	40,000
21.0	63,000

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.700	3.080	2.700	2.520	b 1.800	a 2.600	* 19.900	a 14.000	4.510	5.370	4.720	2.170
2	2.700	2.890	2.700	2.520	b 1.800	a 2.500	22.800	14.400	4.720	6.280	4.300	2.000
3	2.520	2.700	2.700	2.340	b 1.800	2.340	23.900	* 14.200	5.590	4.510	3.880	2.080
4	2.520	2.700	2.520	2.340	b 1.800	3.880	22.500	a 13.000	5.590	3.280	3.880	2.000
5	2.700	2.700	2.520	2.520	b 1.800	20.900	20.500	a 13.000	5.150	2.890	3.280	1.920
6	2.700	2.700	2.520	2.340	b 1.800	29.500	18.400	a 12.000	5.590	2.700	3.280	1.920
7	2.700	2.700	2.520	2.340	b 1.900	31.600	16.200	11.400	5.590	2.700	3.080	1.840
8	2.700	2.700	2.520	2.340	2.170	34.400	14.800	10.600	4.510	3.280	3.280	1.840
9	2.700	2.700	2.520	2.520	2.340	33.100	a 13.000	9.650	4.720	3.280	4.510	1.760
10	2.700	2.700	2.520	2.340	2.700	43.200	a 12.000	8.900	4.930	3.080	3.880	1.760
11	2.700	2.700	2.520	2.520	2.890	49.200	a 11.000	8.400	5.370	2.700	3.280	1.680
12	3.680	2.700	2.340	3.080	2.700	53.800	a 10.000	7.680	6.050	2.520	2.890	1.840
13	3.880	2.700	b 2.200	3.280	2.700	56.000	a 9.500	7.440	6.510	2.340	2.890	1.760
14	3.480	2.700	b 2.200	3.080	2.520	55.200	a 9.000	6.970	9.650	2.520	3.080	1.680
15	3.480	2.700	b 2.200	2.340	2.520	52.500	a 8.500	6.510	10.600	2.890	3.080	1.680
16	3.680	2.700	b 2.200	2.080	2.520	50.300	7.920	6.740	8.400	2.700	2.700	1.600
17	3.480	3.080	2.170	2.080	2.340	47.400	7.440	8.400	7.200	2.700	2.700	1.600
18	3.080	3.480	2.170	2.170	2.340	42.200	7.200	9.650	6.280	3.880	2.520	1.600
19	3.080	3.280	2.170	2.340	2.170	38.800	7.200	7.680	5.370	6.740	2.340	1.600
20	2.890	3.280	2.340	2.340	2.170	35.100	7.440	6.740	4.510	3.880	2.340	1.680
21	2.700	3.280	2.700	2.340	2.340	32.000	8.650	6.510	4.300	3.280	2.700	1.680
22	2.520	3.280	2.890	2.170	2.340	29.400	a 9.500	6.050	4.090	4.300	3.680	1.600
23	3.680	3.280	2.890	1.840	2.520	26.900	a 11.000	5.590	3.680	9.400	3.480	1.600
24	4.720	3.280	2.700	a 1.800	2.700	24.500	a 12.000	5.370	* 3.680	11.400	2.890	1.600
25	4.720	3.280	2.520	a 1.800	2.520	22.000	a 13.000	5.150	3.480	* 11.200	2.700	1.600
26	4.300	* 3.280	2.520	a 1.900	2.700	20.300	14.600	4.930	3.280	10.200	* 2.340	1.600
27	3.880	3.080	2.340	a 1.900	2.700	18.400	14.800	4.720	3.080	8.650	2.170	* 1.600
28	3.480	2.890	2.170	a 1.900	* 2.700	17.700	a 14.000	4.930	3.080	7.680	2.170	1.600
29	* 3.480	2.890	2.170	a 1.900	---	16.900	a 13.000	* 4.930	2.890	6.740	2.170	1.600
30	3.480	2.890	2.890	a 1.800	---	16.200	13.000	4.510	2.890	5.590	2.340	1.600
31	3.080	---	* 2.700	a 1.800	---	16.600	---	4.510	---	5.150	2.340	---
Total	100.110	88.320	76.740	70.580	65.300	930.420	392.750	254.560	155.290	153.830	94.890	52.090
Mean	3,229	2,944	2,475	2,277	2,332	30,010	13,090	8,212	5,176	4,962	3,061	1,736
Cfsm	0.236	0.215	0.181	0.166	0.170	2.19	0.955	0.599	0.378	0.362	0.223	0.127
In.	0.27	0.24	0.21	0.19	0.18	2.52	1.07	0.69	0.42	0.42	0.26	0.14

Calendar year 1962: Max 52,900 Min 2,170 Mean 12,330 Cfsm 0.900 In. 12.22
Water year 1962-63: Max 56,000 Min 1,600 Mean 6,671 Cfsm 0.487 In. 6.61

* Discharge measurement made on this day.
a No gage-height record.
b Stage-discharge relation affected by ice.

3-3455. Embarrass River at Ste. Marie, Ill.

Location.--Lat 38°56'10", long 88°01'10", in NW¼NW¼ sec. 30, T. 6 N., R. 14 W., on left bank at downstream side of highway bridge at Ste. Marie.

Drainage area.--1,513 sq mi.

Records available.--October 1909 to December 1912, August 1914 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 446.75 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark). Prior to June 29, 1940, chain gage at same site and datum.

Average discharge.--52 years, 1,203 cfs.

Extremes.--Maximum discharge during year, 12,600 cfs Mar. 7 (gage height, 19.00 ft); minimum daily, 17 cfs Jan. 27-31.
1909-12, 1914-63: Maximum discharge, 44,800 cfs Jan. 4, 1950 (gage height, 24.95 ft), from rating curve extended above 29,000 cfs; maximum gage height, 25.54 ft June 30, 1957; minimum discharge, 1 cfs Oct. 5-9, 1914.

Remarks.--Records good except those for periods of ice effect, which are poor.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	42	56	43	198	18	33	2,000	862	157	157	* 198	137
2	44	49	42	128	20	35	1,840	630	145	214	162	128
3	43	45	40	90	22	40	1,840	705	134	177	158	129
4	49	42	39	67	25	1,500	1,880	690	118	165	120	126
5	81	40	39	56	28	6,410	1,840	600	154	120	100	114
6	60	36	38	51	31	8,350	1,560	502	691	115	90	102
7	53	38	36	45	35	11,600	1,200	428	452	283	79	90
8	44	38	35	43	40	7,540	950	380	302	215	71	82
9	42	38	32	43	45	4,100	810	346	212	212	64	76
10	39	38	30	42	47	3,300	705	313	172	225	85	71
11	38	38	28	43	45	2,080	615	292	157	221	115	67
12	36	49	26	45	42	1,480	540	292	162	* 176	108	65
13	35	43	26	60	39	1,370	478	281	181	150	163	78
14	35	39	26	70	37	1,230	440	273	* 191	153	592	86
15	35	* 36	28	60	35	1,060	404	252	358	157	478	67
16	35	47	30	50	35	1,460	380	358	380	150	428	58
17	35	60	32	45	40	3,290	358	1,670	346	147	313	52
18	* 35	72	35	40	45	2,080	346	1,320	292	232	219	47
19	32	90	38	35	48	3,060	392	555	266	250	172	44
20	31	83	* 40	30	46	4,800	540	440	225	300	140	* 44
21	35	69	45	25	* 44	3,010	452	346	184	197	183	44
22	32	60	42	22	42	* 1,920	380	281	158	148	718	40
23	30	54	39	20	40	1,720	346	* 236	140	124	915	39
24	30	56	45	19	37	1,480	324	210	124	110	915	39
25	34	56	50	* 19	35	1,230	292	189	115	103	690	39
26	32	51	52	18	33	1,440	* 277	179	106	99	440	34
27	30	47	50	17	32	1,600	270	179	97	100	313	34
28	32	45	45	17	32	1,120	264	195	93	92	248	34
29	69	44	55	17	---------	950	313	234	82	93	204	32
30	136	43	140	17	- - - - - -	915	638	221	173	100	170	32
31	74	- - - - - -	268	17	- - - - - -	1,150	- - - - - -	177	- - - - - -	104	150	- - - - - - -
Total	1,378	1,502	1,514	1,449	1,018	81,353	22,674	13,636	6,367	5,089	8,801	2,030
Mean	44.5	50.1	48.8	46.7	36.4	2,624	756	440	212	164	284	67.7
Cfsm	0.029	0.033	0.032	0.031	0.024	1.73	0.500	0.291	0.140	0.108	0.188	0.045
In.	0.03	0.04	0.04	0.04	0.03	2.00	0.56	0.34	0.16	0.13	0.22	0.05

Calendar year 1962 : Max 18,600 Min 26 Mean 1,315 Cfsm 0.869 In. 11.80
Water year 1962-63 : Max 11,600 Min 17 Mean 402 Cfsm 0.266 In. 3.64

Peak discharge (base, 6,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-7	0800	19.00	12,600				

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 8-19, 24-29, Jan. 13 to Mar. 4.

3-3460. North Fork Embarrass River near Oblong, Ill.

Location.--Lat 39°00'35", long 87°56'45", in extreme northwest corner of sec. 35, T. 7 N., R. 14 W., on left bank at downstream side of pier of bridge on State Highway 33, three-quarters of a mile upstream from Illinois Central Railroad bridge, 2 miles west of Oblong, and 8½ miles upstream from mouth.

Drainage area.--319 sq mi.

Records available.--October 1940 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 458.19 ft above mean sea level, datum of 1929. Prior to Dec. 11, 1940, wire-weight gage at same site and datum.

Average discharge.--23 years, 248 cfs.

Extremes.--Maximum discharge during year, 10,900 cfs Mar. 5 (gage height, 18.16 ft); minimum, 0.5 cfs Sept. 29.
1940-63: Maximum discharge, 27,100 cfs Jan. 4, 1950 (gage height, 22.38 ft), from rating curve extended above 16,000 cfs; no flow for many days in 1953-54.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Mar. 4, Sept. 30)

-0.2	0.5	1.0	44	7.0	750	15.0	3,480
- .1	1.5	1.5	78	11.0	1,530	16.0	4,840
0	3.0	2.0	113	13.0	2,120	17.0	7,000
.3	10	4.0	330	14.0	2,600	18.0	10,200
.6	22						

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.6	11	9.2	75	3.3	6.5	1,170	757	26	375	* 35	2.2
2	4.8	7.9	9.0	41	3.7	7.0	759	205	23	74	146	2.2
3	4.6	6.4	8.7	27	4.0	10	270	126	22	35	50	2.2
4	4.6	5.5	8.7	22	4.5	960	190	96	20	23	25	2.0
5	4.6	4.6	8.4	18	5.0	4,580	150	78	50	17	15	1.9
6	4.8	4.4	7.9	17	6.0	7,100	113	65	54	92	11	1.8
7	5.7	4.4	7.5	17	7.0	3,020	102	56	32	226	8.7	1.8
8	5.7	4.2	6.7	17	9.0	840	91	49	20	119	7.2	1.6
9	5.2	4.4	6.0	16	15	276	82	44	15	46	6.2	1.6
10	5.7	4.6	5.5	17	25	429	72	39	13	25	5.5	1.5
11	6.4	5.5	5.0	28	15	298	65	35	13	17	5.0	1.4
12	5.7	7.9	4.5	40	10	222	58	36	12	* 12	5.2	1.4
13	5.2	8.7	4.0	35	9.0	216	54	39	12	14	94	8.7
14	18	12	4.0	30	8.0	222	51	40	* 150	80	144	12
15	29	* 13	4.5	20	7.0	145	49	36	274	153	44	5.3
16	15	13	5.0	13	7.0	445	47	45	65	52	20	3.2
17	11	26	5.5	11	7.0	1,680	46	599	36	26	12	2.2
18	8.4	72	6.0	10	7.0	1,290	46	591	25	328	8.2	1.8
19	* 7.9	60	6.7	9.0	7.0	1,320	63	165	19	519	7.2	1.5
20	a 7.0	39	* 7.9	7.0	8.0	2,120	292	110	15	101	6.2	* 1.2
21	6.4	29	10	6.0	* 8.6	1,220	166	99	13	46	5.2	.9
22	a 6.2	24	13	5.0	9.0	* 270	88	70	11	36	4.8	.9
23	a 6.0	20	15	4.0	8.0	180	65	* 49	10	24	5.5	1.0
24	a 6.0	18	11	3.3	7.5	145	54	40	9.0	17	4.8	.9
25	a 7.0	16	11	* 3.3	7.0	130	48	36	8.2	13	4.2	.8
26	a 6.5	13	9.0	3.1	6.8	232	* 43	32	7.7	12	3.6	.7
27	a 6.2	11	7.5	3.0	6.6	492	40	36	6.9	10	3.2	.6
28	9.2	11	7.0	3.0	6.5	318	38	41	6.9	9.5	3.2	.6
29	a 15	10	12	3.0	---	190	80	47	49	9.2	3.4	.6
30	a 25	9.5	68	3.0	- - - - -	150	782	46	361	11	3.2	.6
31	18	- - - - -	121	3.0	- - - - -	266	- - - - -	32	- - - - -	20	2.5	- - - - -
Total	275.4	476.0	415.2	509.7	227.5	28,779.5	5,174	3,739	1,378.7	2,541.7	699.0	65.1
Mean	8.88	15.9	13.4	16.4	8.12	928	172	121	46.0	82.0	22.5	2.17
Cfsm	0.028	0.050	0.042	0.051	0.025	2.91	0.539	0.379	0.144	0.257	0.071	0.0068
In.	0.03	0.06	0.05	0.06	0.03	3.36	0.60	0.44	0.16	0.30	0.08	0.008

Calendar year 1962: Max 8,120 Min 3.0 Mean 246 Cfsm 0.771 In. 10.47
Water year 1962-63: Max 7,100 Min 0.6 Mean 121 Cfsm 0.379 In. 5.18

Peak discharge (base, 4,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	2400	18.16	10,900				

* Discharge measurement made on this day.
a No gage-height record.
Note.--Stage-discharge relation affected by ice Dec. 7-16, 23-29, Jan. 12 to Mar. 3.

3-3470. White River at Muncie, Ind.

Location.--Lat 40 12', long 85°23', in sec. 10, T. 20 N., R. 10 E., on right bank 200 ft downstream from Walnut Street Bridge in Muncie and 6 miles upstream from Bell Creek.
Drainage area.--242 sq mi.
Records available.--November 1930 to September 1963. Prior to October 1948, published as West Fork White River at Muncie. Daily gage heights from October 1924 to December 1929 are available in the District office.
Gage.--Water-stage recorder. Datum of gage is 920.10 ft above mean sea level (City of Muncie benchmark). Prior to Jan. 4, 1934, chain gage at highway bridge 200 ft upstream at datum 5.00 ft higher. Jan. 4, 1934, to Sept. 13, 1940, water-stage recorder and Sept. 14, 1940, to Feb. 14, 1941, staff gage, at present site at datum 4.00 ft higher. Feb. 15, 1941, to Jan. 27, 1942, wire-weight gage at bridge 200 ft upstream at present datum.
Average discharge.--32 years (1931-63), 217 cfs (adjusted for diversion after September 1937).
Extremes.--Maximum discharge during year, 8,190 cfs Mar. 5 (gage height, 10.52 ft); minimum, 1.7 cfs June 25; minimum gage height, -0.28 ft Sept. 15.
1930-62: Maximum discharge, 11,500 cfs Jan. 15, 1937 (gage height, 18.07 ft, present datum); minimum, 0.6 cfs Sept. 16, 1937; minimum daily, 1.1 cfs Sept. 16, 17, 23-25, 1954 and Oct. 10, 1956.
Maximum stage known, about 19.6 ft in March 1913, present datum (discharge, about 20,000 cfs).
Remarks.--Records good except those for periods of ice effect, which are poor. City of Muncie diverts part of its water supply 2.5 miles above gage and returns it to river at sewer outlet a short distance below gage. Records of diversion available since October 1937.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Apr. 8-29, May 1-28, June 28 to July 31)

Oct. 1 to July 31

-0.2	1.3	.9	107
- .1	3.7	1.4	242
0	7.0	2.0	490
+ .1	11	3.0	1,090
.2	18	6.0	3,520
.5	47	10.0	7,540

Aug. 1 to Sept. 30

-0.30	9.0
- .1	18
0	26
+ .1	41
.2	64

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	* 15	100	b 11	b 12	*b 11	312	155	46	22	17	11
2	13	16	102	b 11	b 12	b 13	356	124	25	* 14	13	12
3	21	17	98	* 12	b 12	b 18	277	* 103	20	11	12	13
4	24	21	96	b 12	b 12	b 1,750	277	86	61	10	13	12
5	27	24	96	b 13	b 13	6,580	209	79	100	9.0	13	11
6	21	18	96	b 14	b 15	3,610	145	72	83	8.2	11	11
7	26	20	98	b 14	b 30	1,280	133	60	54	8.6	11	11
8	34	20	98	15	b 78	540	144	53	37	10	14	11
9	33	20	105	18	b 60	605	153	49	27	11	53	11
10	29	26	89	23	b 46	1,090	103	46	20	11	37	11
11	22	34	16	b 37	b 37	565	91	41	17	10	31	11
12	17	35	10	b 98	b 30	378	86	42	13	9.0	17	12
13	18	25	b 8.4	b 72	b 25	820	83	57	10	9.0	16	13
14	21	32	b 7.1	b 54	b 21	645	81	52	8.6	15	15	11
15	21	107	b 6.1	b 40	b 18	336	73	43	7.8	22	13	10
16	15	106	10	b 41	b 14	277	70	36	7.8	15	13	11
17	17	63	b 12	b 36	b 16	880	57	36	7.7	11	11	13
18	18	78	14	b 32	20	590	45	39	4.0	11	11	15
19	18	65	18	b 28	b 28	1,030	70	39	4.0	11	12	16
20	34	52	22	b 24	b 40	2,390	115	38	2.6	121	13	18
21	42	44	23	b 21	b 31	1,570	84	31	2.1	115	* 16	35
22	36	38	26	b 19	b 26	540	70	26	1.9	51	14	38
23	24	35	26	b 18	b 22	336	142	21	2.4	29	12	37
24	20	31	21	b 16	b 19	277	128	20	3.4	18	12	23
25	20	29	b 17	b 15	b 16	209	93	21	* 1.9	15	17	* 21
26	20	25	b 13	b 14	b 14	209	70	22	4.1	14	23	19
27	20	46	b 11	b 13	b 12	* 356	60	25	5.2	14	15	20
28	20	100	b 10	b 12	b 10	315	57	47	5.2	13	13	14
29	20	* 100	b 11	b 12	----------	226	96	* 114	10	14	11	12
30	15	98	b 11	*b 12	------	176	182	85	27	* 39	11	14
31	15	------	b 11	b 12	------	155	-----	53	--------	43	11	-------
Total	696	1,340	1,281.6	769	689	27,777	3,862	1,715	618.7	713.8	501	477
Mean	22.5	44.7	41.3	24.8	24.6	896	129	55.3	20.6	23.0	16.2	15.9
(ƒ)	+18.2	+17.1	+17.5	+18.4	+18.1	+17	+18	+18.5	+20.0	+20.2	+19.0	+19.2

Adjusted for diversion

Mean	40.7	61.8	58.8	43.2	42.7	913	147	73.8	40.6	43.2	35.2	35.1
Cfsm	0.168	0.255	0.243	0.179	0.176	3.77	0.607	0.305	0.168	0.178	0.145	0.145
In.	0.19	0.28	0.28	0.21	0.18	4.35	0.68	0.35	0.19	0.20	0.17	0.16

	Observed			Adjusted		
Calendar year 1962 :	Max 4,560	Min 6.1	Mean 174	Mean 192	Cfsm 0.793	In. 10.72
Water year 1962-63 :	Max 6,580	Min 1.9	Mean 111	Mean 130	Cfsm 0.537	In. 7.24

Peak discharge (base, 2,500 cfs).--Mar. 5 (1230) 8,190 cfs (10.52 ft); Mar. 20 (1330) 2,550 cfs (4.92 ft).

* Discharge measurement made on this day.
ƒ Diversion, in cubic feet per second, for City of Muncie water supply; records furnished by Muncie Water Works Co.
b Stage-discharge relation affected by ice.

3-3475. Buck Creek near Muncie, Ind.

Location.--Lat 40°08'05", long 85°22'25", in SE¼ sec. 34, T. 20 N., R. 10 E., on left bank at downstream side of county highway bridge, 1 mile upstream from Muncie Water Works Co. pumping station and 4.2 miles southeast of courthouse in Muncie.

Drainage area.--36.7 sq mi.

Records available.--October 1954 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 944.67 ft above mean sea level, datum of 1929. Prior to May 5, 1955, wire-weight gage at same site and datum.

Average discharge.--9 years, 35.9 cfs.

Extremes.--Maximum discharge during year, about 500 cfs Mar. 4; maximum gage height, 10.23 ft Mar. 4 (backwater from ice); minimum daily discharge, 6.0 cfs Dec. 14, 15; minimum gage height, 2.42 ft Oct. 1.
1954-63: Maximum discharge, 1,710 cfs Jan. 21, 1959 (gage height, 12.64 ft); minimum daily, 5.6 cfs Sept. 12, Oct. 11, 1956, minimum gage height, 2.23 ft Aug. 2, 1961.
Maximum stage known about 15 ft, from information by local residents. Date unknown.

Remarks.--Records good except those for periods of ice effect, which are poor. City of Muncie diverts part of its water supply 1 mile below the gage.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Apr. 26-29, May 2-7, June 6 to July 20)

Oct. 1 to Mar. 4		Mar. 4 to Sept. 30			
2.4	8.3	2.4	5.3	3.5	54
2.7	21	2.6	10	4.0	97
3.0	38	2.8	18	6.0	277
3.5	74	3.0	26		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept
1	11	* 11	12	9.0	10	* 19	102	30	18	20	11	8.7
2	12	11	13	10	10	21	58	25	17	20	11	9.3
3	16	11	13	* 16	10	25	48	* 22	24	19	11	9.0
4	13	11	13	12	10	260	48	20	61	19	10	9.0
5	13	12	12	12	11	370	39	20	66	18	10	9.0
6	13	11	13	12	12	199	36	18	42	20	10	9.0
7	12	12	13	13	16	92	34	18	34	19	18	8.7
8	30	12	12	13	25	74	34	18	30	18	12	8.7
9	15	13	11	14	18	166	31	17	28	18	12	8.4
10	13	15	10	17	14	110	30	17	26	18	12	8.2
11	13	14	9.0	54	12	70	29	17	25	18	11	8.2
12	12	14	8.0	33	11	62	28	17	25	18	10	8.2
13	12	13	7.0	30	11	97	28	20	24	19	11	8.2
14	12	12	6.0	25	10	62	27	18	24	21	10	8.2
15	11	12	6.0	21	10	51	26	17	24	18	9.8	7.9
16	12	17	7.0	18	10	66	25	17	23	18	9.6	7.6
17	13	27	8.0	16	10	106	26	18	22	18	9.8	7.1
18	12	22	9.0	16	12	66	25	17	22	17	9.8	7.4
19	11	18	11	15	14	168	28	16	21	18	12	7.1
20	18	16	12	13	16	133	31	18	21	53	11	7.1
21	19	16	12	12	14	79	27	16	20	18	* 10	7.6
22	15	16	12	12	13	54	30	16	20	14	9.8	7.6
23	14	15	11	11	12	48	89	16	20	13	9.8	7.6
24	13	15	10	11	11	45	39	16	20	12	9.8	7.6
25	13	15	10	11	11	42	30	16	* 20	* 11	9.8	* 7.6
26	13	13	10	11	10	48	25	16	21	11	9.6	7.9
27	12	13	9.0	11	10	* 54	22	17	21	11	9.6	7.9
28	11	* 13	9.0	11	10	45	20	29	21	11	9.6	8.2
29	12	13	9.0	11	----------	39	27	* 25	21	18	9.6	8.4
30	12	12	9.0	* 11	------	36	39	24	20	13	9.6	8.4
31	11	------	9.0	11	-----	45	-----	20	------	11	9.0	-------
Total	419	425	315.0	492.0	343	2,752	1,081	591	781	550	327.2	243.8
Mean	13.5	14.2	10.2	15.9	12.2	88.8	36.0	19.1	26.0	17.7	10.6	8.13
Cfsm	0.368	0.387	0.278	0.433	0.332	2.42	0.981	0.520	0.708	0.482	0.289	0.222
In.	0.42	0.43	0.32	0.50	0.35	2.79	1.09	0.60	0.79	0.56	0.33	0.25

Calendar year 1962: Max 700 Min 6.0 Mean 29.1 Cfsm 0.793 In. 10.77
Water year 1962-63: Max 370 Min 6.0 Mean 22.8 Cfsm 0.621 In. 8.43

Peak discharge (base, 400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-4	Unknown	--	About 500				

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 7-19, Dec. 24 to Jan. 3, Jan. 13 to Feb. 7, Feb. 9 to Mar. 5.

3-3480. White River at Anderson, Ind.

Location.--Lat 40°06', long 85°41', in sec. 18, T. 19 N., R. 8 E., on left bank at municipal water-supply plant in Anderson, 1 mile upstream from Killbuck Creek.
Drainage area.--401 sq mi.
Records available.--July 1925 to September 1926, October 1931 to September 1963. Monthly discharge only for some periods, published in WSP 1305. Gage-height records collected at site 700 ft downstream December 1910 to February 1918 and at present site since February 1918 are contained in reports of U. S. Weather Bureau. Prior to October 1948, published as West Fork White River at Anderson.
Gage.--Staff gage above concrete overflow dam. Gage read twice daily. Datum of gage is 825.02 ft above mean sea level, datum of 1929. Prior to May 12, 1934, chain gage at site 250 ft upstream at same datum.
Average discharge.--33 years, 375 cfs.
Extremes.--Maximum discharge during year, 15,100 cfs Mar. 5 (gage height, 17.56 ft); minimum, 51 cfs June 24; minimum gage height observed, 7.28 ft Sept. 13.
1925-26, 1931-63: Maximum discharge observed, 17,100 cfs Jan. 15, 1937; maximum gage height, 19.96 ft June 14, 1958; minimum discharge observed, 8.8 cfs Sept. 24, 1940 (gage height, 6.92 ft).
Maximum stage known, 23.6 ft Mar. 25, 1913, present site and datum, based on determination by U. S. Weather Bureau at site then in use (discharge, 28,000 cfs, estimated).
Remarks.--Records fair except those for periods of ice effect or no gage-height record, which are poor. The City of Anderson diverts water for its municipal supply above the gage.
Cooperation.--Gage readings furnished by City of Anderson.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 13-30, Apr. 1-6, 23, 24, Apr. 30 to May 2)

7.3	51
7.5	110
7.9	300
8.5	735
10.0	2,370
13.0	6,770
15.0	10,200

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	69	* 78	146	b 90	75	b 75	570	425	146	78	110	84
2	75	78	154	b 90	70	b 75	650	318	134	78	97	81
3	84	78	159	*b 85	70	b 90	495	278	126	69	94	81
4	97	78	164	84	70	b 1,700	488	235	150	69	90	72
5	110	84	164	84	75	10,100	412	230	399	64	72	69
6	90	84	172	84	75	9,140	318	215	318	66	78	72
7	78	100	168	84	120	4,500	272	200	220	66	118	72
8	186	100	168	84	200	1,700	240	195	195	61	97	69
9	138	94	164	84	170	1,800	278	186	168	61	87	69
10	97	97	b 140	107	150	2,200	240	177	138	56	164	69
11	87	90	b 120	159	125	1,200	190	164	146	56	94	69
12	87	90	b 100	b 190	b 110	700	177	154	118	59	87	69
13	78	90	94	b 220	b 90	1,020	172	230	110	66	97	66
14	75	97	81	168	b 80	970	168	195	110	114	90	69
15	75	97	b 70	110	b 75	532	164	154	104	66	90	69
16	84	186	b 70	110	b 70	481	164	150	97	72	84	69
17	81	267	78	110	b 70	1,070	154	150	97	72	84	69
18	78	190	84	105	78	970	168	159	94	72	84	69
19	81	177	87	100	b 95	1,110	172	138	84	72	81	69
20	114	150	94	100	b 100	2,790	373	146	78	348	* 114	69
21	134	138	94	90	b 105	2,250	300	130	75	256	81	69
22	114	126	94	85	b 105	1,020	220	118	61	168	81	69
23	107	104	94	85	b 100	610	412	118	56	130	84	69
24	90	107	94	80	b 90	495	386	114	* 54	126	84	69
25	90	100	b 90	80	b 90	425	272	104	61	104	81	* 69
26	90	104	b 90	80	*b 85	386	235	97	59	100	84	69
27	81	100	b 80	80	b 80	532	210	* 150	56	87	90	69
28	87	122	b 80	* 80	b 75	* 532	190	186	56	87	87	69
29	84	*154	b 80	75	---------	412	205	215	78	87	87	69
30	81	154	b 85	75	------	330	* 481	240	64	104	81	69
31	78	------	b 90	75	------	312	------	168	------	122	84	------
Total	2,900	3,514	3,448	3,133	2,698	49,527	8,776	5,739	3,652	3,036	2,836	2,115
Mean	93.6	117	111	101	96.4	1,598	293	185	122	97.9	91.5	70.5
Cfsm	0.233	0.292	0.277	0.252	0.240	3.99	0.731	0.461	0.304	0.244	0.228	0.176
In.	0.27	0.33	0.32	0.29	0.25	4.60	0.82	0.53	0.34	0.28	0.26	0.20

Calendar year 1962: Max 6,450 Min 69 Mean 325 Cfsm 0.810 In. 11.03
Water year 1962-63: Max 10,100 Min 54 Mean 250 Cfsm 0.623 In. 8.49

Peak discharge (base, 2,700 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	2300	17.56	15,100				
3-20	0700	10.70	3,020				

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Jan. 15 to Feb. 11, Mar. 7-12.

3-3485. White River near Noblesville, Ind.

Location.--Lat 40°07', long 85°58', in sec. 4, T. 19 N., R. 5 E., near center of span on downstream side of highway bridge, 1 mile west of Strawtown, 7 miles northeast of Noblesville, 9.5 miles upstream from Cicero Creek, and at mile 277.4.

Drainage area.--814 sq mi.

Records available.--May 1915 to September 1926, October 1928 to September 1963. Monthly discharge only for some periods, published in WSP 1305. Published as "West Branch of White River" prior to October 1922 and as "West Fork of White River" October 1922 to September 1948. Records of daily discharge for the water year 1928, published in WSP 663, have been found to be unreliable and should not be used. (The maximum for this year is believed to be reasonably accurate.)

Gage.--Water-stage recorder. Datum of gage is 763.08 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Prior to July 1, 1922, chain gage at bridge 2 miles downstream at different datum. July 1, 1922, to Nov. 21, 1933, chain gage at present site and datum.

Average discharge.--46 years, 803 cfs.

Extremes.--Maximum discharge during year, 19,800 cfs Mar. 6 (gage height, 15.76 ft); minimum, 77 cfs Sept. 17, (gage height, 3.91 ft). 1915-26, 1928-63: Maximum discharge, 27,200 cfs Mar. 21, 1927 (gage height, 16.3 ft, from graph based on gage readings); maximum gage height, 16.35 ft June 14, 1958; minimum, 36 cfs Sept. 25, 1941.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Discharge measurements generally made twice a month. Records of water temperatures for the water year 1963 are given in WSP 1948.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

3.9	75	9.0	3,400
4.2	150	11.0	5,500
4.5	240	13.0	8,940
5.0	435	15.0	14,700
7.0	1,720	16.0	21,800

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	123	135	240	b 120	120	130	2,170	1,080	330	156	177	110
2	129	135	225	b 110	120	140	2,100	815	275	171	156	100
3	153	135	225	b 100	120	150	1,570	662	258	156	144	100
4	180	135	225	b 100	b 120	5,380	1,420	555	275	144	132	102
5	165	144	225	b 100	b 130	13,800	1,210	505	392	129	120	110
6	171	156	225	b 110	b 140	18,200	1,010	458	530	129	120	105
7	162	156	225	b 110	b 210	9,360	782	435	435	144	241	105
8	334	159	225	b 120	b 330	2,730	690	390	350	129	177	100
9	310	156	225	126	b 300	2,320	662	370	330	123	165	93
10	225	156	198	135	b 250	3,200	608	370	275	120	162	89
11	195	153	b 160	189	b 280	2,400	505	350	275	118	186	91
12	180	147	b 140	289	b 190	1,720	458	310	292	115	147	93
13	168	153	b 130	390	160	2,240	458	390	258	120	144	89
14	159	156	b 120	b 280	140	2,480	412	412	240	192	141	87
15	150	147	b 120	b 180	130	2,240	390	350	225	177	135	83
16	153	210	b 130	180	120	1,420	390	310	204	150	129	83
17	162	350	b 140	190	120	2,480	390	310	192	153	123	81
18	150	330	b 140	190	140	2,730	390	330	192	147	120	87
19	150	310	b 150	170	b 150	2,560	412	292	186	141	138	89
20	210	258	b 160	150	b 160	4,840	815	292	183	941	201	89
21	275	240	171	140	b 170	4,400	720	292	174	945	165	93
22	225	225	171	130	180	2,320	608	258	165	480	141	91
23	204	198	165	120	170	1,500	880	258	159	310	129	93
24	183	186	156	120	160	1,280	1,080	240	141	240	132	95
25	168	174	b 140	120	150	1,080	782	240	141	201	123	100
26	162	165	b 130	120	140	1,080	608	225	150	177	126	93
27	153	165	b 120	120	130	1,280	530	225	147	162	123	95
28	150	168	b 120	120	130	1,280	458	310	150	156	129	91
29	141	225	b 130	120	---------	1,080	480	390	200	192	126	91
30	138	240	b 150	120	------	880	1,010	458	156	192	120	83
31	144	------	b 130	120	-----	1,020	-----	390	------	180	119	------
Total	5,572	5,667	5,211	4,689	4,660	97,720	23,998	12,272	7,280	6,890	4,491	2,811
Mean	180	189	168	151	166	3,152	780	396	243	222	145	93.7
Cfsm	0.221	0.232	0.206	0.186	0.204	3.87	0.958	0.486	0.299	0.273	0.178	0.115
In.	0.25	0.26	0.24	0.21	0.21	4.45	1.07	0.56	0.33	0.31	0.21	0.13

Calendar year 1962 : Max 15,200 Min 120 Mean 692 Cfsm 0.850 In. 11.54
Water year 1962-63 : Max 18,200 Min 81 Mean 497 Cfsm 0.611 In. 8.24

Peak discharge (base, 5,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-6	1100	15.76	19,800				

b Stage-discharge relation affected by ice.
Note.--No gage-height record Jan. 16 to Feb. 3, Feb. 13-18, Feb. 22 to Mar. 3.

GPO 811-767-6

3-3490. White River at Noblesville, Ind.

Location.--Lat 40°02'50", long 86°01'00", in SE¼ sec. 36, T. 19 N., R. 4 E., on right bank at downstream side of Logan Street bridge in Noblesville, 1½ miles upstream from Cicero Creek, 3½ miles downstream from dam at Clare, and at mile 265.0.
Drainage area.--837 sq mi.
Records available.--October 1946 to September 1963. Gage-height records collected at present site from December 1913 to December 1935, and at a site 400 ft downstream thereafter, are contained in reports of U. S. Weather Bureau. Prior to October 1948, published as West Fork White River at Noblesville.
Gage.--Water-stage recorder. Datum of gage is 738.16 ft above mean sea level, datum of 1929.
Average discharge.--17 years, 845 cfs.
Extremes.--Maximum discharge during year, 19,100 cfs Mar. 6 (gage height, 18.96 ft); minimum, 2.0 cfs July 11 (gage height, 3.44 ft, regulation by Clare dam); minimum daily, 77 cfs Sept. 17.
1946-63: Maximum discharge, 24,000 cfs June 15, 1958 (gage height, 20.55 ft); minimum, that of July 11, 1963; minimum daily discharge, 44 cfs Sept. 28, 1954.
Maximum stage known, 23.8 ft Mar. 25, 1913, present site and datum, from U. S. Weather Bureau records.
Remarks.--Records fair except those for periods of ice effect or no gage-height record, which are poor. Flow regulated by powerplant above station. Discharge measurements generally made twice a month. Records of water temperatures for the water year 1963 are given in WSP 1948.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 9 to Dec. 11, Mar. 4, 5, July 14-19, 26-28, 31, Aug. 1-6, 9-10, 12-14, Aug. 28 to Sept. 30)

Oct. 1 to Mar. 5
July 14 to Sept. 30

4.4	66
4.7	160
5.0	282
6.0	835
11.0	4,900
16.0	11,600
19.0	19,100

Mar. 6 to July 13

4.2	91
4.5	170
5.0	350
6.0	860

Note.--Same as preceding table above 6.5 ft.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	91	153	282	a 120	115	a 140	2,570	1,160	330	152	198	113
2	103	142	282	110	110	a 140	2,530	890	274	185	179	106
3	150	146	273	105	120	a 150	1,780	710	239	173	171	100
4	187	136	273	100	130	3,400	1,510	600	246	155	164	106
5	179	139	282	105	140	12,600	1,250	520	354	137	153	119
6	179	156	278	105	200	18,300	1,020	476	565	135	150	119
7	183	156	278	110	290	12,000	812	440	458	161	234	113
8	425	156	269	115	350	3,680	698	404	350	137	210	116
9	356	150	273	125	300	2,480	655	386	298	122	198	97
10	256	142	256	140	250	3,360	620	362	239	127	202	88
11	194	142	119	210	220	2,840	505	346	246	149	210	94
12	190	125	110	330	200	1,900	462	318	278	143	187	103
13	183	125	110	450	190	2,280	435	390	249	91	168	91
14	164	139	110	220	180	2,800	408	440	225	171	168	80
15	156	128	115	210	170	1,940	378	354	211	187	125	86
16	160	187	130	200	150	1,550	374	318	197	146	132	83
17	175	405	145	200	150	2,640	370	310	185	157	150	77
18	164	405	150	200	150	3,040	378	338	188	160	150	86
19	160	380	160	200	155	2,720	404	302	191	171	179	97
20	256	380	170	160	160	4,700	788	294	191	891	260	97
21	380	287	170	140	170	4,630	758	298	188	1,100	230	106
22	296	260	175	130	150	2,760	665	256	173	574	171	113
23	247	230	165	125	150	1,630	956	239	164	345	146	110
24	210	206	a 155	120	140	1,310	1,160	207	146	234	146	103
25	190	202	a 140	120	a 160	1,130	842	218	140	210	139	106
26	187	179	a 130	120	a 140	1,070	665	211	155	194	122	100
27	175	183	a 120	120	a 135	1,270	570	211	152	187	136	88
28	168	190	a 115	120	a 130	1,390	495	302	146	190	139	94
29	168	247	a 130	120	----------	1,110	520	399	221	210	139	97
30	156	278	a 140	120	------	908	1,010	467	173	210	132	88
31	164	------	a 130	120	------	1,010	------	417	------	206	122	-------
Total	6,252	6,154	5,635	4,870	4,905	100,878	25,588	12,583	7,172	7,410	5,210	2,976
Mean	202	205	182	157	175	3,254	853	406	239	239	168	99.2
Cfsm	0.241	0.245	0.217	0.188	0.209	3.89	1.02	0.485	0.286	0.286	0.201	0.119
In.	0.28	0.27	0.25	0.22	0.22	4.48	1.14	0.56	0.32	0.33	0.23	0.13

Calendar year 1962 : Max 13,200 Min 91 Mean 714 Cfsm 0.853 In. 11.58
Water year 1962-63 : Max 18,300 Min 77 Mean 520 Cfsm 0.621 In. 8.43

Peak discharge (base, 6,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-6	1530	18.96	19,100				

a No gage height record.
Note.--Stage-discharge relation affected by ice Dec. 12-23, Jan. 2 to Feb. 24.

3-3495. Cicero Creek near Arcadia, Ind.

Location.--Lat 40°11', long 86°00', on line between secs. 18 and 19, T. 20 N., R. 5 E., on left bank, on downstream side of county bridge, 1½ miles east of Arcadia and 5 miles upstream from Little Cicero Creek.

Drainage area.--131 sq mi.

Records available.--October 1954 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 815.12 ft above mean sea level, datum of 1929. Prior to Dec. 7, 1955, wire-weight gage at same site and datum.

Average discharge.--9 years, 124 cfs.

Extremes.--Maximum discharge during year, 3,310 cfs Mar. 5 (gage height, 10.39 ft); minimum, 1.0 cfs Sept. 29; minimum gage height, 1.74 ft Aug. 27.
1954-63: Maximum discharge, 6,720 cfs June 29, 1957 (gage height, 11.86 ft); minimum, 0.4 cfs Oct. 10, 1956.
Maximum stage known, 15.6 ft (probably the flood of January 1937) from information by local residents.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 6, 9, Aug. 30 to Sept. 30)

1.6	0.8	3.0	106
1.7	2.7	3.5	180
1.8	4.8	4.5	390
1.9	7.4	8.0	1,340
2.1	16	9.0	1,850
2.5	47	10.0	2,760

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.3	18	a 15	7.0	6.5	10	a 720	140	a 18	4.0	8.2	2.5
2	5.3	16	a 15	7.0	6.5	10	a 500	106	a 16	88	7.1	2.1
3	6.0	15	a 14	7.0	6.0	30	a 390	93	a 20	52	6.3	1.7
4	7.1	14	a 14	7.5	6.0	1,180	a 310	75	a 17	20	5.5	1.9
5	7.1	16	a 15	7.5	6.0	2,590	a 260	a 66	a 15	10	4.8	2.5
6	6.3	16	a 14	8.0	a 11	2,500	a 190	a 58	a 24	8.2	4.8	2.3
7	6.8	14	a 12	8.5	a 35	748	a 130	a 55	a 20	7.4	6.8	2.1
8	* 113	14	a 10	10	28	465	a 97	a 46	a 17	5.8	5.5	2.1
9	94	13	a 9.0	12	23	515	a 74	a 43	a 20	5.3	6.2	1.9
10	46	13	a 8.0	15	18	540	a 61	a 39	a 15	4.0	11	1.3
11	35	13	* 7.0	24	15	390	a 56	a 36	* 17	3.7	8.3	1.7
12	28	12	6.0	29	12	317	a 51	a 34	14	3.3	5.3	2.1
13	21	* 12	5.0	25	10	* 506	a 48	a 55	12	4.2	5.0	2.5
14	17	11	6.0	15	9.5	640	a 46	* 93	12	15	* 4.6	2.3
15	15	12	8.0	* 10	9.0	490	a 45	a 58	11	9.4	4.0	2.1
16	13	15	9.5	9.0	9.0	515	* 44	a 48	9.9	13	3.5	2.1
17	13	38	11	8.5	9.0	890	45	a 46	8.6	16	3.3	* 1.9
18	11	54	13	8.0	11	665	42	a 46	8.2	52	2.9	1.7
19	10	43	15	8.0	18	815	97	a 38	7.4	* 35	5.0	1.9
20	52	36	16	7.5	30	865	172	a 42	10	868	8.2	1.9
21	214	35	15	7.5	22	615	112	a 34	9.9	640	6.0	2.1
22	119	32	13	7.5	18	440	100	a 28	7.8	317	4.4	2.1
23	73	25	12	7.0	15	390	133	a 26	6.6	188	3.5	1.9
24	47	21	11	7.0	13	365	119	a 24	5.5	126	3.1	1.5
25	36	a 18	9.9	7.0	11	317	93	a 22	5.5	79	2.9	1.5
26	31	a 16	9.0	7.0	10	390	81	a 20	5.3	54	2.3	1.9
27	25	a 15	8.5	7.0	9.5	465	70	a 20	5.0	39	1.9	1.7
28	22	a 16	8.0	6.5	9.5	390	62	a 40	5.0	28	2.3	1.3
29	22	a 16	7.5	6.5	---------	340	73	a 34	4.8	21	3.1	1.5
30	19	a 15	7.0	6.5	------	294	156	a 26	4.4	14	2.5	1.9
31	19	------	7.0	6.5	------	a 390	------	a 22	----	11	2.5	------
Total	1,138.9	604	330.4	309.5	386.5	19,077	4,377	1,513	351.9	2,741.3	150.8	58.0
Mean	36.7	20.1	10.7	9.98	13.8	615	146	48.8	11.7	88.4	4.86	1.93
Cfsm	0.280	0.153	0.082	0.076	0.105	4.69	1.11	0.373	0.089	0.675	0.037	0.015
In.	0.32	0.17	0.09	0.09	0.11	5.41	1.24	0.43	0.10	0.78	0.04	0.02

Calendar year 1962: Max 2,760 Min 3.1 Mean 96.9 Cfsm 0.740 In. 10.04
Water year 1962-63: Max 2,590 Min 1.3 Mean 84.9 Cfsm 0.647 In. 8.79

Peak discharge (base, 1,100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	2330	10.39	3,310				
7-20	1630	7.36	1,150				

* Discharge measurement made on this day.
a No gage-height record.
Note.--Stage-discharge relation affected by ice Dec. 11-18, Dec. 26 to Jan. 8, Jan. 13 to Mar. 2.

3-3497. Little Cicero Creek near Arcadia, Ind.

Location.--Lat 40°10', long 86°03', on line between sec. 14 and 23, T. 20 N., R. 4 E., on left bank on downstream side of county road bridge, 0.5 mile downstream from Taylor Creek, 1.3 miles west of Arcadia, 3.9 miles upstream from mouth, and 9.3 miles northwest of Noblesville.

Drainage area.--44.7 sq mi.

Records available.--October 1955 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 840 ft (by barometer).

Average discharge.--8 years, 41.4 cfs.

Extremes.--Maximum discharge during year, about 2,000 cfs Mar. 4; (gage height, unknown); no flow Sept. 14-30.
1955-63: Maximum discharge, 3,980 cfs June 28, 1957 (gage height, 8.69 ft); no flow Oct. 9, 10, 1956, Sept. 14-30, 1963.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 8-20, Oct. 25 to Nov. 16, Nov. 23 to Dec. 7, Dec. 12-21, 24, 27, 28, Jan. 1, 8-13, Apr. 5-19)

1.0	0	1.9	13
1.1	.1	2.2	33
1.2	.3	2.5	64
1.3	.8	3.0	132
1.4	1.5	3.5	236
1.5	2.7	4.0	371
1.6	4.4	5.0	656
1.7	6.5	6.0	1,010
1.8	9.4	7.0	1,620

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.3	3.6	3.8	1.4	1.4	2.7	343	75	12	1.5	1.0	0.2
2	1.3	3.1	3.8	b 1.4	1.6	2.4	170	52	12	1.4	.9	.3
3	1.3	3.0	3.6	b 1.4	1.5	12	116	37	10	1.2	.8	.3
4	1.2	3.0	3.3	b 1.5	1.4	150	94	27	9.8	1.0	.8	.2
5	2.0	3.3	3.6	b 1.6	1.4	* 1,130	75	22	19	.9	.7	.2
6	1.5	3.1	3.6	b 1.7	4.0	393	61	18	47	1.2	.7	.1
7	2.1	3.0	2.8	b 1.9	8.4	124	45	13	16	1.4	2.7	.1
8	* 106	3.0	b 2.6	2.2	* 6.7	87	36	12	22	1.7	2.7	.1
9	36	3.0	b 2.3	2.6	3.5	143	30	11	9.8	1.1	1.7	.1
10	13	3.3	b 1.9	3.4	2.5	141	22	10	7.2	.8	2.3	.1
11	9.4	3.3	b 1.5	13	2.2	87	19	9.0	* 7.8	.7	2.0	.1
12	9.0	3.0	* 1.4	16	2.0	70	18	8.1	6.5	.6	1.1	.1
13	8.1	* 2.8	1.1	6.8	1.9	116	17	71	5.2	.8	1.0	.1
14	7.2	2.7	1.4	b 4.0	1.8	* 81	14	* 60	4.8	2.2	* .8	0
15	6.5	2.7	2.0	*b 3.3	1.8	58	13	27	4.2	3.3	.7	0
16	6.0	4.2	2.4	3.0	1.7	100	* 13	18	3.8	1.7	.6	0
17	5.6	14	2.7	2.6	1.7	288	13	18	3.3	1.3	.5	* 0
18	5.6	16	2.8	2.3	2.5	141	13	16	2.8	1.4	.4	0
19	5.2	10	3.1	2.1	4.0	280	67	12	2.8	* 1.2	.9	0
20	56	8.7	3.3	2.0	7.0	190	108	16	4.2	201	2.8	0
21	72	8.4	2.8	1.9	4.5	108	62	14	4.2	69	1.9	0
22	29	9.0	b 2.1	1.8	3.5	73	67	12	2.8	15	1.0	0
23	14	5.4	b 1.7	1.7	3.0	65	150	11	2.4	6.0	.8	0
24	8.4	4.8	1.6	1.6	2.6	60	87	11	2.1	4.0	.6	0
25	6.8	4.6	b 1.5	1.6	2.5	48	63	10	1.8	2.8	.6	0
26	5.6	4.0	b 1.5	1.6	2.4	71	44	10	1.7	2.3	.5	0
27	4.8	3.8	1.4	1.5	2.4	81	32	12	1.8	1.8	.4	0
28	4.6	4.0	1.4	1.5	2.3	56	25	30	1.7	1.6	.3	0
29	4.2	4.0	b 1.5	1.5	----------	40	32	23	1.7	1.5	.4	0
30	3.8	3.8	b 1.5	1.4	------	30	108	17	1.7	1.3	.3	0
31	3.8	------	b 1.5	1.4	------	125	------	13	------	1.1	.2	-------
Total	441.3	150.6	71.5	91.7	82.2	4,353.1	1,957	695.1	232.1	332.8	32.1	2.0
Mean	14.2	5.02	2.31	2.96	2.94	140	65.2	22.4	7.74	10.7	1.04	0.067
Cfsm	0.318	0.112	0.052	0.066	0.066	3.13	1.46	0.501	0.173	0.239	0.023	0.015
In.	0.37	0.12	0.06	0.08	0.07	3.61	1.63	0.58	0.19	0.28	0.03	0.02

Calendar year 1962 : Max 1,210 Min 0.4 Mean 33.8 Cfsm 0.756 In. 10.25
Water year 1962-63 : Max 1,130 Min 0 Mean 23.1 Cfsm 0.517 In. 7.04

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-4	unknown	-	about 2,000				

* Discharge measurement or observation of no flow made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Jan. 16 to Mar. 4, Mar. 19, 26.

3-3501. Hinkle Creek near Cicero, Ind.

Location.--Lat 40°06'05", long 86°05'10", on line between secs. 9 and 16, T. 19 N., R. 4 E., on left bank on downstream side of county road bridge, 3.7 miles above mouth, 4.0 miles upstream from Morse Reservoir Dam, 4.2 miles southwest of Cicero, and 5.7 miles northwest of Noblesville.

Drainage area.--16.3 sq mi.

Records available.--October 1955 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 820 ft (from topographic map).

Average discharge.--8 years, 20.9 cfs.

Extremes.--Maximum discharge during year, 2,050 cfs Mar. 4 (gage height, 6.95 ft); minimum, 0.4 cfs Sept. 22, 24, 26-28; minimum gage height, 0.99 ft July 13, Aug. 4, 5, 15-19.
1955-63: Maximum discharge, 4,920 cfs June 28, 1957 (gage height, 8.45 ft); minimum, 0.1 cfs Sept. 27, 28, 1956 (gage height, 1.30 ft); minimum gage height, that of July 13, Aug. 4, 5, 15-19, 1963.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1-20, Sept. 10-30)

Oct. 1 to Mar. 4				Mar. 5 to Sept. 30			
1.0	0.6	2.0	88	0.9	0.4	1.4	16
1.1	1.0	2.5	196	1.0	.8	1.6	37
1.2	2.2	4.0	640	1.1	1.4	2.0	89
1.3	5.0	5.0	990	1.2	3.4	2.5	196
1.4	11	6.0	1,450	1.3	8.5	3.0	340
1.7	43						

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.4	2.2	2.8	b 1.3	a 0.8	a 1.4	133	42	3.0	1.1	0.9	0.6
2	1.7	2.2	2.8	b 1.3	a .8	a 1.4	69	30	2.7	1.1	.9	.6
3	1.7	2.0	2.6	b 1.3	a .8	a 15	50	23	2.5	1.0	.9	.7
4	2.0	2.0	2.8	b 1.3	a .8	*1,100	42	18	2.5	.9	.9	.6
5	2.2	2.0	2.6	b 1.4	a .8	295	31	15	25	.9	.8	.6
6	2.2	1.9	3.0	b 1.5	b 2.5	128	25	13	18	1.3	.9	.6
7	3.3	1.7	2.6	b 1.7	b 10	* 50	20	10	7.3	1.3	1.3	.7
8	* 33	1.7	2.6	b 2.0	*b 4.5	38	16	9.7	5.0	1.1	1.0	.8
9	3.8	1.7	2.4	b 2.5	b 3.0	65	13	8.5	3.4	.9	1.0	.7
10	2.0	1.6	2.2	b 3.0	b 2.5	51	10	7.9	2.5	.8	1.9	.6
11	2.6	1.9	b 1.3	b 6.0	b 2.0	34	9.7	6.7	* 4.1	.9	1.0	.6
12	3.8	1.9	*b .9	b 10	a 1.8	27	8.5	6.1	2.7	.8	* .9	.7
13	4.6	* 2.0	b .8	b 6.0	a 1.6	* 56	8.5	* 37	2.5	1.0	1.0	.7
14	5.4	1.9	b 1.0	b 3.5	a 1.5	30	7.3	21	2.5	3.7	.9	.6
15	5.4	1.9	b 1.5	b 2.5	a 1.5	21	6.1	12	1.9	1.3	.8	.6
16	6.9	3.0	b 2.0	*b 1.5	a 1.4	65	6.7	10	1.9	1.4	.7	.5
17	6.9	11	b 2.5	b 1.5	a 1.4	98	* 6.7	11	1.6	1.3	.8	* .5
18	6.4	9.3	2.9	b 1.5	b 2.0	53	7.3	9.7	1.5	1.1	.7	.5
19	6.4	5.9	3.1	b 1.5	b 6.0	120	54	7.3	1.4	* 1.2	1.6	.5
20	27	4.6	3.1	b 1.3	b 5.0	71	59	8.5	1.4	38	2.2	.5
21	20	4.6	2.5	b 1.2	a 3.5	47	35	6.7	1.5	7.7	.9	.5
22	8.0	3.8	b 2.0	b 1.1	a 2.5	34	118	5.0	1.3	2.4	.8	.5
23	5.4	3.3	b 1.8	a 1.0	a 2.0	29	212	4.1	1.2	1.5	.7	.5
24	3.5	2.8	b 1.6	a .9	b 1.8	24	70	3.7	1.2	1.2	.6	.5
25	3.2	2.8	b 1.4	a .9	b 1.6	26	50	3.4	1.1	1.1	.7	.5
26	2.8	2.8	b 1.3	a .9	a 1.5	43	37	3.0	1.1	1.0	.7	.5
27	2.6	2.8	b 1.3	a .8	a 1.5	43	28	7.9	1.1	1.0	.6	.4
28	2.6	2.8	b 1.3	a .8	a 1.4	30	22	12	1.0	1.5	.7	.4
29	2.2	2.6	b 1.4	a .8	------	23	29	7.3	1.1	1.2	.8	.5
30	2.0	2.6	b 1.4	a .8	------	18	66	5.0	1.1	1.0	.7	.5
31	2.0	------	b 1.3	a .8	------	104	------	3.7	------	.9	.7	------
Total	183.0	93.3	63.0	62.6	66.5	2,740.8	1,249.8	368.2	105.1	81.9	29.0	17.0
Mean	5.90	3.11	2.03	2.02	2.38	88.4	41.7	11.9	3.50	2.64	.94	.57
Cfsm	.362	.191	.125	.124	.146	5.42	2.56	.730	.215	.162	.057	.035
In.	.42	.21	.14	.14	.15	6.25	2.85	.84	.24	.19	.07	.04

Calendar year 1962 : Max 1,190 Min .8 Mean 16.3 Cfsm 1.00 In. 13.57
Water year 1962-63 : Max 1,100 Min .4 Mean 13.9 Cfsm .853 In. 11.55

Peak discharge (base, 400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-4	1800	6.95	2,050				
4-23	0245	3.65	520				

* Discharge measurement made on this day.
a No gage-height record.
b Stage-discharge relation affected by ice.

3-3505. Cicero Creek at Noblesville, Ind.

Location.--Lat 40°03'20", long 86°02'30", in sec. 35, T. 19 N., R. 4 E., on right bank 150 ft downstream from bridge on State Highway 38, 1 mile northwest of Noblesville, 1½ miles downstream from Hinkle Creek, and 2½ miles upstream from mouth.

Drainage area.--219 sq mi.

Records available.--July 1950 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 750.00 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission).

Average discharge.--13 years, 195 cfs (adjusted for storage).

Extremes.--Maximum discharge during year, 5,500 cfs Mar. 5 (gage height, 13.43 ft); minimum, 1.0 cfs Nov. 11 (gage height, 3.53 ft). 1950-63: Maximum discharge, 9,800 cfs June 28, 1957 (gage height, 15.26 ft); minimum, 0.5 cfs Sept. 25, 1954.

Remarks.--Records good except those for periods of ice effect, which are fair. Flow regulated by Morse Reservoir located approximately 1.2 miles upstream beginning Dec. 9, 1955 (capacity, 6,900,000,000 gal).

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 4-31)

3.6	1.5	6.0	400
3.7	3.2	9.0	1,350
3.8	6.4	11.0	2,200
3.9	11	12.0	3,120
4.1	26	13.0	4,600
4.5	67	14.0	6,550
5.0	140		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.7	16	24	11	b 14	24	1,350	326	45	2.8	23	39
2	1.9	20	24	9.5	b 15	21	1,100	243	37	10	4.9	39
3	2.2	32	24	10	b 14	23	760	194	40	25	6.2	39
4	2.0	22	26	11	13	2,210	580	160	35	13	10	39
5	2.8	28	39	12	13	4,960	400	140	62	7.4	25	39
6	2.8	13	51	14	20	3,960	312	114	92	13	78	39
7	10	19	24	16	59	1,630	243	99	74	24	45	40
8	150	21	7.5	19	* 55	760	194	86	75	18	2.5	41
9	* 206	40	b 6.0	20	42	730	182	88	50	19	2.9	41
10	122	53	b 4.5	21	39	850	114	99	45	4.6	2.4	41
11	75	4.5	b 3.0	55	34	640	99	75	52	2.0	1.7	41
12	61	22	b 2.2	67	28	520	91	59	* 22	19	1.9	42
13	47	15	* 1.9	54	24	670	99	* 149	12	63	* 19	42
14	37	* 14	2.0	44	b 21	* 670	86	218	33	47	9.2	42
15	29	8.9	1.9	* 36	b 19	460	60	140	11	23	2.2	41
16	32	12	1.9	29	17	460	65	106	11	2.4	1.6	42
17	28	64	4.0	25	15	1,000	* 71	106	15	1.8	3.3	42
18	9.7	71	9.0	b 22	20	850	86	92	3.7	1.8	2.8	42
19	8.2	56	15	b 20	32	910	126	73	3.7	* 5.1	2.8	* 42
20	83	51	23	b 19	54	1,070	385	79	20	473	4.0	42
21	243	59	32	b 18	47	730	298	73	12	774	1.9	42
22	218	74	32	b 17	41	460	326	53	3.6	433	1.8	42
23	140	28	b 23	b 16	33	340	670	40	2.4	247	1.9	42
24	77	31	17	b 16	b 30	298	460	40	2.2	149	2.1	42
25	80	28	b 16	b 15	b 26	284	298	42	2.0	98	5.3	42
26	44	25	b 15	b 15	b 23	340	218	41	2.2	67	5.5	42
27	29	26	15	b 14	22	400	171	53	2.4	48	20	41
28	38	26	14	b 14	20	370	131	82	2.4	49	41	41
29	34	27	b 13	b 14	---------	284	152	82	2.5	59	41	41
30	38	25	b 12	b 14	------	243	370	66	2.6	30	40	41
31	31	------	12	b 14	------	388	------	45	----------	19	39	-------
Total	1,883.3	931.4	494.9	681.5	790	26,555	9,497	3,263	772.7	2,747.9	447.9	1,231
Mean	60.8	31.0	16.0	22.0	28.2	857	317	105	25.8	88.6	14.4	41.0
(ƒ)	+3.6	0	-0.4	-0.2	0	+4	+2	-5	-3.6	+2.3	+8.2	-45.1

Adjusted for change in contents in Morse Reservoir

Mean	64.4	31.0	15.6	21.8	28.2	861	319	100	22.2	90.9	22.6	-4.1
Cfsm	0.294	0.142	0.071	0.100	0.129	3.93	1.46	0.457	0.101	0.415	0.103	-0.019
In.	0.34	0.16	0.08	0.12	0.13	4.53	1.63	0.53	0.11	0.48	0.12	-0.02

	Observed			Adjusted		
Calendar year 1962:	Max 5,140	Min 1.6	Mean 160	Mean 160	Cfsm 0.731	In. 9.92
Water year 1962-63:	Max 4,960	Min 1.6	Mean 135	Mean 131	Cfsm 0.598	In. 8.20

Peak discharge (base, 2,000 cfs).--Mar. 5 (0230) 5,500 cfs (13.43 ft).

* Discharge measurement made on this day.
ƒ Change in contents, equivalent in cubic feet per second, in Morse Reservoir, furnished by Indianapolis Water Co.
b Stage-discharge relation affected by ice.

3-3510. White River near Nora, Ind.

Location.--Lat 39°54'35", long 86°06'20", in sec. 20, T. 17 N., R. 4 E., on downstream side of center pier of bridge on State Highway 100, 2 miles east of Nora, 14 miles upstream from Fall Creek and at mile 253.4.

Drainage area.--1,200 sq mi.

Records available.--October 1929 to September 1963. Prior to April 1930 monthly discharge only, published in WSP 1305. Prior to October 1948, published as West Fork White River near Nora.

Gage.--Water-stage recorder. Datum of gage is 710.94 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Oct. 26, 1929, to July 29, 1942, at site 200 ft downstream at same datum. Supplemental water-stage recorder 4½ miles downstream.

Average discharge.--34 years, 1,077 cfs.

Extremes.--Maximum discharge during year, 22,700 cfs Mar. 7 (gage height, 16.48 ft); minimum, 120 cfs July 13 (gage height, 1.85 ft, result of regulation).

1929-63: Maximum discharge, 32,400 cfs May 19, 1943 (gage height, 18.19 ft); minimum, 40 cfs Sept. 2, 1934; minimum daily, 49 cfs Sept. 17, 1941.

Flood of Mar. 26, 1913, reached a stage of 22.4 ft, from floodmark, determined by State Highway Department of Indiana (discharge, 58,500 cfs, estimated).

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Flow slightly regulated by Morse Reservoir. Discharge measurements generally made twice a month. Records of water temperatures for the water year 1963 are given in WSP 1948.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 6, 7, Apr. 13-15, 17-20, May 7-9, 16, 31, June 6, 7)

1.8	105	2.5	342	4.0	1,180	8.0	5,230	14.0	15,200
2.0	167	3.0	569	5.0	1,950	11.0	9,640	16.0	21,900

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	157	210	324	a 170	170	a 190	3,920	2,040	492	204	228	174
2	145	193	324	a 160	180	a 190	4,270	1,630	421	204	214	167
3	161	193	324	a 150	190	350	3,150	1,320	380	214	190	164
4	184	204	306	a 150	200	a2,400	2,710	1,040	361	214	164	161
5	218	207	324	150	210	a 18,000	2,130	910	400	197	157	164
6	207	207	324	160	230	18,700	1,790	785	621	193	197	167
7	207	207	342	170	350	19,100	1,480	674	621	204	270	170
8	300	214	306	170	540	7,740	1,180	621	517	210	288	170
9	595	214	280	180	470	3,590	1,110	569	466	187	207	161
10	466	235	260	235	410	4,390	975	569	421	204	214	148
11	342	224	240	342	350	4,030	785	543	380	263	200	157
12	288	190	220	466	310	2,820	701	492	380	182	197	167
13	270	193	a 210	a 560	270	3,040	648	701	361	164	184	170
14	235	200	a 210	a 450	240	3,700	621	910	324	232	180	167
15	210	197	210	a 370	220	2,930	569	701	306	306	174	167
16	200	200	210	310	220	2,310	569	569	270	235	151	164
17	207	342	210	a 320	190	3,700	569	543	270	193	132	154
18	197	492	221	330	190	4,390	569	543	252	190	135	145
19	174	444	224	a 260	220	4,390	595	517	235	184	174	145
20	254	421	224	a 230	230	5,900	1,220	492	224	693	214	148
21	492	380	270	a 200	230	6,040	1,480	492	235	1,950	224	151
22	543	361	252	190	240	4,030	1,870	444	214	1,320	187	154
23	444	324	252	a 180	240	2,310	2,930	400	197	785	161	154
24	361	288	221	a 170	240	1,790	2,310	380	187	543	154	151
25	288	270	200	170	230	1,480	1,790	342	180	421	151	151
26	270	252	190	170	200	1,480	1,320	361	184	342	141	157
27	235	252	180	170	190	1,630	1,110	361	193	288	138	129
28	224	252	170	170	190	1,950	910	444	193	252	157	157
29	221	270	190	170	----------	1,710	910	543	207	306	197	170
30	207	324	210	170	------	1,320	1,790	569	252	288	187	157
31	214	------	a 190	170	-----	1,390	-----	569	------	270	184	-------
Total	8,516	7,960	7,618	7,263	7,150	136,990	45,981	21,074	9,744	11,438	5,751	4,761
Mean	275	265	246	234	255	4,419	1,533	680	325	369	186	159
Cfsm	0.229	0.221	0.205	0.195	0.212	3.68	1.28	0.567	0.271	0.308	0.155	0.132
In.	0.26	0.25	0.24	0.22	0.22	4.24	1.43	0.65	0.30	0.36	0.18	0.15

Calendar year 1962 : Max 19,500 Min 145 Mean 994 Cfsm 0.828 In. 11.25
Water year 1962-63 : Max 19,100 Min 129 Mean 751 Cfsm 0.626 In. 8.50

Peak discharge (base, 7,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-7	0130	16.48	22,700				

a No gage-height record.

Note.--Stage-discharge relation affected by ice Dec. 9-12, 15-17, 25-30, Jan. 5-9, 16, 18, 22, Jan. 25 to Feb. 28, Mar. 3.

3-3515. Fall Creek near Fortville, Ind.

Location.--Lat 39°57'15", long 85°52'05", in sec. 5, T. 17 N., R. 6 E., on right bank at downstream side of bridge on State Highway 238, 1 mile downstream from Lick Creek and 2 miles northwest of Fortville.

Drainage area.--172 sq mi.

Records available.--July 1941 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 787.43 ft above mean sea level, datum of 1929 (levels by Indianapolis Water Co.). Prior to June 27, 1942, staff gage at same site and datum.

Average discharge.--22 years, 167 cfs.

Extremes.--Maximum discharge during year, about 5,500 cfs Mar. 5 (gage height, 9.99 ft, backwater from ice); minimum, 14 cfs Sept. 23-28 (gage height, 1.17 ft).
1941-63: Maximum discharge, 8,240 cfs May 18, 1943 (gage height, 9.77 ft); minimum observed, 5.0 cfs Sept. 23, 24, 1941 (gage height, 1.04 ft).
Maximum stage known, about 12 ft March 1913, (information by local resident).

Remarks.--Records good, except those for periods of ice effect, which are poor. Discharge measurements generally made twice a month.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 24-26, 28-31, Sept. 17-30)

1.0	12	4.0	558
1.2	22	5.0	880
1.5	45	6.0	1,350
2.0	112	7.0	2,020
3.0	303	8.0	3,330

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	43	46	39	31	42	772	303	93	47	49	26
2	29	41	44	40	31	41	558	233	84	45	42	26
3	31	41	44	41	30	42	347	203	79	43	40	26
4	34	41	44	41	29	2,000	325	173	112	40	36	25
5	35	43	43	41	48	4,500	263	144	223	39	35	23
6	35	44	43	40	70	2,530	223	136	183	40	35	23
7	35	44	43	40	150	678	193	127	127	45	42	22
8	111	45	42	40	100	393	173	120	104	41	43	22
9	104	46	40	41	70	538	154	112	97	38	38	22
10	64	46	38	47	60	740	136	112	87	36	40	21
11	52	46	37	80	50	393	127	104	80	35	38	20
12	47	46	37	130	43	325	120	96	76	34	35	20
13	44	45	36	85	38	472	112	264	72	35	35	19
14	42	45	37	70	36	369	104	263	69	44	34	19
15	42	43	41	61	35	283	104	173	64	42	33	18
16	40	49	45	57	36	325	97	144	60	40	32	18
17	40	84	45	54	38	618	97	136	59	37	32	18
18	41	112	45	50	45	419	97	127	55	35	31	18
19	39	93	44	48	50	812	104	112	53	35	40	16
20	57	79	44	46	56	1,350	213	112	52	211	53	16
21	104	72	43	44	52	648	173	104	50	204	41	16
22	87	66	44	43	46	393	376	96	47	97	36	16
23	69	60	40	41	43	325	1,100	90	45	72	33	16
24	57	55	39	40	40	303	696	86	44	59	32	14
25	54	53	38	38	38	263	393	83	43	53	32	16
26	52	52	38	37	38	283	283	82	42	46	32	15
27	48	48	37	36	40	325	233	84	40	42	30	14
28	47	48	37	35	42	303	193	104	61	43	30	14
29	46	46	37	34	----------	243	183	144	104	60	30	15
30	44	47	38	33	------	213	325	127	56	120	30	16
31	44	------	38	32	------	293	------	112	------	68	28	------
Total	1,602	1,623	1,267	1,504	1,385	20,462	8,274	4,306	2,361	1,826	1,117	570
Mean	51.7	54.1	40.9	48.5	49.5	660	276	139	78.7	58.9	36.0	19.0
Cfsm	0.301	0.315	0.238	0.282	0.288	3.84	1.60	0.808	0.458	0.342	0.209	0.110
In.	0.35	0.35	0.27	0.33	0.30	4.43	1.78	0.93	0.51	0.39	0.24	0.12

Calendar year 1962: Max 2,440 Min 24 Mean 131 Cfsm 0.762 In. 10.31
Water year 1962-63: Max 4,500 Min 14 Mean 127 Cfsm 0.738 In. 10.00

Peak discharge (base, 1,300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	1130	9.99	about 5,500	4-23	0930	5.95	1,350
3-20	0700	6.28	1,530				

Note.--Stage-discharge relation affected by ice Dec. 9-14, Dec. 23 to Jan. 2, Jan. 11 to Mar. 5.

3-3520. Lawrence Creek at Fort Benjamin Harrison, Ind.

Location.--Lat 39°52'09", long 86°01'25", in S½ sec. 36, T. 17 N., R. 4 E., on left bank 100 ft upstream from Shafter Avenue Bridge in Fort Benjamin Harrison, 600 ft east of sewage disposal plant, and a third of a mile upstream from mouth.

Drainage area.--2.86 sq mi.

Records available.--March 1952 to September 1956, October 1957 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 749.10 ft above mean sea level, datum of 1929.

Average discharge.--10 years, 5.07 cfs.

Extremes.--Maximum discharge during year, 678 cfs Mar. 4 (gage height, 6.09 ft); minimum, 0.8 cfs Oct. 1, 4; minimum gage height, 1.85 ft Apr. 11, 12.
1952-56, 1957-63: Maximum discharge, 2,650 cfs May 28, 1956 (gage height, 9.32 ft); minimum, 0.1 cfs Aug. 1, 2, 1952, Oct. 29, 30, 1953.

Remarks.--Records fair except those for periods of ice effect, indefinite stage-discharge relation or no gage-height record, which are poor. City of Lawrence discharges effluent from sewage treatment plant into creek above gage.

Rating tables, water year 1962-63, except periods of ice effect or indefinite stage-discharge relation (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Nov. 21, Sept. 29, 30)

Oct. 1 to Mar. 4		Mar. 4 to Apr. 22		Apr. 23 to Sept. 30	
1.9	1.5	1.9	0.7	2.2	1.5
2.0	3.4	2.0	1.6	2.3	2.4
		2.1	3.0	2.4	3.8
		2.2	5.1	2.5	5.8
		2.3	8.1	2.6	8.6
		2.6	22	2.8	18
		3.1	60	3.0	33

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.2	1.8	2.3	2.0	1.8	3.3	29	4.5	2.6	2.5	2.7	2.4
2	2.7	1.8	2.1	2.0	1.8	3.3	17	* 4.1	2.6	3.0	2.8	2.3
3	3.0	1.8	2.3	2.0	1.8	5.0	13	4.3	2.5	2.3	2.7	2.2
4	1.2	1.9	2.5	2.0	1.8	* 170	12	4.0	5.0	2.3	2.7	2.2
5	1.5	2.1	2.3	2.0	1.9	31	9.2	3.6	3.3	2.3	2.7	2.1
6	1.5	1.6	2.3	2.0	* 3.0	20	6.2	3.4	17	3.3	13	2.3
7	9.7	3.3	2.5	2.0	6.0	16	e 3.7	3.3	6.6	2.3	8.3	2.5
8	5.7	2.0	2.3	2.2	4.3	9.0	e 3.0	3.8	4.3	2.5	3.1	2.4
9	3.4	2.0	2.1	2.5	3.8	12	e 2.5	4.3	3.4	2.5	3.1	2.1
10	3.2	2.0	2.0	3.3	3.6	17	e 2.2	3.8	4.0	2.5	2.8	2.1
11	3.7	1.8	1.9	5.0	3.5	13	e 2.0	3.4	3.1	2.8	2.7	2.1
12	3.4	2.3	1.8	9.0	3.3	9.0	1.9	3.3	2.6	2.6	3.3	2.0
13	16	2.1	1.8	7.0	3.2	8.0	2.1	9.1	2.7	4.2	3.1	2.0
14	3.2	1.8	1.8	5.5	3.1	7.5	1.9	5.4	2.8	3.1	2.7	2.1
15	2.7	2.1	2.0	4.5	3.0	7.0	2.8	4.7	4.3	2.6	2.6	2.2
16	7.1	8.6	2.3	4.0	2.9	6.5	2.0	3.6	2.7	3.7	2.7	2.4
17	2.7	9.2	2.6	3.5	2.9	9.0	1.5	3.8	2.8	2.6	2.7	2.3
18	2.3	4.0	2.8	3.3	3.0	12	1.4	3.0	2.8	2.5	2.6	2.1
19	2.3	3.4	3.1	3.1	3.3	* 25	9.2	2.8	2.8	2.8	9.0	2.0
20	18	3.4	3.4	3.0	3.7	70	12	3.6	2.7	33	* 4.0	1.8
21	4.8	2.9	3.7	2.8	4.5	11	8.8	2.8	2.8	3.1	3.6	1.7
22	3.4	2.9	3.2	2.6	4.0	8.1	60	2.8	2.7	3.0	3.6	1.7
23	2.7	2.7	3.0	2.5	3.8	6.8	32	2.7	2.8	2.8	3.3	1.5
24	2.1	2.5	2.7	2.4	3.6	5.6	8.5	2.7	2.8	2.8	3.3	1.5
25	2.7	2.5	2.5	2.3	3.5	5.9	4.9	2.7	* 2.5	2.6	3.1	1.4
26	1.8	* 2.5	2.4	2.2	3.4	* 10	e 4.1	2.6	2.3	2.7	2.8	1.4
27	1.6	3.0	2.2	2.1	* 3.3	7.8	e 3.6	* 3.9	2.4	4.3	2.8	1.4
28	1.6	2.3	2.1	2.0	3.3	6.2	e 3.1	4.2	2.6	3.6	2.7	1.4
29	* 2.0	2.3	2.0	2.0	---------	5.4	e 4.0	3.0	2.3	* 6.0	2.7	2.1
30	1.8	2.7	2.0	1.9	------	6.5	9.0	2.6	2.2	3.0	2.6	* 1.7
31	1.6	------	* 2.0	1.9	-----	48	-----	2.8	-----	2.8	2.6	-------
Total	120.6	85.3	74.0	94.6	91.1	574.9	272.6	114.6	106.0	122.1	112.4	59.4
Mean	3.89	2.84	2.39	3.05	3.25	18.5	9.09	3.70	3.53	3.94	3.63	1.98
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1962 : Max 86 Min 1.1 Mean 5.13 Cfsm - In. -
Water year 1962-63 : Max 170 Min 1.2 Mean 5.01 Cfsm - In. -

Peak discharge (base, 300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-4	1100	6.09	678				
3-19	1500	5.10	386				
7-20	0200	4.85	323				

* Discharge measurement made on this day.
e Stage-discharge relation indefinite.
Note.--No gage-height record Jan. 15 to Feb. 6, Mar. 6-20. Stage-discharge relation affected by ice Dec. 10 to Jan. 14, Feb. 7 to Mar. 4.

3-3522. Mud Creek at Indianapolis, Ind.

Location.--Lat 39°53'30", long 86°00'57", in NE¼ sec. 25, T. 17 N., R. 4 E., on left bank at downstream side of Lantern Road Bridge at Indianapolis, 0.2 miles northeast of intersection of 75th Street and Sargent Road, 2.0 miles southeast of Castleton and 1.5 miles upstream from mouth.

Drainage area.--42.5 sq mi.

Records available.--May 1958 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 752.99 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission).

Average discharge.--5 years, 36.0 cfs.

Extremes.--Maximum discharge during year, 1,600 cfs Mar. 5 (gage height, 8.05 ft); minimum, 0.2 cfs several days in September; minimum gage height, 1.68 ft Sept. 21, 22, 24, 27.
1958-63: Maximum discharge, that of Mar. 5, 1963; minimum, 0.2 cfs Aug. 24, 1962 and several days in September 1963; minimum gage height, 1.65 ft Aug. 24, 1962.

Remarks.--Records good except those for periods of ice effect, which are poor.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 5-7, 9, 10, 19-21)

Oct. 1 to Mar. 4		Mar. 5 to Sept. 30			
1.8	2.0	1.6	0.2	3.0	67
1.9	3.6	1.7	1.0	4.0	170
2.1	8.4	1.8	2.6	5.0	340
2.4	20	2.0	7.0	6.0	580
		2.2	14	8.0	1,300
		2.5	30	9.0	1,840

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.3	4.4	5.6	2.0	4.4	4.8	268	108	16	6.3	4.0	1.8
2	2.5	4.2	5.3	* 2.0	4.3	4.9	157	* 76	14	5.8	3.6	1.8
3	2.8	4.0	5.3	2.0	4.2	5.0	108	59	14	5.3	3.4	1.6
4	2.6	4.2	5.3	2.0	4.1	* 500	90	48	13	5.1	3.4	1.6
5	3.1	4.4	5.3	2.0	* 4.0	*1,400	67	41	14	4.8	3.2	1.6
6	3.3	4.4	5.3	2.0	7.0	772	59	36	25	5.3	3.4	1.6
7	3.4	4.6	5.1	2.0	20	203	48	30	18	5.3	4.6	1.6
8	6.2	4.6	5.1	2.2	13	113	42	27	14	5.1	3.8	1.3
9	7.9	4.6	5.1	3.1	9.0	196	36	25	13	4.4	3.2	1.2
10	5.3	4.8	4.6	4.5	8.0	232	29	23	12	4.2	3.6	1.0
11	4.8	4.8	4.4	10	6.8	118	26	21	12	4.2	3.8	.9
12	4.6	4.8	4.3	18	6.0	94	23	19	11	4.0	3.8	.8
13	6.9	4.6	4.2	12	5.4	204	22	117	10	4.4	4.2	.7
14	6.3	4.6	4.2	10	5.0	140	20	134	9.7	5.6	4.0	.7
15	5.1	4.6	4.2	9.0	4.7	94	18	76	9.1	4.6	3.8	.7
16	4.8	5.6	4.2	8.1	4.7	141	18	55	8.8	4.4	3.6	.8
17	4.6	11	4.2	7.6	5.0	268	18	48	8.2	4.0	3.4	.6
18	4.6	18	4.1	7.2	5.3	157	17	41	7.9	3.8	3.4	.5
19	4.6	14	4.1	6.8	5.7	* 443	21	33	7.6	4.0	4.6	.5
20	9.6	11	4.0	6.5	6.3	640	55	29	7.3	29	* 4.8	.5
21	16	9.6	3.8	6.2	6.8	251	43	25	7.0	10	3.8	.3
22	13	8.7	3.6	6.0	6.6	128	268	22	6.5	6.8	3.2	.3
23	8.7	7.6	3.4	5.8	6.1	108	550	20	6.0	5.6	3.0	.3
24	7.4	6.8	3.1	5.6	5.5	90	222	18	5.8	4.8	2.8	.3
25	6.6	6.8	2.9	5.5	5.1	76	128	18	* 5.8	4.2	2.6	.3
26	5.8	6.3	2.7	5.3	4.8	* 85	90	16	5.6	4.0	2.6	.3
27	5.1	* 6.1	2.6	5.2	* 4.6	98	67	* 17	5.6	4.0	2.4	.2
28	5.1	5.8	2.4	5.0	4.6	76	55	25	6.2	4.0	2.4	.2
29	4.6	5.8	2.3	4.8	---	63	55	32	15	5.6	2.6	.5
30	* 4.4	5.6	2.2	4.7	---	51	140	22	7.0	* 5.1	2.4	* .7
31	4.4	---	2.0	4.5	---	103	---	18	---	4.4	2.1	---
Total	176.4	196.3	124.9	177.6	177.0	6858.7	2760	1279	315.1	178.1	105.5	25.2
Mean	5.69	6.54	4.03	5.73	6.32	221	92.0	41.3	10.5	5.75	3.40	0.84
Cfsm	0.134	0.154	0.095	0.135	0.149	5.20	2.16	0.972	0.247	0.135	0.080	0.020
In.	0.15	0.17	0.11	0.16	0.16	6.00	2.41	1.12	0.28	0.16	0.09	0.02

Calendar year 1962: Max 580 Min 1.8 Mean 26.4 Cfsm 0.621 In. 8.42
Water year 1962-63: Max 1,400 Min 0.2 Mean 33.9 Cfsm 0.798 In. 10.83

Peak discharge (base, 800 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	0600	8.05	1,600				
3-20	0300	6.85	760				

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 11 to Mar. 4.

3-3525. Fall Creek at Millersville, Ind.

Location.--Lat 39°51'05", long 86°05'20", in sec. 9, T. 16 N., R. 4 E., on left bank at downstream side of highway bridge at Millersville and 8.5 miles upstream from mouth.

Drainage area.--313 sq mi.

Records available.--October 1929 to September 1963. Monthly discharges only for some periods, published in WSP 1305. Twice daily readings at a chain gage at same site and datum from July 1925 to September 1926 are available in the District office.

Gage.--Water-stage recorder. Datum of gage is 722.16 ft above mean sea level, datum of 1929.

Average discharge.--34 years, 273 cfs (unadjusted).

Extremes.--Maximum discharge during year, 11,000 cfs Mar. 6 (gage height, 12.32 ft); minimum daily, 35 cfs Jan. 3-7; minimum gage height, 1.89 ft June 22.
1929-63: Maximum discharge, 12,900 cfs May 28, 1956 (gage height, 13.53 ft); minimum, 7.0 cfs Sept. 28, 1941 (gage height, 0.84 ft).
Maximum stage known, 16.3 ft Mar. 26, 1913, from floodmarks (discharge, 22,000 cfs, by slope-area measurement).

Remarks.--Records good except those for periods of no gage-height record or ice effect, which are poor. Discharge measurements generally made twice a month. Flow regulated by Geist Reservoir, 8.5 miles upstream, since January 1943 (capacity, 6,900,000,000 gal).

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 2-27, Apr. 30 to May 3)

1.8	46	6.0	1,660
2.0	70	8.0	3,090
2.5	158	10.0	5,360
3.0	275	11.0	6,950
3.5	429	12.0	9,850
4.0	644		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	72	74	67	36	a 50	72	1,550	598	148	80	62	63
2	74	73	66	36	a 50	69	1,380	468	128	76	61	63
3	76	69	67	35	a 58	80	920	360	110	74	61	64
4	67	67	98	35	a 70	1,850	690	316	128	70	60	66
5	70	67	96	35	80	7,180	644	288	168	67	60	66
6	72	66	98	35	95	8,460	468	249	345	73	60	67
7	76	65	96	35	138	2,830	360	212	316	72	84	66
8	90	64	92	36	95	1,120	330	190	249	72	64	66
9	80	64	88	39	84	1,020	330	190	190	67	62	65
10	74	66	85	45	80	1,380	249	179	148	66	64	66
11	72	65	a 82	80	79	1,020	224	201	138	66	62	68
12	72	66	a 80	130	74	782	201	148	115	65	62	69
13	101	66	a 79	g 90	74	967	190	334	95	70	66	68
14	114	66	79	g 71	74	920	179	644	90	74	62	67
15	99	66	79	67	76	690	168	429	87	67	61	67
16	99	76	78	66	76	782	158	316	76	70	61	67
17	98	99	77	64	72	1,330	148	275	72	66	62	68
18	93	112	62	63	73	1,160	168	236	65	65	62	68
19	90	96	60	62	80	2,190	179	212	60	67	85	67
20	138	93	59	61	88	3,270	288	201	65	201	70	68
21	138	87	58	g 60	84	2,040	316	179	73	101	67	69
22	115	84	57	g 58	85	1,120	1,040	148	60	80	65	67
23	99	78	57	g 57	84	782	2,320	138	65	72	65	66
24	88	73	56	g 56	78	644	1,980	128	65	67	65	66
25	87	72	54	g 56	74	554	1,160	119	74	65	65	66
26	84	70	52	g 55	72	598	782	119	76	62	64	71
27	80	73	49	g 54	76	644	554	119	73	64	64	72
28	80	70	46	g 53	70	644	429	158	70	67	64	72
29	79	69	43	g 52	---	489	360	224	103	73	65	76
30	78	70	40	g 51	---	429	532	212	90	66	64	71
31	76	---	38	g 50	---	736	---	179	---	62	64	---
Total	2,731	2,226	2,138	1,723	2,189	45,852	18,297	7,769	3,542	2,307	2,003	2,025
Mean	88.1	74.2	69.0	55.6	78.2	1,479	610	251	118	74.4	64.6	67.5
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-
(≠)	-2.7	-0.5	-21.7	-0.3	-1.1	+98	0	-5	-9	+7.2	-30.9	-48.8

Calendar year 1962 : Max 3,330 Min 38 Mean 227 Cfsm 0.725 In. 9.84 ≠ 0
Water year 1962-63 : Max 8,460 Min 35 Mean 254 Cfsm 0.812 In. 11.03 ≠ -4

Peak discharge (base, 2,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-6	0030	12.32	11,000				
3-20	0730	8.42	3,450				
4-23	1830	7.40	2,600				

≠ Change in contents, equivalent in cubic feet per second, in Geist Reservoir, furnished by Indianapolis Water Co.
a No gage-height record.
g Computed from once daily telemark readings.
Note.--Stage-discharge relation affected by ice Dec. 8-10, Dec. 14 to Jan. 31.

3-3530. White River at Indianapolis, Ind.

Location.--Lat 39°45'05", long 86°10'30", on downstream side of second pier from right bank of Morris Street Bridge in Indianapolis, 2½ miles downstream from Fall Creek and at mile 235.8.

Drainage area.--1,627 sq mi.

Records available.--March 1904 to July 1906 and April 1930 to September 1963. Gage-height record published in reports of U. S. Weather Bureau for site 1.1 miles upstream Feb. 8, 1911 to Mar. 25, 1913 and at site 2.3 miles upstream since Oct. 16, 1913. Prior to October 1948, published as West Fork White River at Indianapolis.

Gage.--Water-stage recorder. Datum of gage is 662.26 ft (revised) above mean sea level, datum of 1929. March 1904 to July 1906, chain gage at railroad bridge three-quarters of a mile upstream at datum approximately 2.9 ft higher. April 1930 to July 20, 1931, float gage at Indianapolis sanitation plant 2½ miles downstream at datum 660 ft lower. July 21, 1931, to Mar. 2, 1932, staff gage at present site at datum 660 ft lower.

Average discharge.--34 years (1904-5, 1930-63), 1,404 cfs (adjusted for diversion and change in content since October 1955; includes sewage effluent, April 1930 to September 1931).

Extremes.--Maximum discharge during year, 28,000 cfs Mar. 6 (gage height, 17.55 ft); minimum, 56 cfs Sept. 29 (gage height, 2.19 ft).
1904-6, 1930-63: Maximum discharge, 37,200 cfs May 18, 1943; maximum gage height, 21.57 ft Jan. 16, 1937; minimum, 6.8 cfs Sept. 21, 1941.
Flood of Mar. 26, 1913, reached a stage of 30.0 ft, from floodmarks determined by Indianapolis Water Co. (discharge, 70,000 cfs, estimated).

Remarks.--Records good except those below 500 cfs which are poor. Discharge measurements generally made twice a month. During the year the Indianapolis Water Co. diverted 29,000,000,000 gal of water for municipal use, most of which was returned 3 miles below the gage at sanitation plant. Slight fluctuation at low flow due to this diversion. Flow slightly regulated by Morse and Geist Reservoirs (combined usable capacity, 13,800,000,000 gal).

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	198	228	263	172	b 180	198	5,920	2,900	855	198	222	179
2	185	228	282	154	b 185	198	6,270	2,240	815	174	200	179
3	174	198	282	154	185	494	4,530	1,820	700	163	191	138
4	145	198	263	185	185	9,200	3,620	1,420	793	198	162	101
5	145	198	282	228	b 195	23,000	3,020	1,100	630	174	115	115
6	154	198	304	228	b 230	27,200	2,570	898	855	324	127	115
7	205	212	304	244	b 330	23,800	2,130	898	1,380	198	454	130
8	351	198	304	244	b 540	11,900	1,720	855	1,090	198	326	153
9	560	198	282	263	b 470	5,110	1,620	815	815	174	276	106
10	665	198	228	282	400	5,920	1,420	815	700	163	254	108
11	527	212	b 210	527	b 340	5,580	1,270	815	560	174	267	145
12	376	212	b 200	665	b 285	4,000	1,030	860	432	198	254	123
13	1,500	185	b 183	500	244	4,130	940	940	588	174	244	106
14	790	174	174	b 400	b 225	4,670	940	1,520	405	244	209	115
15	432	198	b 175	b 350	b 210	4,000	898	1,170	351	263	200	115
16	378	287	180	304	b 190	3,870	898	940	304	282	187	103
17	326	376	185	b 320	185	5,580	898	898	244	198	200	87
18	244	494	198	b 350	212	6,090	855	815	228	163	196	92
19	228	527	198	b 310	244	9,100	940	815	198	163	346	85
20	556	463	198	240	198	10,300	1,420	815	198	1,440	222	82
21	775	404	198	198	244	9,100	1,820	494	198	1,720	191	87
22	855	351	228	b 185	228	6,090	3,660	432	198	1,520	187	87
23	700	351	228	b 180	263	3,740	6,090	304	212	940	153	94
24	560	304	174	b 175	250	2,900	4,530	376	185	738	141	96
25	432	263	168	174	228	2,570	3,260	376	154	432	153	94
26	351	263	174	b 180	185	2,570	2,350	425	174	326	123	92
27	304	244	163	180	174	2,790	1,820	494	174	282	115	123
28	244	228	185	b 180	185	2,900	1,520	815	154	296	115	67
29	244	228	282	b 180	----------	2,570	1,420	855	216	406	112	65
30	244	244	220	b 180	----------	2,130	2,570	810	282	301	158	79
31	228	----------	b 190	b 180	----------	3,220	----------	815	----------	240	166	----------
Total	13,076	8,062	6,905	8,112	6,990	204,920	71,949	29,545	14,088	12,464	6,266	3,261
Mean	422	269	223	262	250	6,610	2,398	953	470	402	202	109
(ǂ)	+0.84	-0.50	-22.10	-0.45	-1.11	+102	+2.77	-10.54	-13.00	-4.93	-22.71	-93.85
(ǂǂ)	+119	+115	+111	+113	+113	+105	+117	+120	+142	+141	+138	+136

Adjusted for diversion and change in reservoir contents

Mean	542	383	312	375	362	6,817	2,518	1,062	599	538	317	151
Cfsm	0.333	0.235	0.192	0.230	0.222	4.19	1.55	0.653	0.368	0.331	0.195	0.093
In.	0.38	0.26	0.22	0.27	0.23	4.83	1.73	0.75	0.41	0.38	0.22	0.10

	Observed				Adjusted			
Calendar year 1962:	Max 22,000	Min 130	Mean 1,280		Mean 1,393	Cfsm 0.856	In. 11.61	
Water year 1962-63:	Max 27,200	Min 65	Mean 1,057		Mean 1,173	Cfsm 0.721	In. 9.78	

Peak discharge (base, 8,500 cfs).--Mar. 6 (0900) 28,000 cfs (17.55 ft); Mar. 19 (1800) 12,500 cfs (11.43 ft).

ǂ Change in contents, equivalent in cubic feet per second in Morse and Geist Reservoirs.
ǂǂ Diversion, equivalent in cubic feet per second, above station for municipal supply; furnished by Indianapolis Water Co.
b Stage-discharge relation affected by ice.

Note.--Computed from twice-daily wire-weight gage readings Dec. 10-15, Dec. 24-27, Dec. 29 to Jan. 4, Jan. 14-17, Jan. 21 to Mar. 2, Mar. 5, 6, May 1-31. No gage-height record Dec. 16, 17, 25, 30, Jan. 1, 13, 20, 27, Feb. 3, 10, 17, 24, May 5, 12, 19, 26, 30.

3-3531.2 Pleasant Run at Arlington Avenue at Indianapolis, Ind.

Location.--Lat 39°46'33", long 86°03'50", in NW¼ sec. 2, T. 15 N., R. 4 E., on right bank 46 ft upstream from Arlington Avenue Bridge in Indianapolis, and 0.5 mile downstream from unnamed tributary.

Drainage area.--7.67 sq mi.

Records available.--December 1959 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 780.00 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission).

Extremes.--Maximum discharge during year, 1,610 cfs Mar. 4 (gage height, 10.32 ft); no flow for many days.
1959-63: Maximum discharge, that of Mar. 4, 1963; no flow at times during most years.
Flood in May 1956 reached a stage of 16.0 ft, from information by local resident.

Remarks.--Records good except those for periods of no gage-height record or ice effect, which are fair.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 4				Mar. 5 to Sept. 30			
2.9	0	3.4	10	2.9	0	3.5	11
3.0	.3	3.5	15	3.0	.2	3.6	16
3.1	1.5	3.7	31	3.1	1.0	3.8	34
3.2	3.8	3.9	58	3.2	2.5	4.0	62
3.3	6.7	7.0	675	3.3	4.7	5.0	243
				3.4	7.6		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	0.4	0.6	1.3	0.5	1.3	28	4.4	0.5	0.5	* 0.7	0.2
2	1.0	.4	.6	1.1	.5	1.7	9.3	* 3.3	.4	.7	.6	.1
3	1.0	.3	.6	1.2	.5	10	8.9	2.5	1.1	.6	.5	.5
4	.5	.5	.7	1.3	a .5	574	6.6	1.8	15	.2	.7	.5
5	.9	1.5	.7	1.5	* 1.5	87	4.0	1.8	4.0	.3	.6	.4
6	1.0	.6	.9	1.7	11	24	3.1	1.6	17	4.0	1.4	.4
7	2.6	3.0	.8	2.0	6.0	7.3	2.3	1.3	54	.8	9.7	.5
8	3.9	.9	.7	2.3	2.5	5.8	2.1	1.3	15	.5	1.2	.4
9	.4	.6	.6	2.8	1.5	28	2.1	1.2	3.3	.2	1.1	.5
10	.2	.6	.4	15	1.2	7.9	1.4	1.9	2.5	.1	.8	.5
11	.2	.5	.4	42	1.0	7.0	1.4	1.6	2.5	.1	.5	.4
12	.2	1.1	.4	5.5	.9	7.6	.9	.9	.9	.3	1.4	.7
13	49	.8	.4	3.3	.8	24	.7	13	1.2	2.5	1.5	.5
14	3.3	.4	.4	2.1	.7	6.7	.6	1.8	1.5	3.4	.8	.4
15	1.3	.4	.7	1.6	.7	4.7	.5	1.3	.7	.7	.6	.5
16	3.5	13	1.0	1.3	.6	72	1.0	1.0	.6	1.6	.4	.2
17	1.9	14	1.3	1.0	.6	34	1.0	2.9	.6	1.1	.2	.6
18	.7	4.4	1.8	.9	1.5	11	1.5	1.6	.3	2.0	.2	.6
19	.4	2.5	2.4	.8	3.0	216	7.2	1.0	.4	2.5	* 10	.9
20	17	1.9	2.8	.8	6.5	24	4.7	3.3	.4	64	2.0	1.0
21	2.9	3.1	1.5	.7	3.0	9.3	3.7	.9	.3	4.2	.8	.6
22	1.0	1.0	1.3	.7	1.7	5.8	98	.8	.1	1.8	.6	.4
23	.6	.8	.9	a .6	1.4	4.2	49	1.0	.1	1.3	.6	.4
24	.4	.7	.7	a .6	1.2	4.0	8.9	1.0	.1	1.0	1.2	.5
25	1.0	.7	.6	a .6	a 1.0	* 4.0	5.8	.5	.2	.8	1.4	.8
26	.9	.6	.5	a .6	a 1.0	10	4.0	.4	* .3	.7	1.4	.4
27	.5	* .7	.5	a .5	a .9	7.6	2.7	* 2.3	.4	.9	.9	.5
28	.5	.7	.5	a .5	a 1.3	4.7	2.0	14	1.8	.8	.6	.4
29	* .4	.6	.6	a .5	---------	3.7	8.9	3.1	1.2	2.4	1.0	1.3
30	.4	.6	2.2	.5	------	5.5	18	.9	.5	1.2	.8	.4
31	.5	------	* 1.9	.5	------	97	-----	2.2	----	.5	.4	-------
Total	98.3	57.3	29.4	95.8	53.5	1,309.8	288.3	76.6	126.9	101.7	44.6	15.5
Mean	3.17	1.91	0.95	3.09	1.91	42.3	9.61	2.47	4.23	3.28	1.44	0.52
Cfsm	0.413	0.249	0.124	0.403	0.249	5.51	1.25	0.322	0.551	0.428	0.188	0.068
In.	0.48	0.28	0.14	0.46	0.26	6.35	1.40	0.37	0.61	0.49	0.22	0.08

Calendar year 1962 : Max 216 Min 0 Mean 6.32 Cfsm 0.824 In. 11.19
Water year 1962-63 : Max 574 Min 0.1 Mean 6.30 Cfsm 0.821 In. 11.14

Peak discharge (base, 320 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-4	1230	10.32	1,610	4-22	0530	5.54	338
3-19	1530	6.67	600	7-20	0300	5.68	376

* Discharge measurement made on this day.
a No gage-height record.
Note.--Stage-discharge record affected by ice Dec. 10-19, Dec. 21 to Jan. 9, Jan. 15-22, Jan. 30 to Feb. 3, Feb. 5-24, Mar. 1-3.

3-3531.6 Pleasant Run at Brookville Road at Indianapolis, Ind.

Location.--Lat 39°45'52", long 86°05'43", in NW¼ sec. 9, T. 15 N., R. 4 E., on right bank at downstream side of Brookville Road Bridge in Indianapolis, and 2.2 miles downstream from Arlington Avenue.

Drainage area.--10.3 sq mi.

Records available.--November 1959 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 752.00 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission).

Extremes.--Maximum discharge during year, 2,010 cfs Mar. 4 (gage height, 9.22 ft); no flow for many days.
1959-63: Maximum discharge, that of Mar. 4, 1963; no flow at times during most years.

Remarks.--Records good, except those for periods of no gage-height record or ice effect, which are fair.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Apr. 21		Apr. 22 to Sept. 30	
2.0	0	1.9	0
2.1	0.6	2.0	0.3
2.2	1.4	2.1	.8
2.3	3.2	2.2	2.0
2.4	6.1	2.3	4.6
2.5	11	2.4	8.5
2.8	36	2.5	14
3.5	121	2.6	21
4.5	332	3.0	60
6.0	730	3.5	121

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.2	0.3	0.6	0.3	.7	41	7.7	0.7	0.5	* 0.6	0
2	.3	.2	.3	.6	.3	1.0	14	* 4.6	.4	.6	.5	0
3	.7	.1	.3	.6	.3	6.0	14	3.0	.8	.6	.5	0
4	.5	.2	.3	.7	.3	* 650	9.8	2.1	25	.3	.5	0
5	.6	.9	.4	.8	* 1.2	92	4.8	2.1	5.4	.3	.4	0
6	1.1	.4	.4	.9	8.0	46	3.6	1.8	23	6.3	3.3	0
7	6.2	2.3	.4	1.0	6.0	13	3.0	1.4	78	.9	16	0
8	5.7	.6	.3	1.2	2.0	7.3	2.4	1.1	20	.3	.7	0
9	.5	.3	.2	1.5	1.0	43	2.6	1.1	3.6	.3	.7	0
10	.2	.3	.2	6.8	.7	14	1.7	1.4	2.6	.2	.7	0
11	0	.2	.2	34	.6	12	1.7	2.4	2.8	.1	.3	0
12	0	.4	.2	6.8	.5	11	1.2	1.1	.9	.1	1.5	0
13	75	.5	.2	3.0	.4	43	1.0	21	1.7	3.3	1.6	0
14	3.2	.2	.2	1.2	.4	11	.9	1.6	1.4	4.8	.6	0
15	1.4	.1	.4	.9	.4	6.1	.8	1.2	.6	.6	.3	0
16	6.2	11	.6	.7	.4	84	1.4	1.0	.4	1.2	.2	0
17	3.1	9.9	.8	.6	.3	51	1.2	2.8	.4	.9	0	0
18	1.2	2.4	1.0	.5	.6	18	2.0	1.8	.3	2.1	0	0
19	.7	1.4	1.3	.5	1.4	266	14	1.0	.2	2.3	* 15	0
20	22	1.2	1.6	.4	3.0	43	6.8	3.9	.2	107	1.6	0
21	3.0	1.6	1.0	.4	1.5	16	7.3	1.2	.2	5.8	.6	0
22	1.2	.6	.7	.4	1.0	8.2	111	.9	.1	2.0	.4	0
23	.7	.5	.5	.4	.8	5.8	60	.9	0	1.2	.3	0
24	.4	.4	.4	.3	.7	4.5	14	1.0	0	1.0	.8	0
25	1.0	.4	.3	.3	.6	* 4.2	8.5	.8	0	.8	.8	0
26	.9	.3	.3	.3	.5	16	6.1	.5	* .1	.6	.8	0
27	.4	* .4	.3	.3	.5	8.7	4.6	* 2.7	.2	1.6	.6	0
28	.3	.4	.3	.3	* .8	4.8	3.3	21	1.9	1.1	.4	0
29	* .2	.4	.3	.3	---	3.6	15	4.1	1.7	3.5	.4	.8
30	.2	.4	1.0	.3	---	8.0	26	1.0	.6	1.2	.4	.2
31	.2	---	* .8	.3	---	105	---	2.1	---	.5	.3	---
Total	137.1	38.2	15.5	66.9	34.5	1,602.9	383.7	100.3	173.2	152.0	50.8	1.0
Mean	4.42	1.27	0.50	2.16	1.23	51.7	12.8	3.24	5.77	4.90	1.64	0.03
Cfsm	0.429	0.123	0.049	0.210	0.119	5.02	1.24	0.315	0.560	0.476	0.159	0.003
In.	0.49	0.14	0.06	0.24	0.12	5.79	1.38	0.36	0.62	0.55	0.18	0.003

Calendar year 1962: Max 256 Min 0 Mean 7.68 Cfsm 0.746 In. 10.13
Water year 1962-63: Max 650 Min 0 Mean 7.55 Cfsm 0.733 In. 9.93

Peak discharge (base, 380 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
10-13	1030	5.79	670	6-7	1730	5.25	500
3-4	1200	9.22	2,010	7-20	0300	6.02	730
3-19	1630	5.76	670				

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 11-19, Dec. 21 to Jan. 9, Jan. 13-23, Feb. 5-12, 18-20, Mar. 1-4. No gage-height record Jan. 24 to Feb. 4, Feb. 13-17, 21-28.

3-3532. Eagle Creek at Zionsville, Ind.

Location.--Lat 39°56'56", long 86°15'22", in NW¼ sec. 1, T. 17 N., R. 2 E., on downstream side of second pier from right bank of bridge on State Highway 334 at Zionsville, and 200 ft upstream from Long Branch.

Drainage area.--102 sq mi.

Records available.--October 1957 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 816.85 ft above mean sea level, datum of 1929. Prior to Oct. 9, 1957, wire-weight gage at same site and datum.

Average discharge.--6 years, 106 cfs.

Extremes.--Maximum discharge during year, 7,160 cfs Mar. 4 (gage height, 12.25 ft); no flow Sept. 22-30.
1957-63: Maximum discharge, 9,100 cfs Aug. 2, 1958 (gage height, 13.22 ft); no flow for several days in September 1959, September 1963.
Flood of June 28, 1957, reached a stage of 19.20 ft, from floodmark.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.0	0	3.2	75
2.1	.2	3.5	143
2.2	.5	4.0	290
2.3	1.4	4.5	460
2.4	3.2	5.0	660
2.5	6.0	6.0	1,150
2.6	10	8.0	2,250
2.8	23	10.0	3,900
3.0	44		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.4	14	9.6	7.5	7.5	10	861	260	28	3.9	3.9	0.8
2	3.4	13	9.6	7.5	7.5	11	392	173	25	3.4	3.2	.8
3	3.6	12	9.6	* 7.9	8.0	15	275	123	23	3.2	3.0	.8
4	4.5	12	9.6	7.9	8.5	*b 3,900	245	91	30	2.8	2.6	.7
5	7.1	12	10	8.3	9.0	2,010	156	73	32	2.8	2.4	.7
6	8.3	12	9.6	8.3	* 20	778	120	63	27	2.8	2.4	.6
7	7.9	12	b 9.0	8.7	b 70	298	93	52	22	3.0	4.2	.5
8	32	11	b 9.0	8.7	b 40	215	75	47	21	3.2	4.2	.5
9	29	11	b 8.0	8.7	25	496	65	42	18	3.0	3.4	.4
10	16	11	b 7.5	16	17	355	51	38	16	2.8	3.0	.4
11	13	10	b 7.0	145	13	215	43	36	18	2.2	2.4	.3
12	13	10	b 6.0	118	11	182	38	32	17	1.9	2.0	.3
13	60	10	b 5.5	83	9.5	400	36	* 134	14	2.0	2.0	.2
14	43	10	b 5.0	b40	9.0	230	34	102	13	4.2	1.9	.2
15	25	* 9.6	b 5.5	25	8.5	156	31	61	11	5.7	1.6	.2
16	21	12	6.4	18	8.5	364	29	52	10	4.5	1.4	.2
17	17	55	7.1	15	8.5	674	30	47	9.1	3.4	1.3	.2
18	14	60	7.5	13	10	324	31	48	8.3	3.0	1.2	.2
19	12	39	8.7	12	16	885	171	39	7.5	2.6	2.5	.2
20	177	32	10	11	30	466	334	37	7.1	231	7.1	.1
21	215	30	b 9.5	10	45	260	170	35	7.1	116	6.0	.1
22	111	23	b 9.0	10	25	170	1,090	32	6.7	54	3.6	0
23	65	18	b 8.0	9.5	16	146	1,420	29	6.0	28	2.6	0
24	43	14	b 7.5	9.0	13	120	460	27	5.7	14	2.2	0
25	35	13	b 7.0	8.5	11	116	290	25	* 5.1	9.6	2.0	0
26	29	* 11	b 6.5	8.5	10	* 230	200	23	4.8	7.9	1.4	0
27	23	11	b 7.0	8.0	10	245	148	34	4.2	6.4	* 1.3	0
28	21	10	7.5	8.0	10	162	109	* 70	4.2	5.4	1.2	0
29	18	10	9.1	8.0	----------	116	210	51	3.9	6.0	1.0	0
30	16	10	10	7.5	------	87	460	38	3.9	5.7	1.0	* 0
31	16	------	8.7	7.5	-----	592	------	31	------	* 4.5	.9	-------
Total	1,102.2	517.6	250.0	664.0	476.5	14,228	7,667	1,945	408.6	548.9	78.9	8.4
Mean	35.6	17.3	8.06	21.4	17.0	459	2.56	62.7	13.6	17.7	2.55	0.28
Cfsm	0.349	0.170	0.079	0.210	0.167	4.50	2.51	0.615	0.133	0.174	0.025	0.003
In.	0.40	0.19	0.09	0.24	0.17	5.19	2.80	0.71	0.15	0.20	0.03	0.003

Calendar year 1962 : Max 4,380 Min 2.1 Mean 91.5 Cfsm 0.897 In. 12.17
Water year 1962-63 : Max 3,900 Min 0 Mean 76.4 Cfsm 0.749 In. 10.17

Peak discharge (base, 1,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-4	1930	12.25	7,160				
3-31	2200	6.87	1,640				
4-23	0300	8.34	2,430				

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Nov. 11-14, Jan. 15 to Feb. 6, Feb. 9 to Mar. 3.

3-3535. Eagle Creek at Indianapolis, Ind.

Location.--Lat 39°46'33", long 86°15'01", in NE¼ sec. 1, T. 15 N., R. 2 E., on right bank at downstream side of bridge on Lynnhurst Drive, approximately 600 ft south of intersection of West 10th Street and Lynnhurst Drive, 0.5 mile downstream from West 10th Street Bridge, 1.0 mile upstream from Vermont Street Bridge, 2.9 miles upstream from mouth of Little Eagle Creek, and 6.9 miles upstream from mouth.

Drainage area.--179 sq miles.

Records available.--November 1938 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 706.21 ft above mean sea level, datum of 1929. Temporary site during reconstruction of bridge on Lynnhurst, a wire-weight gage on downstream side of 10th Street Bridge, approximately half a mile upstream at same datum Aug. 8, 1957 to June 30, 1958.

Average discharge.--24 years (1939-63) 154 cfs.

Extremes.--Maximum discharge during year, 8,840 cfs Mar. 5 (gage height, 9.25 ft); minimum, 1.8 cfs Sept. 25 (gage height,-0.87 ft).
1938-63: Maximum discharge, 28,800 cfs June 28, 1957 (gage height, 16.38 ft), from rating curve extended above 9,000 cfs on basis of a combined current-meter measurement and slope-area measurement; no flow for several days in August 1941.
Flood of March 1913 reached a stage of 16.0 ft, from information by local residents.

Remarks.--Records fair except those for periods of ice effect, which are poor.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	42	34	25	24	33	1,660	480	50	15	12	3.8
2	11	39	33	24	24	35	720	380	50	13	11	3.5
3	11	36	32	24	25	50	525	280	46	12	11	3.3
4	11	35	33	25	26	3,200	502	215	44	11	8.7	3.1
5	11	35	33	26	27	* 5,970	340	172	60	10	8.7	3.5
6	13	34	32	26	70	1,620	280	148	50	18	12	3.3
7	14	34	32	25	* 130	570	215	136	184	12	29	3.3
8	15	34	30	25	100	440	185	117	141	12	22	3.3
9	36	33	28	27	80	790	159	108	55	11	15	3.5
10	* 30	31	24	38	60	785	126	90	46	10	21	3.3
11	22	29	21	234	50	440	117	90	46	9.6	14	3.3
12	19	30	19	178	40	400	108	82	44	8.3	13	3.5
13	260	30	* 17	100	35	695	98	156	* 45	14	* 11	3.3
14	256	30	16	90	30	460	90	185	42	14	8.7	3.3
15	124	* 33	18	80	29	340	* 90	117	34	11	7.4	3.1
16	91	41	20	* 70	28	715	90	* 108	31	14	6.2	* 3.8
17	67	86	22	50	28	1,280	90	98	29	12	4.5	3.8
18	55	116	24	45	35	* 720	82	98	29	* 10	5.3	3.1
19	46	91	26	40	50	1,760	108	82	25	11	19	3.1
20	134	75	29	35	84	1,070	598	76	23	166	16	2.9
21	309	73	29	33	94	570	320	76	23	154	15	2.6
22	204	62	27	31	70	400	1,380	64	22	60	15	2.6
23	132	55	25	30	50	340	2,020	60	33	44	11	2.4
24	98	48	23	29	40	280	775	55	21	32	9.2	2.2
25	84	42	22	27	35	262	570	50	20	25	7.0	1.9
26	71	40	21	26	33	420	400	50	19	20	6.6	2.1
27	62	38	22	25	32	440	300	70	18	15	5.3	1.9
28	57	39	24	25	32	340	230	117	17	18	5.3	1.9
29	50	38	27	24	----------	262	351	90	16	26	5.3	2.2
30	46	36	33	24	------	200	830	70	15	17	4.5	2.2
31	44	------	27	24	------	772	------	55	------	14	4.1	-------
Total	2,394	1,385	803	1,485	1,361	25,659	13,359	3,975	1,278	818.9	343.8	89.1
Mean	77.2	46.2	25.9	47.9	48.6	828	445	128	42.6	26.4	11.1	2.97
Cfsm	0.431	0.258	0.145	0.268	0.272	4.63	2.49	0.715	0.238	0.147	0.062	0.017
In.	0.50	0.29	0.17	0.31	0.28	5.34	2.78	0.82	0.27	0.17	0.07	0.02

Calendar year 1962 : Max 5,380 Min 5.6 Mean 151 Cfsm 0.844 In. 11.46
Water year 1962-63 : Max 5,970 Min 1.9 Mean 145 Cfsm 0.810 In. 11.02

Peak discharge (base, 2,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	0430	9.25	8,840	4-1	0700	4.40	2,360
3-19	1700	4.86	2,850	4-23	1200	5.00	2,950

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 9-19, 22-28, Dec. 31 to Jan. 5, Jan. 13 to Feb. 19, Feb. 22 to Mar. 4. Computed from twice-daily wire-weight gage readings Oct. 1 to Mar. 3, Mar. 5 to Sept. 6.

3-3536. Little Eagle Creek at Speedway, Ind.

Location.--Lat 39°47'15", long 86°13'41", in NW¼ sec. 32, T. 16 N., R. 3 E., on right bank at downstream side of 16th Street Bridge in Speedway, 0.5 mile east of 500-Mile Track, 0.6 mile upstream from tributary from the right and 2.4 miles upstream from mouth.

Drainage area.--18.6 sq mi.

Records available.--October 1959 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 710.82 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission).

Extremes.--Maximum discharge during year, 1,830 cfs Mar. 4 (gage height, 7.21 ft); no flow Oct. 1-5.
1959-63: Maximum discharge, 1,940 cfs Apr. 25, 1961; no flow at times each year.

Remarks.--Records good except for periods of ice effect, which are poor.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	1.6	2.8	0.7	0.9	1.4	158	39	5.1	1.9	0.3	0.4
2	0	1.6	2.8	.7	1.0	1.7	64	28	3.6	3.0	.2	.2
3	0	1.3	2.8	.7	1.0	2.5	40	21	3.6	2.2	.2	.2
4	0	1.6	2.8	.7	1.0	*973	31	17	5.4	1.7	.1	.3
5	0	1.6	2.8	.7	1.0	335	20	14	24	1.5	.1	.2
6	.4	1.5	2.6	.7	4.0	135	15	11	13	25	1.2	.2
7	.2	2.2	2.2	.7	* 15	40	11	8.8	16	14	19	.2
8	.6	1.8	2.0	.7	6.0	22	8.3	8.8	18	8.3	2.7	.3
9	.6	1.3	1.6	.8	2.5	71	6.7	8.8	8.8	1.7	1.2	.3
10	* .6	1.2	1.4	3.0	2.0	47	6.3	8.8	6.7	1.3	2.2	.3
11	1.1	1.3	1.2	25	1.6	29	6.7	7.8	6.3	1.2	1.5	.4
12	.9	1.5	.6	15	1.4	28	6.3	6.3	3.0	1.0	1.0	.4
13	139	1.2	.6	10	1.3	82	6.3	40	* 8.4	6.1	* 1.0	.4
14	20	1.2	.6	5.0	1.2	40	6.7	18	7.8	8.3	.9	.4
15	6.0	* 1.5	.7	4.0	1.2	* 28	* 5.8	9.4	4.0	3.6	.6	.4
16	4.7	5.9	.7	3.0	1.1	164	6.3	* 8.3	2.4	4.0	.1	* .5
17	2.2	16	* 1.1	2.5	1.1	160	7.3	12	2.2	1.9	.1	.6
18	1.6	11	1.6	* 2.0	1.3	63	7.8	10	2.2	* 1.0	.3	.7
19	1.2	6.7	1.6	1.7	2.0	576	19	6.3	1.5	1.2	7.7	.7
20	36	6.3	1.8	1.5	4.0	156	43	6.3	1.5	44	5.7	.8
21	25	6.0	2.0	1.4	8.0	69	21	4.7	1.2	2.4	1.5	.8
22	12	5.3	1.3	1.3	4.0	41	220	3.6	.5	.8	.6	.8
23	8.7	3.8	1.2	1.2	2.5	32	164	3.0	.3	.5	.3	.7
24	5.6	3.1	.8	1.1	1.7	24	62	2.2	.2	.2	.4	.8
25	4.7	3.6	.7	1.1	1.5	21	40	2.7	.4	.1	.4	.5
26	3.6	3.3	.6	1.0	1.5	39	29	4.0	.6	.1	.4	.7
27	2.2	3.1	.6	1.0	1.4	40	22	14	.5	.6	.4	.8
28	1.8	2.6	.6	1.0	1.4	26	18	29	.3	1.1	.4	.8
29	1.6	2.6	.6	.9	----------	18	22	24	.2	11	.4	.8
30	1.6	2.4	.7	.9	------	15	70	12	.2	1.9	.3	.7
31	1.8	------	.7	.9	------	215	------	7.3	------	.5	.3	-------
Total	283.7	104.1	44.1	90.9	72.6	3,494.6	1,143.5	396.1	147.9	152.1	51.5	15.3
Mean	9.15	3.47	1.42	2.93	2.59	113	38.1	12.8	4.93	4.91	1.66	0.51
Cfsm	0.492	0.187	0.076	0.158	0.139	6.08	2.05	0.688	0.265	0.264	0.089	0.027
In.	0.57	0.21	0.09	0.18	0.14	7.01	2.29	0.79	0.30	0.30	0.10	0.03

Calendar year 1962 : Max 547 Min 0 Mean 18.4 Cfsm 0.989 In. 13.41
Water year 1962-63 : Max 973 Min 0 Mean 16.4 Cfsm 0.882 In. 12.01

Peak discharge (base, 450 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
10-13	0930	4.19	550				
3-4	1600	7.21	1,830				
3-19	1500	5.64	1,080				
4-22	0730	3.96	490				

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 10, 13-15, 26, Dec. 29 to Mar. 3.

GPO 811-767-7

3-3537. West Fork White Lick Creek at Danville, Ind.

Location.--Lat 39°45'36", long 86°30'47", in NW¼NE¼ sec. 10, T. 15 N., R. 1 W., on upstream side of U. S. 36 highway bridge, 0.1 mile east of city limits of Danville, 0.5 mile upstream from unnamed tributary from left, and 7 miles west of Avon.

Drainage area.--28.9 sq mi.

Records available.--May 1958 to September 1963.

Gage.--Wire-weight gage read twice daily. Crest-stage gage since Dec. 10, 1959. Datum of the gage is 828.83 ft above mean sea level, datum of 1929.

Average discharge.--5 years, 26.5 cfs.

Extremes.--Maximum discharge during year, 2,700 cfs Mar. 4 (gage height, 10.12 ft); no flow many days.
1958-63: Maximum discharge, 3,330 cfs July 14, 1962 (gage height, 11.32 ft); no flow many days.
Maximum flood known, 6,660 cfs June 28, 1957 (gage height, 16.0 ft, from contracted-opening measurement).

Remarks.--Records poor.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Nov. 9, Nov. 11-15, 18-21, Nov. 24 to Dec. 6, Dec. 18, 22, 27, Jan. 7, Feb. 2-5)

Oct. 1 to Mar. 3

0.72	0	1.3	13
.8	.4	1.6	27
.9	1.6	1.8	43
1.0	3.5	2.0	65
1.1	6.2		

Mar. 4 to Sept. 30

0.66	0	1.3	21
.7	.1	1.6	44
.8	.7	2.2	115
.9	2.4	3.0	260
1.0	5.3	5.0	780
1.1	9.2	8.0	1,850

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.5	0.7	0.2	a 0.8	b 0.1	b 0.4	219	56	3.5	* 0.1	0.2	0.1
2	.6	.7	.2	b .8	0	b .2	88	38	3.0	.2	.1	0
3	2.8	.7	.2	b .8	.8	5.1	61	28	4.1	.1	.1	0
4	.9	.7	.2	b .9	.7	1,500	63	22	3.2	.1	a .1	0
5	* .7	.7	.2	b 1.0	.6	871	43	a 20	* 3.0	.1	.1	0
6	.6	.7	.1	b 1.0	* 30	130	34	17	2.4	a .3	.1	* 0
7	.7	1.2	b .1	1.1	16	46	26	14	2.4	a .2	52	0
8	1.2	.7	a .1	a 1.3	7.8	54	23	14	4.3	a .1	9.2	a 0
9	1.2	.5	a .1	a 1.7	b 4.0	138	20	* 13	a 3.0	a .1	4.7	0
10	1.2	a .5	a .1	6.2	b 3.0	75	18	12	1.6	a .1	2.4	0
11	.7	.5	a .1	55	a 2.0	52	16	11	4.7	a 0	1.1	0
12	.7	1.2	a .1	19	2.0	42	14	12	2.0	a 0	.7	0
13	2.2	* 1.2	a .1	a 9.0	1.9	100	13	32	3.0	a .1	1.2	0
14	3.5	.7	a .1	b 5.0	a 1.7	54	13	13	2.4	a .3	.4	0
15	2.8	.6	a .1	b 2.6	a 1.6	40	11	11	2.0	.5	.2	0
16	2.4	a 1.0	a .2	b 2.0	a 1.5	37	13	11	1.6	.2	.1	0
17	1.6	14	a .8	b 1.6	a 1.4	145	12	13	1.1	.1	.1	0
18	.7	8.4	* 1.4	b 1.3	* 2.0	76	13	11	1.1	.1	.1	0
19	.7	3.5	a 1.8	b 1.1	4.5	* 379	26	8.4	1.1	0	17	0
20	8.7	2.4	a 2.3	b 1.0	b 4.0	130	72	8.8	1.1	82	4.7	0
21	8.4	2.4	a 1.6	*b .9	a 2.0	74	54	7.1	1.0	a 15	1.6	0
22	* 5.1	a 1.2	1.4	b .8	a 1.0	50	* 145	6.0	.7	4.1	.7	0
23	2.8	a .6	a 1.3	a .7	b .5	40	145	5.0	a .6	50	.4	0
24	1.2	.4	a 1.2	a .6	b .3	33	76	5.0	.5	11	.2	0
25	1.2	.2	a 1.2	b .5	b .2	* 30	50	4.7	.4	4.7	.2	a 0
26	1.2	.4	a 1.1	b .4	b .1	36	34	a 4.5	.4	2.2	.1	0
27	.7	.2	1.1	b .3	a .1	42	26	6.7	.4	1.2	.1	0
28	.7	.2	b 1.0	b .2	b .3	32	22	8.4	.4	1.2	.1	0
29	.7	.3	b .9	b .2	----------	28	26	5.6	.3	* 2.4	.1	a 0
30	.7	.2	b .8	a .2	- - - - - -	26	122	a 4.5	.2	1.0	0	a 0
31	.7	- - - - - -	b .8	a .1	- - - - - -	215	- - - - -	3.5	- - ----	.4	0	- - - - - -
Total	57.8	46.7	20.9	118.1	90.1	4,480.7	1,498	426.2	55.5	177.9	98.1	0.1
Mean	1.86	1.56	0.67	3.81	3.22	145	49.9	13.7	1.85	5.74	3.16	0
Cfsm	0.064	0.054	0.023	0.132	0.111	5.02	1.73	0.474	0.064	0.199	0.109	0
In.	0.07	0.06	0.03	0.15	0.12	5.79	1.93	0.55	0.07	0.23	0.13	0

Calendar year 1962 : Max 1,790 Min 0 Mean 30.1 Cfsm 1.04 In. 14.11
Water year 1962-63 : Max 1,500 Min 0 Mean 19.4 Cfsm 0.671 In. 9.13

Peak discharge (base, 700 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-4	unknown	10.12	2,700				
3-31	unknown	4.78	720				

* Discharge measurement made on this day.
a No gage-height record.
b Stage-discharge relation affected by ice.

3-3538. White Lick Creek at Mooresville, Ind.

Location.--Lat 39°36'28", long 86°22'56", in SE¼ sec. 35, T. 14 N., R. 1 E., on right bank at downstream side of bridge on State Highway 42 at Mooresville, 1.0 mile downstream from McCracken Creek and 2.0 miles upstream from East Fork White Lick Creek.

Drainage area.--212 sq mi.

Records available.--August 1957 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 644.64 ft above mean sea level, datum of 1929.

Average discharge.--6 years, 213 cfs.

Extremes.--Maximum discharge during year, 18,000 cfs Mar. 4 (gage height, 22.95 ft); minimum, 6.8 cfs Sept. 27 (gage height, 8.51 ft).
1957-63: Maximum discharge, that of Mar. 4, 1963; minimum daily, 2.0 cfs Dec. 24, 25, 1960.
Flood of June 28, 1957 reached a stage of 22.5 ft, from levels to high-water mark by Indiana Flood Control and Water Resources Commission.

Remarks.--Records fair except those for periods of ice effect, doubtful or no gage-height record, which are poor.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet and discharge, in cubic feet per second)

Oct. 1 to Mar. 4				Mar. 5 to Sept. 30			
9.0	17	13.0	1,800	8.5	6.2	10.0	242
9.2	45	15.0	3,320	8.6	11.8	11.0	580
9.5	115	17.0	5,700	8.8	28	13.0	1,570
10.0	275	20.0	10,400	9.2	74	14.0	2,200
11.0	690			9.6	142		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30	44	42	21	* 34	33	* 1,390	400	46	* 45	23	16
2	* 30	39	40	22	34	33	700	300	42	38	21	15
3	39	38	40	23	34	36	465	220	44	29	19	15
4	34	38	40	25	34	3,550	448	160	* 53	21	18	15
5	32	39	40	27	34	* 6,480	332	140	56	18	16	14
6	30	38	40	27	80	1,830	271	128	44	40	18	13
7	30	39	39	29	300	660	228	111	44	41	844	13
8	38	38	36	29	200	482	201	101	94	27	141	13
9	30	36	31	34	130	660	176	93	61	20	71	12
10	29	34	27	61	100	740	153	91	49	17	54	11
11	27	33	24	300	80	482	142	99	65	14	44	11
12	26	36	21	200	70	431	134	85	59	13	43	11
13	99	34	20	120	64	700	126	124	49	16	90	9.6
14	690	33	20	90	58	500	118	117	57	25	47	9.6
15	219	32	21	80	54	397	111	87	56	21	36	9.6
16	154	51	23	70	50	1,210	111	82	48	17	31	9.6
17	115	181	26	60	46	1,570	115	90	41	14	27	9.6
18	88	187	29	54	58	700	126	88	39	13	25	9.6
19	70	127	33	48	74	4,190	200	74	36	15	53	9.0
20	107	100	36	44	90	1,480	500	75	35	508	65	8.4
21	275	90	36	41	70	700	250	66	34	185	47	8.4
22	178	80	34	38	56	465	450	59	32	88	36	8.4
23	118	63	33	36	45	380	600	55	30	96	29	7.9
24	90	53	31	34	38	316	500	53	28	* 90	25	7.9
25	78	51	29	33	32	286	430	50	27	54	24	7.9
26	65	* 47	27	32	32	316	330	49	26	40	21	7.3
27	57	45	25	31	32	364	260	59	25	33	19	7.3
28	61	44	* 23	31	* 33	301	200	91	25	33	19	7.3
29	* 63	42	22	31	---------	242	* 200	73	24	47	* 19	8.4
30	49	42	22	31	------	228	600	57	48	38	18	8.4
31	45	------	21	33	------	1,000	------	49	--------	28	16	-------
Total	2,996	1,754	931	1,735	1,962	35,762	9,867	3,326	1,317	1,684	1,959	313.2
Mean	96.6	58.5	30.0	56.0	70.1	1,154	329	107	43.9	54.3	63.2	10.4
Cfsm	0.456	0.276	0.142	0.264	0.331	5.44	1.55	0.505	0.207	0.256	0.298	0.049
In.	0.53	0.31	0.16	0.30	0.34	6.27	1.73	0.58	0.23	0.30	0.34	0.05

Calendar year 1962: Max 7,080 Min 20 Mean 247 Cfsm 1.17 In. 15.80
Water year 1962-63: Max 8,550 Min 7.3 Mean 174 Cfsm 0.821 In. 11.14

Peak discharge (base, 2,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-4	1900	22.95	18,000				
3-19	1900	19.25	7,780				
4-1	Unknown	Unknown					
8-7	0500	14.25	2,340				

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 9-18, 24, Dec. 26 to Jan. 4, Jan. 11-14, 17-20, Feb. 1-7, Feb. 23, 26, Mar. 1, 2. No gage-height record Jan. 15, 16, 21-31, Feb. 8-22, 27, 28, Mar. 31, Apr. 19 to May 5. Doubtful gage-height record Apr. 1-18.

3-3540. White River near Centerton, Ind.

Location.--Lat 39°30'02", long 86°24'24", in SW¼SE¼ sec. 3, T. 12 N., R. 1 E., on right bank three-eights of a mile downstream from highway bridge, 1 mile south of Centerton, 1 1/8 miles downstream from White Lick Creek, and at mile 202.6.
Drainage area.--2,435 sq mi.
Records available.--October 1930 to March 1932, October 1946 to September 1963. Prior to March 1932, published as West Fork White River at Martinsville and November 1946 to September 1948, published as West Fork White River near Centerton. Monthly discharge only for October 1947, published in WSP 1305. Daily chain-gage readings of gage height from July 1925 to September 1930 are available in the District office.
Gage.--Water-stage recorder. Datum of gage is 595.44 ft above mean sea level, datum of 1929 (Corps of Engineers benchmark), levels by Indianapolis Power and Light Co. Prior to March 1932, chain gage at site 8½ miles downstream at datum 17.72 ft lower. November 1946 to July 1953, wire-weight gage three-eights of a mile upstream at present datum.
Average discharge.--18 years (1930-31, 1946-63) 2,366 cfs (unadjusted).
Extremes.--Maximum discharge during year, 41,600 cfs Mar. 5 (gage height, 16.72 ft); minimum, 250 cfs Sept. 29, 30; minimum gage height, 1.29 ft Oct. 8.
1930-32, 1946-63: Maximum discharge, 43,000 cfs Jan. 6 or 7, 1950 (gage height, 17.2 ft, from floodmark, site then in use); minimum, 135 cfs Sept. 27, 1954; minimum gage height, 0.43 ft Oct. 4, 5, 1954.
Flood in March 1913 reached a stage of 22.8 ft at Martinsville site, from information by State Highway Department of Indiana (discharge, 90,000 cfs, estimated).
Remarks.--Records good. Flow slightly regulated by Morse and Geist Reservoirs. (Combined capacity, 13,800,000,000 gal.)

Rating tables, water year 1962-63 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1-4, 8-12, July 23-25, Sept. 22-30; stage-discharge relation affected by ice Jan. 25)

Oct. 1 to Mar. 4

1.2	350	2.0	1,040
1.5	560	4.0	3,140

Note.--Same as following table above 4.0 ft.

Mar. 5 to Sept. 30

1.2	220	12.0	16,200
4.0	3,140	14.0	23,500
8.0	8,600	16.0	36,000

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	422	614	614	488	496	544	* 10,800	4,380	1,120	* 554	546	424
2	* 488	587	623	452	488	528	9,500	3,760	1,010	554	530	406
3	480	614	623	452	520	536	7,760	3,100	923	530	509	400
4	422	544	650	459	496	9,840	6,080	2,610	* 879	488	481	412
5	417	566	650	466	512	* 37,300	4,970	2,280	1,190	467	448	394
6	417	578	677	459	686	32,000	4,110	2,040	1,070	546	442	394
7	398	578	695	452	1,090	* 30,300	3,460	1,870	1,600	690	2,920	394
8	404	605	686	480	1,030	* 26,700	2,960	1,700	4,470	509	978	394
9	512	578	641	496	980	15,600	2,670	1,570	1,740	495	666	400
10	686	560	596	560	960	8,990	2,410	1,480	1,280	467	570	412
11	668	528	587	1,050	860	8,210	2,170	1,420	1,130	448	502	418
12	659	544	552	1,500	740	6,780	1,980	1,350	1,000	460	481	430
13	745	578	504	1,150	686	6,190	1,830	1,350	912	474	791	412
14	2,570	528	480	960	632	6,610	1,710	2,000	1,090	554	554	382
15	*1,270	520	488	910	569	6,160	1,600	2,050	868	530	474	364
16	970	578	480	780	536	7,000	1,500	1,740	791	554	448	346
17	930	1,060	480	731	496	11,000	1,500	1,560	726	578	436	352
18	770	1,160	496	731	496	8,930	1,530	1,510	674	538	424	346
19	677	1,130	488	731	578	12,900	1,530	1,390	650	516	488	340
20	668	1,060	520	659	641	19,300	2,440	1,320	618	2,980	762	* 340
21	1,240	970	528	569	650	14,400	2,830	1,230	602	1,890	554	328
22	1,360	910	528	536	641	10,700	4,420	1,150	586	2,060	509	310
23	1,250	800	528	504	623	6,990	7,670	1,070	562	1,580	502	292
24	1,060	770	488	470	578	4,990	8,050	1,000	538	*1,300	481	310
25	920	686	473	460	605	4,150	5,740	945	538	967	474	316
26	820	* 632	452	460	569	4,040	4,160	890	516	744	448	310
27	740	641	452	460	528	4,380	3,260	857	495	618	442	310
28	677	623	* 438	459	* 512	4,280	2,680	1,070	502	610	442	322
29	* 686	596	496	466	------	3,940	* 2,360	1,410	523	578	* 436	280
30	668	596	632	* 466	------	3,490	3,500	1,230	538	658	430	274
31	650	------	528	459	------	5,250	------	1,150	------	594	442	------
Total	24,644	20,734	17,073	19,275	18,198	322,028	117,180	52,482	29,141	24,531	18,610	10,812
Mean	795	691	551	622	650	10,390	3,906	1,693	971	791	600	360
Cfsm	.327	.284	.226	.255	.267	4.27	1.60	.695	.399	.325	.246	.148
In.	.38	.32	.26	.29	.28	4.92	1.79	.80	.45	.37	.28	.17

Calendar year 1962: Max 25,600 Min 394 Mean 2,145 Cfsm .881 In. 11.95
Water year 1962-63: Max 37,300 Min 274 Mean 1,849 Cfsm .759 In. 10.30

* Discharge measurement made on this day.

3-3545. Bean Blossom Creek at Bean Blossom, Ind.

Location.--Lat 39°15'45", long 86°14'55", in NW¼ sec. 31, T. 10 N., R. 3 E., on right bank, 15 ft downstream from bridge on State Highway 135, 0.3 mile south of Bean Blossom, and 2.5 miles upstream from North Fork Bean Blossom Creek.

Drainage area.--14.6 sq mi.

Records available.--October 1951 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 673.65 ft above mean sea level, datum of 1929.

Average discharge.--12 years, 15.7 cfs.

Extremes.--Maximum discharge during year, 1,580 cfs Mar. 4 (gage height, 9.30 ft); no flow on many days.
1951-63: Maximum discharge, 8,140 cfs June 23, 1960 (gage height, 11.78 ft) from curve extended above 2,000 cfs on basis of contracted-opening measurement; no flow on many days.

Remarks.--Records fair.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge in cubic feet per second)
(Shifting-control method used Jan. 14-21, 29, Jan. 31 to Feb. 7, Mar. 6-16, 18, Mar. 20 to Apr. 19)

Oct. 1 to June 4

1.49	0.1	2.2	21
1.6	.6	2.5	40
1.7	1.9	3.0	88
1.8	4.2	4.0	218
1.9	7.1	5.0	368
2.0	11	6.0	554

June 5 to Sept. 30

1.35	0	1.8	8.2
1.4	.1	1.9	14
1.5	.5	2.0	21
1.6	1.6	2.2	36
1.7	3.9	2.5	60

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0.3	0.7	3.9	0.3	3.2	57	25	1.7	0.3	0.3	
2	.1	.2	.7	3.2	2.1	3.4	32	21	1.2	.4	.2	
3	.1	.2	.7	3.2	1.1	5.0	28	18	3.2	.6	.3	
4	.1	.3	.7	3.2	.6	* 545	31	14	43	.3	.7	
5	.1	.3	.7	3.2	1.1	261	30	11	52	.2	.4	
6	.1	.2	.7	3.4	* 3.4	86	22	9.0	28	17	.5	
7	.1	.3	.7	3.4	3.9	35	19	7.1	48	2.1	4.5	
8	.1	.3	.6	3.4	3.4	28	18	5.8	50	.9	.7	
9	.1	.3	.6	4.2	2.9	40	16	4.7	26	.6	.5	
10	.1	.4	* .4	6.1	2.9	32	13	5.4	13	.4	.3	
11	* .1	.3	.3	26	* 3.2	32	12	5.8	9.4	.3	.2	
12	.1	.6	.2	b 13	2.7	* 31	10	4.2	5.4	.3	.2	
13	.1	* .8	.1	b 6.0	2.3	33	8.7	4.2	3.9	.4	.5	
14	.1	.6	.2	* 3.6	2.3	23	7.1	3.4	* 3.0	1.6	* .2	
15	.1	.5	.3	2.5	1.9	20	* 5.5	2.9	2.1	.5	.1	
16	.1	1.7	.3	2.1	2.1	503	5.0	* 2.7	1.9	.3	.1	
17	.1	3.9	.4	1.5	2.9	176	5.0	4.6	1.7	.2	0	
18	.1	3.4	.5	1.4	2.3	52	4.4	6.1	1.3	.2	0	*
19	.1	2.9	.7	1.0	2.3	* 143	33	3.9	1.1	* .2	.1	
20	.1	2.5	2.5	1.0	2.3	57	59	5.5	1.0	50	.2	
21	.2	2.3	2.3	.6	1.9	36	32	3.6	1.1	4.6	.1	
22	.1	1.7	1.5	b .5	1.9	28	26	2.7	.8	1.7	.1	
23	.1	1.2	1.2	b .4	1.9	25	21	2.3	.6	1.6	0	
24	.1	1.1	.7	b .4	2.9	22	18	1.9	.6	1.6	0	
25	.1	1.1	.6	b .4	2.1	30	16	1.5	.6	.7	1.2	
26	.2	.8	.7	b .3	* 1.1	85	14	1.4	.5	.6	.4	
27	.2	.8	.6	b .3	.7	45	11	3.3	.4	.7	.1	
28	1.3	.8	.4	b .3	1.1	31	9.8	7.6	.4	.9	0	
29	3.0	.8	5.4	.3	---------	25	13	7.8	.5	.7	0	
30	.7	.8	6.1	b .3	------	23	31	4.2	.3	.5	0	
31	.4	------	5.2	.3	------	50	------	2.5	------	.4	0	------
Total	8.4	31.4	36.7	99.4	59.6	2,508.6	607.5	203.1	302.7	90.8	11.9	0
Mean	0.271	1.05	1.18	3.21	2.13	80.9	20.2	6.55	10.1	2.93	0.384	0
Cfsm	0.019	0.072	0.081	0.220	0.146	5.54	1.38	0.449	0.692	0.201	0.026	0
In.	0.02	0.08	0.09	0.25	0.15	6.39	1.54	0.52	0.77	0.23	0.03	0

Calendar year 1962: Max 288 Min 0 Mean 11.6 Cfsm 0.795 In. 10.80
Water year 1962-63: Max 545 Min 0 Mean 10.8 Cfsm 0.740 In. 10.07

Peak discharge (base, 700 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-4	1900	9.30	1,580				
3-16	2000	8.51	1,270				

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Aug. 28 to Sept. 17.

3-3550. Bear Creek near Trevlac, Ind.

Location.--Lat 39°16'40", long 86°20'45", in NE¼ sec. 30, T. 10 N., R. 2 E., on left bank, 15 ft west of county raod at footbridge, 1.1 miles northwest of Trevlac, and 1.3 miles upstream from mouth.

Drainage area.--7.00 sq mi.

Records available.--May 1952 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 640 ft (from topographic map).

Average discharge.--11 years, 6.56 cfs.

Extremes.--Maximum discharge during year, 412 cfs Mar. 4 (gage height, 4.49 ft); no flow for many days.
1952-63: Maximum discharge, 1,830 cfs June 12, 1957 (gage height, 7.62 ft), from rating curve extended above 290 cfs on basis of slope-area measurement of peak flow at gage height, 6.43 ft; no flow for many days.

Remarks.--Records poor.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.6	0.4	0.5	3.9	0	2.0	48	16	1.2	0	0.1	0
2	.7	.4	.4	3.2	e 1.1	2.2	24	12	.8	0	0	0
3	.7	.3	.4	2.9	e .7	3.0	19	9.0	.7	0	0	0
4	.4	.4	.4	2.7	e .4	* 150	17	7.6	1.0	0	.2	0
5	.5	.4	.4	2.7	e .7	112	13	7.6	3.1	0	0	0
6	.4	.3	.4	2.5	* 2.0	47	11	6.1	1.2	4.7	0	0
7	.2	.3	.4	2.3	3.9	18	9.0	3.4	3.0	.4	3.6	0
8	.2	.3	.3	2.3	3.2	11	8.2	2.7	3.3	.2	.2	0
9	.2	.4	.3	2.7	2.1	22	6.8	1.3	.8	.1	2.0	0
10	.2	.4	* .3	3.0	1.5	20	5.6	2.6	.6	0	.5	0
11	* .1	.4	.3	8.6	* 1.5	17	5.0	5.3	.7	0	.2	0
12	.1	1.2	.2	5.6	1.3	* 15	4.4	3.9	.4	0	.3	0
13	.2	* .8	0	3.4	1.2	13	3.9	4.4	2.9	.1	.5	0
14	.1	.7	0	* 2.2	1.2	9.7	3.2	2.7	* 1.6	.3	* .2	0
15	.1	.6	.2	1.3	1.0	7.9	* 2.1	2.3	.6	.1	.1	0
16	.1	1.8	.4	1.2	1.1	122	2.1	* 1.9	.5	0	.1	0
17	.1	3.9	.5	1.0	1.6	59	1.9	9.1	.3	0	0	0
18	.1	3.2	.7	.9	1.2	11	1.5	9.3	.2	0	0	* 0
19	.1	2.5	1.0	.8	1.2	* 84	4.5	8.5	.2	* 0	.1	0
20	.1	1.9	1.3	.6	1.2	27	10	7.7	.2	18	.1	0
21	.1	1.7	1.2	.5	1.0	5.8	7.9	5.3	.1	1.4	.1	0
22	.1	1.3	1.0	.4	1.0	3.9	7.2	3.9	.1	.4	0	0
23	.2	1.2	.8	.3	1.0	2.7	6.5	2.5	.1	5.6	0	0
24	.2	1.0	.8	.2	1.6	2.1	5.0	e 1.2	0	.6	0	0
25	.4	.8	.7	.2	1.1	3.1	4.7	e 1.0	0	.3	.4	0
26	.2	.7	.8	.1	.7	21	3.9	e .9	0	.2	.1	0
27	.2	.7	.8	.1	.4	24	3.4	e 2.2	0	.8	0	0
28	1.4	.6	.6	.1	.7	17	2.9	7.6	0	.3	.1	0
29	1.3	.6	5.1	.1	---------	13	6.4	9.0	.1	.3	.2	.1
30	.6	.5	14	0	------	12	26	6.6	.1	.2	.1	0
31	.4	------	7.6	0	------	38	------	2.2	------	.1	0	------
Total	10.3	29.7	41.8	55.8	35.6	895.4	274.1	165.8	23.8	34.1	9.2	0.1
Mean	0.332	0.990	1.35	1.80	1.27	28.9	9.14	5.35	0.793	1.10	0.297	0.0033
Cfsm	0.047	0.141	0.193	0.257	0.181	4.13	1.31	0.764	0.113	0.157	0.042	0.00047
In.	0.05	0.16	0.22	0.30	0.19	4.76	1.46	0.88	0.13	0.18	0.05	0.0005

Calendar year 1962: Max 138 Min 0 Mean 5.11 Cfsm 0.730 In. 9.90
Water year 1962-63: Max 150 Min 0 Mean 4.32 Cfsm 0.617 In. 8.38

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-4	1700	4.49	412				
3-16	1800	3.89	294				

* Discharge measurement made on this day.
e Stage-discharge relation indefinite.
Note.--Stage-discharge relation affected by ice Jan. 12-14, 21-26, Feb. 6 to Mar. 4.

3-3560. Bean Blossom Creek at Dolan, Ind.

Location.--Lat 39°14'30", long 86°29'57", in SW¼ sec. 2, T. 9 N., R. 1 W., on downstream side of pier of highway bridge at Dolan, 17.5 miles upstream from mouth.

Drainage area.--100 sq mi.

Records available.--April 1946 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 576.41 ft above mean sea level, unadjusted. Prior to Sept. 28, 1951, wire-weight gage at same site and datum.

Average discharge.--17 years, 118 cfs (unadjusted).

Extremes.--Maximum discharge during year, 2,080 cfs Mar. 5 (gage height, 13.87 ft, from floodmark); minimum, 17 cfs Aug. 21, 22 (gage height, 1.88 ft).
1946-63: Maximum discharge, 9,420 cfs June 2, 1947; maximum gage height, 17.9 ft Jan. 5, 1949; no flow at times during 1946-49, 1953.

Remarks.--Records good except those for periods of no gage-height record, doubtful record or ice effect. Flow regulated since April 1953 by Lake Lemon (capacity, 4,640,000,000 gal) 8.1 miles upstream.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 26 to Nov. 16, Dec. 30, 31, Jan. 1, 2)

1.8	14	5.0	320
2.0	22	7.0	610
2.5	52	10.0	1,060
3.0	92	12.0	1,450
4.0	190	13.0	1,760

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	* 21	22	25	* 22	22	370	160	31	20	* 19	24
2	20	21	22	24	22	22	200	130	32	20	19	24
3	20	21	22	23	22	24	180	101	36	20	19	24
4	20	21	22	22	22	637	190	83	51	20	20	24
5	20	20	22	22	23	1,500	190	71	348	19	18	* 25
6	21	21	22	23	36	1,020	130	59	367	30	18	25
7	21	22	22	24	33	505	120	52	125	24	18	25
8	20	22	22	24	29	278	110	45	305	21	18	25
9	21	22	22	27	27	250	100	42	140	20	18	25
10	21	22	21	32	26	320	82	38	79	20	18	25
11	21	21	21	60	26	278	76	56	59	20	19	25
12	22	22	20	47	25	278	65	52	45	20	19	25
13	22	22	20	34	24	238	60	48	38	20	19	25
14	22	22	20	32	23	190	50	37	48	21	18	25
15	22	22	20	25	22	160	40	34	37	20	18	25
16	22	25	19	22	22	374	38	34	32	20	18	25
17	22	38	19	22	20	d 1,080	38	54	30	20	18	25
18	22	36	19	22	20	d 1,120	34	63	26	20	18	25
19	22	31	18	22	21	850	200	52	24	19	19	24
20	22	29	26	22	22	865	400	52	23	126	18	24
21	20	28	26	21	22	475	200	48	22	37	17	24
22	20	26	26	20	22	292	160	38	21	26	17	24
23	19	26	26	19	22	190	110	34	21	23	22	24
24	20	25	22	19	22	150	106	31	20	22	24	24
25	20	25	18	20	* 22	125	106	28	20	21	25	24
26	20	* 24	19	21	22	202	101	30	20	20	25	24
27	20	24	18	21	22	362	96	31	* 20	20	25	24
28	22	22	18	22	22	* 340	96	44	20	20	25	24
29	25	24	28	22	---------	230	92	* 52	20	20	25	24
30	21	23	34	22	------	170	* 168	42	22	20	24	24
31	21	------	* 30	22	------	135	------	38	------	19	24	------
Total	651	728	686	783	663	12,682	3,908	1,679	2,082	768	622	734
Mean	21.0	24.3	22.1	25.3	23.7	409	130	54.2	69.4	24.8	20.1	24.5
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-
(ƒ)	-18.2	-9.4	-11.4	0.0	-9.7	+87	-5	-7.8	-10.8	-5.2	-21.8	-30.6

Calendar year 1962: Max 1,250 Min 5.2 Mean 76.8 Cfsm 0.768 In. 10.43 (ƒ) +0.7
Water year 1962-63: Max 1,500 Min 17 Mean 71.2 Cfsm 0.712 In. 9.66 (ƒ) -3.5

Peak discharge (base, 1,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	about 0300	13.87	2,080				

* Discharge measurement made on this day.
d Doubtful gage-height record.
ƒ Change in contents, equivalent in cubic feet per second, in Lake Lemon (formerly known as Bloomington Reservoir).
Note.--Stage-discharge relation affected by ice Dec. 13-19, 24-29, Jan. 3-24, Feb. 8 to Mar. 3. No gage-height record Jan. 25 to Feb. 7, Mar. 28 to Apr. 23.

3-3570. White River at Spencer, Ind.

Location.--Lat 39°16'49", long 86°45'42", in sec. 29, T. 10 N., R. 3 W., on right bank at downstream side of highway bridge at Spencer, 3.3 miles upstream from McBrides Creek and at mile 165.9.

Drainage area.--2,980 sq mi.

Records available.--July 1925 to September 1963. Monthly discharge only for some periods, published in WSP 1305. Prior to October 1948, published as West Fork White River at Spencer.

Gage.--Water-stage recorder. Datum of gage is 526.04 ft above mean sea level, datum of 1929. Prior to Dec. 26, 1940, wire-weight gage at same site and datum.

Average discharge.--38 years, 3,038 cfs, (unadjusted).

Extremes.--Maximum discharge during year, 42,200 cfs Mar. 6 (gage height, 22.53 ft); minimum, 375 cfs Sept. 30 (gage height, 1.92 ft).
1925-63: Maximum discharge, 59,400 cfs May 15, 1933, Jan. 16, 1937, (gage height, 23.2 ft); minimum, 133 cfs Sept. 25, 30, 1941; minimum gage height, 0.88 ft Sept. 25, 30, Oct. 1, 1941.
Maximum stage known, 28.5 ft Mar. 26, 1913, from floodmarks (discharge, 100,000 cfs, estimated).

Remarks.--Records good. Flow slightly regulated by three reservoirs above station.

Rating table, water year 1962-63 except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 24 to Jan. 11, Jan. 17-23, Feb. 2-7, Feb. 10 to Mar. 4, Apr. 10-22, 28-30, May 4 to June 8, June 19 to July 6, July 8-20)

1.9	375	12.0	8,950
2.4	620	16.0	14,800
3.0	980	20.0	27,500
5.0	2,520	22.0	38,700
10.0	6,920		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	590	740	770	770	b 650	620	10,700	5,120	1,400	680	860	510
2	590	710	770	710	620	620	13,200	4,930	1,260	680	770	510
3	* 620	710	770	650	620	590	* 11,500	4,120	1,190	* 680	740	488
4	590	710	770	650	650	5,380	9,060	3,560	1,120	620	710	488
5	560	650	800	650	650	19,600	7,300	3,080	1,720	590	650	488
6	510	650	800	650	710	* 38,700	6,070	2,680	2,680	680	590	465
7	510	650	800	* 650	980	* 37,500	5,220	2,440	1,880	980	1,220	465
8	488	680	800	650	1,190	33,300	4,480	2,280	4,430	860	2,680	465
9	590	680	800	680	1,120	* 29,500	3,960	2,040	4,040	650	1,330	465
10	710	650	770	740	1,050	20,000	3,560	1,960	2,360	620	1,050	465
11	860	620	710	980	980	11,700	3,160	1,960	1,880	560	860	465
12	800	620	710	1,720	920	9,760	2,920	1,800	1,720	535	770	465
13	740	620	710	1,640	860	8,000	2,680	1,720	1,480	560	860	465
14	1,640	650	710	1,260	770	7,900	2,520	1,960	1,480	620	1,120	465
15	1,960	590	620	1,190	710	7,700	2,360	2,440	1,560	710	800	442
16	1,330	620	590	1,120	650	8,200	2,200	2,200	1,260	620	710	442
17	1,050	860	590	980	620	13,700	2,120	2,040	1,120	650	650	442
18	980	1,260	590	980	590	15,200	2,040	1,960	1,050	650	620	442
19	860	1,330	620	980	590	14,400	2,120	1,880	980	560	590	442
20	770	1,260	650	920	650	18,400	2,680	1,720	920	1,890	800	420
21	860	1,190	710	860	740	22,100	3,400	1,720	860	3,400	980	420
22	1,330	1,120	710	770	680	17,300	3,640	1,560	860	* 2,440	770	420
23	1,400	1,050	680	740	680	12,200	6,540	1,400	770	2,230	680	398
24	1,260	980	650	b 720	680	7,900	8,510	1,260	740	1,800	650	398
25	1,120	980	620	b 700	650	6,260	7,700	1,190	710	1,480	590	398
26	980	860	590	b 700	* 680	6,070	5,690	1,120	680	1,260	590	420
27	920	860	560	b 690	620	6,450	4,390	* 1,120	650	1,050	*535	398
28	860	800	560	b 680	590	6,360	3,640	1,400	620	980	549	398
29	860	* 800	620	b 680	----------	5,780	3,160	1,960	590	920	535	420
30	800	770	770	*b 680	----------	5,220	* 3,480	1,720	620	920	535	* 398
31	* 770	----------	860	b 670	----------	5,400	----------	1,480	----------	920	510	----------
Total	27,908	24,670	21,680	26,460	20,900	401,810	150,000	67,820	42,630	31,845	25,304	13,367
Mean	900	822	699	854	746	12,960	5,000	2,188	1,421	1,027	816	446
Cfsm	0.302	0.276	0.235	0.287	0.250	4.35	1.68	0.734	0.477	0.345	0.274	0.150
In.	0.35	0.31	0.27	0.33	0.26	5.02	1.87	0.85	0.53	0.40	0.32	0.17

Calendar year 1962 : Max 24,600 Min 488 Mean 2,704 Cfsm 0.907 In. 12.32
Water year 1962-63 : Max 38,700 Min 398 Mean 2,341 Cfsm 0.786 In. 10.68

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

3-3575. Big Walnut Creek near Reelsville, Ind.

Location.--Lat 39°32'11", long 86°58'35", in NW¼ SE¼ sec. 28, T. 13 N., R. 5 W., on left bank at highway bridge, 1½ miles southwest of Reelsville, and 3 miles upstream from Mill Creek.

Drainage area.--338 sq mi.

Records available.--July 1949 to September 1963. Published as Eel River near Reelsville, October 1952 to September 1956.

Gage.--Water-stage recorder. Datum of gage is 588.24 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission). Prior to Dec. 10, 1949, wire-weight gage at same site and datum.

Average discharge.--14 years, 350 cfs.

Extremes.--Maximum discharge during year, 19,800 cfs Mar. 4 (gage height, 17.71 ft); minimum, 9.1 cfs Sept. 30; minimum gage height, 3.23 ft Sept. 19-21.
1949-63: Maximum discharge, 30,700 cfs June 28, 1957 (gage height, 18.63 ft); minimum 1.2 cfs Sept. 8, 1954 (gage height, 1.56 ft).

Remarks.--Records fair.

Rating table, water year 1962-63, except periods of ice effect or indefinite stage-discharge relation
(gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 3-21, Jan. 11, 12, 18-21, Jan. 23 to Feb. 2, Aug. 14-19, Sept. 24-30. Indefinite stage-discharge relation Sept. 21-23)

3.2	13	6.0	720
3.5	30	9.0	2,050
3.8	60	12.0	3,920
4.2	122	15.0	7,800
4.6	212	16.0	10,900
5.2	405	17.0	15,400

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	79	73	56	39	45	45	1,740	800	82	30	29	22
2	78	70	* 45	54	56	44	1,040	560	76	33	28	22
3	105	68	54	46	66	150	* 720	422	70	* 42	26	21
4	* 68	65	53	49	70	3,000	720	352	69	36	25	20
5	60	65	53	53	74	*13,000	560	318	69	32	24	20
6	56	64	53	56	122	3,150	460	* 285	* 64	326	a 23	19
7	55	64	53	58	318	1,280	405	255	60	78	a 1,000	19
8	54	64	52	58	270	920	352	240	59	48	225	18
9	50	61	50	66	154	1,120	335	226	61	39	96	* 18
10	48	59	43	86	114	1,280	300	212	58	33	64	17
11	48	55	38	493	96	880	285	200	61	30	53	17
12	45	58	36	422	78	800	270	200	60	29	44	17
13	44	61	35	150	70	1,000	255	212	55	31	125	16
14	207	61	34	140	60	880	240	226	63	41	* 73	16
15	255	58	34	140	54	720	226	200	56	36	54	15
16	176	87	35	110	53	1,470	226	187	52	34	46	15
17	132	187	38	100	55	1,840	226	200	47	30	43	15
18	105	200	45	96	58	1,120	226	200	45	28	40	15
19	88	176	54	96	73	2,550	558	187	44	27	51	14
20	88	143	66	78	96	1,700	1,270	176	43	234	78	14
21	249	114	70	55	78	1,000	640	154	42	197	63	14
22	318	105	61	50	68	720	1,060	143	40	114	47	13
23	226	88	54	47	60	600	1,280	132	38	78	37	13
24	165	80	39	45	58	520	880	122	36	76	33	12
25	132	73	48	45	* 56	460	600	114	35	64	29	11
26	114	68	44	44	46	500	460	105	34	47	28	11
27	105	64	35	44	46	640	388	114	34	41	26	10
28	105	* 63	35	* 44	45	560	335	176	33	36	26	10
29	105	60	35	42	----------	460	352	132	32	34	27	10
30	86	59	35	44	------	422	1,140	105	31	32	25	9.5
31	* 78	------	36	44	------	820	------	88	-------	30	24	-------
Total	3,524	2,513	1,428	2,885	2,439	49,651	17,549	7,043	1,549	1,966	2,512	463.5
Mean	114	83.8	46.1	93.1	87.1	1,602	585	227	51.6	63.4	81.0	15.4
Cfsm	0.337	0.248	0.136	0.275	0.258	4.74	1.73	0.672	0.153	0.188	0.240	0.046
In.	0.39	0.28	0.16	0.32	0.27	5.46	1.93	0.77	0.17	0.22	0.28	0.05

Calendar year 1962 : Max 10,100 Min 34 Mean 373 Cfsm 1.10 In. 14.99
Water year 1962-63 : Max 13,000 Min 9.5 Mean 256 Cfsm 0.757 In. 10.30

Peak discharge (base, 2,800 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-4	2130	17.71	19,800				
3-19	1500	11.50	3,550				
8-7	0900	About 11.8	About 3,800				

* Discharge measurement made on this day.
a No gage-height record.
Note.--Stage-discharge relation affected by ice Dec. 11-13, 16, 17, Dec. 28 to Jan. 1, Jan. 13-17, 22, Feb. 13, 14, 28, Mar. 1, 3, 4.

3-3580. Mill Creek near Cataract, Ind.

Location.--Lat 39°26', long 86°46', in SE¼ sec. 32, T. 12 N., R. 3 W., on left bank at downstream side of bridge on State Highway 43, 3 miles east of Cataract.

Drainage area.--241 sq mi.

Records available.--July 1949 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 706.40 ft above mean sea level, datum of 1929. Prior to Nov. 8, 1949, wire-weight gage at same site and datum.

Average discharge.--14 years, 264 cfs.

Extremes.--Maximum discharge during year, 10,600 cfs Mar. 5 (gage height, 22.06 ft); minimum, 2.2 cfs Sept. 23 (gage height, 3.08 ft). 1949-63: Maximum discharge, 11,400 cfs June 24, 1960 (gage height, 22.58 ft); minimum, 0.1 cfs Sept. 3, 6, 7, 28, 29, 1954.

Remarks.--Records good except those for periods of ice effect, which are fair.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 19

3.8	23	9.0	1,080
3.9	28	12.0	2,220
4.5	69	15.0	3,800
5.0	118	18.0	5,920
6.0	262	21.0	8,900
7.0	482		

Mar. 20 to Sept. 30

3.1	2.6	4.4	68
3.2	5.0	5.0	120
3.5	15	6.0	262
3.9	34		

Note.--Same as previous table above 6.0 ft.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	38	* 40	39	41	30	32	2,060	200	30	15	8.4	7.7
2	38	36	38	43	40	35	770	131	25	* 14	5.6	7.1
3	39	34	36	45	43	46	* 434	110	26	9.0	5.3	6.8
4	44	33	36	49	47	2,800	386	92	29	7.1	5.3	6.8
5	38	36	38	51	61	3,920	282	80	42	9.0	4.8	6.5
6	36	36	38	53	143	7,780	230	76	42	41	6.6	6.2
7	36	33	29	* 57	366	3,360	200	68	28	60	337	5.9
8	38	37	26	57	136	622	171	64	61	20	253	5.0
9	34	36	24	69	73	650	157	56	38	12	61	4.8
10	33	36	22	185	61	594	126	50	24	8.4	37	5.3
11	32	34	20	400	57	386	115	97	25	6.2	25	5.0
12	32	33	18	250	47	362	106	64	27	5.3	20	5.3
13	30	35	17	150	40	650	96	60	21	6.8	125	4.8
14	29	33	17	110	35	458	92	68	42	15	78	4.3
15	29	32	18	90	30	322	84	53	25	16	36	4.0
16	34	58	20	70	27	1,180	80	50	19	11	22	4.0
17	39	339	23	60	27	2,580	88	60	17	6.8	16	4.3
18	36	246	27	58	41	1,110	92	80	15	5.9	13	4.0
19	32	136	28	58	57	2,080	105	60	14	5.0	20	4.0
20	30	107	35	46	73	3,800	262	56	13	447	89	3.8
21	42	92	35	40	45	1,870	144	64	12	126	39	3.3
22	38	78	32	35	30	538	360	46	10	* 38	23	3.3
23	30	61	28	31	28	386	294	38	9.8	23	17	2.6
24	27	52	26	29	30	302	164	35	9.0	18	14	3.1
25	27	48	26	27	31	246	126	33	8.7	14	13	3.6
26	29	46	25	26	* 31	410	106	32	8.4	12	14	4.0
27	29	44	23	25	31	482	92	* 33	8.0	11	* 13	4.3
28	29	43	22	25	31	322	84	64	8.4	21	13	4.3
29	107	41	23	25	----------	246	88	64	8.7	25	11	5.0
30	61	* 39	30	25	------	458	* 304	46	7.4	31	11	* 4.8
31	47	------	40	25	------	1,140	------	36	--------	13	8.7	-------
Total	1,163	1,954	859	2,255	1,691	44,167	7,698	2,066	653.4	1,052.5	1,894.7	143.9
Mean	37.5	65.1	27.7	72.7	60.4	1,425	257	66.6	21.8	34.0	61.1	4.80
Cfsm	0.156	0.270	0.115	0.302	0.251	5.91	1.07	0.276	0.090	0.141	0.254	0.020
In.	0.18	0.30	0.13	0.35	0.26	6.81	1.19	0.32	0.10	0.16	0.29	0.02

Calendar year 1962 : Max 6,000 Min 9.7 Mean 294 Cfsm 1.22 In. 16.58
Water year 1962-63 : Max 8,920 Min 2.6 Mean 180 Cfsm 0.747 In. 10.11

Peak discharge (base, 2,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	1900	22.06	10,600				
3-17	1200	13.00	2,670				
3-20	1400	15.48	4,100				

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 8 to Jan. 2, Jan. 11 to Feb. 4, Feb. 13-17, Feb. 21 to Mar. 2, Mar. 4.

3-3590. Mill Creek near Manhattan, Ind.

Location.--Lat 39°29', long 86°55', in sec. 11, T. 12 N., R. 5 W., on left bank, 200 ft downstream from Cagles Mill, three-quarters of a mile downstream from Cagles Mill Reservoir, three-quarters of a mile upstream from Deer Creek, and 5 3/4 miles south of Manhattan.

Drainage area.--292 sq mi.

Records available.--May to September 1931 (fragmentary), October 1938 to September 1963. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 581.83 ft above mean sea level, datum of 1929. May 3 to Sept. 2, 1931, staff gage on upstream side of mill at datum 7 ft higher. May 3 to Sept. 25, 1939, staff gage on upstream side of mill at datum 6 ft higher. Sept. 26, 1939 to May 12, 1941, chain, wire-weight, and tape gages at present site and datum.

Average discharge.--25 years (1938-63), 293 cfs (unadjusted).

Extremes.--Maximum discharge during year, 2,920 cfs Mar. 26 (gage height, 8.70 ft); maximum gage height, 14.92 ft Mar. 4 (backwater from Deer Creek); minimum, 3.3 cfs June 28, 29 (gage height, 1.27 ft).
1931, 1938-63: Maximum discharge, 8,960 cfs Jan. 5, 1950 (gage height, 18.38 ft); no flow Aug. 7, 1953.

Remarks.--Records good. Flow regulated since Dec. 20, 1952 by Cagles Mill Reservoir (capacity, 228,100 acre-ft).

Rating table, water year 1962-63 (gage height, in feet, and discharge, in cubic feet per second)
(Backwater from Deer Creek Mar. 4-6, 16, 17, 19, 20, 31, Apr. 1)

1.2	2.3	2.5	109
1.3	3.7	3.0	202
1.4	5.7	4.0	490
1.5	9.0	6.0	1,350
1.7	19	8.5	2,800
2.1	52		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,360	* 50	50	101	45	42	142	347	25	7.0	25	5.5
2	1,900	29	44	57	45	43	125	109	18	7.4	15	5.3
3	482	29	44	34	78	44	117	218	18	* 7.0	7.0	5.1
4	* 25	29	44	* 42	109	44	* 942	135	26	6.0	6.7	4.9
5	18	29	44	67	98	82	1,660	103	75	6.4	5.7	4.5
6	28	38	44	78	78	125	1,840	* 71	* 70	90	4.3	4.5
7	54	51	44	78	338	125	1,840	60	40	109	84	4.7
8	67	46	41	78	208	125	2,080	60	22	98	* 388	8.3
9	48	30	33	78	81	125	2,260	62	14	34	530	* 9.9
10	19	30	33	92	48	125	2,260	63	36	6.7	219	11
11	30	30	34	387	59	125	2,200	70	44	6.7	101	8.7
12	36	39	35	490	87	125	2,140	83	45	6.7	80	5.7
13	38	43	25	490	60	133	2,140	103	32	8.0	70	5.1
14	58	44	12	490	46	133	2,080	99	20	41	96	4.9
15	54	44	9.0	313	46	1,060	2,320	80	32	42	117	4.7
16	35	52	9.0	78	40	560	2,500	63	31	18	64	4.3
17	34	98	15	98	32	125	2,440	88	19	17	24	4.3
18	34	117	28	107	32	117	2,380	99	12	11	9.4	4.3
19	33	289	80	95	41	117	2,260	75	8.7	6.7	9.9	4.3
20	33	360	109	77	81	117	1,050	90	8.3	80	41	4.3
21	33	269	117	62	99	117	970	86	7.4	107	72	4.1
22	33	109	92	44	58	117	1,250	63	4.7	107	53	4.1
23	24	109	63	43	34	117	970	50	4.5	106	32	4.1
24	6.4	109	37	43	21	117	1,450	37	4.1	107	32	3.9
25	24	80	20	43	* 55	1,600	1,900	24	3.9	107	24	3.7
26	17	45	19	44	42	2,500	600	19	3.7	107	9.4	3.7
27	26	44	28	44	42	1,960	93	59	3.4	62	9.4	3.7
28	31	* 44	33	* 44	42	2,080	109	117	3.3	32	30	9.6
29	51	57	82	45	---------	2,500	109	117	14	32	42	4.7
30	93	63	101	45	------	2,740	383	87	23	32	16	4.1
31	106	------	107	45	-----	1,820	-----	56	--------	32	7.7	-------
Total	4,830.4	2,406	1,476.0	3,832	2,045	19,160	42,610	2,798	668.0	1,439.6	2,224.5	160.0
Mean	156	80.2	47.6	124	73.0	618	1,420	90.3	22.3	46.4	71.8	5.33
(ƒ)	-112	-0.2	+0.8	0	-1.3	+1,068	-1,101	-3.6	+1.8	+35.3	-36.9	-3.87
Adjusted for change in contents in Cagles Mill Reservoir												
Mean	44	80.0	48.4	124	71.7	1,686	319	86.7	24.1	81.7	34.9	1.46
Cfsm	0.151	0.274	0.166	0.425	0.246	5.77	1.09	0.297	0.083	0.280	0.120	0.0050
In.	0.17	0.31	0.19	0.49	0.26	6.65	1.22	0.34	0.09	0.32	0.14	0.006

	Observed			Adjusted		
Calendar year 1962 :	Max 2,800	Min 5.9	Mean 339	Mean 339	Cfsm 1.16	In. 15.76
Water year 1962-63 :	Max 2,740	Min 3.3	Mean 229	Mean 219	Cfsm 0.750	In. 10.19

* Discharge measurement made on this day.
ƒ Change in contents, equivalent in cubic feet per second, in Cagles Mill Reservoir, furnished by Corps of Engineers.

3-3595. Deer Creek near Putnamville, Ind.

Location.--Lat 39°34'04", long 86°52'00", in NW¼ sec. 16, T. 13 N., R. 4 W., on left bank on upstream side of bridge on State Highway 243, 0.4 mile southwest of Putnamville, 0.4 mile downstream from small tributary from left and 0.8 mile downstream from Limestone Creek.

Drainage area.--59.0 sq mi.

Records available.--October 1954 to September 1963.

Gage.--Water-stage recorder (January 1959 to July 1963, wire-weight gage on downstream side of bridge read twice daily, used for gage heights below 1.7 ft). Datum of gage is 630.73 ft above mean sea level, datum of 1929. Prior to July 3, 1957, wire-weight gage at same site and datum.

Average discharge.--9 years, 64.5 cfs.

Extremes.--Maximum discharge during year, 10,700 cfs Mar. 4 (gage height, 12.95 ft); minimum, 0.1 cfs Sept. 14-30; minimum gage height, 0.90 ft Oct. 13, 14, Nov. 3, 4, 11.
1954-63: Maximum discharge, Mar. 4, 1963; no flow Oct. 1-10, 1954.

Remarks.--Records fair.

Rating tables, water year 1962-63, except periods of ice effect (gage height. in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 3

0.9	9.2
1.0	15
1.2	28
1.6	70
2.0	131
2.5	231
3.0	368

Mar. 4 to Sept. 30

0.99	0.1	1.7	69
1.0	.2	2.0	135
1.1	1.7	2.5	350
1.2	5.5	4.0	1,110
1.3	12	6.0	2,550
1.4	22	7.0	3,450

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	9.2	10	8.0	8.0	9.0	314	50	6.6	0.9	2.6	1.7
2	12	* 8.7	9.8	9.0	9.0	9.0	146	41	6.6	.9	1.7	1.2
3	12	8.2	10	12	10	15	124	35	6.0	* 1.1	1.5	1.2
4	* 11	8.2	9.2	* 14	11	*6,000	* 118	28	5.0	.9	1.1	1.1
5	10	9.2	9.2	13	243	861	80	23	* 10	.9	* .9	.9
6	9.8	8.7	10	13	95	301	66	* 21	6.0	13	1.1	.6
7	11	9.2	10	13	60	101	59	19	5.0	10	222	.6
8	10	9.8	9.8	14	41	89	55	17	4.1	4.1	33	.9
9	10	9.2	8.7	19	30	* 163	49	17	3.6	2.0	15	* .6
10	9.8	9.2	8.0	39	23	101	41	15	3.2	* 1.1	9.8	.4
11	9.8	8.2	8.0	228	18	89	36	17	6.0	2.2	6.6	.3
12	9.8	11	7.0	104	15	95	32	17	5.0	2.0	6.0	.3
13	8.7	10	7.0	30	12	182	29	16	3.6	3.2	74	.2
14	8.7	10	7.0	20	10	95	26	17	13	9.2	29	.2
15	9.2	9.8	7.0	18	9.4	89	25	15	6.0	6.6	15	.1
16	9.8	19	7.0	16	9.0	1,160	26	15	4.1	4.5	9.8	.1
17	13	76	8.0	14	9.2	424	28	21	3.2	2.9	6.6	.1
18	13	41	8.7	12	10	166	35	20	2.6	2.6	4.5	.1
19	12	32	10	11	15	2,720	52	16	2.2	2.2	19	.1
20	14	27	13	10	26	344	76	15	2.0	107	33	.1
21	17	24	15	10	20	166	49	14	2.0	29	17	.1
22	14	19	13	9.0	16	115	39	10	1.7	13	10	.1
23	12	16	12	9.0	12	99	38	7.8	1.7	7.8	6.6	.1
24	11	14	11	9.0	10	93	29	7.8	1.5	5.5	5.0	.1
25	11	14	10	8.0	* 10	93	25	7.2	1.5	3.6	5.0	.1
26	9.8	13	9.0	8.0	9.0	115	23	7.2	1.2	2.6	3.6	.1
27	9.2	12	9.0	8.0	9.0	113	21	7.8	1.2	2.9	2.9	.1
28	9.8	12	9.0	* 8.0	9.0	93	19	25	1.2	3.6	3.2	.1
29	28	11	8.0	8.0	---------	91	19	16	1.1	11	3.6	.1
30	15	* 10	8.0	8.0	------	93	93	12	1.1	6.6	3.6	.1
31	12	------	8.0	8.0	------	488	-----	7.8	------	3.6	2.6	-------
Total	363.4	478.6	289.4	710.0	758.6	14,572.0	1,772	557.6	118.0	266.5	555.3	11.8
Mean	11.7	16.0	9.34	22.9	27.1	470	59.1	18.0	3.93	8.60	17.9	0.393
Cfsm	0.198	0.271	0.158	0.388	0.459	7.97	1.00	0.305	0.067	0.146	0.303	0.0067
In.	0.23	0.30	0.18	0.45	0.48	9.19	1.12	0.35	0.07	0.17	0.35	0.007

Calendar year 1962 : Max 3,600 Min 1.2 Mean 80.2 Cfsm 1.36 In. 18.43
Water year 1962-63 : Max 6,000 Min 0.1 Mean 56.0 Cfsm 0.949 In. 12.90

Peak discharge (base, 2,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-4	1330	12.95	10,700				
3-16	1200	6.92	3,360				
3-19	1500	9.55	6,160				

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 10-17, Dec. 23 to Jan. 2, Jan. 13 to Feb. 4, Feb. 6-19, 21, Feb. 23 to Mar. 4.

3-3600. Eel River at Bowling Green, Ind.

Location.--Lat 39°23'02", long 87°01'12", in NW¼ sec. 24, T. 11 N., R. 6 W., on left bank, 500 ft downstream from bridge on State Highway 46, at Bowling Green, and 0.5 mile downstream from Jordan Creek.
Drainage area.--844 sq mi.
Records available.--January 1931 to September 1963. Prior to October 1934, published as "near Centerpoint."
Gage.--Water-stage recorder. Datum of gage is 548.02 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Jan. 30, 1931, to Nov. 27, 1934, chain gage at site 5½ miles downstream at datum 6.15 ft lower. Nov. 28, 1934, to Nov. 30, 1949, water-stage recorder at site 500 ft upstream from present site at datum 1 ft higher.
Average discharge.--32 years, 853 cfs (adjusted for storage December 1952 to September 1956).
Extremes.--Maximum discharge during the year, 25,500 cfs Mar. 5; maximum gage height, 22.04 ft Mar. 5; minimum discharge observed, 24 cfs Sept. 27 (gage height, 1.16 ft).
1931-63: Maximum discharge, 34,000 cfs Jan. 4, 1950 (gage height, 23.53 ft); minimum, 11 cfs Oct. 7, 8, 1954 (gage height, 0.32 ft).
Maximum stage known, about 30.0 ft in 1875, present datum, from information by Corps of Engineers.
Remarks.--Records fair except those for periods of ice effect and indefinite stage-discharge relation, which are poor. Flow regulated by Cagles Mill Reservoir (capacity, 228,100 acre-ft).

Rating tables, water year 1962-63, except periods of ice effect and indefinite stage-discharge relation (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 3-21, July 22 to Aug. 7)

Oct. 1 to Jan. 11		Jan. 12 to Sept. 30	
1.9	108	1.1	18
3.0	375	1.4	49
4.0	675	1.7	94
6.0	1,360	2.5	266
8.0	2,210	5.0	1,000
		10.0	3,110
		18.0	8,200
		19.0	10,100
		22.0	25,000

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,060	* 208	158	220	130	120	3,830	1,760	182	76	100	58
2	2,030	146	146	160	150	120	2,030	* 975	152	64	89	56
3	1,330	146	146	124	200	140	1,400	855	152	64	79	53
4	258	146	146	124	300	5,980	* 1,680	735	142	68	76	52
5	* 195	146	146	146	400	22,000	2,620	615	182	* 59	72	49
6	170	146	146	170	465	*e 10,000	2,660	555	193	384	71	48
7	182	158	146	* 182	735	2,750	2,570	465	162	319	998	47
8	170	170	136	182	1,000	1,280	2,570	435	132	193	765	45
9	182	146	126	195	465	1,440	2,840	405	132	142	645	45
10	136	136	120	232	254	1,940	2,750	375	132	80	465	44
11	126	126	110	1,100	204	1,240	2,700	346	162	68	204	44
12	136	136	100	1,130	180	1,100	2,620	360	152	65	162	43
13	126	146	90	825	160	1,480	2,570	360	162	68	204	39
14	148	146	80	705	150	1,060	2,520	435	142	132	204	37
15	332	146	70	675	140	1,190	2,570	346	152	121	182	35
16	258	170	70	260	130	3,760	2,840	306	142	84	162	33
17	220	435	80	250	130	4,970	2,800	346	124	71	105	32
18	182	435	100	240	120	2,080	2,750	375	115	65	82	31
19	170	435	136	210	140	4,670	2,800	332	104	59	82	31
20	158	525	208	190	190	5,720	3,160	319	100	327	142	29
21	179	495	232	160	210	1,900	2,160	306	94	525	182	28
22	345	308	220	140	230	1,320	2,210	254	89	* 292	152	27
23	282	270	170	130	180	1,100	2,800	228	84	266	109	26
24	208	258	130	130	160	975	2,570	204	82	216	91	26
25	195	232	100	130	140	1,250	2,800	193	80	216	87	25
26	170	182	90	130	* 130	3,710	1,900	182	77	193	72	24
27	158	158	90	130	120	3,110	765	193	74	172	* 66	24
28	170	* 158	110	130	120	2,840	675	* 375	74	124	76	25
29	245	158	139	130	----------	2,980	645	332	119	119	104	26
30	232	170	220	130	----------	3,360	1,580	266	355	109	74	* 27
31	232	----------	230	130	----------	3,830	----------	204	----------	105	64	----------
Total	9,985	6,637	4,191	8,790	6,933	99,415	70,385	13,437	4,044	4,846	5,966	1,109
Mean	322	221	135	284	248	3,207	2,346	433	135	156	192	37.0
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-
(≠)	-112	0	+1	0	-1	+1,068	-1,101	-4	+2	+35	-37	-3.9

Calendar year 1962	: Max	10,000	Min	64	Mean	944	Cfsm	1.12	In.	15.20	≠ 0
Water year 1962-63	: Max	22,000	Min	24	Mean	646	Cfsm	0.765	In.	10.38	≠ -10

* Discharge measurement made on this day.
≠ Change in contents, equivalent in cubic feet per second, in Cagles Mill Reservoir; furnished by Corps of Engineers.
e Indefinite stage-discharge relation.
Note.--Stage-discharge relation affected by ice Dec. 10-18, Dec. 24 to Jan. 2, Jan. 16 to Feb. 5, Feb. 12 to Mar. 3. Computed from once-daily telemark readings Aug. 29 to Sept. 12, Sept. 17-30.

3-3605. White River at Newberry, Ind.

Location.--Lat 38°55'42", long 87°01'00", in sec. 25, T. 6 N., R. 6 W., on right bank, 500 ft upstream from bridge on State Highway 57 at Newberry, 2.3 miles downstream from Doans Creek, at mile 118.0.

Drainage area.--4,696 sq mi.

Records available.--September 1928 to September 1963. Prior to October 1948, published as West Fork White River at Newberry.

Gage.--Water-stage recorder. Datum of gage is 465.59 ft above mean sea level, datum of 1929. Prior to Oct. 21, 1928, staff gage at same site and datum.

Average discharge.--35 years, 4,594 cfs (unadjusted).

Extremes.--Maximum discharge during year, 55,600 cfs Mar. 8 (gage height, 22.22 ft); minimum, 475 cfs Sept. 26-29 (gage height, 1.04 ft).

1928-63: Maximum discharge, 76,900 cfs May 21, 1943 (gage height, 24.19 ft); minimum, 193 cfs Oct. 1, 1941; minimum gage height, 0.29 ft Sept. 30, Oct. 7, 8, 1954.

Maximum stage since at least 1875, 27.5 ft Mar. 27, 1913, from floodmarks by State Highway Department of Indiana (discharge, 130,000 cfs, estimated).

Remarks.--Records fair. Flow slightly regulated by four reservoirs above station.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1-10, May 17, May 20 to July 5)

Oct. 1 to May 16				May 17 to Sept. 30	
1.4	920	17.0	24,800	1.0	445
2.0	1,430	20.0	36,500	2.0	1,150
6.0	5,410	23.0	63,800	5.0	4,000
12.0	13,400			7.0	6,350

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,520	1,430	1,160	1,300	860	1,000	13,600	5,850	1,910	1,310	1,150	705
2	1,610	1,340	1,160	1,200	860	1,000	*16,500	*7,040	1,820	1,230	1,070	670
3	2,530	1,250	1,160	*1,100	860	* 1,090	17,600	6,200	1,640	1,070	995	705
4	2,430	1,160	1,160	1,100	900	3,900	15,300	5,410	1,640	1,070	1,310	705
5	1,430	1,160	1,160	1,000	1,000	17,400	11,700	4,750	2,270	995	1,070	670
6	1,160	1,160	1,080	1,000	1,200	25,700	10,200	4,230	2,950	995	920	635
7	1,080	1,160	1,160	1,000	1,500	* 33,600	9,090	3,930	2,950	1,150	882	635
8	1,080	1,160	1,160	1,000	1,700	55,600	8,240	3,630	2,270	1,550	1,650	602
9	1,000	1,250	1,160	1,100	1,900	43,900	7,520	3,430	4,550	1,390	2,850	570
10	1,080	1,160	1,160	1,160	1,800	37,900	7,040	3,330	3,350	1,150	2,000	570
11	1,080	1,160	1,100	1,610	1,610	30,200	6,680	3,130	2,650	1,070	1,640	570
12	1,160	1,160	1,100	2,930	1,520	22,400	6,320	3,130	2,000	995	1,310	570
13	1,160	1,160	1,000	3,130	1,430	14,100	5,960	3,030	2,650	958	1,150	570
14	1,080	1,160	980	2,630	1,340	10,600	5,630	3,130	5,630	995	1,150	570
15	1,880	1,160	960	2,330	1,250	9,740	5,410	3,230	2,650	1,150	1,310	538
16	2,150	1,160	960	2,100	1,160	11,400	5,300	3,730	1,910	1,150	1,070	538
17	1,880	1,520	950	1,800	1,080	20,600	5,410	5,750	1,640	1,070	995	538
18	1,610	2,060	950	1,610	1,000	22,900	5,300	4,550	1,470	995	920	538
19	1,520	2,240	970	1,520	1,000	25,100	5,300	3,050	1,310	995	845	538
20	1,340	2,150	1,000	1,500	1,000	25,400	6,080	2,750	1,230	995	845	538
21	1,250	2,150	1,080	1,400	1,080	25,400	6,440	2,550	1,230	2,090	882	538
22	1,340	2,060	1,250	1,300	1,160	26,900	6,200	2,360	1,150	3,150	* 1,070	505
23	1,790	1,970	1,250	1,200	1,080	25,100	6,320	2,180	1,070	2,550	995	505
24	1,880	1,610	1,080	1,100	1,080	18,900	8,720	2,000	1,070	2,360	882	505
25	1,790	1,520	1,000	1,100	1,080	10,900	10,000	1,910	995	*2,000	845	475
26	1,610	1,520	1,000	1,000	1,080	10,200	9,740	1,820	958	1,730	775	* 475
27	1,430	* 1,430	960	950	1,080	11,900	7,880	1,730	* 920	1,550	775	475
28	1,340	1,340	960	900	1,000	11,400	5,740	* 1,910	920	1,390	775	475
29	1,520	1,250	1,000	880	---	10,200	4,970	2,360	882	1,310	775	475
30	1,610	1,250	1,100	860	---	9,480	4,860	2,360	958	1,150	775	475
31	* 1,520	---	1,200	* 860	---	9,740	---	2,180	---	1,150	775	---
Total	46,860	43,260	33,370	43,670	33,610	593,650	245,050	106,640	58,643	42,713	34,456	16,878
Mean	1,512	1,442	1,076	1,409	1,200	19,150	8,168	3,440	1,955	1,378	1,111	563
Cfsm	0.322	0.307	0.229	0.300	0.256	4.08	1.74	0.733	0.416	0.293	0.237	0.120
In.	0.37	0.34	0.26	0.35	0.27	4.70	1.94	0.85	0.46	0.34	0.27	0.13

Calendar year 1962: Max 27,800 Min 920 Mean 4,319 Cfsm 0.920 In. 12.48
Water year 1962-63: Max 55,600 Min 475 Mean 3,558 Cfsm 0.758 In. 10.28

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 11-19, Dec. 30 to Jan. 9, Jan. 16, 17, Jan. 20 to Feb. 10. Computed from once-daily wire-weight gage readings Nov. 9, Nov. 18 to Dec. 11, Sept. 1-25.

3-3610. Big Blue River at Carthage, Ind.

Location.--Lat 39°46', long 85°34', in sec. 18, T. 15 N., R. 9 E., on right bank, 500 ft upstream from highway bridge, half a mile west of Carthage, and 2¼ miles downstream from Three Mile Creek.

Drainage area.--187 sq mi.

Records available.--October 1950 to September 1963. Prior to October 1961, published as Blue River at Carthage, Ind.

Gage.--Water-stage recorder. Datum of gage is 859.33 ft above mean sea level, datum of 1929. Prior to July 19, 1951, wire-weight gage at site 500 ft downstream at same datum.

Average discharge.--13 years, 196 cfs.

Extremes.--Maximum discharge during year, 12,900 cfs Mar. 4 (gage height, 14.62 ft, from floodmarks), from rating curve extended above 6,200 cfs; minimum, 28 cfs Sept. 18-27 (gage height, 1.35 ft).
1950-63: Maximum discharge, that of Mar. 4, 1963; minimum, 16 cfs Sept. 18-20, 1955; minimum gage height, 1.26 ft Sept. 13, 1956.

Remarks.--Records good, except those for periods of no gage-height record or ice effect, which are fair.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 3		Mar. 4 to Sept. 30			
1.6	44	1.3	23	6.0	1,360
2.0	94	1.5	44	8.0	2,650
3.0	290	2.0	121	10.0	4,750
		3.0	340	12.0	7,700
		5.0	980		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	52	61	70	63	59	b 46	1,120	232	121	63	54	37
2	56	61	68	59	59	b 46	665	200	108	83	50	35
3	80	60	67	59	59	b 48	450	180	105	111	49	34
4	70	60	68	59	60	4,600	420	170	121	67	47	37
5	62	63	68	57	* 62	* 6,900	315	160	140	61	44	36
6	67	62	68	57	178	* 3,010	265	150	150	67	44	36
7	61	62	68	56	238	770	232	140	130	65	70	34
8	286	62	67	57	117	510	210	130	112	60	65	33
9	121	62	65	59	105	735	190	130	100	58	63	32
10	88	70	b 62	70	93	850	170	130	92	54	67	33
11	77	65	b 55	286	78	550	160	130	92	54	49	32
12	74	67	b 55	208	68	380	150	121	87	53	47	32
13	70	68	b 62	125	60	480	150	252	84	52	58	31
14	66	65	68	b 110	56	400	140	221	82	65	48	31
15	67	65	68	b 95	53	300	130	150	79	54	43	30
16	67	73	65	b 86	50	350	130	130	76	54	44	29
17	66	143	63	b 80	50	1,100	130	130	73	53	43	32
18	* 63	134	63	75	55	600	130	130	71	50	41	31
19	62	109	62	71	b 60	1,000	130	114	* 71	54	55	31
20	90	102	* 62	68	b 70	2,900	180	121	73	298	63	31
21	96	* 94	62	66	* 72	* 840	140	110	71	150	50	30
22	80	88	61	64	66	540	870	103	68	* 92	* 44	29
23	74	81	59	62	60	390	1,560	101	67	74	43	28
24	70	80	57	61	56	340	793	101	64	68	43	29
25	68	77	56	* 60	53	278	* 510	100	64	63	42	29
26	68	75	b 54	60	51	340	365	98	64	58	41	30
27	65	75	b 55	59	50	420	290	101	63	57	41	* 31
28	63	74	59	59	48	340	243	138	70	57	40	30
29	62	72	b 66	59	---	254	232	302	68	77	43	32
30	62	71	68	59	- - - - -	243	265	200	64	74	40	33
31	62	- - - - -	65	59	- - - - -	408	- - - - -	150	- - ----	58	37	- - - - - -
Total	2,415	2,301	1,956	2,468	2,086	29,968	10,735	4,625	2,630	2,304	1,508	958
Mean	77.9	76.7	63.1	79.6	74.5	967	358	149	87.7	74.3	48.6	31.9
Cfsm	0.417	0.410	0.337	0.426	0.398	5.17	1.91	0.797	0.469	0.397	0.260	0.171
In.	0.48	0.46	0.39	0.49	0.41	5.96	2.13	0.92	0.52	0.46	0.30	0.19

Calendar year 1962 : Max 1,640 Min 50 Mean 151 Cfsm 0.807 In. 10.96
Water year 1962-63 : Max 6,900 Min 28 Mean 175 Cfsm 0.936 In. 12.71

Peak discharge (base, 2,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-4	2300	14.62	12,900				
3-20	unknown	9.33	3,930				

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Jan. 19 to Feb. 5, Feb. 9-18, 21-28, Mar. 10-20.

3-3615. Big Blue River at Shelbyville, Ind.

Location.--Lat 39°31'45", long 85°46'55", in SE¼ sec. 31, T. 13 N., R. 7 E., on left bank, a quarter of a mile downstream from bridge on U. S. Highway 421 at Shelbyville and 0.6 mile downstream from Little Blue River.

Drainage area.--425 sq mi.

Records available.--September 1943 to September 1963. Prior to October 1961, published as Blue River at Shelbyville.

Gage.--Water-stage recorder. Datum of gage is 737.67 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1953, wire-weight gage at bridge a quarter of a mile upstream at datum 3.5 ft higher.

Average discharge.--20 years, 463 cfs.

Extremes.--Maximum discharge during year, 15,800 cfs Mar. 5 (gage height, 17.70 ft); minimum, 36 cfs Sept. 24, 25 (gage height, 2.47 ft).

1943-63: Maximum discharge, that of Mar. 5, 1963; minimum, 23 cfs Oct. 2, 1953.

Flood of March 1913 reached a stage of about 20.2 ft, from floodmarks.

Revisions.--The maximum discharge for the water year 1959 has been revised to 12,500 cfs Jan. 22, 1959 (gage height, 16.50 ft) superseding figures published in WSP 1625.

Remarks.--Records good except those for periods of no gage-height record or ice effect, which are fair.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 11-16, 18, 19, 22-31, Apr. 3-22, June 8-29)

Oct. 1 to Mar. 4

2.7	63	5.0	645
3.0	100	7.0	1,650
3.5	185	9.0	2,950
4.0	305		

Mar. 5 to Sept. 30

2.5	33	7.0	1,650
2.7	50	9.0	2,950
3.0	86	11.0	4,350
3.5	180	13.0	6,000
4.0	305	15.0	9,000
5.0	675	17.7	15,800

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	75	94	107	100	100	70	2,320	595	268	100	82	53
2	81	94	107	100	100	70	1,950	495	230	113	73	52
3	81	94	107	94	101	71	1,130	455	218	162	68	51
4	100	94	107	94	102	2,310	930	400	230	146	66	50
5	94	94	107	94	103	13,800	755	365	292	103	61	51
6	92	94	107	94	147	* 9,800	635	335	495	103	58	50
7	94	94	107	94	334	4,600	555	320	335	100	146	50
8	123	94	100	94	320	1,540	475	305	255	93	97	49
9	256	94	100	94	a 185	1,280	435	280	192	83	90	49
10	* 147	94	a 90	100	147	1,710	382	268	168	76	75	47
11	114	100	*a 80	196	130	980	335	268	* 146	72	87	47
12	107	100	a 80	530	* 130	755	320	255	136	70	77	46
13	100	107	a 87	320	107	795	292	295	132	72	90	46
14	94	* 107	94	230	100	* 885	280	635	128	80	76	45
15	94	100	94	190	90	635	268	* 435	120	* 85	* 68	44
16	94	107	94	* 160	80	771	* 255	335	113	75	61	44
17	94	130	94	145	75	2,390	255	305	108	70	59	* 42
18	94	230	100	135	75	1,710	268	305	100	66	57	42
19	87	206	100	128	95	1,890	268	268	97	64	71	41
20	94	175	100	120	125	3,370	365	268	94	329	87	40
21	122	156	100	115	125	3,820	350	255	92	506	89	40
22	122	147	100	110	a 110	* 1,330	642	230	87	255	75	39
23	114	138	94	a 105	a 100	930	2,390	205	83	162	68	39
24	107	122	87	a 102	90	755	2,250	205	78	128	66	38
25	100	122	84	a 100	85	635	1,280	192	75	110	64	38
26	100	114	82	a 100	a 80	635	930	192	75	97	61	38
27	100	114	81	a 100	a 76	930	755	205	72	90	59	38
28	100	114	87	a 100	a 73	795	635	255	70	90	59	38
29	94	107	92	a 100	---------	595	555	388	84	86	58	38
30	94	107	100	a 100	------	515	635	435	136	106	59	39
31	94	------	100	a 100	------	704	------	320	------	97	56	-------
Total	3,262	3,543	2,969	4,244	3,385	61,076	22,895	10,069	4,709	3,789	2,263	1,324
Mean	105	118	95.8	137	121	1,970	763	325	157	122	73.0	44.1
Cfsm	0.247	0.278	0.225	0.322	0.285	4.64	1.80	0.765	0.369	0.287	0.172	0.104
In.	0.28	0.31	0.26	0.37	0.30	5.35	2.01	0.88	0.41	0.33	0.20	0.12

Calendar year 1962 : Max 4,070 Min 73 Mean 336 Cfsm 0.791 In. 10.73
Water year 1962-63 : Max 13,800 Min 38 Mean 338 Cfsm 0.796 In. 10.82

Peak discharge (base, 3,400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	1700	17.70	15,800				
3-21	0800	11.10	4,420				

* Discharge measurement made on this day.
a No gage-height record.
Note.--Stage-discharge relation affected by ice Dec. 25, 26, 28, 29, 31, Jan. 14-22, Feb. 1-5, 8, 14-21, 24, 25, Mar. 1.

3-3620. Youngs Creek near Edinburg, Ind.

Location.--Lat 39°25'08", long 86°00'18", in SW¼ sec. 5, T. 11 N., R. 5 E., on left bank on upstream side of highway bridge half a mile southwest of Amity, 2 miles upstream from mouth, and 5 miles northwest of Edinburg.

Drainage area.--109 sq mi.

Records available.--October 1942 to September 1963. Prior to December 1942 monthly discharge only, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 670.20 ft above mean sea level, datum of 1929. Prior to June 30, 1955, wire-weight gage at same site and datum.

Average discharge.--21 years, 109 cfs.

Extremes.--Maximum discharge during year, 8,230 cfs Mar. 5 (gage height, 12.43 ft); minimum, 3.5 cfs June 27 (gage height, 0.72 ft). 1942-63: Maximum discharge, 10,700 cfs Jan. 27, 1952 (gage height, 13.4 ft); minimum, 0.4 cfs Sept. 14, 1954.

Remarks.--Records good except those for periods of ice effect, which are fair.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 13-19)

Oct. 1 to Mar. 4

0.7	2.0	2.0	180
.8	6.4	4.0	590
.9	14	6.0	1,060
1.0	24	7.0	1,340
1.5	99	8.0	1,830

Mar. 5 to Sept. 30

0.7	2.6	5.0	715
.8	9.0	7.0	1,300
.9	19	8.0	1,750
1.0	32	9.0	2,450
1.5	97	10.0	3,650
2.0	163	12.0	7,350
3.0	310		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.8	6.4	6.4	14	7.6	5.2	845	44	11	35	11	9.0
2	7.0	5.8	6.4	11	7.6	5.2	370	38	11	79	9.0	8.1
3	7.6	5.2	6.4	10	7.7	5.4	233	35	12	82	8.1	8.1
4	7.6	5.8	7.0	10	7.8	1,770	177	33	12	35	6.6	8.1
5	7.0	5.8	7.0	10	8.0	5,560	130	31	81	17	6.6	7.3
6	7.0	6.4	7.6	10	16	1,510	104	29	52	96	5.9	7.3
7	6.4	6.4	7.6	10	80	326	81	27	33	79	303	6.6
8	6.4	5.2	7.0	10	55	219	68	26	78	38	284	5.9
9	6.4	6.4	7.6	11	33	234	62	24	48	23	90	5.9
10	6.4	7.0	* 7.0	17	27	233	50	22	29	16	54	5.9
11	* 5.2	7.0	6.0	100	22	177	46	20	23	12	36	5.9
12	4.8	7.0	5.2	139	20	163	42	19	18	11	29	5.9
13	5.2	9.0	5.1	75	17	* 156	40	22	* 16	11	* 272	5.9
14	9.9	8.3	5.1	* 50	* 14	156	37	* 27	48	14	109	5.2
15	17	* 6.4	5.2	* 33	11	104	35	22	35	11	54	5.2
16	11	7.6	5.2	27	7.0	315	35	20	22	9.9	36	4.6
17	9.0	15	5.8	23	6.0	857	* 36	23	16	7.3	27	5.2
18	7.6	22	5.8	21	6.0	360	37	23	13	6.6	20	* 5.2
19	7.0	18	6.4	19	7.0	706	48	20	11	* 6.6	27	5.9
20	6.4	16	9.0	17	10	741	90	20	9.9	513	90	5.9
21	6.4	14	9.7	15	10	310	63	22	9.0	206	53	5.9
22	6.4	13	8.3	12	9.0	205	165	16	7.3	75	35	5.9
23	7.0	11	7.0	10	8.0	156	170	14	6.6	48	26	5.2
24	6.4	9.7	6.4	9.0	7.0	123	90	13	5.9	35	20	5.2
25	7.0	9.0	5.8	8.2	6.5	110	70	13	5.9	23	27	5.2
26	7.0	8.3	5.2	8.0	6.0	149	58	11	4.6	18	26	5.2
27	5.8	7.6	5.0	7.8	5.6	191	50	13	4.0	16	17	5.9
28	5.8	7.0	4.8	7.6	5.3	136	45	19	37	22	14	5.2
29	7.0	7.0	10	7.6	---	104	44	31	50	24	13	6.6
30	6.4	7.0	14	7.6	- - - - -	84	55	17	26	16	12	7.3
31	7.0	- - - - -	17	7.6	- - - - -	279	- - - - -	13	- - - -	12	11	- - - - -
Total	222.9	270.3	222.0	717.4	427.1	15,449.8	3,376	707	735.2	1,597.4	1,732.2	184.7
Mean	7.19	9.01	7.16	23.1	15.3	498	113	22.8	24.5	515	55.9	6.16
Cfsm	0.066	0.083	0.066	0.212	0.140	4.57	1.04	0.209	0.225	0.472	0.513	0.057
In.	0.08	0.09	0.08	0.24	0.15	5.27	1.16	0.24	0.25	0.54	0.59	0.06

Calendar year 1962: Max 2,820 Min 4.8 Mean 94.4 Cfsm 0.866 In. 11.77
Water year 1962-63: Max 5,560 Min 4.0 Mean 70.3 Cfsm 0.645 In. 8.75

Peak discharge (base, 1,300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	0400	12.43	8,230				

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 11-15, 27, Jan. 5, 6, 13-26, 29-31, Feb. 1-8, Feb. 14 to Mar. 3.

GPO 811-767-8

3-3625. Sugar Creek near Edinburg, Ind.

Location.--Lat 39°21'39", long 85°59'51", on line between secs. 29 and 32, T. 11 N., R. 5 E., on left bank, 50 ft upstream from highway bridge in Camp Atterbury, 1¼ miles upstream from confluence with Blue River, and 1½ miles northwest of Edinburg.

Drainage area.--462 sq mi.

Records available.--October 1942 to September 1963. Prior to February 1943 monthly discharge only, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 646.23 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1952, wire-weight gage on downstream side of old highway bridge, 100 ft downstream at same datum.

Average discharge.--21 years, 490 cfs.

Exttemes.--Maximum discharge during year, 17,300 cfs Mar. 5 (gage height, 16.43 ft); minimum, 23 cfs Sept. 28 (gage height, 3.73 ft). 1942-63: Maximum discharge, 27,600 cfs May 29, 1956 (gage height, 18.38 ft); minimum, 8.0 cfs Sept. 18, 1954 (gage height, 3.04 ft).

Remarks.--Records good except for those periods of ice effect, which are fair.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 9-16, June 10 to July 2)

Oct. 1 to June 4				June 5 to Sept. 30	
4.0	43	9.0	3,050	3.7	19
4.3	96	11.0	5,100	4.0	66
4.5	153	13.0	8,020	4.5	195
5.0	363	15.0	12,500	5.0	380
7.0	1,520	16.0	15,700	6.0	900

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	54	73	71	70	75	61	3,200	488	273	138	88	62
2	59	71	69	67	76	59	2,900	410	216	197	90	59
3	62	69	69	66	76	60	1,650	350	170	242	93	59
4	64	66	68	66	80	1,630	1,200	309	144	195	73	57
5	62	68	66	66	84	13,500	900	282	359	141	66	59
6	62	68	66	66	90	* 12,200	735	255	570	251	59	55
7	62	68	66	66	110	6,530	598	228	542	225	412	53
8	62	66	64	66	200	2,340	515	208	420	154	585	48
9	74	68	62	66	180	1,140	460	200	320	120	225	46
10	78	68	56	69	155	1,380	386	181	225	98	242	45
11	* 82	66	55	174	135	1,080	332	174	189	86	186	43
12	80	69	* 54	488	110	900	304	164	160	75	136	42
13	69	71	52	304	104	* 845	282	167	* 149	75	* 356	40
14	116	69	53	250	* 94	900	260	303	174	93	242	37
15	212	* 66	54	215	80	708	* 237	410	154	84	157	37
16	144	69	54	185	70	934	228	* 291	128	77	123	37
17	112	82	56	* 150	63	2,880	224	237	116	70	106	37
18	94	167	57	128	63	2,160	224	208	103	* 64	98	* 32
19	86	204	61	113	66	2,200	242	181	96	61	98	32
20	78	170	66	103	88	4,100	363	174	90	670	180	31
21	76	144	68	96	94	4,300	354	164	84	795	165	29
22	124	129	66	90	90	2,080	504	144	79	340	130	28
23	129	115	61	85	81	1,200	1,380	132	73	260	108	25
24	112	101	57	80	77	900	1,520	123	66	195	96	24
25	99	90	54	76	73	735	1,520	118	64	160	96	25
26	88	86	50	75	69	735	960	112	61	136	100	28
27	80	80	48	75	67	960	625	115	59	118	84	24
28	78	78	49	74	63	900	488	129	55	103	77	23
29	80	74	55	74	--------	708	410	327	130	108	73	29
30	78	73	60	74	------	598	435	460	106	96	68	31
31	74	------	65	74	-----	873	-----	435	------	84	64	-------
Total	2,730	2,688	1,852	3,651	2,613	69,596	23,436	7,479	5,375	5,511	4,676	1,177
Mean	88.1	90.0	59.7	118	93.3	2,245	781	241	179	178	151	39.2
Cfsm	0.191	0.195	0.129	0.255	0.202	4.86	1.69	0.522	0.387	0.385	0.327	0.085
In.	0.22	0.22	0.15	0.29	0.21	5.60	1.89	0.60	0.43	0.44	0.38	0.09

Calendar year 1962: Max 4,980 Min 48 Mean 377 Cfsm 0.816 In. 11.06
Water year 1962-63: Max 13,500 Min 23 Mean 358 Cfsm 0.775 In. 10.52

Peak discharge (base, 4,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	1600	16.43	17,300				
3-21	0900	10.98	5,100				

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 11-15, 24, 26, 29, 30, Jan. 1, 2, Jan. 14 to Feb. 10, Feb. 16-20, Feb. 23 to Mar. 3.

3-3630. Driftwood River near Edinburg, Ind.

Location.--Lat 39°20'21", long 85°59'11", in sec. 4, T. 10 N., R. 5 E., on left bank just downstream from highway bridge, 0.8 mile downstream from confluence of Blue River and Sugar Creek and 1½ miles southwest of Edinburg.

Drainage area.--1,054 sq mi.

Records available.--October 1940 to September 1963. Prior to July 1941 monthly discharge only, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 636.99 ft above mean sea level, datum of 1929. Prior to Oct. 7, 1941, wire-weight gage at same site and datum.

Average discharge.--23 years, 1,129 cfs.

Extremes.--Maximum discharge during year, 40,500 cfs Mar. 6 (gage height, 16.97 ft); minimum, 97 cfs Sept. 28, 29 (gage height, 1.69 ft).
1940-63: Maximum discharge, that of Mar. 6, 1963; minimum observed, 36 cfs Sept. 23, 1941.
Maximum stage known, 20.3 ft in March 1913, from information by local residents.

Remarks.--Records good except those for periods of no gage-height record or ice effect, which are fair.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-contol method used Mar. 12-16, 24-31, Apr. 5-23, Apr. 28 to May 29, June 6 to July 2)

1.7	100	11.0	6,460
2.0	203	13.0	9,600
2.5	400	14.0	12,400
3.0	615	15.0	17,500
4.0	1,080	16.0	26,300
7.0	2,910	17.0	40,500
9.0	4,500		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	199	233	260	241	230	195	4,860	1,240	660	320	260	176
2	199	233	253	237	233	195	5,680	1,130	570	376	249	169
3	207	230	249	225	238	200	3,820	980	525	452	237	165
4	207	226	249	220	250	2,090	2,630	930	480	400	226	161
5	218	222	245	218	272	19,800	2,110	885	661	320	207	157
6	222	222	241	215	300	34,500	1,750	795	885	415	195	154
7	214	222	241	215	480	16,800	1,460	750	930	380	532	150
8	214	222	241	215	615	7,330	1,290	750	750	300	800	146
9	283	222	233	218	525	3,190	1,130	705	615	264	400	142
10	* 320	222	214	220	420	3,340	1,030	660	502	237	380	138
11	280	222	211	344	360	3,120	930	660	440	222	340	135
12	272	226	* 203	885	320	2,350	840	615	400	211	* 272	127
13	249	* 230	192	840	300	* 1,990	795	615	* 380	207	513	124
14	270	233	195	615	* 280	2,230	750	* 840	400	184	660	122
15	400	237	200	* 570	249	1,810	705	1,030	360	218	320	122
16	340	241	205	450	210	1,990	660	885	340	207	272	119
17	280	260	210	400	200	4,860	* 660	795	320	* 199	245	* 116
18	257	395	220	350	200	5,040	660	705	300	199	230	114
19	249	502	230	320	220	4,320	705	660	280	192	230	111
20	233	460	250	290	280	6,740	840	660	272	791	320	111
21	230	420	250	272	280	8,200	885	615	257	1,240	320	108
22	295	400	250	260	272	6,360	980	570	249	750	280	105
23	320	360	222	253	257	3,050	2,560	548	237	548	249	105
24	300	340	195	248	240	2,230	3,740	525	226	440	230	100
25	280	300	190	240	230	1,810	3,660	525	218	380	226	100
26	264	300	180	235	215	1,750	2,290	502	211	340	226	100
27	253	280	180	233	208	2,050	1,630	502	207	300	211	100
28	253	272	184	233	202	2,110	1,340	525	199	280	199	100
29	253	268	200	230	---------	1,690	1,180	705	273	280	195	100
30	245	264	222	230	------	1,400	1,180	885	257	268	188	103
31	237	------	237	230	-----	1,690	-----	885	----	264	184	-------
Total	8,043	8,464	6,852	9,952	8,086	154,430	52,750	23,077	12,404	11,184	9,396	3,780
Mean	259	282	221	321	289	4,982	1,758	744	413	361	303	126
Cfsm	0.246	0.268	0.210	0.305	0.274	4.73	1.67	0.706	0.392	0.343	0.287	0.120
In.	0.28	0.30	0.24	0.35	0.29	5.45	1.86	0.81	0.44	0.40	0.33	0.13

Calendar year 1962: Max 9,420 Min 180 Mean 905 Cfsm 0.859 In. 11.64
Water year 1962-63: Max 34,500 Min 100 Mean 845 Cfsm 0.802 In. 10.88

Peak discharge (base, 7,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-6	1000	16.97	40,500				
3-21	1300	12.38	8,530				

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 27, 29, Jan. 16-20, 22, 24-27, Feb. 3, 4, 16-19, Feb. 24 to Mar. 3. No gage-height record Dec. 14-22, 25, 26, Jan. 3-10, 29-31, Feb. 1.

3-3635. Flatrock River at St. Paul, Ind.

Location.--Lat 39°25'03", long 85°38'03", in NE¼ sec. 9, T. 11 N., R. 8 E., on right bank 500 ft downstream from highway bridge, 0.8 mile southwest of St. Paul, and 1½ miles downstream from Mill Creek.

Drainage area.--298 sq mi.

Records available.--October 1930 to September 1963. Prior to October 1958, published as Flatrock Creek at St. Paul.

Gage.--Water-stage recorder. Datum of gage is 764.84 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission). Prior to Oct. 21, 1938, chain gage at site 500 ft upstream at same datum.

Average discharge.--33 years, 315 cfs.

Extremes.--Maximum discharge during year, 17,100 cfs Mar. 5 (gage height, 12.17 ft) from rating curve extended above 8,500 cfs on basis of contracted-opening measurement at 11.34 ft; minimum, 0.6 cfs Sept. 25, 26 (gage height, 0.07 ft).
1930-63: Maximum discharge, 18,500 cfs Jan. 5, 1949; maximum recorded gage height, 12.17 ft Mar. 5, 1963; minimum discharge, 0.5 cfs Aug. 7, 9, 1931.
Flood in March 1913 reached a stage of approximately 20.5 ft, from information by local residents.

Remarks.--Records good except those for periods of no gage-height record or ice effect, which are fair. Slight diversion occasionally by quarry above gage.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.1	1.2	.7	46	4.0	2,360
.2	4.2	.8	66	5.0	3,440
.3	8.6	.9	94	7.0	6,400
.4	14	1.1	170	9.0	9,800
.5	22	1.5	355	11.0	13,800
.6	32	2.0	670		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	30	42	40	38	26	1,280	338	119	35	27	12
2	20	30	42	40	39	26	1,280	275	112	35	26	12
3	28	29	40	40	39	30	880	242	105	35	27	11
4	42	29	40	38	40	3,630	705	222	146	26	27	11
5	32	28	39	38	40	13,800	568	210	170	24	22	10
6	28	29	40	36	60	*6,650	475	206	214	26	18	10
7	26	28	39	36	240	2,600	397	194	202	28	60	10
8	26	29	39	36	200	845	333	186	220	28	220	9.7
9	37	29	38	36	140	535	295	186	126	24	70	9.7
10	* 60	30	30	39	110	670	250	182	101	22	60	9.7
11	44	30	* 26	300	85	600	218	182	* 87	20	70	8.6
12	36	31	26	400	* 65	445	202	170	78	20	54	4.6
13	31	31	30	280	56	445	190	342	70	20	42	1.9
14	29	* 32	32	200	45	* 535	178	810	66	28	35	1.9
15	29	35	34	168	37	415	162	* 415	60	* 28	* 24	3.8
16	28	38	37	* 145	31	651	* 158	295	56	26	20	4.2
17	28	46	38	125	28	1,710	158	260	52	23	18	* 4.2
18	28	91	39	110	28	1,530	178	230	48	20	17	3.8
19	29	134	40	92	36	1,280	329	198	44	19	23	3.4
20	28	108	40	80	47	1,440	635	186	44	70	42	2.8
21	28	90	40	68	47	1,620	415	170	44	350	34	3.0
22	26	75	39	58	41	1,200	315	146	42	240	26	2.8
23	32	70	37	50	37	670	270	130	39	160	21	2.4
24	32	60	30	44	34	535	950	123	36	90	19	2.4
25	32	54	28	40	31	445	920	116	35	60	48	1.4
26	31	50	26	39	30	505	568	112	32	45	26	1.6
27	30	46	26	38	27	740	445	123	32	37	19	1.9
28	31	45	26	37	26	635	361	198	31	35	17	1.9
29	34	44	32	37	---------	475	322	162	31	35	17	2.2
30	34	42	40	37	------	403	379	158	36	30	15	2.2
31	31	------	40	37	------	600	------	138	------	27	14	------
Total	968	1,443	1,095	2,764	1,677	45,691	13,816	6,905	2,478	1,666	1,158	166.1
Mean	31.2	48.1	35.3	89.2	59.9	1,474	461	223	82.6	53.7	37.4	5.54
Cfsm	0.105	0.161	0.118	0.299	0.201	4.95	1.55	0.748	0.277	0.180	0.126	0.019
In.	0.12	0.18	0.14	0.34	0.21	5.71	1.73	0.86	0.31	0.21	0.15	0.02

Calendar year 1962: Max 3,440 Min 16 Mean 234 Cfsm 0.785 In. 10.69
Water year 1962-63: Max 13,800 Min 1.4 Mean 219 Cfsm 0.735 In. 9.98

Peak discharge (base, 2,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	1400	12.17	17,100				

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 10-21, Dec. 23 to Jan. 2, Jan. 9, 10, Jan. 12 to Mar. 3. No gage-height record Apr. 22-24, July 17 to Aug. 14.

3-3640. East Fork White River at Columbus, Ind.

Location.--Lat 39°12', long 86°56', in NW¼ sec, T. 9 N., R. 5 E., on left bank at abutment of abandoned bridge at west end of Second Street in Columbus, 0.6 mile downstream from confluence of Driftwood River and Flatrock River, and 1.4 miles upstream from Haw Creek.

Drainage area.--1,692 sq mi.

Records available.--October 1947 to September 1963. Prior to January 1948 monthly discharge only, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 603.12 ft above mean sea level, datum of 1929. Prior to Oct. 22, 1952, wire-weight gage, 600 ft upstream at same datum.

Average discharge.--16 years, 1,881 cfs.

Extremes.--Maximum discharge during year, 52,300 cfs Mar. 6 (gage height, 16.23 ft); minimum, 135 cfs Sept. 27, 28 (gage height, 1.03 ft).
1947-63: Maximum discharge, that of Mar. 6, 1963; minimum, 87 cfs Sept. 29, Oct. 7, 1954.

Remarks.--Records good, except those for periods of no gage-height record or ice effect, which are fair.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 9-12, 14)

1.0	120	4.0	7,400
1.2	230	6.0	11,100
1.5	435	8.0	14,800
1.8	810	11.0	24,000
2.0	1,120	14.0	38,800
2.5	2,400	16.0	51,000
3.0	4,120		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	278	342	363	340	305	300	6870	1960	945	446	355	248
2	303	336	355	350	310	300	8750	1680	840	605	348	242
3	303	329	355	330	320	320	6580	1440	782	885	355	242
4	310	329	348	320	330	3360	4700	1320	698	579	355	236
5	316	329	348	310	360	23500	3760	1220	793	498	316	224
6	316	329	348	310	419	* 49000	3060	1120	1320	686	290	212
7	310	336	342	310	566	* 33900	2560	1090	1440	759	432	206
8	* 303	336	336	310	810	14600	2100	1020	1440	508	1010	200
9	322	336	336	310	796	* 5600	1960	992	1100	427	566	200
10	419	336	329	320	592	5250	1680	960	* 870	395	519	194
11	411	329	296	490	477	5250	1440	915	726	379	566	182
12	395	342	284	1180	419	4120	1320	885	605	355	* 419	182
13	371	342	272	1320	400	3400	1220	870	579	355	584	182
14	348	342	280	945	370	3580	1120	1240	657	379	754	176
15	466	* 342	285	726	350	3060	1100	1680	592	355	644	176
16	446	355	290	600	330	3790	1020	1320	530	355	411	* 165
17	395	371	300	550	330	9550	* 1020	* 1220	488	342	355	165
18	363	435	310	500	340	8950	1040	1060	456	* 322	329	160
19	348	605	329	450	350	7620	1120	960	446	303	342	155
20	342	657	355	400	370	9550	1960	900	435	899	379	155
21	336	592	371	370	370	11000	1820	855	419	1680	456	155
22	363	540	355	350	360	10400	1860	782	403	1060	411	150
23	419	508	348	340	350	5600	3760	740	387	825	363	145
24	395	477	300	330	330	3760	5250	698	387	644	336	140
25	395	446	280	320	310	3230	5600	670	379	519	336	140
26	371	411	270	320	310	3400	3940	644	371	456	355	140
27	355	403	260	310	300	3760	2730	644	363	419	342	140
28	371	387	270	310	300	3760	2250	684	355	387	303	140
29	379	371	280	305	----------	3060	1820	810	387	387	290	155
30	363	371	310	305	------	2560	1820	1070	387	371	272	150
31	348	------	330	305	------	2890	------	1120	------	355	260	------
Total	11160	11964	9835	13936	11174	248420	85230	32569	19580	16935	13053	5357
Mean	360	399	317	450	399	8,014	2,841	1,051	653	546	421	179
Cfsm	0.213	0.236	0.187	0.266	0.236	4.74	1.68	0.621	0.386	0.323	0.249	0.106
In.	0.25	0.26	0.22	0.31	0.25	5.46	1.87	0.72	0.43	0.37	0.29	0.12

Calendar year 1962: Max 13,200 Min 260 Mean 1,435 Cfsm 0.848 In. 11.53
Water year 1962-63: Max 49,000 Min 140 Mean 1,313 Cfsm 0.776 In. 10.55

Peak discharge (base, 10,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-6	1600	16.23	52,300				
3-21	2130	6.15	11,400				

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 14-18, Dec. 24 to Jan. 11, Jan. 16-22, Feb. 13 to Mar. 3. No gage-height record Jan. 23 to Feb. 5.

3-3645. Clifty Creek at Hartsville, Ind.

Location.--Lat 39°16'25", long 85°42'10", in NW¼ sec. 36, T. 10 N., R. 7 E., at downstream side of left abutment of highway bridge, a quarter of a mile north of Hartsville and 5 miles upstream from Duck Creek.

Drainage area.--88.8 sq mi.

Records available.--February 1948 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 677.34 ft above mean sea level, datum of 1929. Prior to Sept. 24, 1952, wire-weight gage at same site and datum.

Average discharge.--15 years, 103 cfs.

Extremes.--Maximum discharge during year, 7,760 cfs Mar. 5 (gage height, 12.42 ft, from floodmark); no flow Sept. 23-30.
1948-63: Maximum discharge, 11,300 cfs Jan. 21, 1959 (gage height, 14.29 ft); no flow at times in most years.
Flood in 1913 reached a stage of 25.1 ft, from floodmarks.

Remarks.--Records good except those for periods of no gage-height record or ice effect, which are fair.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Nov. 18, Nov. 21 to Dec. 10, Dec. 12-14)

1.21	0	2.2	118
1.25	.2	2.5	198
1.3	.7	3.0	382
1.4	3.4	5.0	1,280
1.5	9.0	7.0	2,400
1.6	18	9.0	3,790
1.7	28	10.0	4,680
1.9	55		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.2	8.2	9.0	24	a 14	32	662	101	16	2.3	1.0	5.2
2	2.3	6.2	8.2	24	a 60	43	322	75	15	3.9	.7	4.3
3	3.9	6.2	8.2	22	a 300	133	208	62	40	6.2	.6	4.3
4	5.7	6.2	8.2	21	a 180	2.740	169	52	28	3.4	1.4	3.4
5	11	8.2	8.2	22	106	4.290	136	48	82	2.0	1.0	3.0
6	5.7	6.2	8.2	21	90	668	113	43	132	4.8	.6	2.3
7	4.8	5.2	8.2	21	128	192	99	38	54	5.7	28	2.0
8	* 5.2	5.2	7.4	20	75	120	79	37	101	4.3	7.4	1.7
9	5.2	5.2	6.8	21	42	94	71	33	46	3.4	4.9	1.4
10	5.2	6.2	5.7	27	34	90	59	31	28	2.3	116	1.4
11	5.7	6.2	* 4.9	155	25	81	52	31	* 25	1.7	36	1.2
12	6.8	6.2	3.9	177	* 18	90	48	28	20	1.0	16	1.0
13	7.4	6.2	3.4	79	16	* 88	44	85	22	1.0	69	1.0
14	8.2	* 5.7	3.0	60	15	73	43	172	29	4.8	60	.7
15	8.2	5.7	3.0	45	15	59	38	* 81	16	* 3.4	* 29	.7
16	9.0	6.8	3.2	* 35	15	521	* 37	55	13	3.4	16	.6
17	9.8	11	3.9	30	16	1.110	38	52	11	1.7	9.8	* .6
18	9.0	30	7.0	28	18	362	37	49	9.0	1.0	6.2	.4
19	8.2	34	15	25	22	499	70	38	6.8	.7	12	.3
20	7.4	28	20	23	26	442	322	35	6.8	128	15	.2
21	8.2	24	20	20	26	248	169	32	6.8	69	21	.1
22	7.4	20	20	18	20	169	262	27	5.7	26	15	.1
23	6.8	16	16	16	19	138	225	24	4.8	13	9.0	0
24	6.8	14	13	a 14	18	120	146	23	3.9	7.4	6.2	0
25	7.4	12	11	a 13	18	106	111	22	3.4	5.2	40	0
26	8.2	11	10	a 13	18	233	88	21	2.6	6.8	79	0
27	7.4	11	10	a 12	19	302	69	22	2.3	4.3	37	0
28	11	9.8	11	a 12	24	192	60	31	2.0	3.4	20	0
29	21	9.0	24	a 12	---------	146	59	31	3.0	2.6	14	0
30	16	9.0	24	a 12	------	128	108	23	2.0	2.0	9.8	0
31	11	------	25	a 12	------	548	------	20	------	1.2	6.8	-------
Total	241.1	338.6	329.4	1.034	1.377	14.057	3.944	1.422	737.1	325.9	688.4	35.9
Mean	7.78	11.3	10.6	33.4	49.2	453	131	45.9	24.6	10.5	22.2	1.20
Cfsm	0.088	0.127	0.119	0.376	0.554	5.10	1.48	0.517	0.277	0.118	0.250	0.014
In.	0.10	0.14	0.14	0.43	0.58	5.88	1.65	0.60	0.31	0.14	0.29	0.02

Calendar year 1962: Max 1,830 Min 1.2 Mean 75.3 Cfsm 0.848 In. 11.50
Water year 1962-63: Max 4,290 Min 0.0 Mean 67.2 Cfsm 0.757 In. 10.28

Peak discharge (base, 1,300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	about 0300	12.42	7,760				
3-17	0330	5.92	1,770				

* Discharge measurement made on this day.
a No gage-height record.
Note.--Stage-discharge relation affected by ice Dec. 11, 15-18, 25-27, Dec. 30 to Jan. 1, Jan. 15-23, Feb. 11-16, 21-25, Mar. 1.

3-3650. Sand Creek near Brewersville, Ind.

Location.--Lat 39°05'05", long 85°39'30", in NW¼ sec. 5, T. 7 N., R. 8 E., on left bank at downstream side of county highway bridge, 2½ miles west of Brewersville, and 5.2 miles upstream from Bear Creek.

Drainage area.--156 sq mi.

Records available.--February 1948 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 630 ft (by barometer). Prior to Oct. 6, 1952, wire-weight gage at site 1.7 miles upstream at datum approximately 8 ft higher.

Average discharge.--15 years, 177 cfs.

Extremes.--Maximum discharge during year, 9,450 cfs Mar. 5 (gage height, 16.55 ft); minimum, 0.6 cfs Sept. 27-30; minimum gage height, 0.64 ft Sept. 27-29.
1948-63: Maximum discharge, 19,900 cfs Jan. 21, 1959 (gage height, 21.70 ft inside, 22.20 ft outside), from rating curve extended above 6,500 cfs on basis of contracted-opening measurement of peak flow; no flow many times.

Remarks.--Records good except those for periods of ice effect, which are fair.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 4

0.8	7.2	2.5	230
.9	11	3.0	360
1.0	16	4.0	675
1.2	30	6.0	1,420
1.5	59	8.0	2,420
2.0	128		

Mar. 5 to Sept. 30

0.58	0.6	2.0	145
.6	.9	2.5	234
.7	3.6	3.0	360
.8	7.2	4.0	675
.9	12	6.0	1,420
1.0	17	9.0	2,950
1.2	32	12.0	5,100
1.5	70	13.0	5,950

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.0	22	16	41	17	833	964	141	20	14	8.5	14
2	14	16	15	29	90	700	435	100	21	13	6.5	11
3	95	15	15	23	279	450	255	80	28	13	6.5	9.4
4	96	13	* 16	22	140	2,100	204	69	36	12	6.1	9.4
5	* 36	12	15	21	90	5,900	152	59	212	11	7.6	7.6
6	22	11	15	23	* 90	1,240	130	52	285	11	5.0	7.2
7	17	11	15	22	145	384	122	47	* 144	10	* 7.2	7.6
8	14	* 12	13	* 22	78	234	100	42	314	10	13	5.8
9	13	13	12	21	67	185	92	39	161	9.0	29	4.7
10	13	14	11	30	56	194	* 84	* 35	85	7.2	27	3.6
11	14	14	10	324	48	185	69	32	59	5.8	30	* 3.2
12	20	20	9.6	270	40	214	63	29	64	* 5.0	29	4.0
13	16	20	8.8	120	35	* 185	57	264	51	5.0	21	4.3
14	15	17	8.2	80	32	145	53	381	115	8.5	66	4.0
15	16	15	7.6	65	26	122	48	239	152	8.9	51	3.2
16	18	16	7.6	46	20	1,820	44	92	41	15	26	3.0
17	33	18	8.2	39	20	3,070	46	119	29	11	17	3.0
18	22	32	10	39	30	568	48	206	24	8.1	12	2.4
19	21	35	11	37	47	1,570	108	108	21	6.5	10	1.8
20	18	36	13	32	56	798	715	78	20	35	27	1.8
21	14	30	17	25	45	360	220	69	20	160	74	2.6
22	12	27	20	22	31	234	148	53	22	59	34	2.6
23	11	24	19	20	23	176	194	41	21	140	22	3.0
24	9.8	22	15	17	25	152	138	33	20	179	15	3.2
25	10	18	13	15	29	145	108	31	18	79	13	2.6
26	9.8	17	12	15	26	604	85	29	17	35	226	1.6
27	9.4	15	11	15	20	548	76	28	16	23	111	.7
28	9.8	16	9.8	15	20	280	64	27	16	18	55	.6
29	18	16	26	15	---------	194	62	28	15	14	32	.7
30	67	16	47	15	- - - - - -	214	156	25	14	10	22	.6
31	30	- - - - - -	56	16	- - - - - -	954	- - - - -	21	- - - - -	8.9	17	- - - - - -
Total	722.8	563	482.8	1,496	1,625	24,758	5,040	2,597	2,061	944.9	1,026.4	129.2
Mean	23.3	18.8	15.6	48.3	58.0	799	168	83.8	68.7	30.5	33.1	4.31
Cfsm	0.149	0.121	0.100	0.310	0.372	5.12	1.08	0.537	0.440	0.196	0.212	0.028
In.	0.17	0.14	0.12	0.36	0.39	5.90	1.20	0.62	0.49	0.23	0.24	0.03

Calendar year 1962: Max 3,570 Min 2.4 Mean 129 Cfsm 0.827 In. 11.20
Water year 1962-63: Max 5,900 Min 0.6 Mean 114 Cfsm 0.731 In. 9.89

Peak discharge (base, 2,900 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	0300	16.55	9,450				
3-16	2330	13.53	6,400				

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 12, 13, Jan. 13-17, 20-31, Feb. 1-18, 21-28, Mar. 2, 3. No gage-height record June 25 to July 11.

3-3655. East Fork White River at Seymour, Ind.

Location.--Lat 38°58'57", long 85°53'57", in NW¼ sec. 7, T. 6 N., R. 6 E., on left bank 1,700 ft downstream from highway bridge, 1 mile north of Seymour, 9.6 miles downstream from Sand Creek, and at mile 219.2.

Drainage area.--2,333 sq mi.

Records available.--October 1927 to September 1963. 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.

Gage.--Water-stage recorder. Datum of gage is 550.67 ft above mean sea level, datum of 1929. Oct. 1, 1927, to July 2, 1931, chain gage 1,700 ft upstream and 500 ft upstream from dam at datum 7.61 ft higher. July 3, 1931, to July 16, 1934, staff gage at site 100 ft downstream at present datum.

Average discharge.--36 years, 2,392 cfs.

Extremes.--Maximum discharge during year, 52,000 cfs Mar. 7 (gage height, 18.64 ft); minimum, 215 cfs Sept. 17-19, 24-30; minimum gage height, 0.28 ft Sept. 17-19.
1923-63: Maximum discharge, 78,500 cfs Jan. 5, 1949 (gage height, 19.67 ft).
1927-63: Minimum, 84 cfs Sept. 15, 1941.
Maximum stage known, 21.0 ft Mar. 26, 1913, from information by Corps of Engineers and State Highway Department of Indiana (discharge, 120,000 cfs).

Remarks.--Records good. Some regulation of low flow by Seymour Water Co. at dam above station. Records of water temperature for the water year 1963 are given in WSP 1948.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1-10, 13-15, 18-30, Nov. 1-18, Nov. 29 to Dec. 10, Dec. 18-25, Dec. 30 to Jan. 1, Jan. 4-10

0.3	215	2.0	880	12.0	9,600	18.0	40,000
0.5	268	4.0	1,960	14.0	13,800	19.0	62,000
0.7	330	6.0	3,380	15.0	17,000		
1.0	435	10.0	7,100	17.0	28,000		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	348	435	435	452	480	597	7,540	2,370	1,280	490	470	382
2	365	418	418	450	500	1,430	9,600	2,230	1,080	590	452	348
3	382	418	418	452	520	1,180	9,320	1,960	1,080	930	435	348
4	435	400	418	435	560	2,890	6,900	1,840	1,030	830	510	348
5	435	* 382	418	435	760	25,300	5,200	1,660	1,080	680	452	330
6	418	382	* 418	418	950	45,600	4,260	1,540	1,540	635	400	314
7	400	382	400	418	1,060	*47,600	3,620	1,480	* 1,840	980	418	314
8	400	382	400	418	1,100	29,000	3,080	1,380	1,840	730	905	298
9	* 382	382	400	418	1,100	13,200	2,720	1,330	1,780	590	* 930	* 298
10	418	382	382	* 418	1,030	6,400	2,440	1,280	1,380	510	680	283
11	470	382	320	724	950	* 5,900	2,160	1,180	1,180	490	880	283
12	452	382	280	1,600	820	5,400	*1,960	1,180	1,030	452	730	268
13	435	400	270	1,660	700	4,440	1,840	*1,130	930	435	635	268
14	418	400	290	1,180	600	4,020	1,720	1,600	980	490	880	254
15	418	400	310	1,050	* 540	3,860	1,600	1,960	1,080	470	830	240
16	510	400	330	1,000	510	4,150	1,540	1,780	880	452	680	254
17	470	418	340	940	490	16,400	1,480	1,600	780	* 435	550	240
18	452	435	348	980	490	15,000	1,480	1,600	730	* 435	470	240
19	435	550	365	820	510	12,900	1,480	1,430	680	418	452	240
20	418	730	382	700	550	13,200	3,190	1,330	635	535	510	240
21	418	730	400	590	530	12,200	3,150	1,230	635	1,660	590	228
22	400	680	418	500	470	12,200	2,440	1,180	590	1,540	590	228
23	435	590	400	460	510	9,920	3,080	1,080	550	1,330	510	228
24	452	590	382	450	570	5,900	4,360	1,030	550	1,180	470	215
25	452	550	348	430	550	4,540	5,100	980	510	930	452	215
26	435	510	340	430	470	4,910	4,720	930	490	730	510	215
27	418	490	330	430	470	6,100	3,460	930	490	635	680	215
28	418	470	320	440	470	5,600	2,790	930	470	550	550	215
29	435	452	350	450	----------	4,620	2,370	980	452	510	470	215
30	452	435	400	450	------	3,940	2,370	1,180	490	490	435	215
31	470	------	435	460	-----	4,100	-----	1,280	----	470	400	-------
Total	13,246	13,957	11,465	20,058	18,260	331,497	106,970	43,590	28,062	21,602	17,926	7,979
Mean	427	465	370	647	652	10,690	3,566	1,406	935	697	578	266
Cfsm	0.183	0.199	0.159	0.277	0.279	4.58	1.53	0.603	0.401	0.299	0.248	0.114
In.	0.21	0.22	0.18	0.32	0.29	5.28	1.71	0.70	0.45	0.34	0.29	0.13

Calendar year 1962: Max 19,700 Min 270 Mean 1,976 Cfsm 0.847 In. 11.48
Water year 1962-63: Max 47,600 Min 215 Mean 1,739 Cfsm 0.745 In. 10.12

Peak discharge (base, 12,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-7	0400	18.64	52,000				
3-17	1730	16.02	22,000				

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 11-17, 26-29, Jan. 2, 15-17, 19, 20, 22-31, Feb. 1-18, 21, 23, 24.

3-3660. Graham Creek near Vernon, Ind.

Location.--Lat 38°56', long 85°34', in SE¼ sec. 30, T. 6 N., R. 9 E., on right bank 10 ft upstream from State Highway 7, 4.7 miles southeast of Vernon, and 8.0 miles downstream from Little Graham Creek.

Drainage area.--77.6 sq mi.

Records available.--June 1955 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 677.47 ft above mean sea level, datum of 1929 (unadjusted). Prior to June 10, 1955, wire-weight gage at same site and datum.

Average discharge.--8 years, 94.8 cfs.

Extremes.--Maximum discharge during year, 8,360 cfs Mar. 5 (gage height, 14.83 ft); no flow Sept. 1-30.
1955-63: Maximum discharge, 18,600 cfs June 23, 1960 (gage height, 21.37 ft) from rating curve extended above 6,000 cfs on basis of contracted-opening measurements of peak flow; no flow at times during most years.

Remarks.--Records good except those for periods of ice effect or indefinite stage-discharge relation, which are fair.

Rating tables, water year 1962-63, except periods of ice effect and indefinite stage-discharge relation (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 4

1.4	0.9	2.1	27
1.5	1.9	2.5	58
1.6	3.1	2.9	110
1.7	5.0	3.3	200
1.8	8.0	4.0	445
1.9	13	5.0	925
2.0	20	7.0	2,100

Mar. 5 to Sept. 30

1.16	0	1.7	5.3	3.0	165
1.2	.1	1.8	8.8	3.5	320
1.3	.3	1.9	14	4.0	510
1.4	.9	2.0	22	6.0	1,500
1.5	1.9	2.4	54	8.0	2,700
1.6	3.2	2.7	98	10.0	3,950

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.6	8.0	6.9	28	6.9	291	158	79	5.9	2.2	0.9	
2	3.9	6.9	6.6	20	30	766	87	42	7.9	1.9	.8	
3	28	5.5	6.3	16	86	118	58	32	6.2	1.2	.9	
4	22	4.8	* 6.3	13	55	1,600	49	26	10	.9	1.1	
5	* 10	4.5	6.0	12	* 41	3,780	43	21	31	.8	.9	
6	6.3	4.3	6.0	12	32	751	38	18	* 23	1.3	.7	
7	6.3	* 4.8	5.5	13	29	232	34	14	16	1.3	* .5	
8	7.2	4.5	5.2	* 13	26	131	31	12	11	1.0	.3	
9	5.2	5.2	5.2	13	24	114	29	11	24	.8	.4	
10	4.1	12	5.0	16	21	178	26	* 9.2	13	.7	.4	*
11	4.3	36	4.8	465	19	237	* 23	8.0	9.2	.6	.2	
12	4.1	28	3.9	193	17	* 330	20	7.2	6.2	.5	.1	
13	4.8	21	3.4	68	15	165	18	6.5	6.0	.9	.2	
14	6.0	14	3.1	46	13	100	18	8.8	7.2	1.9	.1	
15	9.2	11	2.9	36	12	66	15	21	5.3	1.4	.1	
16	13	11	3.1	28	11	1,390	14	18	4.6	* 1.0	.1	
17	16	18	3.1	23	10	2,220	14	172	3.6	1.0	.1	
18	14	32	3.2	21	11	286	15	152	3.1	.9	.1	
19	13	55	3.6	18	17	1,600	14	54	2.8	.8	.1	
20	13	42	4.3	15	22	619	21	40	2.5	2.3	.1	
21	12	32	7.2	14	20	175	29	43	2.4	1.8	.2	
22	11	27	10	11	14	94	22	32	2.1	1.5	.1	
23	9.2	21	11	10	11	64	18	24	1.9	2.6	.1	
24	9.2	16	9.7	8.4	11	53	14	20	1.8	2.6	.1	
25	8.4	13	7.6	6.9	15	51	12	16	1.5	2.0	.1	
26	8.8	11	6.9	6.9	14	313	11	13	1.3	1.6	.1	
27	8.8	9.2	6.6	6.8	11	340	10	12	1.3	1.3	.1	
28	12	8.4	5.8	6.7	9.7	136	9.2	10	1.2	1.1	.1	
29	27	8.0	14	6.6	----------	78	13	9.6	1.0	1.7	.1	
30	20	7.2	51	6.9	------	66	91	8.8	1.0	1.6	.1	
31	11	------	39	7.2	------	106	------	7.2	------	1.1	.1	-------
Total	329.4	481.3	263.2	1,160.4	603.6	16,450	954.2	947.3	214.0	42.3	9.3	0
Mean	10.6	16.0	8.49	37.4	21.6	531	31.8	30.6	7.13	1.36	0.300	0
Cfsm	0.137	0.206	0.109	0.482	0.278	6.84	0.410	0.394	0.092	0.018	0.0039	0
In.	0.16	0.23	0.13	0.56	0.29	7.89	0.46	0.45	0.10	0.02	0.004	0

Calendar year 1962 : Max 3,370 Min 1.1 Mean 104 Cfsm 1.34 In. 18.13
Water year 1962-63 : Max 3,780 Min 0 Mean 58.8 Cfsm 0.758 In. 10.29

Peak discharge (base, 2,300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	0300	14.83	8,360				
3-17	0100	11.22	4,740				
3-19	1300	8.36	2,940				

* Discharge measurement made on this day.
Note.--Stage-discharge relation indefinite Oct. 13-22, 25, 26. Stage-discharge relation affected by ice Dec. 29, 30, Jan. 13-15, 19, 20, 23, 27, 28, Feb. 7, 8, 11-15.

3-3665. Muscatatuck River near Deputy, Ind.

Location.--Lat 38°48'15", long 85°40'26", in NE¼ sec. 7, T. 4 N., R. 8 E., on left bank at downstream side of highway bridge, 1.4 miles northwest of Deputy, 1.9 miles upstream from Coffee Creek, and 2.4 miles downstream from confluence of Graham Creek and Big Creek.

Drainage area.--296 sq mi.

Records available.--November 1947 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 541.13 ft above mean sea level, datum of 1929 (unadjusted). Prior to June 22, 1955, wire-weight gage at same site and datum.

Average discharge.--15 years (1948-63), 360 cfs.

Extremes.--Maximum discharge during year, 21,800 cfs Mar. 5; maximum gage height, 25.08 ft Mar. 5; no flow Sept. 23-29.
1947-63: Maximum discharge, 52,200 cfs Jan. 21, 1959 (gage height, 33.1 ft, from floodmarks), from rating curve extended above 25,000 cfs on basis of contracted-opening measurement of peak flow; no flow at times in most years.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Aug. 19 to Sept. 30; rate of change of stage used as a factor Jan. 11, 12, Mar. 5-7, 11, 12, 16-20, 26)

Oct. 1 to Mar. 4

1.2	6.8	1.8	45
1.3	10	2.0	65
1.5	22	2.5	115

Note.--Same as following table above 3.0 ft.

Mar. 5 to Sept. 30

0.60	0	1.5	26	12.0	2,180
.7	.3	2.0	61	15.0	4,010
.8	1.0	2.5	111	18.0	7,000
.9	2.4	3.0	175	20.0	9,600
1.0	4.9	4.0	325	22.0	13,000
1.2	12	8.0	1,110	23.0	15,000

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.5	75	42	190	32	1,050	379	309	40	13	8.8	0.4
2	7.9	57	40	130	145	2,700	343	189	40	11	5.8	.3
3	320	47	38	100	400	550	245	123	39	7.5	4.4	.3
4	203	40	36	80	260	3,500	217	89	40	5.4	4.1	.3
5	105	38	* 34	66	* 200	14,200	189	70	113	5.0	3.1	.3
6	65	* 35	33	64	168	3,870	161	61	* 123	8.0	2.7	.3
7	49	34	32	62	145	1,210	141	50	79	8.0	* 2.2	.2
8	36	34	30	60	125	* 670	129	* 45	57	6.0	2.0	.2
9	* 30	35	28	* 60	115	510	117	44	46	5.0	2.0	.2
10	25	101	24	64	100	690	106	42	42	4.2	2.0	* .2
11	21	217	23	1,120	90	947	* 89	42	44	3.6	1.6	.1
12	17	137	20	1,100	80	1,360	79	41	35	3.0	1.5	.1
13	14	105	17	450	70	750	74	40	32	5.4	1.8	.1
14	14	80	15	300	65	472	70	71	171	11	2.1	.1
15	13	70	14	200	58	343	61	74	86	9.0	2.4	.1
16	13	64	14	120	52	3,360	61	74	46	* 5.8	1.8	.1
17	15	148	14	110	48	9,220	61	578	30	4.9	1.3	.1
18	26	189	15	100	52	1,410	57	770	24	4.4	.8	.1
19	18	379	16	86	80	5,640	56	293	20	3.9	.7	.1
20	15	245	20	72	105	3,350	100	203	16	66	.7	.1
21	18	175	32	60	95	950	79	203	14	64	.5	.1
22	15	137	45	52	67	510	74	147	12	28	.4	.1
23	14	110	52	45	52	361	66	106	11	54	.4	0
24	12	90	45	37	52	293	53	79	11	27	.3	0
25	11	75	37	33	70	261	50	66	9.0	16	.4	0
26	11	65	33	31	67	983	46	57	8.0	11	.3	0
27	12	58	30	31	53	1,220	44	53	8.0	8.4	.3	0
28	14	53	28	31	47	650	43	50	7.5	15	.3	0
29	234	49	115	31	----------	397	44	46	6.0	26	.3	0
30	168	46	400	32	------	293	162	45	6.0	14	.3	.1
31	110	------	280	33	-----	309	-----	42	----	11	.4	-------
Total	1,633.4	2,988	1,602	4,950	2,893	62,029	3,396	4,102	1,215.5	464.5	55.7	4.0
Mean	52.7	99.6	51.7	160	103	2,001	113	132	40.5	15.0	1.80	0.133
Cfsm	0.178	0.336	0.175	0.541	0.348	6.76	0.382	0.446	0.137	0.051	0.0061	0.0004
In.	0.21	0.37	0.20	0.62	0.36	7.79	0.43	0.51	0.15	0.06	0.007	0.0004

Calendar year 1962 : Max 8,750 Min 7.2 Mean 386 Cfsm 1.30 In. 17.71
Water year 1962-63 : Max 14,200 Min 0 Mean 234 Cfsm 0.791 In. 10.71

Peak discharge (base, 7,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	0400	-	21,800	3-19	2100	-	8,530
	0800	25.08			2200	18.98	
3-17	0200	-	16,200				
	0500	22.63					

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 13-19, 22-28, Jan. 19, 20. No gage-height record Dec. 30 to Jan. 5, Jan. 13-16, Jan. 21 to Feb. 5, Feb. 7 to Mar. 4, June 12, 13, June 17 to July 17.

3-3670. Muscatatuck River near Austin, Ind.

Location.--Lat 38°46', long 85°49', in sec. 23, T. 4 N., R. 6 E., on right bank 15 ft downstream from bridge on U. S. Highway 31, 2 miles north of Austin, and 4 miles upstream from Stucker Fork.

Drainage area.--365 sq mi.

Records available.--August 1932 to September 1963 (high-water records only since October 1943).

Average discharge.--10 years (1932-35, 1936-43), 387 cfs.

Gage.--Water-stage recorder. Datum of gage is 513.96 ft above mean sea level, datum of 1929. Prior to June 22, 1934, chain gage at same site and datum. Nov. 8 to Dec. 30, 1939, staff gage approximately half a mile upstream at different datum. Aug. 1, 1940, to Sept. 30, 1943, auxiliary gage (for low flows) at Slate-Ford bridge 2½ miles upstream at different datum.

Extremes.--Maximum discharge during year, 17,800 cfs Mar. 5 (gage height, 24.79 ft).
1932-63: Maximum discharge, 53,900 cfs Jan. 22, 1959 (gage height, 29.20 ft).

Remarks.--Records good. Daily discharge not computed when gage height is below 13.0 ft.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1												
2						1,240						
3						948						
4												
5						9,000						
6						11,700						
7						5,070						
8						2,200						
9						* 1,010						
10												
11						912						
12				1,340		1,690						
13						1,240						
14												
15												
16												
17						7,130						
18						7,290		865				
19						3,800						
20						6,520						
21						3,970						
22						1,550						
23												
24												
25												
26						982						
27						1,610						
28						1,040						
29					---------							
30					------							
31		------			-----		-----		-----			-------
Total	-	-	-	-	-	-	-	-	-	-	-	-
Mean	-	-	-	-	-	-	-	-	-	-	-	-
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1962: Max 9,800 Min - Mean - Cfsm - In. -
Water year 1962-63: Max 11,700 Min - Mean - Cfsm - In. -

Peak discharge (base, 5,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	2200	24.79	17,800				
3-17	2030	23.20	11,400				

* Discharge measurement made on this day.

3-3680. Brush Creek near Nebraska, Ind.

Location.--Lat 39°04', long 85°29', in NE¼ sec. 11, T. 7 N., R. 9 E., on right bank at downstream side of county road bridge, 1.5 miles northwest of Nebraska, 2.9 miles northeast of Butlerville, and 3.6 miles upstream from Brush Creek Dam.

Drainage area.--11.7 sq mi.

Records available.--May 1955 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 717.17 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission).

Average discharge.--8 years, 14.1 cfs.

Extremes.--Maximum discharge during year, 2,540 cfs Mar. 4 (gage height, 10.04 ft, from rating curve extended above 440 cfs as explained below); no flow for many days.
1955-63: Maximum discharge, 3,120 cfs July 15 (gage height, 10.90 ft), from rating curve extended above 440 cfs on basis of contracted-opening measurement of peak flow at gage height, 9.70 ft; no flow at times in most years.

Remarks.--Records fair below 600 cfs and poor above.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.5	0.8	1.6	1.0	332	35	8.0	0.9	0.2	0.1	
2	0	.4	.7	1.3	100	84	17	5.6	.9	.9	.1	
3	* 19	.3	* .7	1.3	35	62	13	4.4	1.5	.6	.1	
4	2.1	.3	.6	1.4	7.7	708	9.0	3.8	3.0	.3	.1	
5	1.5	.5	.6	1.4	6.5	228	7.0	3.2	* 2.8	.2	0	
6	1.2	.4	.6	1.5	* 5.8	46	5.8	2.8	2.2	.5	* 0	
7	1.0	.4	.5	* 1.3	4.4	19	5.0	* 2.4	1.5	.9	.2	
8	.7	* .4	.5	1.2	2.2	16	4.5	2.0	1.3	.3	.1	
9	.8	.8	.4	1.6	1.6	* 15	* 4.0	1.8	.9	* .1	.1	
10	.5	1.6	.3	3.9	1.7	17	3.2	1.5	.8	.1	.1	
11	.3	1.7	.3	64	2.6	25	3.0	1.5	.8	.1	0	*
12	.3	1.4	.1	11	2.0	19	2.8	1.3	.7	.1	0	
13	.3	1.2	.1	3.9	1.7	13	2.6	3.4	.7	.1	0	
14	.3	1.1	.1	2.2	1.5	9.5	2.4	2.8	1.5	.6	0	
15	.6	.9	.1	1.7	1.3	7.0	2.2	1.8	.9	.2	0	
16	.5	1.6	.1	1.6	1.3	602	2.2	1.8	.7	.2	0	
17	.5	2.9	.1	1.5	1.5	60	2.4	21	.6	.1	0	
18	.5	3.7	.3	1.3	2.2	14	2.0	8.8	.5	.1	0	
19	.4	4.4	.3	1.1	2.6	* 210	7.2	4.4	.4	.1	0	
20	.3	2.7	1.0	.9	2.2	26	12	6.9	.4	11	.3	
21	.3	2.1	1.1	.8	1.8	17	4.7	4.4	.7	1.1	.2	
22	.3	1.7	1.0	.7	1.3	12	3.5	3.2	.9	.4	.1	
23	.1	1.5	.9	.9	1.3	9.0	3.2	2.8	.5	12	.1	
24	.1	1.3	.5	1.0	1.5	8.0	2.8	2.4	.4	2.3	0	
25	.3	1.2	.5	1.1	1.6	7.0	2.6	2.0	.3	.6	13	
26	.3	1.1	.6	1.0	1.2	86	2.2	1.8	.3	.4	2.1	
27	.2	1.0	.3	1.0	1.1	35	2.0	1.6	.2	.3	.4	
28	.4	1.0	.3	1.0	9.5	15	2.0	1.6	.2	.3	.2	
29	1.8	.9	10	1.0	----------	12	9.0	1.3	.2	.3	.2	
30	1.2	.8	7.3	1.0	------	14	29	1.2	.2	.2	.1	
31	.8	------	2.7	1.0	------	49	------	.9	------	.2	.1	------
Total	36.6	39.8	33.4	116.2	204.1	2776.5	203.3	112.4	26.9	34.8	17.7	0
Mean	1.18	1.33	1.08	3.75	7.29	89.6	6.78	3.63	0.897	1.12	0.571	0
Cfsm	0.101	0.114	0.092	0.321	0.623	7.66	0.579	0.310	0.077	0.096	0.049	0
In.	0.12	0.13	0.11	0.37	0.65	8.83	0.65	0.36	0.09	0.11	0.06	0

Calendar year 1962: Max 1,370 Min 0 Mean 15.6 Cfsm 1.33 In. 18.11
Water year 1962-63: Max 780 Min 0 Mean 9.87 Cfsm 0.844 In. 11.48

Peak discharge (base, 950 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-4	2000	10.04	2,540				
3-16	2000	8.77	1,870				

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Jan. 16-20, Feb. 2, 14. No gage-height record Feb. 3-5, Mar. 6-18, 20-30, Apr. 1-9, Sept. 6-11, 23-30.

3-3690. Vernon Fork near Butlerville, Ind.

Location.--Lat 39°02'55", long 85°32'40", in SE¼ sec. 17, T. 7 N., R. 9 E., on left bank 0.3 mile downstream from Muscatatuck State School dam, 1¼ miles downstream from Brush Creek, and 2 miles northwest of Butlerville.

Drainage area.--87.3 sq mi.

Records available.--February 1942 to September 1963. Prior to October 1960, published as North Fork of Vernon Fork near Butlerville, Ind.

Gage.--Water-stage recorder and concrete control. Datum of gage is 669.40 ft above mean sea level, datum of 1929. Prior to Aug. 19, 1942, staff gage at same site and datum.

Average discharge.--21 years, 97.0 cfs (unadjusted).

Extremes.--Maximum discharge during year, 9,380 cfs Mar. 4 (gage height, 17.30 ft); minimum, 0.4 cfs Sept. 24, 27-30 (gage height, 1.63 ft).

1942-63: Maximum discharge, 26,200 cfs Jan. 21, 1959 (gage height, 25.41 ft), from rating curve extended above 10,000 cfs on basis of slope-area measurement of peak flow; no flow at times in most years.

Remarks.--Records good. Water supply for the Muscatatuck State School is diverted and the sewage effluent returned above station. Flow regulated by Brush Creek Reservoir (capacity, 668,000,000 gal), 1 3/4 miles upstream. Storage began November 1953.

Rating table, water year 1962-63 (gage height, in feet, and discharge, in cubic feet per second)

1.63	0.4	2.1	4.6	3.0	76
1.7	.7	2.3	9.2	3.5	225
1.8	1.2	2.5	17	5.0	900
1.9	2.0	2.6	24	9.0	3,050
2.0	3.1	2.8	42		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.6	8.0	6.5	17	8.0	627	319	94	6.7	54	1.8	2.1
2	1.0	6.5	6.0	12	101	271	159	58	8.9	14	1.8	2.1
3	* 66	5.4	6.0	11	129	201	107	45	7.7	6.5	1.8	2.1
4	21	5.2	* 6.0	11	60	2,660	81	37	10	4.6	1.8	2.0
5	86	5.2	5.8	11	40	2,570	58	33	* 40	3.2	1.7	1.8
6	5.2	4.8	5.6	12	* 45	620	50	29	37	5.7	* 1.7	1.6
7	3.8	4.8	5.4	* 12	70	188	45	* 25	22	10	1.9	1.4
8	2.9	4.6	5.4	12	35	123	38	23	60	7.2	1.7	1.3
9	2.1	* 5.6	4.8	12	22	107	35	22	34	4.8	2.0	1.3
10	1.8	6.2	4.6	22	22	121	* 30	20	16	* 3.2	1.8	1.1
11	2	11	4.1	243	22	121	27	18	15	2.2	1.5	* 1.0
12	2.5	13	3.4	123	18	* 159	24	18	18	2.1	1.8	.9
13	2.1	11	2.6	56	16	121	22	154	12	2.2	1.8	1.8
14	2.1	9.2	2.4	36	14	84	20	92	49	2.9	1.4	3.1
15	4.0	8.0	2.0	30	12	62	18	39	20	6.0	1.8	2.1
16	3.6	8.7	2.3	22	8.7	2,130	18	30	12	5.4	2.6	.6
17	17	15	2.5	19	9.2	1,830	19	92	8.7	3.2	2.6	.8
18	12	24	2.8	19	13	280	18	137	7.2	2.8	2.3	.9
19	7.7	24	3.5	18	25	a 1,400	36	53	5.8	2.3	2.6	.9
20	5.6	22	5.9	18	25	a 370	338	42	5.4	58	3.8	.9
21	4.4	18	8.4	12	19	a 160	92	36	4.6	35	17	.7
22	3.8	15	8.2	10	13	a 110	58	28	7.2	11	7.2	.6
23	3.1	12	7.7	9.4	9.5	a 85	60	24	5.4	63	3.9	.6
24	2.5	10	6.0	8.7	12	a 65	40	22	4.1	37	3.1	.6
25	2.6	9.0	5.2	7.2	13	a 60	34	13	3.0	11	47	.6
26	1.9	8.4	4.8	8.0	11	a 300	29	12	2.6	7.0	21	.6
27	2.0	8.2	4.4	9.0	8.4	314	25	14	3.4	5.6	9.5	.5
28	4.0	7.4	4.1	8.0	9.4	144	22	12	3.8	3.9	5.4	.5
29	12	7.0	10	7.2	----------	96	26	11	3.6	4.6	3.6	.6
30	20	6.7	30	8.0	- - - - - -	119	171	9.9	58	3.1	2.5	.5
31	11	- - - - - -	27	8.2	- - - - - -	649	- - - - - -	8.0	- - - - - -	2.1	2.2	- - - - - - -
Total	238.9	303.9	203.4	811.7	790.2	16,147	2,019	1,250.9	491.1	383.6	162.6	35.6
Mean	7.71	10.1	6.56	26.2	28.2	521	67.3	40.4	16.4	12.4	5.25	1.19
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-
(≠)	+1.46	+1.5	+0.88	+2.1	+0.4	+1	-0.7	-2.2	0.0	+0.6	-0.29	-1.21

Calendar year 1962 : Max 4,230 Min 0.5 Mean 82.7 Cfsm 0.947 In. 12.85 ≠ -0.2
Water year 1962-63 : Max 2,660 Min 0.5 Mean 62.6 Cfsm 0.717 In. 9.73 ≠ +0.3

Peak discharge (base, 4,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-4	2300	17.30	9,380				
3-17	0030	14.20	6,610				

* Discharge measurement made on this day.
a No gage-height record.
≠ Change in contents, equivalent in cubic feet per second, in Brush Creek Reservoir; furnished by the Indiana Flood Control and Water Resources Commission.

3-3695. Vernon Fork at Vernon, Ind.

Location.--Lat 38°57', long 85°37', in sec. 10, T. 6 N., R. 8 E., on right bank just downstream from highway bridge, 1 mile southwest of Vernon and 2 miles downstream from South Fork.

Drainage area.--201 sq mi.

Records available.--October 1939 to September 1963. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 587.30 ft above mean sea level, datum of 1929, supplementary adjustment of 1944 (levels by Indiana Flood Control and Water Resources Commission). Prior to Jan. 14, 1940, staff gage at same site and datum.

Average discharge.--24 years, 224 cfs.

Extremes.--Maximum discharge during year, 24,500 cfs Mar. 5 (gage height, 24.16 ft, from floodmark); minimum, 0.9 cfs Sept. 13 (gage height, 0.14 ft).
1939-63: Maximum discharge, 56,800 cfs Jan. 21, 1959 from rating curve extended above 24,000 cfs on basis of slope-area measurement of peak flow (gage height, 32.83 ft from high-water mark). No flow at times in 1940, 1943-44.

Remarks.--Records good except those for periods of no gage-height record, which are fair. 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.

Rating table, water year 1962-63 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Sept. 26-30)

0.1	0.6	1.5	73
.2	1.6	2.0	155
.3	3.3	3.0	410
.4	5.5	5.0	1,140
.5	8.2	7.0	2,200
.8	20	11.0	5,400
1.0	32	14.0	8,400

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.0	25	16	57	20	1,180	752	268	18	114	4.6	4.4
2	5.8	20	15	40	131	1,000	355	149	16	40	3.3	3.3
3	117	16	15	31	440	380	242	108	60	18	2.9	2.9
4	91	16	* 14	27	192	3,350	192	86	29	8.9	3.1	4.0
5	* 34	16	14	25	122	7,440	145	73	78	5.8	2.7	4.2
6	21	15	14	26	86	1,500	115	64	* 73	6.3	2.4	3.5
7	15	15	13	27	* 119	530	103	56	65	12	2.9	3.3
8	10	* 12	12	* 28	103	330	88	50	41	16	* 3.3	3.3
9	9.2	12	12	28	61	280	80	45	92	12	4.0	4.2
10	4.6	16	11	30	51	318	* 70	* 41	44	7.9	9.4	2.5
11	5.2	26	10	634	60	351	61	37	28	* 5.8	13	1.9
12	7.0	36	9.2	386	54	470	57	35	22	4.6	6.3	* 1.8
13	5.6	35	7.9	168	46	* 330	53	68	28	4.0	11	1.1
14	5.6	29	7.4	103	40	242	50	213	84	7.4	9.2	1.8
15	12	23	7.1	77	32	168	46	94	73	6.0	6.8	2.2
16	10	22	6.8	55	27	2,190	44	63	33	5.5	4.4	2.4
17	40	28	6.3	45	24	5,920	44	284	24	5.3	3.3	2.2
18	21	47	7.1	41	26	682	44	388	18	5.5	2.9	2.2
19	16	78	7.7	40	34	3,120	48	168	14	4.4	2.7	2.2
20	15	70	8.9	40	52	971	426	119	12	9.0	3.3	2.2
21	13	56	15	32	48	410	198	110	9.8	82	3.7	1.8
22	11	45	20	27	37	280	110	80	8.9	44	9.1	1.8
23	9.0	37	20	24	28	205	97	64	7.7	85	10	1.8
24	7.0	30	18	22	27	155	79	55	8.9	117	6.6	1.8
25	7.0	25	15	19	32	147	63	47	7.1	40	4.6	1.6
26	5.0	21	14	18	32	773	57	37	5.5	18	53	1.6
27	5.0	20	12	20	26	818	51	35	4.8	13	23	1.6
28	10	18	11	20	22	380	46	35	4.4	9.2	10	1.6
29	32	17	27	19	---------	255	49	31	3.7	9.2	13	2.2
30	30	16	81	20	------	218	417	27	2.9	7.7	8.5	3.3
31	36	------	79	20	------	860	------	22	------	6.0	5.8	------
Total	614.0	842	526.4	2,149	1,972	35,253	4,182	2,952	915.7	729.5	248.8	74.7
Mean	19.8	28.1	17.0	69.3	70.4	1,137	139	95.2	30.5	23.5	8.03	2.49
Cfsm	0.099	0.140	0.085	0.345	0.350	5.66	0.692	0.474	0.152	0.117	0.040	0.012
In.	0.11	0.16	0.10	0.40	0.36	6.52	0.77	0.55	0.17	0.13	0.05	0.01

Calendar year 1962 : Max 7,930 Min 3.1 Mean 212 Cfsm 1.05 In. 14.27
Water year 1962-63 : Max 7,440 Min 1.1 Mean 138 Cfsm 0.687 In. 9.33

Peak discharge (base, 6,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	0300	24.16	24,500				
3-16	2300	17.96	13,600				

* Discharge measurement made on this day.
Note.--No gage-height record Oct. 10-17, 19-28, Nov. 2-7.

3-3715. East Fork White River near Bedford, Ind.

Location.--Lat 38°46'10", long 86°24'30", in NE¼ sec. 21, T. 4 N., R. 1 E., on downstream side of center pier of bridge on county road, 0.4 mile upstream from Mill Creek, 2.9 miles downstream from Sugar Creek, 3.9 miles northeast of Mitchell, and 7.8 miles southeast of Bedford.

Drainage area.--3,870 sq mi.

Records available.--May 1939 to September 1963 (high-water records only October 1943 to September 1957).

Gage.--Water-stage recorder. Datum of gage is 473.59 ft above mean sea level, datum of 1929. Prior to Feb. 6, 1940, wire-weight gage and Feb. 6, 1940 to Sept. 24, 1957, water-stage recorder, at site 9.7 miles downstream at datum 4.39 ft lower. Since Sept. 24, 1947, auxiliary water-stage recorder 9.7 miles downstream from base gage.

Average discharge.--10 years (1939-43, 1957-63), 3,532 cfs.

Extremes.--Maximum discharge during year, 59,700 cfs Mar. 8; maximum gage height, 31.67 ft Mar. 9; minimum, 281 cfs Sept. 26-30 (gage height, 2.51 ft).
1939-63: Maximum discharge, 70,900 cfs May 11, 1961; maximum gage height, 35.97 ft May 11, 1961.
Flood in March 1913 reached a stage of 47.5 ft, from floodmark determined by Corps of Engineers (discharge, 155,000 cfs) at former site.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Fall used as a factor Mar. 7-13, 17-27)

2.5	275	12.0	7,980
2.6	335	20.0	16,300
3.0	585	24.0	22,700
4.0	1,240	29.0	38,400
6.0	2,680	31.0	47,800
8.0	4,380	33.0	57,800

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	488	780	682	800	800	1,300	7,350	3,750	1,510	715	780	618
2	520	748	650	950	840	2,100	7,800	4,020	1,580	715	748	585
3	520	715	650	1,050	880	3,660	9,330	3,840	2,000	780	715	552
4	520	650	618	* 960	920	5,070	10,200	3,320	1,650	845	715	520
5	845	618	618	812	1,250	10,900	9,960	3,000	1,790	1,040	650	520
6	910	585	618	715	1,550	11,600	8,430	* 2,680	2,000	1,040	682	* 488
7	812	585	585	682	1,550	18,600	6,900	2,450	2,080	1,170	650	488
8	682	552	585	682	1,500	56,300	5,730	2,220	2,520	1,040	618	455
9	618	552	585	650	1,550	52,000	5,010	2,080	2,450	1,100	618	437
10	585	552	552	650	1,550	38,700	4,380	1,930	2,300	975	910	419
11	552	552	450	910	1,500	27,900	3,930	1,860	2,080	845	975	419
12	552	585	400	1,240	1,400	20,200	3,570	1,790	1,790	780	975	413
13	682	650	370	2,600	1,300	15,800	3,320	1,720	1,580	748	1,040	395
14	650	682	400	3,080	1,200	12,500	3,080	1,790	1,580	780	910	395
15	585	682	450	2,200	1,150	10,100	2,840	1,930	1,370	748	845	389
16	552	650	480	1,700	1,050	9,780	2,680	2,380	1,440	748	975	377
17	552	682	480	1,600	1,000	12,300	2,520	3,080	1,440	715	975	359
18	618	682	500	1,700	920	13,000	2,450	4,290	1,300	682	845	347
19	585	715	550	1,500	920	19,100	2,380	4,470	1,170	650	780	341
20	552	812	600	1,250	980	25,700	2,520	3,930	1,100	748	715	335
21	552	1,040	650	1,000	980	25,900	3,400	3,000	1,040	1,100	682	323
22	552	1,100	650	800	920	24,900	4,650	2,450	975	1,440	682	311
23	520	1,040	620	760	880	23,600	4,200	2,150	910	2,080	715	305
24	520	975	600	750	920	22,300	3,660	1,930	910	2,520	748	305
25	552	910	580	730	920	19,400	4,290	1,790	845	1,900	682	305
26	585	845	590	730	920	15,700	5,010	1,650	* 812	1,500	650	287
27	552	812	600	730	880	* 12,700	5,370	1,510	812	1,200	618	281
28	552	* 780	640	730	980	11,400	4,920	1,440	780	1,000	682	281
29	585	715	670	740	---------	10,900	4,110	1,370	748	920	780	287
30	585	682	700	750	------	10,000	3,660	1,370	748	880	748	* 287
31	* 618	------	750	800	-----	8,520	-----	1,370	------	* 845	682	-------
Total	18,553	21,928	17,873	34,251	31,210	551,930	147,650	76,560	43,310	32,249	23,790	11,824
Mean	598	731	577	1,105	1,115	17,800	4,922	2,470	1,444	1,040	767	394
Cfsm	0.155	0.189	0.149	0.286	0.288	4.60	1.27	0.638	0.373	0.269	0.198	0.102
In.	0.18	0.21	0.17	0.33	0.30	5.30	1.42	0.74	0.42	0.31	0.23	0.11

Calendar year 1962 : Max 35,200 Min 370 Mean 3,443 Cfsm 0.890 In. 12.09
Water year 1962-63 : Max 56,300 Min 281 Mean 2,770 Cfsm 0.716 In. 9.72

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 11-21, 23, 31, Jan. 1-4, 17-19, Feb. 5, 6, 19, 20, Mar. 1, 2. No gage-height record Jan. 20 to Feb. 4, Feb. 7-18, 21-28, July 25-30.

3-3716. South Fork Salt Creek at Kurtz, Ind.

Location.--Lat 38°57'46", long 86°12'12", in SW¼ sec. 9, T. 6 N., R. 3 E., on right bank at downstream side of county road bridge, at the north edge of Kurtz, 0.8 mile upstream from unnamed tributary from the right, and 6.1 miles upstream from Little Salt Creek.

Drainage area.--38.1 sq mi.

Records available.--October 1960 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 568.00 ft above mean sea level, datum of 1929 (unadjusted).

Extremes.--Maximum discharge during year, 3,930 cfs Mar. 4 (gage height, 12.30 ft); no flow at times.
1960-63: Maximum discharge, 4,690 cfs (revised) May 7, 1961 (gage height, 12.93 ft); no flow during most years.
Flood of January 1959 reached a stage of approximately 15 ft, from floodmarks.

Remarks.--Records fair.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.8	1.5	7.8	1.5	1.7	137	33	3.6	0.2	0.9	0.1
2	* 0	.7	1.3	* 5.6	2.5	2.1	82	25	3.3	.5	.6	0
3	.2	.6	1.3	4.6	4.7	107	61	21	3.8	.7	.5	0
4	0	.6	1.3	3.8	* 5.0	1,460	50	16	21	.4	13	* .3
5	0	.8	1.3	3.5	5.0	976	41	14	29	.2	3.4	0
6	0	.7	1.3	3.2	12	216	37	* 11	9.5	19	1.2	0
7	0	.8	1.1	3.2	16	88	32	9.5	6.4	6.3	1.2	0
8	0	.9	1.1	3.2	8.6	68	28	9.0	12	1.8	.9	0
9	0	1.1	.8	3.3	6.7	65	25	8.6	6.7	.9	.6	0
10	0	1.3	.6	4.0	6.7	60	23	21	4.1	.5	.4	0
11	0	1.3	.3	185	7.0	71	21	22	3.8	.3	.3	0
12	0	1.5	.2	44	6.0	66	19	13	2.7	.2	.1	0
13	0	1.6	.1	18	4.8	56	18	21	2.5	.3	.2	0
14	0	1.6	.1	12	4.0	46	17	58	2.9	5.4	.3	0
15	0	1.6	.1	9.0	3.1	39	16	28	1.8	2.7	.6	0
16	.1	2.0	.1	6.4	2.5	* 1,630	16	41	1.6	1.2	.3	0
17	.3	4.1	.1	5.6	2.1	* 515	17	463	1.3	.6	.1	0
18	.1	4.7	.1	5.2	2.1	139	15	109	1.2	.4	0	0
19	.1	5.3	.3	4.6	3.2	127	161	52	.9	.1	.5	0
20	.1	4.4	1.2	4.0	5.6	170	300	41	1.6	156	5.4	0
21	.1	4.1	2.7	2.9	4.4	82	75	28	1.3	7.4	1.5	0
22	.1	3.3	2.4	2.5	2.5	59	50	19	1.2	2.7	.7	0
23	.1	2.7	1.6	2.3	1.8	48	36	15	.7	160	.3	0
24	.1	2.2	1.1	2.0	4.7	41	29	12	* .5	12	.1	0
25	.1	2.2	.7	1.8	6.4	86	24	9.5	.4	5.0	0	0
26	.1	2.0	.6	1.7	* 3.8	492	21	7.8	.3	3.3	0	0
27	.1	2.0	.6	1.5	2.7	* 137	17	9.0	.3	2.5	0	0
28	.2	* 1.8	.6	1.4	2.0	82	15	* 10	.2	2.0	.2	* 0
29	.7	1.6	29	1.4	---------	61	16	7.0	.1	2.2	.6	0
30	.6	1.6	20	1.4	------	97	58	5.3	.1	2.0	.5	0
31	* .3	------	13	1.4	------	109	------	4.1	------	* 1.3	.4	------
Total	3.4	59.9	86.5	356.3	137.4	7,196.8	1,457	1,142.8	124.8	398.1	34.8	0.4
Mean	0.110	2.00	2.79	11.5	4.91	232	48.6	36.9	4.16	12.8	1.12	0.013
Cfsm	0.0029	0.052	0.073	0.302	0.129	6.09	1.28	0.969	0.109	0.336	0.029	0.00034
In.	0.003	0.06	0.08	0.35	0.13	7.02	1.43	1.12	0.12	0.39	0.03	0.0004

Calendar year 1962 : Max 1,250 Min 0 Mean 32.9 Cfsm 0.864 In. 11.72
Water year 1962-63 : Max 1,630 Min 0 Mean 30.1 Cfsm 0.790 In. 10.73

Peak discharge (base, 1,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-4	2130	12.30	3,930				
3-16	1830	11.60	3,250				
3-19	0830	10.25	2,350				

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 26, 27, Jan. 2-10, 17-20, 23-31, Feb. 1, 2, 13, 14, 17-19, 28.

3716.5 North Fork Salt Creek at Nashville, Ind.

Location.--Lat 39°12'05", long 86°14'50", in SW¼ sec. 19, T. 9 N., R. 3 E., near center of stream at downstream side of bridge on State Highway 46, 700 ft downstream from Greasy Creek and 0.4 mile south of center of Nashville, Brown County.

Drainage area.--75.9 sq mi.

Records available.--July 1962 to September 1963.

Gage.--Wire-weight gage read twice daily. Datum of gage is 579.576 ft above mean sea level, datum of 1929.

Extremes.--1962: Maximum discharge during period July to September, 4,600 cfs July 15 (gage height, 12.46 ft, from high-water mark); minimum, 1.4 cfs July 9-12 (gage height, 2.88 ft).
1962-63: Maximum discharge during water year, 7,500 cfs Mar. 4 (gage height, 15.72 ft, from high-water mark); no flow Sept. 22-30.

Remarks.--Records fair.

Discharge, in cubic feet per second, 1962

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1		7.0	16	9	1.4	13	3.4	17	175	2.8	1.6	25	16	1.8	* 1.6
2		6.5	9.6	10	1.4	8.9	2.8	18	87	2.4	1.6	26	15	3.1	2.1
3		5.0	8.9	11	* 1.4	6.0	2.4	19	34	2.1	1.6	27	13	2.6	1.8
4		5.0	7.0	12	1.4	6.0	2.4	20	36	2.1	1.6	28	8.2	2.6	1.6
5		4.5	5.0	13	18	4.1	2.4	21	26	2.1	1.6	29	27	1.8	1.6
6		218	4.1	14	788	3.8	2.1	22	34	1.8	1.6	30	15	1.8	1.6
7		68	3.4	15	2,280	3.4	1.8	23	* 18	1.8	1.6	31	9.6	* 2.4	
8		24	3.4	16	*522	3.1	1.8	24	20	1.6	1.6				
Total														419.1	99.6
Mean														13.5	3.32
Cfsm														0.178	0.044

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.6	1.0	2.6	8.0	4.1	6.0	420	92	13	2.6	2.6	0.9
2	1.6	1.0	2.6	7.5	4.5	7.5	212	76	10	3.4	2.6	.8
3	1.8	.8	2.6	7.0	5.0	10	164	68	9.6	5.0	2.1	.9
4	1.2	.8	2.6	6.4	5.5	2,290	164	55	15	5.0	3.1	.8
5	1.0	1.0	2.6	6.0	6.0	2,400	110	47	81	11	2.8	.8
6	1.0	1.4	2.6	6.0	9.0	480	92	39	61	16	2.4	.9
7	1.0	1.4	2.6	6.2	14	200	92	31	44	30	6.5	.8
8	* 1.0	1.4	2.1	6.6	17	315	71	27	39	8.2	5.0	.8
9	.8	1.4	2.1	7.5	15	175	60	22	34	4.1	3.1	.6
10	.8	1.6	* 2.0	10	15	175	52	18	27	2.8	10	.6
11	.8	1.4	2.0	200	* 15	175	50	20	20	2.8	3.8	.6
12	.8	1.8	1.9	88	12	* 164	47	18	16	2.8	2.6	.6
13	.8	* 2.1	1.8	42	10	143	36	16	13	4.1	4.1	.8
14	.6	1.6	1.7	* 28	9.0	126	30	16	* 12	6.0	* 3.4	.6
15	.5	1.4	1.6	22	7.2	118	* 29	15	11	6.0	2.6	.5
16	.5	2.1	1.6	17	6.4	2,710	27	* 13	8.2	3.8	2.6	.3
17	.4	5.5	16	13	5.6	*1,540	24	61	6.0	2.8	2.4	.2
18	.4	6.0	1.6	11	6.4	345	23	68	5.0	2.1	2.1	* .2
19	.4	5.5	1.8	9.5	7.2	685	22	47	5.0	* 1.6	2.4	.1
20	.4	3.8	2.1	8.5	8.0	510	509	44	3.4	30	3.8	.1
21	.5	3.1	2.5	7.5	8.0	225	188	32	3.1	19	2.6	.1
22	.5	3.8	3.0	6.5	6.3	164	122	29	3.1	11	2.6	0
23	.4	4.1	3.2	5.5	5.5	118	92	22	2.8	17	2.1	0
24	.4	3.8	2.6	4.8	6.5	88	69	18	2.8	14	1.8	0
25	.4	3.8	2.4	4.3	7.4	106	58	15	2.6	7.6	8.9	0
26	.4	4.1	2.3	3.8	6.0	380	51	15	2.6	5.0	5.0	0
27	.4	3.8	2.1	3.6	5.2	330	40	13	2.6	4.5	3.1	0
28	.4	3.1	2.0	3.4	4.8	200	31	20	2.8	4.1	2.4	0
29	2.1	3.1	2.7	3.4	---------	141	36	20	2.6	3.8	1.8	0
30	1.4	2.8	5.4	3.5	- - - - -	156	110	18	2.8	3.1	1.4	0
31	1.2	- - - - -	7.0	3.7	- - - - -	390	- - - - -	15	- - - - -	2.8	1.0	- - - - - -
Total	25.5	78.5	77.3	560.2	231.6	14,872.5	3,031	1,010	461.0	242.0	102.7	12.0
Mean	0.82	2.62	2.49	18.1	8.27	480	101	32.6	15.4	7.81	3.31	0.40
Cfsm	0.011	0.035	0.033	0.238	0.109	6.32	1.33	0.430	0.203	0.103	0.044	0.0053
In.	0.01	0.04	0.04	0.27	0.11	7.29	1.48	0.50	0.23	0.12	0.05	0.006

Calendar year 1962 : Max - Min - Mean - Cfsm - In. -
Water year 1962-63 : Max 2,710 Min 0 Mean 56.7 Cfsm 0.747 In. 10.15

Peak discharge (base, 1,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-4	2000	15.72	7,500				
3-16	1900	14.4	6,260				

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 10-14, 17, Dec. 19 to Jan. 10, Jan. 13 to Mar. 3.

GPO 811-767-9

3-3720. North Fork Salt Creek near Belmont, Ind.

Location.--Lat 39°09'00", long 86°20'14", in NW¼ sec. 5, T. 8 N., R. 2 E., on right bank 15 ft downstream from bridge on State Highway 46, 100 ft upstream from Schooner Creek, 0.7 mile northeast of Belmont, 6½ miles upstream from Brummett Creek, and 20 miles upstream from mouth. Records include flow of Schooner Creek.
Drainage area.--120 sq mi, includes that of Schooner Creek.
Records available.--April 1946 to September 1963.
Gage.--Water-stage recorder. Datum of gage is 543.62 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission). Prior to Oct. 9, 1951, wire-weight gage at same site and datum.
Average discharge.--17 years, 133 cfs.
Extremes.--Maximum discharge during year, 7,600 cfs Mar. 5 (gage height, 20.54 ft); minimum, 0.4 cfs Sept. 26-28, 29; minimum gage height, 2.56 ft Sept. 27-29.
1946-63: Maximum discharge, 13,300 cfs June 23, 1960 (gage height, 23.10 ft); no flow at times for most years.
Flood in March 1913 reached a stage of 25.7 ft, from information by local residents.
Remarks.--Records good except those for periods of ice effect, which are fair.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Nov. 1; rate of change in stage used as a factor Mar. 4-6, 16-20, 26, 27, Apr. 1, 19, 20)

Oct. 1 to Jan. 11

2.6	1.8	3.3	22
2.8	5.0	3.5	34
2.9	7.0	4.0	73
3.0	9.6	5.0	194
3.2	18		

Jan. 12 to Sept. 30

2.5	0	4.0	82
2.6	.9	6.0	335
2.7	3.0	10.0	855
2.8	5.5	14.0	1,460
2.9	8.1	17.0	2,290
3.0	12	18.0	3,040
3.2	20	19.0	4,480
3.5	38	20.0	6,500

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.8	* 3.1	4.8	15	* 7.5	12	660	179	20	2.2	* 4.8	2.0
2	2.2	3.1	4.8	14	8.0	14	387	140	17	2.2	3.5	1.8
3	2.2	3.1	4.6	13	8.6	20	257	116	16	3.5	4.5	1.6
4	2.2	4.4	4.4	12	9.0	1,550	231	98	20	5.8	22	1.6
5	2.1	3.3	4.4	12	10	5,390	179	82	322	4.5	6.8	* 1.2
6	2.2	3.1	4.4	11	15	1,070	153	67	244	9.0	4.5	1.0
7	2.8	3.1	4.3	12	24	361	128	54	98	18	8.0	.9
8	3.1	3.4	4.1	12	28	244	110	47	110	20	6.8	.9
9	4.4	3.3	3.9	13	24	244	98	41	72	9.3	6.8	1.0
10	4.4	3.4	3.8	18	24	283	77	38	47	6.3	15	1.2
11	4.8	3.4	3.7	177	24	257	65	44	34	4.8	11	1.2
12	5.4	3.9	3.6	160	22	283	58	34	26	3.5	7.1	1.4
13	6.2	3.9	3.4	77	20	244	53	31	20	3.5	10	1.4
14	5.6	3.8	3.3	53	17	192	47	30	29	6.3	8.4	1.2
15	3.6	3.9	3.1	41	14	153	39	25	19	7.3	6.0	1.0
16	3.6	4.8	3.0	29	12	1,560	37	24	14	6.8	4.8	1.0
17	3.4	6.6	3.0	24	11	3,880	38	205	13	5.0	4.0	.9
18	3.0	11	3.0	22	12	718	37	205	10	4.0	3.2	.9
19	3.1	9.1	3.1	18	14	824	172	104	8.7	3.5	3.0	.9
20	3.6	11	3.8	16	15	982	838	87	7.6	68	3.0	.9
21	2.7	10	4.8	14	15	387	335	72	9.0	65	3.0	.9
22	2.1	9.3	5.6	12	12	244	218	54	6.5	23	3.8	.9
23	2.8	7.8	6.0	10	10	179	160	40	5.5	29	3.2	.7
24	3.0	7.3	4.8	9.0	12	146	116	32	5.0	26	2.8	.7
25	3.6	6.6	4.4	8.0	14	180	92	28	4.5	16	2.5	.6
26	4.8	* 6.4	4.3	7.2	12	766	82	24	3.8	10	6.0	.4
27	5.2	6.0	3.8	6.6	9.6	570	69	24	* 3.2	9.0	7.8	.4
28	3.4	5.8	3.6	6.4	* 8.7	335	60	29	3.2	12	4.5	.4
29	4.6	5.4	5.0	6.2	---	* 231	60	* 39	2.8	8.4	3.5	.7
30	5.8	5.2	10	6.4	- - -	244	* 166	32	2.2	6.5	2.8	5.2
31	4.3	- - -	* 13	6.8	- - -	335	- - -	24	- - -	5.0	2.0	- - -
Total	112.0	164.5	141.8	841.6	412.4	21,898	5,022	2,049	1,193.0	403.4	185.1	34.9
Mean	3.61	5.48	4.57	27.1	14.7	706	167	66.1	39.8	13.0	5.97	1.16
Cfsm	0.030	0.046	0.038	0.226	0.122	5.88	1.39	0.551	0.332	0.108	0.050	0.0097
In.	0.03	0.05	0.04	0.26	0.13	6.78	1.55	0.64	0.37	0.12	0.06	0.01

Calendar year 1962 : Max 2,090 Min 1.7 Mean 98.6 Cfsm 0.822 In. 11.14
Water year 1962-63 : Max 5,390 Min 0.4 Mean 88.9 Cfsm 0.741 In. 10.04

Peak discharge (base, 2,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	0830	20.54	7,600				
3-17	0800	19.58	5,680				

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 11, 29, Jan. 19, 20, 23-31, Feb. 1-3, 5, 6, Mar. 1.

3-3725. Salt Creek near Harrodsburg, Ind.

Location.--Lat 39°00'16", long 86°30'31", in NW¼ sec. 34, T. 7 N., R. 1 W., on right bank 1,300 ft downstream from Monroe Reservoir dam site, 0.9 mile upstream from Clear Creek, 2.2 miles southeast of Harrodsburg, and 25.1 miles upstream from mouth.

Drainage area.--441 sq mi.

Records available.--May 1955 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 480.00 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Prior to Oct. 1, 1960, wire-weight gage at site 3,500 ft upstream at datum 2.41 ft higher.

Average discharge.--8 years, 508 cfs.

Extremes.--Maximum discharge during year, 9,400 cfs Mar. 7 (gage height, 29.83 ft); minimum, 1.9 cfs Sept. 25-29; minimum gage height, 4.81 ft July 6.

1955-63: Maximum discnarge, 22,000 cfs June 25, 1960 (gage height, 32.76 ft, from graph based on gage readings at site and datum then in use); maximum gage height at present site and datum, 35.35 ft May 9, 1961; minimum discharge, 0.3 cfs Oct. 7, 1960 and Sept. 29, 1961.

Remarks.--Records good except those for periods of indefinite stage-discharge relation, ice effect and backwater, which are fair. Since January 1963, flow regulated by Monroe Dam 1,300 ft upstream from the gage.

Rating tables, water year 1962-63, except periods of indefinite stage-discharge relation, ice effect, and backwater (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Sept. 3-30)

Oct. 1 to Mar. 3				Mar. 4 to Sept. 30					
4.8	3.8	7.0	102	4.4	1.3	7.0	125	24.0	3,700
5.0	7.0	8.0	220	4.6	3.5	8.0	220	27.0	5,600
5.5	19	10.0	540	4.8	6.8	10.0	510	29.0	8,000
6.0	37	12.0	870	5.2	17	12.0	850	30.0	9,800
6.5	64			5.6	33	16.0	1,560		
				6.0	53	20.0	2,400		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.6	9.0	30	154	33	51	1,700	*446	95	12	24	14
2	7.6	8.4	28	*122	37	57	2,030	446	82	12	20	12
3	9.5	11	26	98	41	107	1,380	322	74	10	19	15
4	8.0	10	24	82	44	1,460	867	268	71	9.0	140	*8.5
5	8.0	9.2	23	74	48	4,880	646	220	77	7.5	43	5.5
6	8.8	8.6	22	71	42	5,420	494	190	155	109	38	4.8
7	10	8.6	21	68	73	8,800	398	144	220	46	38	4.2
8	9.5	8.4	20	71	86	7,100	336	143	220	32	32	3.4
9	10	8.4	19	71	102	4,350	308	134	210	32	29	3.2
10	8.0	9.2	18	74	98	2,880	232	84	190	32	40	3.2
11	7.6	9.8	17	133	b 87	c2,000	200	100	170	27	31	3.5
12	7.0	11	16	706	b 77	c1,300	180	118	118	22	29	4.0
13	7.6	13	15	645	b 68	c 950	161	148	125	21	42	3.5
14	8.5	13	15	348	b 61	c 700	152	75	113	34	36	3.4
15	6.6	13	15	300	b 55	527	143	42	93	22	30	3.0
16	5.6	18	15	268	b 50	1,460	134	85	85	19	26	2.6
17	5.0	23	14	184	b 47	4,620	134	484	100	18	23	2.6
18	5.6	31	14	127	b 46	5,330	125	901	82	19	20	2.6
19	5.0	60	15	98	48	8,320	159	1,000	58	18	20	2.1
20	4.5	78	15	86	54	7,060	1,090	581	43	60	21	2.4
21	5.6	78	27	78	57	c4,300	1,960	322	40	101	19	2.9
22	5.6	78	29	69	54	c2,900	1,130	382	31	146	18	2.5
23	4.5	71	26	54	48	c1,600	595	342	27	105	16	2.2
24	5.0	64	23	46	44	c1,000	398	190	24	127	16	2.0
25	4.5	54	24	41	46	c 520	280	200	21	132	15	1.9
26	5.0	48	24	b 35	51	1,410	244	193	*19	93	15	1.9
27	5.6	*43	20	b 35	51	2,550	200	138	17	71	14	1.9
28	5.6	38	20	b 33	*44	*2,260	180	125	14	53	20	1.9
29	*6.1	35	61	*b 31	---	1,280	170	117	15	40	26	1.9
30	5.6	32	66	b 31	---	884	220	125	13	*36	22	*2.5
31	8.2	---	97	31	---	1,150	---	*113	---	29	17	---
Total	211.3	901.6	799	4,264	1,592	87,226	16,246	9,178	2,602	1,494.5	899	125.1
Mean	6.82	30.1	25.8	138	56.9	2,814	542	264	86.7	48.2	29.0	4.17
Cfsm	0.015	0.068	0.059	0.313	0.129	6.38	1.23	0.599	0.197	0.109	0.066	0.0095
In.	0.02	0.08	0.07	0.36	0.13	736	1.37	0.69	0.22	0.13	0.08	0.01

Calendar year 1962: Max 5,140 Min 4.5 Mean 369 Cfsm 0.837 In. 11.34
Water year 1962-63: Max 8,800 Min 1.9 Mean 341 Cfsm 0.773 In. 10.52

Peak discharge (base, 4,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-7	1300	29.83	9,400				
3-19	1200-1300	29.45	8,640				

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
c Backwater from return of overbank storage or from the East Fork White River.
Note.--Stage-discharge relation indefinite Oct. 1 to Nov. 19, Nov. 27 to Dec. 20, Dec. 23-28, Aug. 31, Sept. 1, 2.

3-3727. Clear Creek at Harrodsburg, Ind.

Location.--Lat 39°02'03", long 86°34'01", in NW¼ sec. 19, T. 7 N., R. 1 W., on left bank at downstream side of county road bridge, 1.9 miles northwest of Harrodsburg, 3.9 miles upstream from Little Clear Creek, and 5.1 miles upstream from mouth.

Drainage area.--55.2 sq mi, of which 6.4 sq mi does not contribute directly to surface runoff.

Records available.--September 1960 to September 1963.

Gage.--Water-stage recorder (digital punch since Nov. 23, 1962). Datum of gage is 517.00 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 5,860 cfs Mar. 4 (gage height, 12.64 ft); minimum, 5.6 cfs Sept. 24 (gage height, 3.23 ft).
1960-63: Maximum discharge, 6,190 cfs May 8, 1961 (gage height, 12.89 ft); minimum, that of Sept. 24, 1963; minimum gage height, 3.20 ft Oct. 3, 1960.
Flood of June 1960 reached a stage of 16.47 ft, from floodmarks (discharge, 10,200 cfs on basis of contracted-opening measurement).

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. Flow partly regulated by effluent from the sewage treatment plant of the city of Bloomington and possibly by pumpage from several rock quarries.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used June 25 to July 5)

Oct. 1 to Mar. 4				Mar. 5 to Sept. 30			
3.3	8.5	5.5	330	3.2	6.8	5.0	215
3.4	11	6.0	525	3.4	11	5.5	360
3.7	24	7.0	1,090	3.7	24	6.0	560
4.0	48	8.0	1,800	4.0	48	7.0	1,090
4.5	114	10.0	3,400	4.5	116	8.0	1,800
5.0	200						

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	15	15	30	15	30	292	43	20	13	12	8.5
2	14	15	14	23	17	37	191	* 39	18	14	12	8.0
3	13	14	14	* 22	19	b 100	148	36	18	12	15	* 8.5
4	12	13	15	22	22	2,230	119	33	21	11	103	9.5
5	13	15	14	20	28	830	96	31	33	10	19	9.5
6	14	14	14	19	43	380	85	31	21	134	14	9.8
7	14	14	14	19	50	250	74	30	19	38	20	8.8
8	13	13	14	19	38	162	67	30	33	18	14	8.2
9	14	13	12	19	29	138	61	29	19	15	17	7.5
10	13	14	b 11	21	21	128	52	27	16	12	24	9.0
11	13	12	b 11	b 85	19	128	46	27	23	11	13	10
12	14	25	b 10	66	17	129	42	24	16	12	14	10
13	18	24	b 10	42	15	112	38	28	20	15	45	9.5
14	15	19	b 10	37	14	94	34	24	39	40	17	9.8
15	13	16	b 11	33	14	86	32	23	19	17	14	9.0
16	15	32	b 12	29	14	1,260	34	28	16	14	14	8.2
17	17	50	b 13	26	15	791	33	175	16	13	13	10
18	14	36	b 15	25	16	340	31	76	16	14	12	9.0
19	13	29	18	22	21	764	62	45	16	14	14	8.2
20	14	27	25	20	21	395	85	46	23	94	17	10
21	14	25	30	19	18	243	52	35	21	24	15	10
22	12	19	21	18	16	164	45	29	16	17	14	9.0
23	13	16	19	16	16	130	41	26	15	17	14	7.8
24	13	15	17	16	17	112	35	24	14	14	14	8.3
25	15	14	16	15	* 21	120	33	23	13	13	12	10
26	15	14	15	15	20	* 412	32	20	12	13	10	10
27	14	15	b 14	15	20	239	30	22	* 12	19	11	10
28	27	15	b 14	14	19	164	28	39	12	14	22	10
29	* 49	* 15	b 100	* 14	------	127	37	38	11	* 14	15	13
30	21	15	61	14	------	152	71	25	11	14	11	9.5
31	18	------	38	14	------	202	------	20	------	12	10	------
Total	487	573	617	769	597	10,349	2,026	1,126	561	692	571	278.6
Mean	15.7	19.1	19.9	24.8	21.3	334	67.5	36.3	18.7	22.3	18.4	9.29
Cfsm	.284	.346	.361	.449	.386	6.05	1.22	.658	.339	.404	.333	.168
In.	.33	.39	.42	.52	.40	6.97	1.36	.76	.38	.47	.38	.19

Calendar year 1962: Max 1,180 Min 10 Mean 62.0 Cfsm 1.12 In. 15.25
Water year 1962-63: Max 2,230 Min 7.5 Mean 51.1 Cfsm 0.926 In. 12.56

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-4	1930	12.64	5,860				
3-16	2015	10.09	3,480				
3-19	1700	6.85	970				

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Jan. 21 to Feb. 5, 12-18, 22, 23, 25, 26, 28, Mar. 1, 2.

3-3730. Salt Creek near Peerless, Ind.

Location.--Lat 38°56'35", long 86°30'38", in NW¼ sec. 22, T. 6 N., R. 1 W., on downstream side near center of Monon Railroad bridge, 3,400 ft downstream from Little Salt Creek, 1.5 miles north of Peerless, and 18.6 miles upstream from mouth.

Drainage area.--582 sq mi.

Records available.--February 1939 to September 1950, February 1957 to September 1963.

Gage.--Wire-weight gage read twice daily. Datum of gage is 476.02 ft above mean sea level, datum of 1929. Feb. 1-10, 1939 chain gage and Feb. 11, 1939 to Sept. 30, 1950, water-stage recorder, at same site and datum.

Average discharge.--17 years, 673 cfs.

Extremes.--Maximum discharge during year, 8,160 cfs Mar. 20 (gage height, 27.90 ft); minimum, 8.5 cfs Sept. 25 (gage height, 1.49 ft).
1939-50, 1957-63: Maximum discharge, 25,100 cfs May 10, 1961 (gage height, 35.33 ft, from graph based on gage readings); minimum, 0.7 cfs Aug. 18, 1940.
Flood of January 1937 reached a stage of 34.3 ft (information by Corps of Engineers).

Remarks.--Records fair except those for periods of ice effect, which are poor. Stage-discharge relation affected at time by backwater from East Fork White River or return flow from overbank storage. Starting January 1963, flow regulated by Monroe Dam, 6.5 miles upstream from gage.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 29, May 25, May 28 to June 3, June 5, 6, 10-18. Backwater from return of overbank flow Mar. 9-15, 21-30)

1.4	6.5	3.0	142	19.0	3,850
1.5	8.7	4.0	262	24.0	5,650
1.7	16	6.0	536	27.0	7,040
2.0	37	9.0	1,060	28.0	8,300
2.5	87	13.0	1,950		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	31	49	310	50	75	2,200	586	131	23	36	23
2	15	31	45	286	54	85	2,850	* 688	98	28	29	20
3	18	29	39	226	58	160	2,150	552	114	24	30	26
4	16	26	39	190	62	1,450	1,400	456	92	22	382	*54
5	16	24	37	166	70	5,570	1,070	382	98	21	109	24
6	17	24	35	148	65	5,800	929	322	142	190	64	22
7	19	23	34	136	100	6,270	705	274	334	166	62	17
8	18	20	32	126	120	7,240	569	238	358	62	56	15
9	21	20	32	131	140	5,500	520	202	334	50	44	14
10	16	22	30	142	150	3,700	424	154	286	48	82	14
11	15	22	29	346	130	2,500	358	131	262	43	54	14
12	14	22	28	756	115	1,700	310	202	190	35	44	15
13	15	40	25	773	105	1,200	274	262	166	38	70	14
14	20	50	23	603	90	1,000	250	226	190	87	60	14
15	18	43	24	552	82	800	226	131	126	49	47	14
16	18	52	24	488	75	1,700	214	178	104	41	43	12
17	17	142	23	410	70	5,380	202	1,210	109	28	39	11
18	18	154	23	298	58	5,690	190	1,490	104	31	33	14
19	17	154	24	202	70	6,440	262	1,400	65	30	31	12
20	16	166	24	154	80	8,020	1,360	1,040	50	154	36	11
21	18	166	44	130	84	5,500	2,530	603	53	126	32	12
22	18	154	52	110	80	4,500	1,700	536	48	202	29	11
23	16	126	42	90	74	3,500	947	552	41	166	28	10
24	17	114	37	75	66	1,400	671	382	38	166	24	10
25	16	87	39	65	68	750	504	286	33	214	24	8.7
26	17	76	39	56	75	1,700	410	382	* 31	136	22	11
27	18	*65	32	54	75	3,200	346	358	29	104	20	12
28	18	62	33	50	* 66	* 3,000	310	190	28	76	23	11
29	* 43	54	96	48	---	1,800	286	202	26	56	57	12
30	52	52	105	*48	---	1,250	382	178	24	* 51	31	* 13
31	31	---	210	48	---	1,470	---	* 154	---	43	25	---
Total	603	2,051	1,348	7,217	2,342	98,350	24,549	13,947	3,704	2,510	1,666	470.7
Mean	19.5	68.4	43.5	233	83.6	3,173	818	450	123	81.0	53.7	15.7
Cfsm	0.034	0.118	0.075	0.400	0.144	5.45	1.41	0.773	0.211	0.139	0.092	0.027
In.	0.04	0.13	0.09	0.46	0.15	6.28	1.57	0.89	0.24	0.16	0.11	0.03

Calendar year 1962: Max 5,500 Min 14 Mean 518 Cfsm 0.890 In. 12.07
Water year 1962-63: Max 8,020 Min 8.7 Mean 435 Cfsm 0.747 In. 10.15

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 29-31, Jan. 21 to Mar. 3.

3-3732. Indian Creek near Springville, Ind.

Location.--Lat 38°57'01", long 86°40'30", in SW¼ sec. 18, T. 6 N., R. 2 W., on left bank at downstream side of State Highway 54 bridge, ¼ mile downstream from Popcorn Creek, and 4 miles northwest of Springville.

Drainage area.--60.9 sq mi.

Records available.--September 1961 to September 1963.

Gage.--Water-stage recorder (digital punch since July 30, 1963). Datum of gage is 580.00 ft above mean sea level, datum of 1929, unadjusted.

Extremes.--Maximum discharge during year, 5,120 cfs Mar. 4 (gage height, 11.60 ft); no flow Sept. 30.
1961-63: Maximum discharge, that of Mar. 4, 1963; minimum, that of Sept. 30, 1963.
Flood of Spring 1950 or 1951 reached a stage of 18.4 ft from information by local resident.

Remarks.--Records good except those for periods of no gage-height record or ice effect, which are fair.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 3-28)

1.43	0	2.4	45
1.5	.2	2.7	90
1.6	.7	3.0	155
1.7	1.7	3.5	320
1.8	3.6	4.0	520
1.9	6.0	5.0	930
2.0	10	6.0	1,380
2.2	25	8.0	2,500

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.7	4.7	5.0	19	4.5	14	254	45	22	1.8	0.6	0.7
2	1.8	4.0	4.7	15	5.0	19	128	34	18	1.8	.5	.5
3	2.0	3.8	4.7	13	6.0	107	90	28	15	1.7	.5	20
4	1.8	3.6	4.7	11	7.2	1,940	72	23	19	1.6	84	5.0
5	1.8	3.8	4.5	10	8.8	1,260	56	19	26	1.4	9.2	1.6
6	2.0	3.8	4.5	9.6	15	344	49	17	16	16	3.7	1.0
7	2.2	3.8	4.2	9.6	19	153	43	14	12	17	7.4	.7
8	3.1	3.8	4.2	9.6	14	104	37	12	9.2	5.5	3.9	.6
9	4.0	3.6	4.0	10	9.6	100	33	12	8.4	3.6	2.9	.7
10	4.0	3.6	3.8	12	9.0	96	28	9.2	7.2	2.4	3.9	.6
11	4.5	3.6	3.2	46	8.0	100	23	8.8	7.2	2.0	2.5	.8
12	4.5	8.7	2.7	36	7.0	100	22	8.8	6.4	1.7	2.2	.8
13	4.7	16	2.4	23	6.2	78	19	8.4	6.8	2.8	4.6	.5
14	4.7	10	2.5	17	5.3	62	18	46	9.2	7.2	3.0	.4
15	5.3	8.0	2.7	14	4.7	51	16	39	6.8	5.3	2.1	.4
16	5.8	15	3.0	11	4.2	1,790	15	93	5.5	3.6	1.5	.4
17	6.0	40	3.1	9.2	4.8	777	15	931	4.7	2.5	1.2	.3
18	5.8	27	3.4	8.5	5.4	296	14	174	4.2	2.0	.9	.3
19	5.5	21	3.8	7.6	6.2	938	123	85	3.8	1.7	1.4	.2
20	5.0	16	4.7	7.0	7.2	320	159	70	3.6	7.8	1.3	.2
21	4.7	15	9.2	6.3	7.2	148	73	55	3.6	a 6.5	1.0	.2
22	4.2	11	9.6	5.8	5.3	96	53	40	2.9	a 2.4	.9	.1
23	4.2	8.8	8.4	5.4	5.0	80	41	29	2.7	a 2.2	.8	.1
24	4.0	7.2	6.4	5.2	6.8	66	31	23	2.4	a 2.2	.7	.1
25	4.2	6.8	5.8	4.8	* 9.2	* 96	27	20	* 2.2	a 1.0	.7	.1
26	4.2	6.4	5.8	4.7	7.2	320	23	17	2.0	a .8	.6	.1
27	4.2	* 5.8	5.5	4.6	6.0	189	19	* 19	1.8	a 1.0	.5	.1
28	5.4	5.5	* 5.0	4.5	5.8	114	18	73	1.7	a 1.2	.9	.1
29	16	5.5	58	4.5	---------	82	* 24	77	1.7	a 1.0	1.6	.1
30	* 9.2	5.3	48	* 4.5	------	204	76	41	1.7	* .8	1.4	0
31	5.5	------	25	4.5	-----	210	-----	28	------	.7	.9	------
Total	142.0	281.1	262.5	352.9	209.6	10,254	1,599	2,099.2	233.7	109.2	147.3	36.7
Mean	4.58	9.37	8.47	11.4	7.49	331	53.3	67.7	7.79	3.52	4.75	1.22
Cfsm	0.075	0.154	0.139	0.187	0.123	5.44	0.875	1.11	0.128	0.058	0.078	0.020
In.	0.09	0.17	0.16	0.22	0.13	6.27	0.98	1.28	0.14	0.07	0.09	0.02

Calendar year 1962: Max 2,000 Min 1.7 Mean 55.0 Cfsm 0.903 In. 12.27
Water year 1962-63: Max 1,940 Min 0 Mean 43.1 Cfsm 0.708 In. 9.62

Peak discharge (base, 1,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-4	1930	11.60	5,120				
3-16	1930	10.52	4,240				
3-19	0030	6.94	1,840				
5-17	0400	7.81	2,380				

* Discharge measurement made on this day.
a No gage-height record.
Note.--Stage-discharge relation affected by ice Dec. 11, 16, Jan. 4, 6, 18-21, 23-31, Feb. 1-3, 11-15, 17-19.

3-3735. East Fork White River at Shoals, Ind.

Location.--Lat 38°40'02", long 86°47'32", in sec. 30, T. 3 N., R. 3 W., in first pier from left bank on highway bridge at Shoals, 400 ft upstream from Baltimore and Ohio Railroad bridge, 1 mile upstream from Beaver Creek, and at mile 107.6.

Drainage area.--4,954 sq mi.

Records available.--June 1903 to July 1906, October 1908 to September 1916, June 1923 to September 1963. Monthly discharge only for some periods, published in WSP 1305. Published as East Branch White River at Shoals, 1903-6, 1908-16. Gage-height records collected at same site since May 1908 are contained in reports of U.S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 442.25 ft above mean sea level, datum of 1929. Prior to Jan. 1, 1909, chain gage at same site at datum 61.00 ft lower. Jan. 1, 1909 to July 26, 1927 and Dec. 10, 1929 to Oct. 26, 1932, chain gage at present site and datum.

Average discharge.--49 years (1903-5, 1906-16, 1923-63), 5,396 cfs.

Extremes.--Maximum discharge during year, 45,500 cfs Mar. 11 (gage height, 26.70 ft); minimum, 135 cfs Sept. 28 (gage height, 1.60 ft, regulation by Williams Dam).
1903-6, 1908-16, 1923-63: Maximum discharge, 160,000 cfs Mar. 28, 1913 (gage height, 42.2 ft), from rating curve extended above 100,000 cfs by logarithmic plotting; minimum, 44 cfs Oct. 6, 1935, as a result of filling Williams Reservoir.

Remarks.--Records good.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Apr. 9 to May 17, May 20-30, June 3-15)

1.5	133	5.0	4,470
1.8	210	7.0	8,900
2.1	365	13.0	18,900
2.3	510	21.0	31,300
2.7	850	25.0	40,600
3.5	1,800	27.0	46,400

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	585	760	850	1,170	900	1,120	10,800	4,470	1,880	805	1,000	715
2	548	850	805	1,120	900	1,530	10,700	4,680	1,880	805	950	628
3	548	850	805	1,220	b 950	2,430	11,800	4,890	2,100	805	760	585
4	628	805	760	1,280	1,000	5,490	12,500	4,470	2,430	805	715	585
5	628	760	760	1,220	1,060	17,000	12,500	3,880	2,260	850	1,120	585
6	850	715	715	1,060	1,460	23,000	11,200	3,500	2,430	1,170	950	585
7	1,000	715	715	1,000	1,800	21,600	9,100	3,130	2,600	1,060	805	510
8	900	670	715	950	1,800	24,900	7,400	2,950	2,770	1,340	760	510
9	805	670	670	900	1,730	33,000	6,440	2,770	3,130	1,170	715	472
10	760	670	670	900	1,800	41,700	5,530	2,600	3,130	1,170	715	472
11	670	670	628	1,220	1,800	45,200	4,890	2,430	2,950	1,000	900	435
12	670	715	510	2,100	1,730	42,800	4,470	2,430	2,600	950	1,000	435
13	670	715	472	2,950	b 1,600	36,600	4,070	2,260	2,260	950	1,000	421
14	805	805	421	4,070	b 1,500	26,900	3,690	2,600	2,430	760	1,060	421
15	805	850	472	3,500	b 1,400	17,300	3,500	2,770	2,260	850	950	414
16	715	900	510	2,600	b 1,300	13,600	3,310	2,950	1,800	850	900	407
17	628	950	548	b 1,880	1,220	21,500	3,130	5,100	1,730	805	950	393
18	628	1,060	548	1,880	1,120	23,800	3,130	8,290	1,660	760	950	386
19	805	1,060	585	1,950	1,060	24,900	2,950	7,630	1,530	850	900	379
20	715	1,060	628	1,730	1,060	28,300	4,070	6,210	1,340	715	805	379
21	670	1,120	715	b 1,450	b 1,100	30,800	5,530	5,100	1,170	950	760	372
22	628	1,340	760	b 1,150	b 1,100	32,300	6,680	4,070	1,120	1,340	715	365
23	628	1,400	760	900	b 1,050	33,000	6,210	3,500	805	1,880	715	* 365
24	628	1,340	715	b 880	1,000	32,300	5,100	3,130	950	2,430	715	365
25	585	1,220	715	a 860	* 1,060	*30,400	4,680	2,770	* 1,000	2,600	760	365
26	585	1,120	670	a 840	b 1,050	27,100	5,100	2,600	950	2,100	760	365
27	628	1,060	715	a 840	b 1,050	23,200	5,750	* 2,260	900	1,730	715	260
28	628	950	670	a 840	1,000	19,200	5,750	2,100	850	1,400	670	145
29	670	* 900	*850	a 840	----------	16,400	* 5,100	2,100	760	* 1,000	760	201
30	* 715	900	1,400	a 850	------	14,100	4,470	1,950	760	1,060	* 805	278
31	715	------	1,340	*a 860	------	12,200	------	1,880	------	950	760	------
Total	21,443	27,600	22,097	45,010	35,600	723,670	189,550	111,470	54,435	35,910	26,040	12,798
Mean	692	920	713	1,452	1,271	23,340	6,318	3,596	1,814	1,158	840	427
Cfsm	0.140	0.186	0.144	0.293	0.257	4.71	1.28	0.726	0.366	0.234	0.170	0.086
In.	0.16	0.21	0.17	0.34	0.27	5.43	1.43	0.84	0.41	0.27	0.20	0.10

Calendar year 1962 : Max 35,600 Min 421 Mean 4,426 Cfsm 0.893 In. 12.15
Water year 1962-63 : Max 45,200 Min 145 Mean 3,577 Cfsm 0.722 In. 9.83

Peak discharge (base, 20,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-11	1300	26.70	45,500				
3-23	2100	21.87	33,200				

* Discharge measurement made on this day.
a No gage-height record.
b Stage-discharge relation affected by ice.
Note.--Mean daily gage heights computed from twice-daily readings of wire-weight gage Feb. 1-5, 9-23, May 17-21, Sept. 28, 29.

3-3740. White River at Petersburg, Ind.

Location.--Lat 38°30'39", long 87°17'22", in SW¼ sec. 15, T. 1 N., R. 8 W., on left bank, 300 ft downstream from bridge on State Highway 61, three-eighths of a mile upstream from Prides Creek, 1 mile north of Petersburg, and at mile 47.7.

Drainage area.--11,139 sq mi.

Records available.--October 1927 to September 1963. Monthly discharges only for some periods, published in WSP 1305. Published as "at Hazleton" October 1927 to September 1938. Records published for both sites October 1937 to September 1938. Gage-height records collected at present site and datum since January 1935 are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 400.00 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1937, water-stage recorder at bridge, 29 miles downstream at datum 16.77 ft lower. Oct. 1, 1937, to Apr. 1, 1941, wire-weight gage at site 300 ft upstream at present datum.

Average discharge.--36 years, 11,480 cfs.

Extremes.--Maximum discharge during year, 82,500 cfs Mar. 12 (gage height, 24.04 ft); minimum, 1,000 cfs Sept. 30 (gage height, 0.70 ft).

1927-63: Maximum discharge, 183,000 cfs Jan. 22, 1937 (gage height, 28.3 ft, present datum, 31.58 ft site and datum then in use); minimum, 553 cfs Oct. 2, 1941 (gage height, 0.05 ft).

Maximum stage known, 29.5 ft (present site and datum) in March 1913, from floodmarks, by Corps of Engineers (discharge, 235,000 cfs, estimated).

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 11				Mar. 12 to Sept. 30			
1.6	2,090	20.0	46,000	0.7	1,000	16.0	30,000
4.0	5,480	22.0	58,000	2.0	2,480	20.0	46,000
10.0	15,800	24.0	82,500	6.0	8,550	22.0	58,000
16.0	30,000			10.0	15,700	24.0	82,500

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,590	2,460	2,460	2,700	1,900	2,720	27,600	10,800	5,300	2,600	2,800	1,880
2	2,590	2,460	2,330	2,600	1,900	3,240	26,100	10,900	4,990	3,000	2,800	1,880
3	2,460	2,330	2,330	2,500	2,000	3,930	27,000	12,100	4,680	3,140	2,600	1,760
4	2,850	2,460	2,330	2,400	2,000	7,080	29,100	12,100	4,680	2,960	2,400	1,760
5	3,240	2,330	2,330	2,300	2,100	22,700	30,600	10,900	4,990	2,860	2,600	1,760
6	2,850	2,330	2,210	2,200	2,500	32,700	30,300	9,910	5,940	2,720	2,900	1,640
7	2,590	2,210	2,210	2,200	3,300	37,000	26,400	9,890	6,260	3,000	2,500	1,640
8	2,590	2,210	2,210	2,200	3,800	42,000	21,800	8,040	6,740	2,860	2,100	1,640
9	2,460	2,210	2,210	2,100	4,000	53,900	13,400	7,380	6,100	3,200	2,100	1,520
10	2,330	2,210	2,210	2,100	4,100	* 72,600	16,100	7,060	7,220	3,000	2,500	1,520
11	2,210	2,090	2,100	2,850	4,000	81,000	14,600	6,740	7,540	* 2,860	3,000	1,520
12	2,210	2,210	2,100	3,650	3,900	82,500	13,400	6,580	6,420	2,700	* 3,000	1,400
13	2,090	2,210	2,000	4,840	3,700	79,600	12,300	6,100	5,460	2,600	3,000	1,400
14	2,210	2,210	1,900	5,800	3,600	70,000	11,400	6,260	6,580	2,500	2,720	1,400
15	2,210	2,330	1,900	6,440	3,400	58,800	10,800	7,380	10,600	2,600	2,600	1,400
16	2,330	* 2,330	1,900	* 5,640	3,200	48,500	10,200	7,540	8,380	2,600	2,600	1,400
17	3,110	2,460	1,900	4,680	3,110	44,500	* 9,910	9,230	6,100	2,500	2,480	1,400
18	2,850	2,720	1,900	4,230	2,850	44,500	9,570	13,800	* 4,990	2,500	2,360	1,300
19	* 2,590	3,110	2,000	3,930	2,720	49,100	9,570	15,900	4,540	2,400	2,360	1,300
20	2,460	3,370	2,090	3,500	2,600	55,200	10,600	13,200	4,400	2,200	2,240	1,300
21	2,460	3,370	2,210	3,200	2,500	58,000	11,800	*11,400	4,400	2,100	2,120	1,300
22	2,330	3,370	2,210	3,000	2,400	59,600	14,000	9,740	3,840	2,600	2,000	1,300
23	2,210	3,510	2,330	2,800	2,600	60,500	14,800	8,210	3,420	3,700	2,000	1,250
24	2,330	3,510	2,330	2,600	2,720	61,500	14,000	7,220	3,140	4,800	2,120	1,250
25	2,590	3,240	2,330	2,400	2,590	61,500	14,200	6,580	3,000	4,500	2,000	1,250
26	2,590	3,110	2,210	2,300	2,330	59,600	14,900	5,940	3,000	4,300	2,000	* 1,200
27	2,460	2,980	2,090	2,200	2,460	54,500	15,700	5,620	2,860	4,100	2,000	1,200
28	2,330	2,850	2,000	2,000	2,590	48,500	15,300	5,300	2,860	3,700	1,880	1,200
29	2,330	2,590	2,100	2,000	---	42,500	13,200	5,460	2,720	3,500	2,000	1,150
30	2,330	2,590	2,400	1,900	---	37,000	11,600	5,620	2,600	3,200	1,880	1,050
31	2,460	---	2,600	1,900	---	31,500	---	5,620	---	3,000	1,880	---
Total	77,240	79,370	67,430	95,160	80,870	1,466,270	505,250	267,520	153,750	94,200	73,540	42,970
Mean	2,492	2,646	2,175	3,070	2,888	47,300	16,840	8,630	5,125	3,039	2,372	1,432
Cfsm	0.224	0.238	0.195	0.276	0.259	4.25	1.51	0.775	0.460	0.273	0.213	0.129
In.	0.26	0.27	0.22	0.32	0.27	4.90	1.68	0.89	0.51	0.31	0.25	0.14

Calendar year 1962: Max 56,000 Min 1,900 Mean 10,180 Cfsm 0.914 In. 12.41
Water year 1962-63: Max 82,500 Min 1,050 Mean 8,229 Cfsm 0.739 In. 10.02

* Discharge measurement made on this day.

Note.--No gage-height record July 9, 10, July 12 to Aug. 11. Stage-discharge relation affected by ice Dec. 11-19, Dec. 28 to Jan. 10, Jan. 20 to Feb. 16, Feb. 20-23.

3-3745. Patoka River near Ellsworth, Ind.

Location.--Lat 38°26'29", long 86°43'31", in SE¼ sec. 10, T. 1 S., R. 3 W., on right bank, 200 ft upstream from county road bridge 1.0 mile northwest of Ellsworth, 2.9 miles upstream from Dillon Creek, and 4 miles east of Dubois.

Drainage area.--171 sq mi.

Records available.--June 1961 to September 1963. Discharge measurements only during May 1961.

Gage.--water-stage recorder. Prior to Oct. 1, 1961, wire-weight gage on downstream side of bridge, 200 ft downstream at same datum. Datum of gage is 477.00 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission).

Extremes.--Maximum discharge during year, 3,830 cfs Mar. 6 (gage height, 15.13 ft); minimum, 0.5 cfs Sept. 26-29; minimum gage height, 1.76 ft Sept. 16, 17.
1961-63: Maximum discharge, 11,800 cfs May 8, 1961 (gage height, 18.9 ft, from floodmarks at wire-weight site); minimum, 0.3 cfs Aug. 24, 25, 1962 (gage height, 1.65 ft).
Flood of March 1913 reached a stage of 19.1 ft (discharge about 12,300 cfs) according to information by local resident.

Remarks.--Records fair.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 2 to Nov. 22, Sept. 12-30)

Oct. 1 to Mar. 6				Mar. 7 to Sept. 30			
1.7	0.5	2.3	37	1.5	0.1	2.4	66
1.8	1.4	3.0	178	1.6	0.7	3.0	197
1.9	3.3	4.0	379	1.7	1.8	4.0	390
2.0	7.0	6.0	670	1.8	3.9	12.0	1,570
2.1	14	12.0	1,570	1.9	7.9	13.0	1,900
				2.0	14	14.0	2,620
Note.--Same as following table above 12.0 ft.				2.2	35	15.0	3,700

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.6	6.5	11	136	16	138	390	162	33	38	9.4	3.4
2	.9	8.5	11	84	b 23	428	285	136	28	285	7.4	2.9
3	.9	7.0	11	74	b 35	361	220	101	25	342	6.4	2.9
4	.8	6.0	11	59	b 55	603	174	81	38	99	5.2	3.1
5	.9	5.6	11	49	b 65	2,630	150	64	45	38	4.2	3.1
6	1.5	6.5	9.9	49	b 82	3,580	129	58	32	54	3.6	2.7
7	2.6	* 7.7	9.2	54	b 78	2,810	114	45	26	264	3.4	2.3
8	2.8	7.0	9.2	56	b 73	1,720	99	38	21	174	3.1	2.0
9	2.0	8.5	8.5	56	b 70	685	89	32	16	79	2.9	2.0
10	1.5	13	7.7	58	b 64	324	77	29	12	43	2.7	1.8
11	1.3	24	* 7.7	343	b 90	516	66	63	11	27	3.1	1.6
12	1.0	29	6.0	396	121	865	59	43	12	19	8.6	1.4
13	.9	* 33	4.5	232	* 115	* 586	52	38	12	17	29	1.3
14	.8	28	4.2	134	98	342	49	33	25	47	16	1.2
15	.7	23	4.5	88	70	242	45	29	14	52	24	1.0
16	* .8	22	4.8	70	52	734	46	45	9.4	* 41	14	1.0
17	13	25	4.8	* 61	44	2,080	* 56	324	8.4	26	8.9	.9
18	32	33	5.2	52	40	1,900	56	390	8.4	17	6.4	.9
19	21	56	6.0	47	42	2,150	66	231	* 7.4	12	5.2	.9
20	9.2	59	7.7	40	42	1,850	132	162	13	11	4.2	1.0
21	4.8	58	41	32	33	1,520	132	150	13	11	3.6	1.0
22	3.3	44	113	29	29	865	114	123	7.4	8.9	3.1	.9
23	2.4	34	121	24	22	305	150	* 93	5.6	7.9	2.9	.8
24	1.7	28	63	23	25	231	231	72	4.5	8.9	2.7	.6
25	1.5	22	72	20	34	390	162	59	4.5	9.4	2.7	* .6
26	1.3	17	52	18	36	1,300	114	51	4.2	6.9	2.5	.5
27	1.0	14	34	b 17	34	1,450	89	46	3.6	14	2.3	.5
28	1.4	12	32	b 16	33	1,160	72	49	3.4	23	3.4	.5
29	2.6	11	97	b 15	----------	488	64	77	3.9	42	6.4	.6
30	4.2	12	243	b 15	------	375	93	54	4.2	18	5.2	.6
31	6.0	------	200	b 15	------	446	------	41	------	11	3.9	------
Total	125.4	660.3	1,222.9	2,362	1,521	33,074	3,575	2,919	450.9	1,846.0	206.4	44.0
Mean	4.05	22.0	39.4	76.2	54.3	1,067	119	94.2	15.0	59.5	6.66	1.47
Cfsm	0.024	0.129	0.230	0.446	0.318	6.24	0.696	0.551	0.088	0.348	0.039	0.0086
In.	0.03	0.14	0.27	0.51	0.33	7.19	0.78	0.64	0.10	0.40	0.04	0.01

Calendar year 1962: Max 4,280 Min 0.3 Mean 178 Cfsm 1.04 In. 14.09
Water year 1962-63: Max 3,580 Min 0.5 Mean 132 Cfsm 0.772 In. 10.44

Peak discharge (base, 1,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-6	1500	15.13	3,830				
3-19	1600	13.62	2,290				
3-26	2200	11.42	1,480				

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

3-3755. Patoka River at Jasper, Ind.

Location.--Lat 38°24'49", long 86°52'36", in SE¼ sec. 20, T. 1 S., R. 4 W., on left bank 0.3 mile upstream from unnamed outlet of Jasper Lake, 1.0 mile downstream from Coon Seitz bridge, 1.2 miles downstream from Beaver Creek, and 3.3 miles northeast of Jasper.

Drainage area.--257 sq mi.

Records available.--November 1947 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 446.19 ft above mean sea level, datum of 1929. Prior to Sept. 18, 1956, wire-weight gage at bridge 5.6 miles downstream at datum 0.34 ft lower (now used as a supplementary gage for high-water periods in excess of 1,460 cfs).

Average discharge.--15 years (1948-63), 370 cfs.

Extremes.--Maximum discharge during year, 4,070 cfs Mar. 9; maximum gage height, 15.69 ft Mar. 8; 10.73 ft Mar. 9 at supplementary gage; no flow Sept. 21, 22, 27-30; minimum gage height, 2.15 ft Oct. 1.
1947-63: Maximum discharge, 13,700 cfs May 10, 1961; maximum gage height, present site and datum, 20.62 ft May 10, 1961; maximum gage height at supplementary gage, 14.96 ft May 10, 1961; no flow at times during 1948, 1952-56, 63.
Maximum stage known, 15.9 ft (at former site) in March 1913, from floodmark furnished by local residents (discharge, 16,000 cfs).

Remarks.--Records fair except those below 10 cfs and above 1,400 cfs and those for periods of ice effect, which are poor. Flow slightly regulated by Beaver Creek Reservoir, whose outlet enters the Patoka River 1.2 miles above the gage. Records prior to Oct. 18, 1956, when gage was relocated, affected by diversion of about 0.7 million gallons a day by City of Jasper for municipal supply.

Rating tables, water year 1962-63 except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used June 10 to July 1, Sept. 14, 15, 21, 22, 27-30)

Periods below 1,460 cfs

3.1	0	3.5	11	5.5	178
3.2	1.2	4.0	39	7.0	375
3.3	3.7	4.5	78	14.0	1,460

Periods above 1,420 cfs

6.6	1,460	10.0	3,340
8.0	1,880	11.0	4,400

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.4	7.8	20	305	25	138	901	135	46	8.1	20	6.0
2	.7	16	18	190	30	501	641	214	37	36	14	5.4
3	1.2	14	18	115	60	685	473	167	29	344	12	4.0
4	2.1	12	17	92	80	790	375	125	25	361	9.8	3.4
5	1.8	12	16	74	100	1,320	292	100	31	112	8.6	2.3
6	1.4	13	16	65	110	1,670	240	82	50	50	7.4	1.4
7	1.4	12	15	65	115	2,530	202	69	37	76	6.3	1.0
8	1.2	12	14	65	115	3,850	167	61	38	319	5.7	.7
9	1.6	12	14	65	110	3,960	145	50	53	190	5.0	6.6
10	3.1	14	12	73	105	3,240	125	55	33	78	5.0	3.4
11	6.3	14	* 11	474	110	1,390	105	190	14	50	4.7	.4
12	7.0	27	9.8	655	120	1,220	92	120	12	53	4.7	6.6
13	4.7	* 42	8.2	529	* 128	* 1,190	82	78	14	61	32	3.4
14	3.1	45	7.4	305	120	965	74	65	30	40	* 42	.1
15	2.8	40	7.0	178	110	557	69	61	26	46	22	.1
16	* 2.1	36	6.3	120	90	807	* 65	69	22	* 61	18	6.6
17	2.1	34	6.3	100	75	1,340	69	420	16	53	20	4.0
18	1.8	34	7.0	87	70	1,750	74	700	13	32	14	1.0
19	13	39	12	74	68	2,610	109	557	* 11	23	12	6.4
20	33	50	39	65	68	3,640	253	361	10	20	9.4	3.4
21	26	61	22	57	56	a 3,910	253	266	12	18	7.8	0
22	20	61	40	50	50	3,540	227	214	18	14	6.0	0
23	16	50	105	45	46	a 2,570	214	* 156	14	14	5.4	3.3
24	14	42	135	40	45	1,290	253	110	9.8	12	4.7	3.4
25	17	37	135	33	50	949	333	82	7.4	12	5.0	* 8.0
26	9.8	31	92	30	57	1,200	227	69	6.0	12	13	4.0
27	6.0	27	69	27	54	1,310	156	61	5.0	14	8.2	0
28	5.7	24	50	26	52	1,380	120	57	7.6	24	6.3	0
29	9.4	22	84	25	---	1,430	100	69	9.0	50	9.8	0
30	7.4	20	266	24	---	1,380	105	87	3.7	65	9.0	0
31	7.4	---	389	24	---	1,140	---	61	---	35	7.8	---
Total	229.5	860.8	1,661.0	4,077	2,219	54,252	6,541	4,911	639.5	2,283.1	355.6	84.9
Mean	7.40	28.7	53.6	132	79.2	1,750	218	158	21.3	73.6	11.5	2.83
Cfsm	0.029	0.112	0.209	0.514	0.308	6.81	0.848	0.615	0.083	0.286	0.045	0.011
In.	0.03	0.12	0.24	0.59	0.32	7.85	0.95	0.71	0.09	0.33	0.05	0.01

Calendar year 1962: Max 5,140 Min 0.4 Mean 278 Cfsm 1.08 In. 14.71
Water year 1962-63: Max 3,960 Min 0 Mean 214 Cfsm 0.833 In. 11.29

* Discharge measurement made on this day.
a No gage-height record at auxiliary gage.
Note.--Stage-discharge relation affected by ice Jan. 16, 17, Jan. 21 to Feb. 22, Feb. 27, 28.

3-3765. Patoka River near Princeton, Ind.

Location.--Lat 38°23'30", long 87°32'55", in NE¼ NW¼ sec. 32, T. 1 S., R. 10 W., on left bank 75 ft upstream from dam of Princeton Water and Lighting Co., 270 ft upstream from bridge on State Highway 65, half a mile downstream from Indian Creek, and 2 miles northeast of Princeton.

Drainage area.--815 sq mi.

Records available.--August 1934 to September 1963. 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).

Gage.--Water-stage recorder and concrete control. Datum of gage is 394.14 ft (revised) above mean sea level, datum of 1929, Parkersburg-Uniontown supplementary adjustment of 1944 (levels by Indiana Flood Control and Water Resources Commission). Aug. 29, 1934, to Sept. 30, 1940, chain gage at site 3 miles downstream at datum 387.15 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission). Dec. 1, 1939, to Jan. 21, 1941, staff gage at present site and datum.

Average discharge.--29 years, 1,004 cfs.

Extremes.--Maximum discharge during year, 5,390 cfs Mar. 19 (gage height, 16.47 ft); minimum, 7.7 cfs Sept. 16-21 (gage height, 0.79 ft).
1934-63: Maximum discharge, 18,700 cfs Jan. 26, 1937 (gage height, 26.80 ft, site and datum then in use); no flow Aug. 29 to Sept. 12, 1936.

Remarks.--Records fair except those for periods of ice effect, which are poor.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.8	8.7	11.0	2,320
.9	25	13.0	2,980
1.2	98	15.0	4,150
1.6	231	17.0	6,000
2.0	385		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	76	74	780	82	245	3,970	312	292	54	125	45
2	31	74	69	680	86	700	3,790	271	224	59	104	42
3	54	64	66	556	94	960	3,610	251	191	205	79	41
4	38	52	64	440	100	1,540	3,310	251	154	368	57	69
5	31	45	64	332	157	2,170	3,080	267	128	351	42	57
6	27	45	59	292	205	2,110	2,890	247	154	368	31	57
7	27	40	54	267	243	2,320	2,740	209	154	465	27	74
8	31	40	49	255	263	2,560	2,590	174	125	820	20	52
9	29	42	49	251	271	2,680	2,410	147	110	940	17	34
10	27	45	40	247	292	2,770	2,140	128	104	920	17	25
11	25	54	35	640	292	* 2,850	1,820	150	90	640	17	20
12	22	64	32	940	332	2,980	1,440	174	87	332	17	15
13	61	216	29	1,060	332	3,130	920	247	87	191	*25	11
14	87	184	25	1,120	* 332	3,310	535	263	79	351	27	9.9
15	47	* 167	23	1,120	312	3,490	385	205	61	368	17	8.7
16	38	167	22	* 1,060	292	3,910	312	205	66	312	14	8.7
17	34	184	22	760	251	4,660	259	578	110	* 170	15	8.7
18	* 29	177	25	385	220	5,080	* 224	840	95	144	42	7.7
19	27	177	29	332	201	5,280	292	900	69	122	45	7.7
20	25	174	38	263	198	5,180	440	940	209	107	42	7.7
21	25	163	92	160	187	5,080	536	* 940	* 351	95	34	8.7
22	20	154	194	150	167	5,180	1,120	840	141	71	27	8.7
23	20	122	205	130	154	5,080	1,000	620	104	59	25	9.9
24	19	128	201	120	141	4,900	800	440	84	182	19	* 11
25	31	122	190	110	144	4,740	578	351	59	93	17	8.7
26	42	113	170	105	144	4,660	440	292	45	59	15	8.7
27	40	104	150	100	144	4,660	415	239	40	82	12	8.7
28	38	95	165	92	144	4,580	385	220	57	93	12	8.7
29	71	90	415	88	---	4,430	351	440	440	361	17	9.9
30	104	82	780	84	---	4,290	332	440	123	216	17	9.9
31	84	---	780	82	---	4,150	---	385	---	138	27	---
Total	1,204	3,260	4,210	13,001	5,730	109,675	43,114	11,966	4,033	8,736	1,002	694.0
Mean	38.8	109	136	419	206	3,538	1,437	386	134	282	32.3	23.1
Cfsm	0.048	0.134	0.167	0.514	0.253	4.34	1.76	0.474	0.164	0.346	0.040	0.028
In.	0.06	0.15	0.19	0.59	0.26	5.00	1.96	0.55	0.18	0.40	0.05	0.03

Calendar year 1962: Max 5,720 Min 6.2 Mean 802 Cfsm 0.984 In. 13.91
Water year 1962-63: Max 5,280 Min 7.7 Mean 566 Cfsm 0.694 In. 9.42

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 11-15, 25-28, Jan. 22 to Feb. 4.

3-3775. Wabash River at Mount Carmel, Ill.

Location.--Lat 38°24'07", long 87°45'10", in sec. 28, T. 1 S., R. 12 W., on right bank on downstream side of Southern Railway bridge at Mount Carmel, Wabash County, and 0.1 mile downstream from Patoka River.

Drainage area.--28,600 sq mi, approximately.

Records available.--January 1908 to September 1913 (gage heights only), October 1927 to September 1963. Gage-height records collected in this vicinity November 1874 to December 1878, are contained in files of Louisville office of the Corps of Engineers and since June 1884 are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 371.46 ft above mean sea level, datum of 1929. Prior to Dec. 21, 1928, staff gage at same site and datum. Oct. 1, 1933, to Feb. 8, 1935, chain gage and Feb. 9, 1935, to Sept. 30, 1949, water-stage recorder, at New York Central Railroad bridge 3.0 miles downstream at datum 0.17 ft higher.

Average discharge.--36 years, 26,710 cfs.

Extremes.--Maximum discharge during year, 154,000 cfs Mar. 13; maximum gage height, 24.09 ft Mar. 14; minimum, 3,010 cfs Sept. 30 (gage height, 0.27 ft).

1927-63: Maximum discharge, 305,000 cfs May 25, 1943 (gage height, 27.54 ft, present site and datum); minimum, 1,620 cfs Sept. 27, 28, 30, 1941.

Maximum stage known, 31.0 ft Mar. 30, 1913, present site and datum (discharge, 428,000 cfs, from rating curve extended above 310,000 cfs).

Remarks.--Records fair.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,770	6,250	6,100	6,920	6,370	5,860	65,100	26,900	10,900	7,340	8,740	5,260
2	5,740	6,100	5,920	7,060	6,310	6,010	64,000	28,400	10,600	9,900	8,430	5,050
3	5,650	5,860	5,770	6,860	6,310	6,890	63,800	29,200	10,800	9,760	7,940	4,990
4	5,560	5,800	5,650	6,470	6,680	10,400	62,700	29,400	10,800	8,540	7,660	4,900
5	5,830	5,740	5,560	6,190	6,370	32,300	61,400	28,200	10,400	7,590	7,060	4,720
6	6,280	5,680	5,440	6,040	6,470	58,700	59,900	26,000	10,700	7,280	6,580	4,570
7	6,010	5,680	5,410	5,890	6,540	68,600	57,200	23,300	12,200	7,480	6,720	4,540
8	5,680	5,620	5,350	5,740	6,820	74,800	51,600	21,200	12,000	8,040	6,500	4,480
9	5,680	5,500	5,260	5,650	7,310	81,600	43,600	19,100	11,600	* 8,400	7,100	4,360
10	5,620	5,470	5,200	5,590	7,840	91,900	37,900	17,400	11,500	8,430	7,480	4,150
11	5,500	5,440	4,990	5,770	8,460	113,000	33,600	16,000	12,700	7,980	7,700	4,060
12	5,800	5,590	4,480	7,200	8,600	*142,000	30,100	15,400	13,200	7,170	7,310	4,030
13	6,310 *	5,680	4,300	8,400	8,080	*152,000	27,200	14,800	12,600	6,750 *	7,030	3,910
14	6,190	5,770	4,270	9,240	7,760	*151,000	24,800	14,300	13,100	6,750	7,030	3,790
15	6,070	5,770	4,510	9,620	7,450	*142,000	22,800	14,100	13,000	7,100	6,920	3,730
16	6,070	5,830	4,570	9,900	7,060	*135,000	21,000	15,200	19,400	6,920	7,140	3,700
17 *	6,310	5,980	4,480	8,920	6,820	*126,000	* 20,000	17,600	16,000	6,610	6,680 *	3,700
18	6,580	6,440	4,540	7,800	6,370	*114,000	18,600	24,100	13,100	6,890	6,370	3,610
19	6,250	6,640	4,600	7,280	6,100	*108,000	18,400	27,900	11,300	10,000	6,160	3,580
20	5,980	7,060	4,690	7,520	6,070	107,000	19,500	26,400	10,400	8,820	5,890	3,550
21	5,650	7,420	4,990	7,000	5,800	107,000	21,100	22,600	10,000	7,450	5,800	3,460
22	5,530	7,420	5,320	6,500	5,530	*107,000	21,500	19,800	9,760	7,240	6,440	3,370
23	5,800	7,380	5,470	5,000	5,410	106,000	27,600	17,000	9,100	9,800	6,860	3,310
24	6,960	7,240	5,470	6,000	5,890	105,000	29,100	14,800	8,540	14,000	6,960	3,310
25	7,450	7,200	5,530	6,820	5,830	105,000	30,600	13,500	8,010	15,300	6,720	3,310
26	7,450	7,100	5,380	6,640	5,650	104,000	31,900	12,600	7,620	14,800	6,280	3,220
27	7,200	6,820	5,050	6,580	5,470	100,000	32,800	11,800	7,380	13,800	5,890	3,160
28	6,890	6,500	4,750	6,680	5,560	92,300	33,400	11,400	7,170	12,400	5,530	3,160
29	6,540	6,310	5,320	6,340	---	83,500	32,000	* 11,300	7,170	11,300	5,530	3,130
30	6,500	6,280	6,160	6,340	---	75,900	28,600	11,200	7,060	10,200	5,290	3,040
31	6,280	---	6,890	6,370	---	69,400	---	11,000	---	9,440	5,470	---
Total	191,130	187,570	161,420	214,330	184,930	2,782,160	1,091,800	591,900	333,110	283,480	209,210	117,150
Mean	6,165	6,252	5,207	6,914	6,605	89,750	36,390	19,090	11,100	9,145	6,749	3,905
Cfsm	0.216	0.219	0.182	0.242	0.231	3.14	1.27	0.667	0.388	0.320	0.236	0.137
In.	0.25	0.24	0.21	0.28	0.24	3.62	1.42	0.77	0.43	0.37	0.27	0.15

Calendar year 1962 : Max 122,000 Min 4,270 Mean 26,460 Cfsm 0.925 In. 12.57
Water year 1962-63 : Max 152,000 Min 3,040 Mean 17,390 Cfsm 0.608 In. 8.25

* Discharge measurement made on this day.

Note.--Discharge computed from graph based on twice-daily wire-weight gage readings Mar. 6-8, Apr. 8 to May 28, Aug. 14 to Sept. 16.

3-3780. Bonpas Creek at Browns, Ill.

Location.--Lat 38°22'50", long 87°58'35", in SW¼SE¼ sec. 33, T. 1 S., R. 14 W., at Browns, on left bank 30 ft upstream from concrete dam of Albion municipal water plant, 100 ft upstream from Nigger Creek, 300 ft upstream from bridge on Browns Road, and a quarter of a mile upstream from Southern Railway bridge.

Drainage area.--228 sq mi (revised).

Records available.--October 1940 to September 1963.

Gage.--Water-stage recorder and concrete dam. Datum of gage is 374.92 ft above mean sea level, datum of 1929. Auxiliary wire-weight gage near mouth on Wabash River at Grayville read twice daily.

Average discharge.--23 years, 228 cfs.

Extremes.--Maximum discharge during year, 2,230 cfs Mar. 19 (gage height, 14.35 ft); no flow for many days.
1940-63: Maximum discharge, 7,500 cfs May 9, 1961 (gage height, 24.04 ft); no flow at times for most years.

Remarks.--Records good except those for periods of backwater from Wabash River or ice effect, which are poor. Albion municipal water plant diverts about 0.1 cfs at gage; diversion not included in record.

Rating table, water year 1962-63, except periods of ice effect and backwater from Wabash River
(gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 26 to June 1)

1.0	0	1.5	37	6.0	477
1.1	1.2	1.6	55	10.0	1,030
1.2	5.1	1.7	79	13.0	1,740
1.3	12	2.0	139	15.0	2,440
1.4	23	3.0	248		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.8	0.6	67	0.1	6.8	357	226	5.5	79	* 11	5.6
2	0	.6	.6	27	.3	16	343	97	5.1	22	6.2	2.1
3	0	.3	.6	18	.2	176	218	46	4.0	42	2.8	1.2
4	0	.2	.6	12	.1	905	112	34	3.6	26	1.5	.6
5	0	.1	.4	9.6	.3	2,090	65	27	3.2	10	.8	.4
6	0	0	.3	9.6	1.2	2,120	48	21	2.8	6.8	.3	.3
7	0	0	.2	10	2.4	2,160	41	16	2.1	7.5	.2	.1
8	0	0	.2	9.6	4.0	1,780	36	15	1.8	44	.1	.1
9	0	0	.2	11	4.5	1,250	31	11	1.2	* 29	0	0
10	0	0	.1	13	8.2	c 660	27	10	1.0	12	0	0
11	0	0	.1	15	8.9	c 280	23	9.6	1.0	6.2	0	0
12	0	123	0	131	6.0	*c 196	21	8.2	1.0	3.2	0	0
13	0	* 79	0	69	5.0	c 117	19	8.2	* 1.0	3.6	0	0
14	0	18	0	23	3.5	c 58	18	8.9	1.0	29	0	0
15	0	9.6	0	12	2.5	c 24	15	14	147	86	0	0
16	0	6.8	0	6.8	1.8	c 894	15	292	47	32	0	0
17	.4	19	0	4.5	1.7	1,810	16	528	14	14	0	0
18	* 3.6	19	0	3.2	1.8	2,060	16	540	6.8	6.8	0	0
19	2.4	12	0	2.5	2.4	2,160	21	347	3.6	18	0	0
20	1.5	8.9	* 0	1.5	* 3.2	1,840	305	132	3.2	18	0	* 0
21	1.0	8.9	.3	.9	3.0	*1,450	347	67	2.4	8.2	0	0
22	.8	8.2	4.5	.6	2.0	1,030	440	* 50	2.1	4.0	0	0
23	.6	5.6	4.5	.4	1.2	c 483	603	34	2.1	2.4	0	0
24	.4	3.6	3.2	.2	2.0	c 130	* 380	24	3.2	1.5	0	0
25	.6	3.2	2.1	.1	3.0	c 196	127	18	2.4	1.2	0	0
26	.4	2.1	1.2	.1	2.5	1,070	51	12	1.8	.8	0	0
27	.2	1.8	.6	0	2.0	1,200	37	8.9	1.2	.6	0	0
28	1.0	1.5	.4	0	3.0	1,070	31	8.2	1.2	1.1	0	0
29	13	1.2	286	0	---	655	53	7.5	1.5	40	37	0
30	2.4	1.0	308	0	---	281	206	6.8	36	62	55	0
31	1.5	---	221	0	---	294	---	6.2	---	24	16	---
Total	29.8	334.4	835.7	457.6	76.8	28,461.8	4,022	2,633.5	309.8	640.9	130.9	10.4
Mean	0.96	11.1	27.0	14.8	2.74	918	134	85.0	10.3	20.7	4.22	0.35
Cfsm	0.0042	0.049	0.118	0.065	0.012	4.03	0.588	0.373	0.045	0.091	0.019	0.0015
In.	0.005	0.05	0.14	0.07	0.01	4.64	0.66	0.43	0.05	0.10	0.02	0.002

Calendar year 1962: Max 2,650 Min 0 Mean 198 Cfsm 0.868 In. 11.76
Water year 1962-63: Max 2,160 Min 0 Mean 104 Cfsm 0.456 In. 6.18

* Discharge measurement or observation of no flow made on this day.
c Backwater from Wabash River.
Note.--Stage-discharge relation affected by ice Jan. 19 to Feb. 5, Feb. 12-17, 21-28.

3-3815. Little Wabash River at Carmi, Ill.

Location.--Lat 38°03'40", long 88°09'35", near center of E½ sec. 25, T. 5 S., R. 9 E., on right bank at upstream side of Possom Bridge, 2.3 miles south of Main Street Bridge in Carmi and 7 3/4 miles downstream from Skillet Fork.

Drainage area.--3,111 sq mi (revised).

Records available.--October 1908 to December 1912 (gage heights only), October 1939 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 339.91 ft above mean sea level, datum of 1929. October 1908 to December 1912, chain gage at site 3.1 miles upstream at datum 0.4 foot higher. Oct. 1 to Nov. 8, 1939, wire-weight gage at present site and datum. Since Nov. 14, 1939, auxiliary water-stage recorder 3.1 miles upstream.

Average discharge.--24 years, 2,557 cfs.

Extremes.--Maximum discharge during year, 10,800 cfs Mar. 21; maximum gage height, 27.41 ft Mar. 22; minimum daily discharge, 11 cfs Sept. 23-30.
1939-63: Maximum discharge, 46,900 cfs May 12, 1961; maximum gage height, 36.70 ft May 13, 1961; no flow Sept. 15-17, 1952, result of temporary dam upstream; minimum unregulated discharge, 0.6 cfs Sept. 9, 1953, July 31, 1954.

Remarks.--Records good except those for period of ice effect, which are poor. At extremely high stages, there is diversion six miles above the gage through McHenry Slough to the Wabash River.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	36	90	61	1,610	40	118	7,230	563	661	378	989	91
2	39	77	57	1,090	40	169	6,790	650	506	881	960	56
3	36	64	54	650	41	329	5,260	667	407	1,860	906	46
4	51	53	50	453	42	1,990	5,710	594	316	2,500	976	40
5	111	47	49	438	45	6,860	5,020	497	257	2,090	858	29
6	95	50	46	415	50	7,950	4,170	422	220	1,290	572	24
7	71	71	43	381	61	8,070	2,900	342	190	928	* 321	20
8	50	75	43	345	67	8,120	1,840	280	178	944	195	18
9	40	68	43	300	71	8,540	1,070	232	174	1,000	138	20
10	35	62	40	270	80	8,610	823	199	261	* 802	108	19
11	31	55	39	265	85	8,710	598	172	354	809	90	18
12	30	59	37	341	84	* 8,840	502	159	318	650	78	17
13	46	79	35	750	81	8,750	430	144	* 254	445	74	18
14	89	* 120	34	477	78	8,510	392	144	216	454	63	16
15	100	123	31	311	71	8,200	344	174	190	1,120	72	16
16	115	108	31	208	64	8,400	316	1,190	419	1,820	86	17
17	* 94	94	32	159	60	10,100	296	2,900	582	2,090	80	18
18	136	95	34	134	59	10,400	277	4,300	399	1,700	71	18
19	132	97	* 36	121	61	10,600	322	4,690	245	1,370	84	* 17
20	96	93	52	104	* 64	10,700	430	5,140	204	1,450	145	17
21	71	93	101	91	68	* 10,800	1,050	* 5,360	414	1,620	147	17
22	59	93	152	81	65	10,700	960	5,220	241	1,060	116	14
23	57	91	199	* 70	61	10,600	1,330	4,740	145	551	94	11
24	45	95	160	62	64	10,300	* 1,460	4,390	114	304	82	11
25	41	110	124	55	65	10,100	1,050	4,340	98	197	76	11
26	35	112	105	48	65	9,830	600	4,560	101	145	67	11
27	28	100	88	45	61	9,740	399	4,650	100	130	58	11
28	42	87	81	42	62	9,460	311	4,310	90	136	52	11
29	69	75	845	40	---	8,910	302	3,360	95	766	202	11
30	70	66	1,800	40	---	8,270	381	1,860	242	1,510	329	11
31	87	---	1,950	40	---	8,180	---	989	---	1,340	158	---
Total	2,037	2,502	6,452	9,436	1,755	250,856	53,563	67,238	7,991	32,340	8,247	654
Mean	65.7	83.4	208	304	62.7	8,092	1,785	2,169	266	1,043	266	21.8
Cfsm	0.021	0.027	0.067	0.098	0.020	2.60	0.574	0.697	0.086	0.335	0.086	0.0070
In.	0.02	0.03	0.08	0.11	0.02	3.00	0.64	0.80	0.10	0.39	0.10	0.008

Calendar year 1962: Max 11,300 Min 28 Mean 2,455 Cfsm 0.789 In. 10.72
Water year 1962-63: Max 10,800 Min 11 Mean 1,214 Cfsm 0.390 In. 5.30

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Jan. 23 to Feb. 4.

4-0875. Hart ditch at Munster, Ind.

Location.--Lat 41°33'40", long 87°28'50", in N½ sec. 20, T. 36 N., R. 9 W., on left bank at city limits of Munster, a quarter of a mile downstream from U. S. Highway 6 and 0.4 mile upstream from mouth.

Drainage area.--69.2 sq mi.

Records available.--September 1942 to September 1963.

Gage.--Water-stage recorder and concrete control. Datum of gage is 591.27 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission). Since Sept. 11, 1959, auxiliary water-stage recorder 1,200 ft upstream from base gage.

Average discharge.--21 years, 55.8 cfs.

Extremes.--Maximum discharge during year, 1,040 cfs July 21 (gage height, 3.40 ft); minimum, 3.0 cfs June 29, 30, July 3 (gage height, 0.50 ft).

1942-63: Maximum discharge, 2,670 cfs Apr. 28, 1958; maximum gage height, 7.83 ft Oct. 11, 1954; minimum discharge, 1.2 cfs July 29, 1946; minimum gage height, 0.47 ft July 29, 1946, Sept. 2, 1948.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Flow from this ditch discharges into Little Calumet River near Munster. Practically all of this flow discharges into the Calumet Sag Canal or Grand Calumet River.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Stage-discharge relation indefinite July 22)

0.5	3.0	1.0	72
.6	9.4	1.5	222
.7	19	2.1	452
.8	33		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.8	6.4	6.4	b 4.2	5.6	6.2	26	125	7.9	4.6	18	6.4
2	4.6	6.4	6.4	b 4.3	5.2	6.2	26	62	7.2	4.6	30	7.2
3	10	7.2	6.4	b 4.3	5.2	25	24	38	6.4	4.0	38	17
4	5.2	8.6	7.2	b 4.4	5.4	b 120	22	48	7.2	4.0	23	7.9
5	7.9	7.9	7.2	b 4.6	5.5	b 250	20	57	5.8	4.0	16	7.9
6	5.2	7.9	7.2	5.2	b 5.6	b 240	20	47	7.2	4.6	15	6.4
7	7.2	8.6	6.4	5.8	b 5.7	b 150	19	36	6.4	5.2	14	5.2
8	11	8.6	b 6.0	5.8	5.8	b 90	18	27	27	4.6	12	5.2
9	7.2	7.2	b 5.5	b 5.4	5.8	b 60	18	24	26	4.6	11	5.2
10	6.4	7.2	b 5.2	b 5.1	5.8	b 40	17	39	32	4.6	10	5.2
11	6.4	7.2	b 5.0	b 4.8	5.7	b 46	16	70	39	5.2	10	7.2
12	5.8	6.4	b 4.8	4.6	5.6	b 60	17	39	32	4.6	9.4	14
13	5.8	7.9	b 4.7	4.6	5.4	b 90	18	32	17	24	* 8.6	7.2
14	4.6	7.2	b 4.6	b 4.6	5.3	b 64	14	23	14	11	7.9	5.8
15	4.0	7.9	b 4.7	b 4.6	5.2	b 48	13	19	11	6.4	7.9	5.8
16	5.8	13	b 5.0	b 4.6	5.2	b 41	14	19	8.6	44	7.2	5.8
17	5.2	7.9	*b 5.3	b 4.6	5.5	b 46	16	99	7.2	* 29	11	5.8
18	5.8	7.2	b 5.6	b 4.7	6.4	b 50	17	182	7.2	17	7.9	* 5.8
19	6.4	6.4	b 5.8	b 5.0	* 9.2	* 62	15	80	* 7.9	82	7.9	5.8
20	15	* 7.2	b 5.8	5.2	11	77	15	47	11	190	7.9	13
21	7.2	7.2	b 5.3	b 5.0	9.0	55	15	* 33	7.2	307	7.9	7.2
22	5.8	5.8	b 5.0	b 4.8	7.6	39	20	24	6.4	* 510	7.9	5.8
23	5.8	5.8	b 4.8	b 4.7	7.1	33	22	19	5.2	* 431	7.9	5.8
24	* 5.8	5.8	4.6	4.7	6.9	30	* 24	17	4.0	* 158	10	6.4
25	6.4	5.2	4.6	4.7	6.8	29	15	15	4.6	94	9.4	6.4
26	6.4	5.2	b 4.5	4.8	6.6	59	12	12	4.6	66	7.2	5.8
27	7.2	6.4	b 4.4	5.0	6.5	70	12	11	4.0	45	7.2	6.4
28	6.4	7.2	b 4.3	6.2	6.4	47	12	12	4.0	33	11	6.4
29	6.4	6.4	b 4.3	* 7.6	---------	38	24	11	4.0	29	7.9	10
30	7.9	6.4	b 4.2	7.0	------	33	103	11	4.6	23	7.9	5.2
31	7.2	------	b 4.2	6.1	-----	26	-----	8.6	----	24	7.2	-------
Total	207.8	215.7	165.4	157.0	177.0	2030.4	624	1,286.6	336.6	2,178.0	364.2	215.2
Mean	6.70	7.19	5.34	5.06	6.32	65.5	20.8	41.5	11.2	70.3	11.7	7.17
Cfsm	0.097	0.104	0.077	0.073	0.091	0.947	0.301	0.600	0.162	1.02	0.169	0.104
In.	0.11	0.12	0.09	0.08	0.09	1.09	0.34	0.69	0.18	1.18	0.19	0.12

Calendar year 1962 : Max 645 Min 3.9 Mean 41.4 Cfsm 0.598 In. 8.13
Water year 1962-63 : Max 510 Min 4.0 Mean 21.8 Cfsm 0.315 In. 4.28

Peak discharge (base, 800 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
7-21	2200	3.40	1,040				

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Jan. 24 to Feb. 5, Feb. 9 to Mar. 3.

4-0876. Little Calumet River at Munster, Ind.

Location.--Lat 41°34'07", long 87°31'18", in NW¼ sec. 13, T. 36 N., R. 10 W., on left bank 200 ft upstream from Hohman Street Bridge, a quarter of a mile south of intersection of Hohman Street and 173rd Street, 0.4 mile upstream from Indiana-Illinois State line, 1 mile north of intersection of Hohman Street and Ridge Road, and 4.6 miles upstream from mouth of Thorn Creek.

Drainage area.--Indeterminate.

Records available.--June 1958 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 580.72 ft above mean sea level, datum of 1929.

Average discharge.--5 years, 59.0 cfs.

Extremes.--Maximum discharge, 444 cfs July 21 (gage height, 11.41 ft); minimum, 1.9 cfs July 10, 11 (gage height, 3.01 ft).
1958-63: Maximum discharge, 1,510 cfs Apr. 28, 1959 (gage height, 13.67 ft); minimum, that of July 10, 11, 1963; minimum gage height, 2.91 ft Sept. 10, 1960.

Remarks.--Records poor.

Rating table, water year 1962-63 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used July 19-25)

3.0	2.3
3.2	6.2
3.5	14
4.0	29
4.5	50
5.0	78
6.0	158
8.0	379

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.3	13	8.3	6.4	5.6	7.8	29	100	12	6.0	37	8.3
2	11	13	8.5	6.7	5.6	7.8	29	60	11	6.0	79	11
3	22	14	8.0	6.7	5.7	35	26	39	10	3.6	66	42
4	11	18	9.6	6.8	6.0	130	23	37	11	2.8	39	15
5	26	19	10	7.2	6.8	240	21	48	10	2.8	31	14
6	10	17	9.1	9.4	8.2	270	19	39	10	2.6	27	12
7	21	18	8.8	11	9.5	220	18	33	10	2.8	24	10
8	24	17	8.5	11	11	120	17	27	24	3.1	23	8.5
9	12	17	8.2	9.6	10	70	17	26	43	3.0	20	9.1
10	10	16	8.0	8.9	9.4	60	15	41	33	2.4	17	9.6
11	10	16	7.8	8.4	8.2	50	14	45	41	2.3	15	15
12	9.9	15	7.6	8.0	7.9	68	14	35	37	2.6	14	32
13	6.7	17	7.4	7.6	7.6	115	18	31	26	39	* 14	14
14	8.8	13	7.2	7.3	7.4	82	14	23	19	26	12	9.9
15	9.3	8.8	7.2	7.0	7.2	52	13	19	14	9.9	11	9.3
16	12	23	8.3	6.8	7.0	45	14	17	12	141	10	8.8
17	11	15	* 9.4	6.8	7.0	50	19	79	9.6	* 41	18	9.1
18	12	12	10	7.2	8.4	55	19	149	9.6	27	9.6	* 8.0
19	12	9.1	11	7.7	11	* 72	17	92	* 11	120	10	7.8
20	40	* 8.8	11	8.0	* 16	75	17	55	17	234	9.6	20
21	18	8.3	10	7.9	12	58	18	* 43	10	225	11	10
22	12	7.8	9.1	7.5	10	43	22	33	8.0	* 379	10	8.0
23	11	7.0	8.5	7.1	9.0	37	23	26	6.7	* 314	9.9	7.0
24	* 10	6.7	8.0	6.7	8.6	31	* 23	21	6.0	* 214	13	7.2
25	10	6.2	7.5	6.3	8.4	33	18	20	6.5	158	16	7.0
26	11	7.0	7.2	6.1	8.2	50	15	17	7.0	115	10	6.2
27	12	8.0	7.0	5.9	8.1	68	14	15	6.7	82	10	6.2
28	12	9.6	6.8	5.8	8.0	52	13	16	6.2	60	18	6.0
29	11	8.8	6.7	* 5.7	---	41	32	16	6.2	50	12	16
30	13	8.5	6.6	5.6	---	37	88	14	5.3	43	11	7.0
31	13	---	6.4	5.6	---	29	---	12	---	45	9.3	---
Total	421.0	377.6	257.7	228.7	237.8	2,303.6	639	1,228	438.8	2,362.9	616.4	354.0
Mean	13.6	12.6	8.31	7.38	8.49	74.3	21.3	39.6	14.6	76.2	19.9	11.8
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1962: Max 600 Min 4.7 Mean 46.3 Cfsm - In. -
Water year 1962-63: Max 379 Min 2.3 Mean 25.9 Cfsm - In. -

* Discharge measurement made on this day.
Note.--No gage-height record Dec. 14 to Mar. 3. Stage-discharge relation affected by ice Dec. 9-13, Mar. 4-11, 14-17.

4-905. Thorn Creek at Thornton, Ill.

Location.--Lat 41°34'05", long 87°36'30", near center of N½ sec. 34, T. 36 N., R. 14 E., on right bank at downstream side of Ridge Road Bridge in Thornton, 1 mile downstream from North Creek, and 1½ miles upstream from Grand Trunk Railway.

Drainage area.--104 sq mi.

Records available.--May 1948 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 586.43 ft above mean sea level, datum of 1929. Prior to Dec. 18, 1948, wire-weight gage at same site and datum.

Average discharge.--15 years, 89.0 cfs.

Extremes.--Maximum discharge during year, 975 cfs July 22 (gage height, 8.25 ft); minimum daily, 15 cfs Feb. 24.
1948-63: Maximum discharge, 4,700 cfs July 13, 1957 (gage height, 16.00 ft); minimum daily, 4.4 cfs Sept. 11, 1949.
Flood of Apr. 5, 1947, reached a stage of 14.34 ft, from floodmark (discharge, 4,200 cfs).

Remarks.--Records good except those for periods of no gage-height record, which are poor. Some diurnal fluctuation caused by pumping operations above station. Figures of discharge include about 9 cfs pumped from ground-water sources for municipal supply of Chicago Heights and undetermined amount of ground-water pumpage for industrial use above station.

Rating table, water year 1962-63, (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Jan. 19 to Mar. 3)

2.0	12	4.0	317
2.1	17	5.0	450
2.3	33	7.0	753
2.5	60	8.0	935
3.0	155		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	26	22	18	a 25	a 17	47	169	25	24	68	20
2	35	27	21	20	23	16	42	98	23	27	90	24
3	39	24	22	24	a 32	92	40	73	26	26	163	36
4	39	25	24	25	a 50	344	* 35	69	27	21	78	28
5	55	32	24	23	a 72	384	34	74	28	22	49	28
6	37	29	23	20	a 54	445	31	67	28	36	38	29
7	49	31	23	22	a 35	283	32	54	32	26	35	25
8	46	31	20	26	a 25	226	41	47	82	23	31	23
9	25	31	17	* 26	19	139	43	50	52	28	30	26
10	* 28	27	18	27	a 16	111	41	104	77	28	31	28
11	28	23	20	28	a 17	89	44	65	100	28	28	34
12	31	27	21	25	a 20	* 96	41	41	67	28	25	58
13	27	30	21	20	a 20	216	34	38	42	94	28	38
14	21	29	* 21	23	* 19	141	32	34	35	55	26	30
15	24	29	21	a 25	a 17	91	32	32	27	32	25	23
16	28	* 63	18	a 27	16	80	33	31	22	203	28	28
17	28	35	21	a 26	a 26	80	49	179	24	83	28	30
18	28	22	24	a 25	a 50	73	53	166	26	52	23	29
19	28	25	23	a 27	a 40	118	41	91	29	362	26	30
20	90	26	23	a 25	a 30	111	34	65	32	577	26	62
21	36	24	23	a 23	a 23	80	32	54	27	293	28	28
22	28	20	21	a 22	a 18	60	51	42	25	805	28	23
23	28	19	18	a 22	16	43	57	35	20	719	29	23
24	26	19	18	a 22	a 15	35	41	33	23	356	27	25
25	26	18	18	a 25	a 16	45	35	30	26	197	25	25
26	27	21	19	a 27	a 16	69	34	24	26	119	23	26
27	23	26	24	a 24	a 17	65	31	26	27	92	23	27
28	18	25	25	a 21	a 18	55	26	31	33	73	39	23
29	23	25	22	25	---------	47	86	29	27	62	32	33
30	27	25	19	a 26	------	40	312	24	23	58	28	27
31	27	------	18	a 26	------	35	------	24	------	62	24	------
Total	1,003	814	652	745	745	3,726	1,484	1,899	1,061	4,611	1,182	889
Mean	32.4	27.1	21.0	24.0	26.6	120	49.5	61.3	35.4	149	38.1	29.6
Cfsm	0.312	0.261	0.202	0.231	0.256	1.15	0.476	0.589	0.340	1.43	0.366	0.285
In.	0.36	0.29	0.23	0.27	0.27	1.33	0.53	0.68	0.38	1.65	0.42	0.32

Calendar year 1962 : Max 1,040 Min 16 Mean 81.4 Cfsm 0.783 In. 10.63
Water year 1962-63 : Max 805 Min 15 Mean 51.5 Cfsm 0.495 In. 6.73

Peak discharge (base, 900 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
7-22	2200 to 2300	8.25	975				

* Discharge measurement made on this day.
a No gage-height record.

USGS 811-767-10

4-910. Little Calumet River at South Holland, Ill.

Location.--Lat 41°36'05", long 87°34'38", in SW¼SW¼ sec. 13, T. 36 N., R. 14 E., on right bank at downstream side of bridge on U. S. Highway 6, 0.6 mile downstream from Thorn Creek, and 1.6 miles east of South Holland.

Records available.--October 1947 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 575.00 ft above mean sea level. Prior to Oct. 27, 1947, wire-weight gage at same site and datum. Auxiliary water-stage recorder at Dixmoor, 6.1 miles downstream; prior to Nov. 17, 1947, auxiliary wire-weight gage at same site read twice daily.

Average discharge.--16 years, 160 cfs.

Extremes.--Maximum discharge during year, 1,400 cfs July 22 (gage height, 13.56 ft, from floodmark); minimum daily, 20 cfs Dec. 24-26.
1947-63: Maximum discharge, 4,440 cfs July 14, 1957 (gage height, 20.11 ft); minimum daily, 7.9 cfs Oct. 6, 1950.
Flood of Apr. 6, 1947, reached a stage of 19.24 ft, from floodmarks (discharge, 4,760 cfs).

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Flow from about 330 sq mi of upper Little Calumet River basin above a point in Gary, Ind., is diverted to Lake Michigan by Burns ditch. Calumet Sag Channel, 8 miles below station, usually diverts the entire low flow to the Mississippi River basin.

Rating table, water year 1962-63, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Aug. 3 to Sept. 2)

4.8	20	8.0	320
5.0	30	10.0	600
5.2	42	12.0	980
6.0	120	13.0	1,220

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	30	36	22	30	30	77	245	41	33	103	40
2	32	30	34	23	27	29	76	a 150	39	37	143	43
3	39	31	33	29	40	75	72	a 120	38	34	225	96
4	35	31	38	29	60	250	61	a 110	42	30	150	55
5	67	41	41	26	79	400	* 56	a 115	* 41	26	104	46
6	36	39	40	24	85	536	56	100	41	37	* 88	44
7	34	38	38	22	65	403	50	85	45	38	78	40
8	90	38	36	* 26	45	* 342	47	75	108	29	73	35
9	39	37	31	28	35	270	53	* 69	113	32	70	34
10	32	36	25	29	29	220	50	145	89	31	66	41
11	* 32	31	23	30	27	160	50	112	150	30	61	45
12	33	30	* 24	30	* 35	165	49	87	109	31	54	* 103
13	31	38	25	25	34	250	50	82	77	89	57	62
14	28	39	26	26	32	240	46	70	61	125	51	41
15	25	* 38	27	28	30	165	41	61	45	43	46	36
16	31	81	24	30	28	140	48	56	36	* 364	46	33
17	30	76	23	29	30	140	59	197	34	175	62	40
18	30	41	27	28	48	135	77	280	39	105	46	37
19	32	36	26	29	88	180	62	190	51	388	41	37
20	92	41	26	27	55	200	56	130	61	780	49	77
21	81	38	26	25	35	155	54	106	44	563	50	55
22	34	38	25	25	30	116	64	85	39	a 1,200	50	36
23	34	31	23	25	30	97	84	71	34	* 940	51	33
24	32	32	20	25	28	85	65	64	32	536	49	37
25	31	29	20	28	27	85	60	58	36	310	64	36
26	30	28	20	29	29	119	51	48	37	220	44	36
27	28	36	25	25	30	135	47	46	37	165	46	38
28	24	37	28	22	32	123	42	57	42	130	63	34
29	24	38	28	29	---	102	90	54	40	108	67	53
30	31	38	24	32	---	86	296	48	35	99	51	34
31	31	---	21	32	---	71	---	40	---	100	47	---
Total	1,172	1,147	863	837	1,143	5,504	1,989	3,156	1,636	6,828	2,195	1,377
Mean	37.8	38.2	27.8	27.0	40.8	178	66.3	102	54.5	220	70.8	45.9
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1962: Max 1,130 Min 20 Mean 132 Cfsm - In. -
Water year 1962-63: Max 1,200 Min 20 Mean 76.3 Cfsm - In. -

* Discharge measurement made on this day.
a No gage-height record.
Note.--Stage-discharge relation affected by ice Dec. 8 to Mar. 5.

4-0930. Deep River at Lake George Outlet at Hobart, Ind.

Location.--Lat 41°32'10", long 87°15'25", in NW¼ sec. 32, T. 36 N., R. 7 W., on left bank at upstream side of highway bridge, 300 ft upstream from Duck Creek and 400 ft downstream from Lake George Dam.

Drainage area.--125 sq mi.

Records available.--April 1947 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 588.17 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission). Prior to July 29, 1952, staff gage, and July 30, 1952 to July 20, 1955, water-stage recorder at site 400 ft upstream at 11.80 ft higher.

Average discharge.--16 years, 93.2 cfs.

Extremes.--Maximum discharge during year, about 560 cfs Mar. 6 (gage height, about 8.0 ft); minimum, 4.1 cfs Sept. 28 (gage height, 3.53 ft).
1947-63: Maximum discharge, 3,880 cfs Oct. 11, 1954 (gage height, 19.48 ft, present datum, site then in use); minimum, 2.0 cfs (regulated) Oct. 8, 1956; minimum gage height, 3.35 ft Sept. 21, 1956.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used July 16-19)

Oct. 1 to July 20		July 21 to Sept. 30	
3.7	3.6	3.5	4.6
3.8	6.4	3.6	7.2
3.9	11	3.8	14
4.2	32	4.0	24
5.0	110	4.5	58
8.0	563	5.0	110
		7.0	393

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	30	16	b 8.6	b 11	18	41	88	16	8.9	40	9.8
2	13	25	16	b 8.8	b 11	18	40	83	14	6.4	46	12
3	18	23	16	b 9.1	b 11	24	42	64	13	5.0	58	18
4	15	26	20	b 10	b 11	110	23	58	11	5.3	62	16
5	23	24	18	b 11	b 11	360	26	83	12	5.6	44	15
6	23	24	23	14	b 11	540	24	78	10	7.6	36	13
7	30	23	18	14	13	530	23	66	9.9	5.6	29	11
8	26	16	15	14	16	393	20	53	18	5.6	26	11
9	20	16	b 12	b 12	16	288	20	38	39	5.0	22	11
10	19	16	b 10	b 11	16	198	19	45	99	4.7	22	9.2
11	14	16	b 9.0	b 10	16	138	18	55	110	5.0	18	11
12	8.0	16	b 8.5	b 9.3	16	110	18	57	78	5.6	18	23
13	8.0	16	8.0	b 8.9	15	126	18	55	49	16	14	20
14	9.4	15	7.6	b 8.5	15	132	16	44	33	26	* 14	17
15	11	15	8.0	b 8.4	13	104	17	38	26	18	14	14
16	9.4	26	b 9.0	b 8.2	12	88	17	31	20	47	13	12
17	6.8	33	b 10	8.0	12	94	18	59	16	* 42	13	9.2
18	8.9	36	*b 12	8.0	16	99	18	121	13	20	12	* 8.8
19	7.6	30	14	11	* 38	* 99	24	126	* 13	43	13	7.8
20	20	* 30	16	18	b 54	99	19	94	12	213	14	15
21	28	19	16	17	46	88	17	* 73	13	288	13	15
22	33	19	16	16	34	73	20	56	12	228	14	14
23	* 23	19	14	15	26	65	* 26	45	8.9	288	15	12
24	16	12	12	14	22	58	24	38	7.6	258	16	9.8
25	18	13	b 10	14	20	54	20	33	7.2	170	17	9.2
26	14	13	b 9.0	14	19	57	18	26	7.2	104	14	6.6
27	16	17	b 8.8	13	18	64	15	24	6.8	73	10	7.2
28	14	16	b 8.6	13	18	60	9.9	24	6.8	52	12	7.4
29	16	16	b 8.6	13	--------	56	24	22	7.6	46	12	10
30	18	16	b 8.6	* 13	---------	42	58	20	8.0	49	11	11
31	33	----------	b 8.6	b 12	---------	40	----------	18	----------	43	11	----------
Total	531.1	616	386.3	364.8	537	4,225	692.9	1,715	697.0	2,094.3	673	366.0
Mean	17.1	20.5	12.5	11.8	19.2	136	23.1	55.3	23.2	67.6	21.7	12.2
Cfsm	0.137	0.164	0.100	0.094	0.154	1.09	0.185	0.442	0.186	0.541	0.174	0.098
In.	0.16	0.18	0.12	0.11	0.16	1.26	0.21	0.51	0.21	0.62	0.20	0.11

Calendar year 1962 : Max 850 Min 4.4 Mean 73.9 Cfsm 0.591 In. 8.04
Water year 1962-63 : Max 540 Min 4.7 Mean 35.3 Cfsm 0.282 In. 3.85

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Jan. 20-29, Feb. 8-18, Feb. 21 to Mar. 7.

4-0932. Little Calumet River at Gary, Ind.

Location.--Lat 41°34'19", long 87°19'13", in SE¼ sec. 15, T. 36 N., R. 8 W., on right bank at upstream side of Pennsylvania Railroad bridge at Gary, 1.3 miles downstream from bridge on State Highway 53 and 1.5 miles upstream from confluence with Deep River.

Drainage area.--Indeterminate.

Records available.--June 1958 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 580.00 ft above mean sea level, datum of 1929.

Average discharge.--5 years, 16.3 cfs.

Extremes.--Maximum discharge during year, 55 cfs July 26 (gage height, 7.88 ft); no flow for many days.
1958-63: Maximum discharge, 196 cfs May 1, 1959 (gage height, 9.63 ft); no flow at times during each year.
Flood in October 1954 reached a stage of 13.09 ft, from floodmark.

Remarks.--Records fair except those for periods of ice effect or no gage-height record, which are poor. During times of flood on Deep River, reverse flow may occur at the gage.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 4, 9, 13-15, 18-27, May 17 to June 9, July 16 to Sept. 30)

6.06	0
6.1	0.4
6.2	1.6
6.5	6.9
6.7	12
7.0	22
7.5	41
8.0	67

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	1.6	1.6	0	0	.5	9.0	15	2.9	0	29	3.2
2	0	1.4	2.4	0	0	.5	11	14	2.7	0	27	3.6
3	0	1.3	2.4	0	0	1.0	8.2	13	2.4	0	29	9.9
4	0	2.3	2.2	0	0	7.4	7.0	13	1.6	0	26	5.4
5	2.7	2.4	2.4	0	0	b 5.4	6.0	14	1.5	0	24	4.6
6	2.4	1.9	2.6	.1	0	b 4.7	5.4	12	1.3	0	21	4.3
7	5.5	1.9	1.9	.2	.1	b 4.3	5.0	11	1.1	0	19	4.1
8	6.5	2.2	1.2	.1	0	b 7.0	6.0	10	3.2	0	17	3.9
9	4.3	2.2	.8	0	0	11	5.2	9.1	6.6	0	15	3.4
10	3.7	2.6	.6	0	0	b 8.0	4.6	13	6.2	0	14	2.9
11	3.4	2.6	.4	0	0	b 6.4	4.2	9.8	5.9	0	12	3.9
12	3.0	2.6	.3	0	0	b 6.0	4.0	8.1	4.1	0	10	9.3
13	2.7	2.4	.2	0	0	16	5.2	8.1	3.7	0	* 9.6	6.7
14	2.4	2.2	.2	0	0	15	7.0	7.9	3.7	4.4	8.1	5.8
15	2.4	2.2	.1	0	0	14	6.0	6.5	3.4	1.4	7.1	5.4
16	2.2	4.6	.1	0	0	b 12	5.2	6.0	3.0	16	6.3	5.0
17	1.9	3.2	* 0	0	0	b 11	5.4	13	2.7	* 10	6.3	4.8
18	1.6	3.4	0	0	.6	13	6.7	15	2.4	6.5	5.4	* 4.3
19	1.3	3.4	.2	0	* 4.5	* 15	8.6	13	* 2.8	14	5.0	3.7
20	4.6	* 3.2	.1	0	3.5	16	7.0	12	2.9	27	4.6	6.1
21	3.4	3.2	0	0	2.0	14	6.2	* 11	2.1	24	4.5	4.5
22	3.2	3.2	0	0	1.0	12	5.8	10	1.8	31	4.3	3.9
23	3.4	2.9	0	0	.8	12	* 6.6	8.6	1.6	37	3.7	3.6
24	* 2.2	2.9	0	0	.7	12	6.0	7.1	1.1	45	6.5	3.2
25	1.8	2.6	0	0	.6	12	5.4	6.3	.5	52	5.9	3.0
26	1.8	2.1	0	0	.6	16	5.0	5.2	.3	52	4.1	2.7
27	1.4	2.1	0	0	.5	15	4.6	4.6	0	48	3.7	2.6
28	1.4	2.1	0	0	.5	13	3.9	4.6	0	43	5.1	2.5
29	1.1	1.8	0	* 0	---	10	7.1	4.1	0	39	4.1	3.7
30	1.1	1.6	0	0	---	8.0	17	3.7	0	35	3.7	2.6
31	2.7	---	0	0	---	7.5	---	3.9	---	31	3.6	---
Total	74.1	74.1	19.7	0.4	15.4	305.7	194.3	292.6	71.5	516.3	344.6	132.6
Mean	2.39	2.47	0.64	0.01	0.55	9.86	6.48	9.44	2.38	16.7	11.1	4.42
Cfsm	-	-	-	-	-	-	-	-	-	-	-	-
In.	-	-	-	-	-	-	-	-	-	-	-	-

Calendar year 1962: Max 141 Min 0 Mean 11.0 Cfsm - In. -
Water year 1962-63: Max 52 Min 0 Mean 5.59 Cfsm - In. -

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Dec. 7-17, Dec. 29 to Mar. 3, Mar. 28 to Apr. 23.

4-0935. Burns ditch at Gary, Ind.

Location.--Lat 41°34'30", long 87°17'20", in N½ sec. 13, T. 36 N., R. 8 W., on left bank on downstream side of bridge on Central Avenue, 0.4 mile east of Gary and 0.4 mile downstream from confluence of Deep River and Little Calumet River.

Drainage area.--About 160 sq mi.

Records available.--October 1943 to September 1963 (October 1950 to September 1955, high-water records only).

Gage.--Water-stage recorder. Datum of gage is 577.04 ft above mean sea level, datum of 1929. Prior to July 28, 1955, wire-weight gage at same site and datum.

Average discharge.--15 years (1943-50, 1955-63), 131 cfs.

Extremes.--Maximum discharge during year, 644 cfs Mar. 6 (gage height, 7.39 ft); minimum, 6.2 cfs July 5, 10-13 (gage height, 3.28 ft). 1943-63: Maximum discharge, 3,430 cfs Oct. 11, 1954; maximum gage height, 16.44 ft Mar. 16, 1944, from graph based on gage readings; minimum discharge determined, 1.8 cfs, Oct. 14, 1946.

Remarks.--Records good except those for periods of ice effect, 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 Wickliffe.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used July 16 to Aug. 15, Aug. 24 - 26, 29, Sept. 3-5, 12-17)

3.2	3.3
3.4	11
3.6	21
3.8	35
4.0	57
5.0	203
7.0	563
8.0	778

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	37	26	b 17	b 13	22	49	98	16	8.5	65	12
2	15	31	24	b 18	b 13	22	46	96	17	8.1	77	12
3	17	28	26	b 18	b 13	42	43	77	19	6.5	92	43
4	19	32	27	b 20	b 13	203	36	68	17	6.9	86	30
5	26	35	30	22	b 13	446	28	94	15	6.5	70	24
6	26	30	31	22	b 15	623	26	95	16	6.9	59	16
7	42	30	b 28	22	b 19	603	24	75	15	7.7	50	13
8	41	27	b 25	22	b 19	465	23	58	21	7.3	40	12
9	28	25	b 21	b 20	b 19	336	22	41	40	6.9	35	12
10	25	24	b 19	b 18	b 19	267	21	52	77	6.5	33	11
11	22	25	b 18	b 17	b 19	188	21	52	113	6.5	30	12
12	20	24	b 17	b 16	b 18	150	19	56	94	6.9	28	46
13	16	24	17	b 15	b 18	166	19	55	53	16	* 27	40
14	17	24	16	b 15	b 16	173	18	47	34	27	21	33
15	20	24	17	b 14	b 15	150	17	37	24	22	18	28
16	19	37	b 18	b 14	b 14	120	17	32	20	92	13	22
17	16	41	*b 18	b 14	b 14	120	18	42	16	* 106	21	18
18	16	43	17	16	b 20	128	19	143	14	67	16	* 16
19	16	39	18	19	* 56	*136	21	166	* 13	101	15	16
20	26	* 35	20	22	76	136	20	136	14	284	16	23
21	33	32	20	21	b 52	128	18	* 98	12	390	14	26
22	33	27	20	b 20	b 35	106	19	76	13	336	14	22
23	27	26	24	b 18	b 29	82	* 25	58	11	* 372	14	21
24	* 24	26	22	b 17	b 26	73	24	44	10	390	18	18
25	22	23	b 20	b 16	b 24	69	22	36	9.4	318	27	17
26	21	22	b 19	b 15	b 23	73	20	29	8.5	218	18	14
27	20	25	b 18	b 15	b 22	77	18	25	8.5	166	14	14
28	20	24	b 17	b 15	b 22	73	16	25	8.1	120	17	14
29	19	25	b 17	*b 14	----------	70	22	23	8.5	95	18	21
30	20	25	b 17	b 14	----------	57	90	21	8.1	83	14	19
31	34	----------	b 17	b 14	----------	49	----------	20	----------	75	13	----------
Total	715	870	644	540	655	5,353	781	1,975	745.1	3,363.2	993	625
Mean	23.1	29.0	20.8	17.4	23.4	173	26.0	63.7	24.8	108	32.0	20.8
Cfsm	0.144	0.181	0.130	0.109	0.146	1.08	0.162	0.398	0.155	0.675	0.200	0.130
In.	0.17	0.20	0.15	0.13	0.15	1.24	0.18	0.46	0.17	0.78	0.23	0.14

Calendar year 1962 : Max 995 Min 9.4 Mean 102 Cfsm 0.638 In. 8.64
Water year 1962-63 : Max 623 Min 6.5 Mean 47.3 Cfsm 0.296 In. 4.00

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

4-0940. Little Calumet River at Porter, Ind.

Location.--Lat 41°37'18", long 87°05'13", in NE¼ sec. 34, T. 37 N., R. 6 W., near center of span on downstream side of highway bridge, three-quarters of a mile northwest of Porter and 4.5 miles upstream from Salt Creek.

Drainage area.--62.9 sq mi.

Records available.--May 1945 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 603.48 ft above mean sea level, datum of 1929. Prior to June 26, 1952, wire-weight gage at same site and datum.

Average discharge.--18 years, 69.6 cfs.

Extremes.--Maximum discharge during year, 460 cfs July 21 (gage height, 6.57 ft); minimum, 20 cfs July 9-13, Sept. 9, 27, 28; minimum gage height, 2.40 ft July 13.
1945-63: Maximum discharge, 3,110 cfs Oct. 10, 1954 (gage height, 11.66 ft); minimum, 15 cfs Dec. 6, 1958, result of freezeup; minimum gage height, 2.14 ft Aug. 22, 1949.

Remarks.--Records fair except those for periods of ice effect or no gage-height record, which are poor.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1-7, Nov. 12-28, Mar. 14-25, Apr. 20 to May 1, June 18-23, Sept. 21-30)

2.4	20	4.5	110
2.5	22	5.0	162
3.0	36	6.0	320
3.5	53	7.0	590
4.0	76		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	61	39	a 37	a 22	a 45	50	138	31	23	27	22
2	24	46	39	a 37	a 22	a 45	50	82	31	22	30	22
3	27	44	39	a 36	a 30	a 60	46	61	30	22	46	30
4	27	46	41	a 36	a 40	104	42	61	30	21	36	26
5	31	53	42	b 37	a 42	214	41	130	30	21	30	24
6	31	50	46	b 40	a 44	340	41	102	28	21	28	23
7	35	46	46	44	a 44	300	41	66	28	21	28	22
8	57	44	44	b 45	a 43	214	41	57	30	22	26	22
9	42	44	b 41	a 46	a 42	230	39	50	60	21	27	22
10	37	41	a 38	a 46	a 42	186	37	66	53	21	27	22
11	37	41	a 35	a 44	a 41	150	37	61	41	20	24	22
12	37	46	a 33	a 42	a 40	120	37	50	36	21	24	27
13	37	42	a 32	a 39	a 39	162	41	66	31	24	24	27
14	37	41	a 31	a 38	a 39	186	39	61	31	39	* 24	23
15	37	39	a 30	a 38	a 38	130	37	50	30	* 27	24	22
16	37	41	a 30	a 38	a 38	95	37	46	27	83	23	22
17	37	50	a 31	a 38	a 37	110	41	72	27	74	23	22
18	37	42	*b 47	a 37	a 45	110	44	174	24	50	23	* 22
19	37	* 42	53	a 37	*b 59	88	44	120	* 27	100	24	21
20	41	41	61	a 37	66	* 110	46	71	* 30	280	24	23
21	50	39	b 54	a 35	a 88	82	41	* 57	27	367	23	24
22	41	37	b 50	a 33	a 70	66	44	53	24	138	23	22
23	* 39	36	a 45	a 31	a 60	61	* 50	46	24	66	23	27
24	39	37	a 42	a 30	a 54	57	46	42	23	46	23	26
25	39	37	a 40	a 28	a 51	57	42	39	23	37	23	22
26	39	37	a 39	a 27	a 49	61	41	37	23	32	23	21
27	39	37	a 39	b 25	a 47	57	39	36	23	30	22	21
28	39	39	a 38	b 24	a 46	53	37	37	24	28	23	21
29	39	39	a 38	b 23	---	50	50	36	23	28	26	23
30	41	39	a 38	*a 22	---	50	118	36	23	26	23	24
31	60	---	a 37	a 22	---	50	---	32	---	26	23	---
Total	1,174	1,277	1,258	1,092	1,278	3,643	1,339	2,035	892	1,757	797	697
Mean	37.9	42.6	40.6	35.2	45.6	118	44.6	65.6	29.7	56.7	25.7	23.2
Cfsm	0.603	0.677	0.645	0.560	0.725	1.88	0.709	1.04	0.472	0.901	0.409	0.369
In.	0.70	0.76	0.74	0.65	0.76	2.17	0.79	1.20	0.53	1.04	0.47	0.41

Calendar year 1962: Max 567 Min 20 Mean 59.7 Cfsm 0.949 In. 12.89
Water year 1962-63: Max 367 Min 20 Mean 47.2 Cfsm 0.750 In. 10.22

* Discharge measurement made on this day.
a No gage-height record.
b Stage-discharge relation affected by ice.

4-0945. Salt Creek near McCool, Ind.

Location.--Lat 41°35'48", long 87°08'40", in SE¼ sec. 6, T. 36 N., R. 6 W., on left bank on downstream side of highway bridge, 50 ft downstream from New York Central Railroad bridge, 1¼ miles north of McCool and 1.5 miles upstream from Little Calumet River.

Drainage area.--78.7 sq mi.

Records available.--May 1945 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 594.10 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission). Prior to July 25, 1955, wire-weight gage at same site and datum.

Average discharge.--18 years, 69.0 cfs.

Extremes.--Maximum discharge during year, 290 cfs July 21 (gage height, 6.15 ft); minimum, 18 cfs Sept. 19; minimum gage height, 2.54 ft July 13.
1945-63: Maximum discharge, 3,180 cfs Oct. 11, 1954 (gage height, 14.12 ft); minimum, 6.3 cfs Aug. 24, 1955 (gage height, 2.31 ft).

Remarks.--Records fair except those for periods of ice effect or no gage-height record, which are poor.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 19 to Dec. 7, Mar. 20, Aug. 8 to Sept. 12, Sept. 15-30)

2.5	19
3.0	32
3.5	55
4.0	86
6.0	266

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	58	36	30	32	42	50	115	29	23	34	20
2	28	44	36	30	32	42	47	76	29	23	32	20
3	29	40	36	30	32	54	47	58	29	23	58	27
4	29	42	36	30	34	92	44	55	29	22	34	23
5	36	47	38	31	40	190	42	107	29	22	28	23
6	34	44	38	33	41	270	42	76	29	22	26	22
7	34	40	38	38	40	210	40	58	29	22	26	22
8	38	38	37	40	38	160	40	50	32	22	25	22
9	36	38	35	40	36	180	40	42	68	22	24	20
10	34	40	33	40	35	140	38	52	90	22	24	20
11	32	38	31	38	34	120	38	58	86	22	23	22
12	32	38	30	35	33	96	38	44	52	20	23	34
13	32	38	28	33	32	130	38	55	40	23	23	30
14	34	40	28	31	32	150	38	52	36	40	* 23	23
15	34	40	27	30	32	110	36	42	32	25	22	22
16	38	47	27	29	31	78	38	38	29	158	22	20
17	38	58	28	28	31	86	38	64	28	* 158	22	20
18	36	47	* 29	27	52	88	42	123	28	76	22	* 19
19	34	* 40	40	28	* 76	73	40	73	* 26	96	22	19
20	40	38	47	35	84	* 76	44	55	34	245	,23	22
21	52	36	42	40	100	64	40	* 47	29	266	22	27
22	40	36	36	50	75	55	38	42	26	157	22	20
23	* 38	34	33	50	60	55	* 44	38	25	82	20	20
24	36	34	32	50	52	55	42	36	25	58	22	19
25	36	36	31	48	48	55	38	34	24	42	24	19
26	36	36	31	47	46	61	40	32	24	36	20	19
27	36	36	31	45	44	58	36	32	24	32	20	19
28	36	38	30	42	43	52	36	32	24	32	22	19
29	36	36	30	39	---	50	44	32	24	32	24	23
30	36	36	30	* 31	---	47	100	32	23	29	22	24
31	55	---	30	34	---	47	---	31	---	29	22	---
Total	1,113	1,213	1,034	1,132	1,265	2,986	1,278	1,681	1,032	1,881	776	659
Mean	35.9	40.4	33.4	36.5	45.2	96.3	42.6	54.2	34.4	60.7	25.0	22.0
Cfsm	0.456	0.513	0.424	0.464	0.574	1.22	0.541	0.689	0.437	0.771	0.318	0.280
In.	0.53	0.57	0.49	0.53	0.60	1.41	0.60	0.79	0.49	0.89	0.37	0.31

Calendar year 1962: Max 474 Min 25 Mean 57.7 Cfsm 0.733 In. 9.99
Water year 1962-63: Max 270 Min 19 Mean 44.0 Cfsm 0.559 In. 7.58

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 8-19, Dec. 22 to Jan. 6, Jan. 11-14. No gage-height record Jan. 15 to Mar. 19.

4-985. Fawn River near White Pigeon, Mich.

Location.--Lat 41°47'00", long 85°35'00", in SW¼ sec. 10, T. 8 S., R. 11 W., on right bank a quarter of a mile downstream from bridge on county highway, 3.1 miles east of White Pigeon and 3½ miles upstream from outlet of Klinger Lake.

Drainage area.--192 sq mi (revised).

Records available.--July 1903 to July 1904 (gage height and discharge measurements only), October 1957 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 805.4 ft above mean sea level, datum of 1929.

Average discharge.--6 years, 144 cfs.

Extremes.--Maximum discharge during year, 258 cfs Mar. 23 (gage height, 3.29 ft); minimum, 37 cfs Sept. 18, 19 (gage height, 1.81 ft).
1957-63: Maximum discharge, 488 cfs Mar. 15, 1962 (gage height, 4.37 ft); minimum, that of Sept. 18, 19, 1963.
A daily mean discharge of 750 cfs occurred Mar. 15, 1904.

Remarks.--Records good except those for periods of ice effect, which are fair. Small diurnal fluctuation caused by powerplants above station.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 4-12)

1.8	36
2.5	118
3.0	202
4.0	403

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	58	85	83	70	70	69	232	145	93	51	49	52
2	55	88	85	71	70	69	234	145	91	52	49	54
3	52	92	80	74	75	71	234	142	88	52	109	54
4	61	93	89	79	75	87	230	135	83	61	122	51
5	60	97	91	83	* 76	103	225	138	76	56	113	51
6	64	88	85	82	76	119	213	140	81	66	* 92	51
7	60	82	87	76	77	126	180	135	104	61	81	54
8	64	* 83	81	* 79	79	128	180	129	128	58	73	54
9	* 64	93	83	91	74	137	* 182	121	131	51	74	49
10	60	93	65	86	76	137	177	129	135	50	69	* 46
11	60	92	* 64	86	75	145	166	135	129	51	68	47
12	61	92	65	73	72	148	162	126	122	46	69	50
13	58	91	65	56	70	173	157	124	112	46	67	66
14	50	87	65	55	70	184	150	* 122	108	67	65	68
15	56	81	70	55	68	180	146	121	105	79	64	66
16	60	92	85	55	65	189	138	119	100	* 75	65	59
17	79	103	83	55	70	197	134	121	93	76	65	50
18	79	99	85	55	75	210	142	134	* 93	81	64	38
19	81	95	100	55	81	221	143	131	91	82	61	45
20	80	94	104	55	85	232	145	125	92	89	61	64
21	85	87	100	55	89	250	145	119	91	91	61	67
22	91	89	87	55	67	* 252	142	114	86	85	60	62
23	93	95	87	55	71	252	145	112	82	76	58	64
24	94	92	67	55	70	236	146	112	80	67	56	64
25	100	89	79	55	70	* 234	142	106	74	65	56	52
26	95	75	74	55	67	238	140	103	70	65	56	52
27	97	81	71	55	67	238	131	98	67	64	54	48
28	106	87	81	55	67	240	134	105	66	60	52	44
29	103	80	89	55	----------	238	129	105	66	55	54	50
30	99	80	73	60	----------	240	138	100	59	56	52	50
31	95	----------	66	65	----------	234	----------	94	----------	51	51	----------
Total	2,320	2,675	2,489	2,011	2,047	5,577	4,962	3,785	2,796	1,985	2,090	1,622
Mean	74.8	89.2	80.3	64.9	73.1	180	165	122	93.2	64.0	67.4	54.1
Cfsm	0.390	0.465	0.418	0.338	0.381	0.937	0.859	0.635	0.485	0.333	0.351	0.282
In.	0.45	0.52	0.48	0.39	0.40	1.08	0.96	0.73	0.54	0.38	0.40	0.31

Calendar year 1962: Max 454 Min 50 Mean 124 Cfsm 0.646 In. 8.73
Water year 1962-63: Max 252 Min 38 Mean 94.1 Cfsm 0.490 In. 6.64

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 12-15, Jan. 14 to Feb. 3, Feb. 11-16.

4-990. St. Joseph River at Mottville, Mich.

Location.--Lat 41°48'05", long 85°45'15", in SW¼ sec. 6, T. 8 S., R. 12 W., Michigan meridian, on right bank 500 ft upstream from bridge on U. S. Highway 112 at Mottville, 0.4 mile downstream from Michigan Gas and Electric Co. hydroelectric plant, 4 miles upstream from Pigeon River, and at mile 96.

Drainage area.--1,866 sq mi (revised).

Records available.--October 1923 to September 1963. Monthly discharge only for some periods, published in WSP 1307.

Gage.--Water-stage recorder (digital). Datum of gage is 755.3 ft above mean sea level, (Michigan Gas and Electric Co. benchmark). Prior to Oct. 1, 1951, at site 0.4 mile upstream at datum 4.2 ft higher.

Average discharge.--40 years, 1,496 cfs.

Extremes.--Maximum discharge during year, 4,110 cfs Mar. 30 (gage height, 6.08 ft); minimum, 40 cfs Sept. 29; minimum daily, 131 cfs Oct. 14.
1923-63: Maximum discharge, 10,700 cfs Apr. 27, 1950 (gage height, 6.56 ft, site and datum then in use); minimum daily, 44 cfs Oct. 17, 1937.

Remarks.--Records good except those for periods of ice effect, which are fair. Flow regulated by powerplant above station.

Rating table, water year 1962-63, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Dec. 31 to Jan. 11)

1.4	130
1.7	225
2.0	355
2.4	585
3.0	1,040
5.0	2,920

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	572	754	629	596	450	600	2,150	1,210	702	586	597	286
2	578	555	502	860	320	520	2,000	1,220	743	750	688	265
3	584	396	700	660	300	460	2,070	1,210	816	663	514	494
4	564	566	551	691	700	742	1,880	1,170	909	234	540	494
5	646	742	688	643	330	640	1,950	1,010	753	269	766	477
6	640	710	778	492	470	760	1,670	1,370	671	426	* 665	462
7	638	744	441	881	520	766	1,650	1,170	1,070	310	695	207
8	550	* 569	616	* 748	550	1,010	1,580	979	975	841	706	193
9	* 696	613	714	748	500	938	1,500	1,040	977	722	793	473
10	599	520	857	766	480	936	* 1,470	1,300	1,150	580	359	456
11	683	559	* 646	813	680	1,110	1,460	1,090	1,070	524	242	446
12	609	858	600	430	550	1,180	1,290	1,100	1,050	379	670	498
13	166	797	740	400	520	1,240	1,240	1,200	1,010	169	653	455
14	131	806	737	640	560	1,400	1,090	1,070	1,070	256	668	248
15	506	600	503	620	550	1,540	1,170	* 1,040	678	667	633	255
16	545	629	466	580	337	1,640	1,320	982	1,010	* 697	772	487
17	616	797	800	550	335	1,810	1,120	847	976	713	318	478
18	639	699	728	500	649	2,100	1,020	989	* 737	620	202	436
19	632	808	688	500	545	2,630	1,100	1,090	752	837	645	468
20	563	643	695	460	534	2,480	1,210	1,330	835	379	584	572
21	662	719	713	500	500	2,900	1,520	830	999	636	520	190
22	692	712	601	460	570	2,610	1,270	1,110	522	902	536	186
23	717	617	520	460	350	2,530	1,290	1,120	556	801	628	569
24	752	639	858	300	550	2,490	1,430	1,020	891	760	175	436
25	785	546	464	260	750	* 2,380	1,310	801	861	714	300	608
26	846	739	844	250	500	2,530	1,400	950	693	664	512	450
27	712	766	717	250	500	2,500	1,070	943	693	341	540	412
28	818	592	705	250	530	2,770	1,050	965	579	520	516	231
29	838	664	625	280	---	2,400	1,500	924	245	686	517	154
30	803	680	520	450	---	2,370	1,140	519	445	615	539	446
31	777	---	790	420	---	2,300	---	1,020	---	604	324	---
Total	19,559	20,039	20,436	16,458	14,130	52,282	42,920	32,619	24,438	17,865	16,817	11,832
Mean	631	668	659	531	505	1,687	1,431	1,052	815	576	542	394
Cfsm	0.338	0.358	0.353	0.285	0.271	0.904	0.767	0.564	0.437	0.309	0.290	0.211
In.	0.39	0.40	0.41	0.33	0.28	1.04	0.86	0.65	0.49	0.36	0.34	0.24

Calendar year 1962 : Max 5,020 Min 131 Mean 1,201 Cfsm 0.644 In. 8.73
Water year 1962-63 : Max 2,900 Min 131 Mean 793 Cfsm 0.425 In. 5.77

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Jan. 12 to Mar. 2.

4-995. Pigeon Creek at Hogback Lake Outlet, near Angola, Ind.

Location.--Lat 41°37'24", long 85°05'44", in NE¼NW¼ sec. 36, T. 37 N., R. 12 E., on right bank 200 ft north of lake outlet, 2 miles southeast of Flint, and 5.1 miles west of Angola.

Drainage area.--102 sq mi.

Records available.--October 1945 to September 1963. Prior to October 1947, published as "near Flint."

Gage.--Water-stage recorder. Datum of gage is 940.00 ft above mean sea level, datum of 1929. Prior to October 1947, wire-weight gage at site 1½ miles downstream at different datum. October 1947 to Aug. 3, 1953, staff gage at site 600 ft downstream at same datum.

Average discharge.--18 years, 76.1 cfs.

Extremes.--Maximum discharge during year, 267 cfs Mar. 21 (gage height, 11.64 ft); minimum, 5.2 cfs Sept. 19, 24-28; minimum gage height, 7.54 ft from range line on chart (date unknown).
1945-63: Maximum discharge, 744 cfs Apr. 8, 1950 (gage height, 14.95 ft); minimum, 5.2 cfs Oct. 19-25, 1953, Sept. 19, 24-28, 1963; minimum gage height, 7.24 ft Sept. 9, 10, 1953.

Remarks.--Records fair.

Rating table, water year 1962-63 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Jan. 22 to Feb. 25, Mar. 4-9, Mar. 14 to Apr. 11, June 9 to Sept. 30)

7.5	4.8	9.0	55
7.6	6.1	10.0	132
7.8	9.3	12.0	351
8.0	14		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.0	10	11	12	9.5	a 8.0	140	42	20	10	11	7.4
2	7.0	10	11	11	9.5	a 7.8	132	42	19	9.6	10	7.3
3	* 7.3	10	10	11	9.3	a 7.8	*124	39	19	9.1	15	7.2
4	7.4	10	* 10	11	9.0	8.1	116	39	19	8.6	17	* 7.0
5	7.6	11	10	11	8.8	8.4	108	39	18	7.9	21	6.7
6	7.8	11	11	11	8.8	9.8	104	39	17	7.8	*22	6.6
7	7.8	11	13	11	8.8	11	96	* 36	19	7.3	24	6.2
8	8.1	11	14	11	8.8	14	88	* 32	20	7.0	23	6.1
9	8.3	11	14	*10	8.8	19	80	32	23	6.7	23	5.8
10	8.3	10	14	10	8.6	26	76	32	24	6.4	23	5.8
11	8.4	10	14	11	8.6	36	72	30	*28	6.1	21	5.6
12	8.6	10	14	11	8.6	49	64	30	32	6.0	19	6.0
13	8.6	10	14	11	8.4	* 61	61	30	36	6.1	18	5.8
14	8.6	10	14	11	8.4	72	58	30	39	7.8	17	5.7
15	8.6	10	14	10	8.4	96	55	30	39	7.9	16	5.6
16	8.8	11	14	10	8.3	124	52	28	36	8.8	15	5.6
17	8.8	12	14	10	8.1	149	49	28	34	9.6	14	5.4
18	8.6	12	14	9.8	7.9	199	49	30	30	11	13	5.4
19	8.6	12	14	10	7.9	232	49	28	28	12	12	5.2
20	8.8	12	14	10	8.1	255	49	28	26	15	12	5.6
21	9.3	12	14	10	8.3	255	49	28	*23	16	11	5.6
22	9.3	12	14	10	8.3	243	49	28	21	16	10	5.4
23	9.5	12	14	10	8.3	232	49	26	19	17	10	5.3
24	9.6	12	13	10	8.4	210	49	24	17	17	9.6	* 5.2
25	9.8	12	13	10	8.6	188	46	24	16	16	9.3	5.2
26	10	12	13	10	a 8.5	178	44	22	15	16	9.1	5.2
27	10	12	13	10	a 8.3	168	44	22	14	15	8.6	5.2
28	10	11	13	10	a 8.1	168	42	23	12	14	8.3	5.2
29	10	11	12	9.8	----------	158	42	22	12	14	8.1	5.3
30	10	11	12	* 9.6	------	158	42	21	11	12	7.8	5.3
31	*10	------	12	9.6	------	149	-----	20	------	12	7.6	-------
Total	270.5	331	401	321.8	239.4	3,499.9	2,078	924	686	335.7	445.4	174.9
Mean	8.73	11.0	12.9	10.4	8.55	113	69.3	29.8	22.9	10.8	14.4	5.83
Cfsm	0.086	0.108	0.126	0.102	0.084	1.11	0.679	0.292	0.225	0.106	0.141	0.057
In.	0.10	0.12	0.14	0.12	0.09	1.28	0.76	0.34	0.25	0.12	0.16	0.06

Calendar year 1962: Max 411 Min 7.0 Mean 49.9 Cfsm 0.489 In. 6.65
Water year 1962-63: Max 255 Min 5.2 Mean 26.6 Cfsm 0.261 In. 3.54

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-21	0100 to 0500	11.64	267				

* Discharge measurement made on this day.
a No gage-height record.

4-0996.20 Pretty Lake Inlet near Stroh, Ind.

Location.--Lat 41°34'50", long 85°15'00", in NW¼ sec. 15, T. 36 N., R. 12 E., on left bank 400 ft upstream from mouth, and 2.6 miles west of Stroh.

Drainage area.--0.6 sq mi, approximately.

Records available.--June to September 1963.

Gage.--Water-stage recorder. Datum of gage is 960.00 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during period, 1.12 cfs Aug. 3 (gage height, 6.36 ft); no flow Sept. 16, 17, 25-28.

Remarks.--Records poor.

Rating tables, June to September 1963 (gage height, in feet, and discharge, in cubic feet per second)

June 26 to Sept. 16				Sept. 17-30	
5.75	.01	6.0	.24	5.85	0
5.8	.03	6.2	.64	5.9	.01
5.9	.11	6.3	.92		

Discharge, in cubic feet per second, June 1963 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1										0.03	0.02	0.02
2										.03	.02	.02
3										.03	.68	.02
4										.03	.34	.02
5										.03	.16	.02
6										.03	.12	.02
7										.03	.12	.02
8										.02	.08	.02
9										.02	* .07	.02
10										.02	.06	a .02
11										.02	.05	a .02
12										.01	.05	a .02
13										.05	.05	a .01
14										.09	.04	a .01
15										.03	.04	a .01
16										.06	.03	a 0
17										.05	.03	* 0
18										.07	.03	.01
19										.06	.04	.01
20										.09	.05	.01
21										.05	.04	.01
22										.05	.03	.01
23								*		.03	.03	* .01
24										.03	.03	.01
25										.02	a .03	0
26									* .05	.02	.02	0
27									.04	.02	.02	0
28									.03	.02	.02	0
29						*			.03	.02	.02	.01
30									.03	.03	.02	.01
31									----------	.02	.02	----------
Total										1.11	2.36	0.36
Mean										0.036	0.076	0.012
Cfsm										0.060	0.127	0.020
In.										0.07	0.15	0.02

Calendar year : Max Min Mean Cfsm In.
Water year : Max Min Mean Cfsm In.

* Discharge measurement made on this day.
a No gage-height record.

4-1002.2 North Branch Elkhart River near Cosperville, Ind.

Location.--Lat 41°29'32", long 85°26'54", in SW¼NE¼ sec. 14, T. 35 N., R. 9 E., at downstream side of county road bridge over outlet of Waldron Lake at extreme west end of lake, 1.5 miles northeast of Cosperville, and 6.6 miles northwest of Albion.

Drainage area.--133 sq mi.

Records available.--October 1950 to September 1963.

Gage.--Wire-weight gage read twice daily. Datum of gage is 880.00 ft above mean sea level, datum of 1929. Prior to Aug. 7, 1956, staff gage at same site and datum.

Average discharge.--13 years, 114 cfs.

Extremes.--Maximum discharge during year, 258 cfs Mar. 19-22; maximum gage height, 7.05 ft Mar. 20, 21; minimum, 3.5 cfs July 12,13 (gage height, 4.53 ft).
1950-63: Maximum discharge observed, 717 cfs May 13, 1956 (gage height, 8.78 ft); minimum, 2.2 cfs Sept. 17, 18, 21, 1959; minimum gage height, 4.50 ft Oct. 3, 1953.

Remarks.--Records fair.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 3-28)

Oct. 1 to Mar. 8

4.5	1.6	5.0	41
4.6	8.0	5.5	99
4.7	15	6.0	165
4.8	23		

Mar. 9 to Sept. 30

4.5	1.6	5.0	41
4.6	8.0	5.5	93
4.7	15	6.0	148
4.8	23	7.0	258

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.9	37	27	27	17	15	203	82	36	26	23	21
2	6.6	36	27	28	17	16	203	71	34	25	19	19
3	* 6.6	36	27	26	16	20	* 192	71	34	21	46	17
4	8.0	36	26	26	16	30	192	71	34	17	76	17
5	9.4	36	* 27	25	16	60	181	76	48	15	88	* 17
6	10	36	28	26	16	125	170	70	52	12	93	15
7	11	36	28	26	16	151	159	* 67	65	9.4	* 88	15
8	14	36	30	26	16	151	148	64	68	8.0	88	15
9	16	35	30	* 27	16	159	142	63	71	7.4	76	16
10	17	34	30	27	16	170	132	67	* 82	5.4	76	13
11	16	34	27	28	16	170	120	67	88	5.4	71	14
12	16	33	25	23	16	170	115	65	88	4.2	68	17
13	17	32	26	22	16	* 192	104	65	82	4.2	71	16
14	16	32	26	21	16	225	98	65	82	15	66	14
15	15	30	28	21	16	236	93	65	76	18	60	13
16	15	32	27	20	16	236	88	61	71	23	58	12
17	17	35	28	20	16	247	76	63	65	28	55	11
18	16	36	28	19	16	247	88	76	61	47	51	9.4
19	17	36	29	19	16	258	88	82	57	61	51	8.7
20	21	34	29	18	16	258	93	76	56	82	48	12
21	26	35	28	18	15	258	98	70	52	93	45	13
22	24	34	28	18	15	258	98	65	48	88	43	14
23	25	33	28	18	15	247	93	61	42	82	42	12
24	28	32	28	18	15	236	93	57	39	76	40	* 11
25	31	30	28	17	15	236	88	54	35	65	39	10
26	32	28	28	17	15	236	82	51	* 34	57	36	9.4
27	32	28	27	17	15	236	76	46	32	48	31	8.0
28	33	28	27	17	15	225	70	52	30	41	28	9.4
29	36	28	27	17	----------	225	70	47	28	38	26	10
30	36	27	27	* 17	------	214	82	42	27	32	22	9.4
31	*36	------	27	17	-----	214	-----	37	------	28	21	-------
Total	609.5	995	856	666	442	5,721	3,535	1,969	1,617	1,082.0	1,645	398.3
Mean	19.7	33.2	27.6	21.5	15.8	185	118	63.5	53.9	34.9	53.1	13.3
Cfsm	0.148	0.250	0.208	0.162	0.119	1.39	0.887	0.477	0.405	0.262	0.399	0.100
In.	0.17	0.28	0.24	0.19	0.12	1.60	0.99	0.55	0.45	0.30	0.46	0.11

Calendar year 1962: Max 494 Min 5.3 Mean 85.3 Cfsm 0.641 In. 8.69
Water year 1962-63: Max 258 Min 4.2 Mean 53.5 Cfsm 0.402 In. 5.46

Peak discharge (base, 250 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-20	1700	7.05	258				

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Jan. 13 to Mar. 5.

4-1005. Elkhart River at Goshen, Ind.

Location.--Lat 41°35', long 85°50', near line between secs. 8 and 9, T. 36 N., R. 6 E., on right bank 20 ft downstream from River Avenue Bridge at Goshen and half a mile upstream from Rock Run.

Drainage area.--580 sq mi.

Records available.--April 1931 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 769.43 ft above mean sea level, datum of 1929. Prior to Nov. 20, 1931, chain gage at same site and datum.

Average discharge.--32 years, 501 cfs.

Extremes.--Maximum daily discharge during year, 1,650 cfs Mar. 14; maximum gage height, 5.40 ft Mar. 14, as the result of an ice jam; minimum, 36 cfs July 10 (gage height, 1.79 ft).
1931-63: Maximum discharge, 5,440 cfs Apr. 4, 1950 (gage height, 10.15 ft); maximum gage height, 10.33 ft July 10, 1951; minimum daily, 11 cfs Oct. 15, 1953.

Remarks.--Records fair. The flow is regulated by three powerplants above station.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Dec. 10, Dec. 14-23, 28-30, Jan. 1-12, 15-23, July 11 to Sept. 30)

1.7	34	2.5	235
1.9	72	3.0	460
2.0	96	4.0	995
2.2	144	6.0	2,100

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	101	*179	144	132	111	106	775	410	204	132	188	139
2	98	170	144	130	111	109	775	385	194	132	176	134
3	101	167	147	130	111	115	*720	* 360	176	132	232	127
4	* 101	167	154	125	110	165	638	360	182	132	271	122
5	120	179	*149	122	110	600	665	360	182	127	271	* 120
6	120	167	154	122	110	1,300	585	360	185	125	271	120
7	130	167	154	134	110	1,300	560	338	247	125	* 271	120
8	147	173	149	132	110	1,100	535	315	255	152	271	120
9	154	162	147	* 132	110	1,440	535	315	275	142	271	118
10	147	167	147	137	109	1,440	485	315	* 295	97	255	113
11	139	165	145	139	109	1,100	460	315	315	50	243	120
12	149	165	143	137	109	1,050	460	275	295	68	214	106
13	149	167	141	130	109	* 1,220	410	295	295	96	235	110
14	142	157	139	125	109	1,650	385	295	275	96	214	115
15	137	162	139	120	109	1,490	360	315	251	165	224	115
16	149	154	137	118	108	1,320	338	267	247	165	188	125
17	147	154	137	115	108	1,380	338	275	247	218	191	144
18	147	173	134	115	108	1,380	338	360	210	510	191	113
19	154	176	142	113	108	1,270	338	410	200	585	200	84
20	165	165	149	115	107	1,380	360	385	200	665	182	84
21	160	167	152	120	107	1,270	360	338	204	885	191	79
22	162	167	152	115	107	1,050	385	315	173	775	176	91
23	179	157	149	113	107	995	385	295	170	535	170	* 113
24	218	152	147	113	107	995	385	295	157	460	170	120
25	224	152	143	112	102	940	360	259	154	360	167	122
26	218	162	141	112	106	885	385	235	152	295	165	120
27	204	152	140	112	106	940	360	218	* 149	275	160	118
28	197	147	139	112	106	885	338	255	142	251	162	115
29	188	154	137	112	---------	830	360	239	137	235	152	113
30	179	149	137	112	------	775	410	235	132	228	162	108
31	194	------	135	* 111	-----	775	-----	204	------	204	149	-------
Total	4,820	4,895	4,467	3,767	3,034	31,255	13,788	9,598	6,300	8,417	6,383	3,448
Mean	155	163	144	122	108	1,008	460	310	210	272	206	115
Cfsm	0.267	0.281	0.248	0.210	0.186	1.74	0.793	0.534	0.362	0.469	0.355	0.198
In.	0.31	0.31	0.29	0.24	0.19	2.01	0.88	0.62	0.40	0.54	0.41	0.22

Calendar year 1962: Max 2,980 Min 97 Mean 420 Cfsm 0.724 In. 9.83
Water year 1962-63: Max 1,650 Min 50 Mean 274 Cfsm 0.472 In. 6.42

Peak discharge (base, 1,800 cfs).--No peaks above base.

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 11-13, 24-27, 31, Jan. 13, 14, Jan. 24 to Mar. 7, Mar. 11-14.

4-1010. St. Joseph River at Elkhart, Ind.

Location.--Lat 41°41'30", long 85°58'25", in NE¼ sec. 5, T. 37 N., R. 5 E., on left bank 100 ft downstream from Elkhart River, 200 ft upstream from Main Street Bridge in Elkhart, and 1,900 ft downstream from Christiana Creek.

Drainage area.--3,339 sq mi.

Records available.--August 1947 to September 1963. Gage heights at site three-quarters of a mile downstream at different datum for September 1924 to March 1926 are available in the district office.

Gage.--Water-stage recorder (digital after Nov. 15, 1962). Datum of gage is 700.00 ft above mean sea level, datum of 1929.

Average discharge.--16 years, 3,031 cfs.

Extremes.--Maximum discharge during year, 7,410 cfs Mar. 20 (gage height, 22.13 ft); minimum daily, 562 cfs Sept. 8.
1947-63: Maximum discharge, 18,400 cfs Apr. 5, 1950 (gage height, 27.82 ft); minimum daily, 564 cfs Nov. 1, 5, 1956.

Remarks.--Records good. The flow is regulated by Elkhart Hydroelectric Plant, 2,400 ft upstream, and by a hydroelectric plant on Elkhart River at Goshen.

Rating tables, water year 1962-63 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to May 24		May 25 to Sept. 30	
17.5	600	17.4	489
17.7	780	17.7	725
18.0	1,090	18.0	1,010
19.0	2,350	19.0	2,200
21.0	5,540	20.0	3,630
22.0	7,240		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,270	* 1,580	1,360	1,360	1,140	1,150	4,500	2,490	1,470	1,250	1,230	1,020
2	1,140	1,520	1,270	1,350	1,040	1,150	4,400	2,460	1,590	1,250	1,300	899
3	* 1,160	1,380	1,450	1,250	934	1,080	4,100	* 2,410	1,550	1,320	1,920	1,160
4	1,190	1,440	1,250	1,200	1,080	1,330	*4,080	2,370	1,540	919	2,030	1,120
5	1,290	1,110	1,290	1,210	1,270	1,760	3,870	2,350	1,590	729	2,340	* 1,110
6	1,240	1,120	* 1,390	1,220	971	2,810	3,610	2,400	1,300	775	2,140	1,550
7	1,150	1,480	1,460	1,330	1,080	3,150	3,430	2,520	1,500	934	2,010	572
8	1,490	1,420	1,370	1,360	1,080	3,070	3,420	2,130	1,980	1,160	*1,850	562
9	1,200	1,260	1,420	* 1,330	1,000	3,550	3,210	2,060	1,940	1,370	1,780	813
10	1,320	1,200	1,410	1,300	1,120	3,580	3,060	2,410	* 2,240	1,160	1,460	887
11	1,170	1,380	1,220	1,320	1,280	3,220	3,030	2,280	2,100	996	1,370	974
12	1,310	1,760	960	1,250	1,080	3,360	2,580	2,160	2,050	748	1,520	1,110
13	742	1,460	1,020	889	1,050	3,880	2,820	2,340	1,930	784	1,560	1,070
14	645	1,650	1,300	1,210	1,040	* 4,340	2,490	2,180	1,880	874	1,520	958
15	1,030	1,370	1,420	1,210	1,090	4,330	2,630	2,030	1,550	1,210	1,520	740
16	1,210	1,410	1,390	1,230	1,000	4,310	2,250	2,210	1,890	1,330	1,450	951
17	1,270	1,560	1,360	1,320	956	4,550	2,380	1,800	1,850	1,490	1,190	1,050
18	1,230	1,530	1,490	1,140	1,290	5,110	2,300	1,970	1,700	1,560	1,090	1,020
19	1,180	1,560	1,480	1,070	1,140	5,110	2,100	2,400	1,420	1,940	1,300	996
20	1,110	1,520	1,470	1,210	1,200	5,710	2,490	2,470	1,520	1,730	1,330	1,180
21	1,360	1,440	1,380	1,820	1,240	5,970	2,650	2,190	1,790	2,060	1,220	815
22	1,500	1,530	1,360	1,440	1,290	5,480	2,530	1,800	1,400	2,370	1,220	673
23	1,530	1,420	1,280	1,280	1,050	5,230	2,640	2,100	1,280	1,870	1,270	* 1,060
24	1,590	1,370	1,390	1,190	1,080	5,300	2,530	2,090	1,500	1,730	1,030	1,060
25	1,750	1,280	1,190	917	1,450	4,910	2,670	1,670	1,540	1,610	897	1,150
26	1,770	1,510	1,330	882	1,140	5,150	2,420	1,680	1,350	1,460	1,230	1,040
27	1,680	1,430	1,130	981	1,120	5,160	2,410	1,840	* 1,310	1,020	1,250	917
28	2,130	1,360	1,270	1,040	1,150	5,210	2,180	1,840	1,190	1,270	1,250	759
29	1,940	1,270	1,340	959	---------	5,070	2,730	1,780	812	1,470	1,240	746
30	1,690	1,310	1,190	1,020	- - - - - -	4,710	2,440	1,470	870	1,290	1,240	905
31	1,620	- - - - - -	1,130	1,130	- - - - - -	4,670	- - - - -	1,720	- - ----	1,280	929	- - - - - -
Total	41,907	42,630	40,770	37,418	31,361	123,410	87,950	65,620	47,632	40,959	44,686	28,867
Mean	1,352	1,421	1,315	1,207	1,120	3,981	2,932	2,117	1,588	1,321	1,441	962
Cfsm	0.405	0.426	0.394	0.361	0.335	1.19	0.878	0.634	0.476	0.396	0.432	0.288
In.	0.47	0.48	0.45	0.42	0.35	1.37	0.98	0.73	0.53	0.46	0.50	0.32

Calendar year 1962 : Max 9,020 Min 645 Mean 2,522 Cfsm 0.755 In. 10.27
Water year 1962-63 : Max 5,970 Min 562 Mean 1,735 Cfsm 0.520 In. 7.06

* Discharge measurement made on this day.

4-1015. St. Joseph River at Niles, Mich.

Location.--Lat 41°49'45", long 86°15'35", in SW¼ sec. 26, T. 7 S., R. 17 W., on right bank 100 ft upstream from Main Street Bridge at Niles, 0.6 mile downstream from dam of French Paper Co., 1 mile upstream from Dowagiac River, and at mile 44.

Drainage area.--3,666 sq mi (revised).

Records available.--October 1930 to September 1963. Monthly discharge only for some periods, published in WSP 1307.

Gage.--Water-stage recorder (digital). Datum of gage is 635.02 ft above mean sea level, datum of 1929. Oct. 1, 1930 to Feb. 11, 1931, tape gage on Main Street Bridge, and Feb. 12 to June 30, 1931, staff gage 50 ft upstream from present site (gage heights referred to mean sea level). Since Oct. 1, 1943, auxiliary gage is headwater gage at hydroelectric plant at Buchanan Dam, 8 miles downstream.

Average discharge.--33 years, 3,085 cfs.

Extremes.--Maximum discharge during year, 7,420 cfs Mar. 20 (gage height, 6.82 ft); minimum daily discharge, 648 cfs Sept. 13.
1930-63: Maximum discharge, 20,200 cfs Apr. 5, 1950 (gage height, 13.10 ft); minimum daily, 420 cfs Aug. 30, 1931.

Remarks.--Records good except those for periods of ice effect, which are fair. Flow regulated by powerplants above station.

Cooperation.--Gage-height record at auxiliary gage furnished by Indiana and Michigan Electric Co.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,490	1,760	1,030	1,320	1,100	1,340	4,470	2,760	1,760	1,190	1,630	742
2	1,440	1,650	1,170	1,770	1,530	1,210	4,320	2,580	1,700	1,260	1,610	1,050
3	1,400	883	1,530	1,900	1,260	1,380	4,080	2,540	1,640	1,390	2,370	1,180
4	1,390	1,150	1,410	1,110	1,470	1,720	3,780	2,520	1,740	1,160	1,900	1,190
5	1,500	1,640	1,490	1,110	1,570	2,080	3,750	2,770	1,720	1,120	2,530	1,020
6	1,470	1,460	1,510	936	* 1,380	3,240	3,560	2,580	1,780	1,120	2,410	1,270
7	1,530	1,370	1,380	1,560	1,450	3,730	3,230	2,550	1,600	1,070	* 2,240	876
8	2,110	1,420	1,210	1,530	1,170	3,490	3,180	2,470	1,800	1,280	2,220	816
9	1,380	* 1,330	1,310	* 1,490	1,250	3,970	3,040	2,250	2,040	1,260	1,960	1,130
10	* 1,440	1,420	1,950	1,450	1,320	4,270	* 2,950	2,490	2,300	* 1,100	2,030	1,060
11	1,630	1,420	1,620	1,640	1,430	3,920	2,710	2,600	2,170	1,190	1,310	* 799
12	1,470	1,680	* 1,600	1,400	1,470	3,650	2,750	2,290	2,110	1,140	1,810	893
13	1,610	1,860	1,300	994	1,420	4,300	2,520	2,480	2,080	1,100	1,710	648
14	1,150	1,640	1,200	1,540	1,380	4,760	2,270	2,430	2,300	1,320	1,760	944
15	1,050	1,640	1,330	1,500	1,500	4,520	2,710	* 2,300	1,350	1,280	1,710	793
16	1,160	1,600	1,070	1,300	1,200	4,590	2,880	2,480	1,510	1,660	1,630	1,080
17	1,170	1,060	1,820	1,100	1,180	4,650	2,430	2,200	1,860	1,740	1,650	970
18	1,380	1,530	1,530	1,100	1,610	5,250	2,390	2,190	1,790	2,200	1,020	976
19	2,090	1,990	1,600	1,000	1,730	5,560	2,220	2,600	* 1,630	2,360	1,510	850
20	1,660	1,650	1,570	1,100	1,420	6,390	2,400	2,520	1,760	2,890	1,610	1,200
21	845	1,580	1,570	1,400	1,380	6,170	2,690	2,600	1,570	2,400	1,460	1,180
22	1,480	1,080	1,170	1,400	1,500	5,860	2,480	2,040	1,500	2,550	1,390	756
23	1,820	1,920	1,520	1,100	1,300	5,220	2,560	2,250	1,290	2,390	1,410	986
24	1,740	1,430	1,300	1,300	1,100	5,180	2,630	2,200	1,600	2,120	965	1,160
25	1,750	1,690	1,630	1,400	1,400	* 5,560	2,780	2,190	1,550	1,840	1,000	1,090
26	1,910	1,690	1,640	1,000	1,500	5,210	2,480	1,710	1,560	1,920	1,250	1,220
27	2,100	1,590	1,680	700	1,300	5,410	2,520	2,020	1,370	1,720	1,330	911
28	1,620	1,600	1,400	850	1,200	5,310	2,360	1,360	1,400	1,100	1,280	862
29	2,390	1,470	1,220	1,100	---------	5,110	2,580	1,870	1,010	1,660	1,210	798
30	2,250	1,480	993	1,100	---------	4,450	2,930	1,720	1,010	1,700	1,230	1,060
31	1,860	----------	1,580	1,300	---------	4,880	----------	1,650	----------	1,520	1,000	----------
Total	49,285	45,683	44,333	39,500	38,520	132,380	87,650	71,210	50,500	49,750	50,145	29,510
Mean	1,590	1,523	1,430	1,274	1,376	4,270	2,922	2,297	1,683	1,605	1,618	984
Cfsm	0.434	0.415	0.390	0.348	0.375	1.16	0.797	0.627	0.459	0.438	0.441	0.268
In.	0.50	0.46	0.45	0.40	0.39	1.34	0.89	0.72	0.51	0.50	0.51	0.30

Calendar year 1962 : Max 10,100 Min 845 Mean 2,631 Cfsm 0.718 In. 9.72
Water year 1962-63 : Max 6,390 Min 648 Mean 1,886 Cfsm 0.514 In. 6.97

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 12-14, Jan. 15 to Feb. 1, Feb. 22-28.

4-1780. St. Joseph River near Newville, Ind.

Location.--Lat 41°23'10", long 84°48'05", in Ohio, in SW¼ sec. 18, T. 5 N., R. 1 E., on left bank 20 ft downstream from bridge on Ohio State Highway 249 and 3½ miles northeast of Newville.

Drainage area.--614 sq mi.

Records available.--October 1946 to September 1963. Monthly discharge only for some periods, published in WSP 1307.

Gage.--Water-stage recorder. Datum of gage 795.40 ft above mean sea level, datum of 1929. Prior to Oct. 22, 1947, wire-weight gage at same site and datum.

Average discharge.--17 years, 519 cfs.

Extremes.--Maximum discharge during year, 2,490 cfs Mar. 17 (gage height, 11.43 ft); minimum, 17 cfs Sept. 11, 14 (gage height, 1.60 ft).
1946-63: Maximum discharge, 9,710 cfs Apr. 6, 1950 (gage height, 17.05 ft); minimum, 16 cfs Sept. 30, 1953 (gage height, 1.45 ft).

Remarks.--Records good, except those for periods of no gage-height record, or ice effect, which are fair.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 16 to Dec. 11)

Oct. 1 to Mar. 5		Mar. 6 to Sept. 30			
1.7	33	1.6	17	6.0	675
1.8	35	2.0	45	8.0	1,190
1.9	43	2.5	88	10.0	1,840
2.5	95	3.0	141	12.0	2,890
3.0	150	4.0	285		
4.0	295				

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	34	49	45	45	35	50	745	215	93	74	43	23
2	* 33	49	45	42	38	51	* 720	* 221	83	65	39	22
3	34	49	49	41	38	51	675	205	74	57	216	21
4	37	49	45	41	37	59	635	192	74	49	455	* 21
5	46	50	45	40	37	295	555	179	74	41	303	21
6	46	50	45	40	37	745	455	166	* 74	36	160	20
7	46	51	49	40	37	1,040	395	166	187	33	108	19
8	55	51	51	* 40	37	1,250	339	166	375	30	83	19
9	45	55	49	41	36	1,580	303	153	515	28	69	19
10	44	51	49	41	35	1,760	269	141	555	25	61	18
11	43	51	49	44	35	1,800	253	135	535	24	57	18
12	42	51	49	45	37	1,720	221	147	435	24	51	19
13	41	51	49	45	37	1,840	205	166	285	28	50	19
14	41	51	46	44	37	2,120	192	160	205	47	47	18
15	41	51	46	42	37	2,320	175	147	153	53	42	23
16	41	51	46	38	37	2,370	165	147	129	77	38	26
17	41	55	46	36	36	2,370	160	135	108	135	36	21
18	42	55	49	35	37	2,270	170	160	98	147	34	19
19	43	55	53	35	41	2,270	190	179	88	205	33	18
20	49	59	56	35	55	2,270	310	192	78	253	33	21
21	51	59	56	35	59	2,120	380	179	69	192	32	21
22	55	55	57	35	59	1,800	380	147	65	166	31	21
23	51	51	56	35	49	1,340	330	129	57	269	30	21
24	55	51	53	34	46	920	310	113	53	269	28	21
25	55	50	53	34	46	770	330	108	49	166	26	* 21
26	55	* 49	52	34	47	820	310	98	* 47	113	27	20
27	55	47	50	34	48	1,070	270	93	47	88	31	20
28	55	45	48	34	49	1,220	240	98	45	74	30	20
29	51	45	47	34	----------	1,190	200	98	57	57	28	20
30	51	43	46	* 34	------	1,020	210	98	88	* 51	26	20
31	* 49	------	46	35	-----	845	-----	98	------	48	24	-------
Total	1,427	1,529	1,525	1,188	1,159	41,346	10,092	4,631	4,795	2,924	2,271	610
Mean	46.0	51.0	49.2	38.3	41.4	1,334	336	149	160	94.3	73.3	20.3
Cfsm	0.075	0.083	0.080	0.062	0.067	2.17	0.547	0.243	0.261	0.154	0.119	0.033
In.	0.09	0.09	0.09	0.07	0.07	2.50	0.61	0.28	0.29	0.18	0.14	0.04

Calendar year 1962: Max 4,190 Min 26 Mean 391 Cfsm 0.637 In. 8.65
Water year 1962-63: Max 2,370 Min 18 Mean 201 Cfsm 0.327 In. 4.45

Peak discharge (base, 2,500 cfs).--No peak above base.

* Discharge measurement made on this day.
Note.--No gage-height record Apr. 15 to May 1, June 30, July 6-13, 29, Aug. 27 to Sept. 3. Stage-discharge relation affected by ice Dec. 12 to Mar. 5.

4-1790. St. Joseph River at Cedarville, Ind.

Location.--Lat 41°12', long 85°01', in SE¼ sec. 28, T. 32 N., R. 13 E., on left bank 500 ft upstream from highway bridge, 0.4 mile south of Cedarville, 2,700 ft downstream from Cedarville Dam, and 0.5 mile upstream from mouth of Cedar Creek.

Drainage area.--783 sq mi.

Records available.--January 1931 to May 1932, October 1955 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 757.94 ft above mean sea level, datum of 1929. Jan. 1, 1931 to May 31, 1932, tape gage on downstream side of highway bridge 500 ft downstream from present site at datum approximately 20 ft lower.

Average discharge.--8 years (1955-63), 562 cfs.

Extremes.--Maximum daily discharge during year, 2,660 cfs Mar. 18, 19; minimum daily, 21 cfs Sept. 15.
1931-32, 1955-63: Maximum discharge, 10,100 cfs May 1, 1956 (gage height, 18.07 ft, from floodmarks); minimum daily, 1.6 cfs May 22, 27, 1958.

Remarks.--Records good, except those for periods of ice effect, which are fair. Flow regulated by reservoir above station.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 25 to June 7; discharge of Cedar Creek near Cedarville used as a factor Mar. 5 to Apr. 4, Apr. 20, 21, June 10, 11, July 20; indefinite stage-discharge relation Mar. 4, 9, 13, 16, Apr. 5, 6, 19, 22-24, June 9, 12, July 21)

Oct. 1 to June 10				June 11 to Sept. 30			
1.5	26	3.0	302	1.4	19	3.0	305
1.6	35	4.0	640	1.6	37	4.0	640
1.8	59	6.0	1,720	2.0	92	5.0	1,200
2.0	88	7.0	2,260	2.5	190		
2.5	178						

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	58	65	52	60	46	59	838	* 220	112	65	54	41
2	63	63	58	56	50	59	* 828	220	100	73	54	39
3	58	65	76	54	49	56	811	232	88	78	251	42
4	52	62	70	54	49	350	664	250	86	69	840	* 44
5	38	65	68	54	56	*b 740	600	288	114	66	640	42
6	31	62	69	54	69	b1,300	540	198	* 100	59	348	39
7	40	62	66	54	56	b1,260	494	153	201	52	246	39
8	29	62	66	* 52	47	b1,540	428	151	428	47	120	38
9	30	65	67	51	44	1,780	379	168	667	45	123	34
10	39	67	67	51	47	1,360	348	168	686	45	94	32
11	51	60	59	54	49	1,360	288	151	850	56	62	32
12	56	62	55	55	50	1,460	259	142	560	54	65	34
13	45	62	55	56	50	1,620	245	153	395	39	70	36
14	39	62	55	56	51	1,670	232	168	363	35	69	25
15	32	62	55	56	51	1,700	198	168	305	42	66	21
16	36	66	55	56	51	2,110	198	168	158	101	62	29
17	44	73	56	52	51	2,650	219	178	86	190	62	37
18	44	69	56	51	65	2,660	492	232	87	293	57	37
19	45	67	65	51	98	2,660	560	209	114	301	56	37
20	59	67	73	51	126	2,590	620	198	125	522	56	42
21	70	91	73	51	88	2,480	658	198	105	410	56	42
22	66	108	72	43	73	2,270	600	198	96	306	54	41
23	58	73	72	38	73	1,770	520	168	72	309	44	38
24	56	49	70	40	74	1,190	450	136	63	348	38	37
25	65	49	69	38	70	920	412	105	* 65	281	39	* 36
26	72	* 51	69	38	69	882	379	98	65	180	39	32
27	69	51	67	38	65	1,030	363	100	65	92	38	28
28	69	51	65	39	60	1,310	302	108	66	110	38	28
29	70	51	63	39	---	1,310	232	115	66	120	42	35
30	* 67	52	63	* 42	---	1,260	245	117	59	* 61	42	29
31	66	---	62	43	---	1,070	---	112	---	56	41	---
Total	1,617	1,914	1,988	1,527	1,727	44,476	13,402	5,270	6,347	4,505	3,866	1,066
Mean	52.2	63.8	64.1	49.3	61.7	1,435	447	170	212	145	125	35.5
Cfsm	0.067	0.081	0.082	0.063	0.079	1.83	0.571	0.217	0.271	0.185	0.160	0.045
In.	0.08	0.09	0.09	0.07	0.08	2.11	0.64	0.25	0.30	0.21	0.18	0.05

Calendar year 1962 : Max 4,200 Min 24 Mean 443 Cfsm 0.566 In. 7.66
Water year 1962-63 : Max 2,660 Min 21 Mean 241 Cfsm 0.308 In. 4.15

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

GPO 811-787-11

4-1795. Cedar Creek at Auburn, Ind.

Location.--Lat 41°21', long 85°03', in SW¼ sec. 29, T. 34 N., R. 13 E., near center of span on upstream side of Ninth Street Bridge in Auburn, 2 miles upstream from Peckhart ditch.

Drainage area.--93 sq mi, approximately.

Records available.--July 1943 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 847.14 ft above mean sea level (City of Auburn bench mark). Prior to Aug. 28, 1946, staff gage, and Aug. 28, 1946, to Sept. 30, 1953, wire-weight gage at same site and datum.

Average discharge.--20 years, 69.1 cfs.

Extremes.--Maximum discharge during year, 540 cfs Mar. 13 (gage height, 6.00 ft); minimum, 1.3 cfs Oct. 7; minimum gage height, 0.66 ft Sept. 29.
1943-63: Maximum discharge, 1,520 cfs Apr. 5, 1950 (gage height, 9.90 ft); minimum, 0.5 cfs Nov. 12, 1953; minimum gage height, 0.65 ft Aug. 19, 20, Sept. 23, 29, 30, 1962.

Remarks.--Records fair.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting control method used Oct. 16 to Mar. 3, Mar. 13)

Oct. 1 to Mar. 13				Mar. 14 to Sept. 30			
0.7	1.7	1.8	67	0.6	2.5	1.2	22
.8	4.2	3.0	182	.7	4.3	1.5	41
.9	7.5	5.0	420	.8	6.8	2.0	85
1.0	12	6.0	540	1.0	14		
1.2	21						

Note.--Same as preceding table above 2.0 ft.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.8	5.7	3.9	3.1	4.5	6.4	121	33	14	7.5	6.8	5.9
2	* 3.9	5.7	3.6	4.5	3.6	4.2	112	* 30	12	7.1	6.5	5.9
3	6.0	4.5	5.7	5.7	3.1	6.9	* 94	28	13	6.2	176	7.1
4	3.9	3.9	* 7.1	5.7	4.5	b 30	80	26	15	5.4	252	* 6.5
5	4.5	7.5	11	4.5	4.8	b 180	67	27	14	5.1	288	6.5
6	3.9	8.3	9.9	3.6	5.4	b 270	58	26	13	5.1	112	6.5
7	4.2	8.3	11	5.1	5.1	b 210	51	25	* 64	5.1	80	6.2
8	16	8.7	7.1	* 6.1	4.5	b 250	47	22	62	6.2	57	5.9
9	9.1	7.9	4.2	6.4	3.1	b 370	43	22	72	5.9	41	6.2
10	8.3	5.1	5.7	6.8	3.1	b 370	37	20	67	5.1	32	6.2
11	8.3	4.2	6.4	6.8	4.2	b 360	33	19	76	4.9	25	5.9
12	9.9	5.7	5.4	4.2	4.5	b 270	31	18	55	4.7	22	6.5
13	6.4	7.5	4.5	3.1	4.2	* 458	29	21	47	9.3	23	6.2
14	6.4	7.5	5.1	3.9	4.2	456	26	21	38	13	18	5.4
15	9.5	7.1	4.2	4.5	4.8	348	25	19	24	9.9	16	4.7
16	17	6.8	3.9	4.2	3.4	336	24	18	20	15	14	4.7
17	9.1	5.4	5.7	3.9	3.1	444	31	23	18	15	12	4.7
18	6.4	4.2	6.8	4.2	7.1	360	55	37	16	26	11	4.3
19	6.1	5.7	7.1	3.9	7.8	300	58	34	15	33	11	4.1
20	9.2	6.8	7.5	3.1	11	276	108	30	14	47	11	7.5
21	4.5	6.8	6.8	4.2	10	182	76	25	13	32	10	5.4
22	4.8	4.5	4.5	4.8	8.7	140	58	22	11	22	9.5	4.3
23	5.7	4.2	4.2	5.1	4.8	116	55	20	10	17	8.8	4.1
24	5.4	3.9	3.4	4.2	4.2	108	47	18	9.9	14	7.8	4.3
25	5.7	3.9	3.4	4.5	5.7	112	40	16	9.5	12	7.1	* 4.3
26	6.8	5.7	5.1	3.6	6.4	160	35	15	* 9.2	9.9	7.1	4.1
27	4.5	6.8	5.1	3.1	6.1	204	31	16	8.5	9.2	7.1	4.3
28	3.9	6.4	5.7	4.2	6.4	140	28	17	9.4	7.5	7.1	3.7
29	5.7	6.4	4.5	4.5	----------	108	30	20	7.8	8.2	7.1	3.3
30	* 6.1	6.1	3.1	* 4.8	- - - - - -	94	35	17	7.5	* 8.2	6.8	3.9
31	6.1	- - - - - -	3.1	4.2	- - - - -	90	- - - - -	15	- - ----	7.5	6.5	- - - - - -
Total	210.1	181.2	174.7	140.5	148.3	6759.5	1565	700	764.8	384.0	1299.2	158.6
Mean	6.78	6.04	5.64	4.53	5.30	218	52.2	22.6	25.5	12.4	41.9	5.29
Cfsm	0.073	0.065	0.061	0.049	0.057	7.34	0.561	0.243	0.274	0.133	0.451	0.057
In.	0.08	0.07	0.07	0.06	0.06	2.70	0.63	0.28	0.31	0.15	0.52	0.06

Calendar year 1962: Max 528 Min 0.8 Mean 45.1 Cfsm 0.485 In. 6.57
Water year 1962-63: Max 458 Min 2.8 Mean 34.2 Cfsm 0.368 In. 4.99

Peak discharge (base, 700 cfs).--No peak above base.

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

4-1800. Cedar Creek near Cedarville, Ind.

Location.--Lat 41°13', long 85°05', in NW¼ sec. 19, T. 32 N., R. 13 E., on left bank at downstream side of bridge on State Highway 427, 2 3/4 miles northwest of Cedarville and 4 miles upstream from mouth.

Drainage area.--279 sq mi.

Records available.--October 1946 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 780.09 ft above mean sea level, datum of 1929. Prior to Nov. 4, 1947, wire-weight gage at same site and datum.

Average discharge.--17 years, 242 cfs.

Extremes.--Maximum discharge during year, 1,300 cfs Mar. 14 (gage height, 5.14 ft); maximum gage height, 6.95 ft Mar. 6, (ice jam); minimum discharge, 20 cfs Sept. 16, 17, 20, 30 (gage height, 1.29 ft).
1946-63: Maximum discharge, 4,870 cfs Apr. 5, 1950 (gage height, 11.67 ft); minimum, 12 cfs Oct. 3, 1949; minimum gage height, 1.28 ft Aug. 21, 23, 25, 1962.

Remarks.--Records good except those for periods of ice effect, which are fair.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.3	21
1.4	31
1.6	60
2.0	138
3.0	469
5.0	1,260

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	29	26	28	25	28	362	* 146	54	27	36	27
2	* 24	29	25	28	25	28	* 432	120	47	27	35	26
3	29	28	24	29	25	28	329	110	46	25	79	28
4	32	28	25	29	25	110	296	100	55	25	346	* 29
5	30	28	27	28	25	580	227	102	58	23	263	28
6	32	28	29	27	25	840	187	98	* 55	23	180	27
7	30	29	30	24	25	660	159	92	93	23	127	26
8	43	28	29	* 27	25	600	146	87	129	22	103	26
9	49	30	27	26	25	1,000	131	83	146	22	82	24
10	38	28	27	27	25	900	118	78	214	22	67	25
11	35	27	27	27	25	780	108	74	230	21	57	24
12	34	26	27	25	25	* 620	102	71	174	21	49	25
13	34	26	27	27	25	1,100	94	78	120	24	47	26
14	34	27	27	26	* 25	1,180	87	87	96	66	46	25
15	36	27	27	25	25	820	82	78	78	41	41	23
16	39	27	27	25	25	740	78	74	65	58	39	21
17	50	36	27	25	25	1,020	82	80	57	102	36	23
18	38	30	27	25	24	940	318	141	52	131	35	23
19	31	28	27	25	30	740	312	134	47	149	36	23
20	32	28	27	25	55	740	660	108	44	378	38	29
21	41	29	27	25	50	506	432	91	41	296	35	31
22	35	28	27	25	45	378	296	87	38	151	34	25
23	32	25	27	25	30	312	329	76	34	114	32	22
24	31	24	27	25	28	280	263	73	32	89	31	22
25	31	24	27	25	28	280	204	69	* 31	73	31	* 23
26	31	* 24	25	25	28	378	164	62	31	60	29	23
27	31	25	29	25	28	543	138	60	30	55	29	22
28	30	25	28	25	28	414	123	65	29	52	30	22
29	27	26	28	* 25	---------	312	116	69	34	49	30	22
30	* 28	26	27	25	------	263	146	65	28	* 46	29	21
31	29	------	27	25	------	246	------	57	------	39	28	------
Total	1,040	823	838	803	799	17,366	6,521	2,715	2,188	2,254	2,079	741
Mean	33.5	27.4	27.0	25.9	28.5	560	217	87.6	72.9	72.7	67.1	24.7
Cfsm	0.120	0.098	0.097	0.093	0.102	2.01	0.778	0.314	0.261	0.261	0.241	0.089
In.	0.14	0.11	0.11	0.11	0.11	2.32	0.87	0.36	0.29	0.30	0.28	0.10

Calendar year 1962 : Max 2,340 Min 24 Mean 159 Cfsm 0.570 In. 7.74
Water year 1962-63 : Max 1,180 Min 21 Mean 105 Cfsm 0.376 In. 5.10

Peak discharge (base, 2,000 cfs).--No peaks above the base.

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 11-16, 21, 24, Jan. 13 to Mar. 9.

4-1815. St. Marys River at Decatur, Ind.

Location.--Lat 40°51', long 84°56', in SW¼ sec. 27, T. 28 N., R. 14 E., on right bank 10 ft downstream from bridge on U. S. Highway 27, half a mile north of city limits of Decatur, and half a mile upstream from Holthouse ditch.

Drainage area.--615 sq mi.

Records available.--October 1946 to September 1963. Monthly discharge only for some periods, published in WSP 1307. Gage height records collected at site half a mile upstream January 1932 to November 1954, and at present site thereafter are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 760.44 ft above mean sea level, datum of 1929. Prior to July 27, 1948, wire-weight gage at same site and datum.

Average discharge.--17 years, 510 cfs.

Extremes.--Maximum discharge during year, 6,310 cfs Mar. 8 (gage height, 20.58 ft); minimum, 11 cfs July 13, Aug. 19, Sept. 2, 14, 17, 19, 22-25, 30; minimum gage height, 1.95 ft July 13.
1946-63: Maximum discharge, 11,300 cfs Feb. 10, 11, 1959; maximum gage height, 24.22 ft Feb. 10, 1959 (ice jam); minimum discharge, 4.7 cfs Oct. 19, 1960; minimum gage height, 1.73 ft Sept. 12, 1955.

Remarks.--Records good except those for periods of ice effect, which are fair. Flow regulated by Grand Lake Reservoir. Slight diversion from or into Wabash River and into Miami and Erie Canal.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1-15, Mar. 11-13, July 10-13, Aug. 10-12, 16-19, 23-26, Aug. 31 to Sept. 5, Sept. 7-30)

Oct. 1 to Mar. 13

1.9	12	4.0	146	11.0	1,520
2.1	18	5.0	260	15.0	2,690
2.4	31	7.0	585	19.0	4,550
3.0	64	9.0	1,030	21.0	6,900

Mar. 14 to Sept. 30

1.8	9.7	3.5	107	9.0	1,050
2.0	15	4.0	161	11.0	1,560
2.5	36	5.0	292	13.0	2,110
3.0	67	7.0	630		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	* 13	18	24	25	20	42	650	236	173	26	19	12
2	12	18	23	24	20	42	670	185	222	42	16	11
3	16	18	22	24	20	46	503	185	173	26	17	* 12
4	16	19	* 21	24	20	* 550	* 469	185	122	19	24	12
5	15	20	22	24	21	4,140	435	173	* 262	16	25	13
6	14	18	23	23	35	4,790	452	155	264	14	21	14
7	13	18	21	* 24	58	5,280	435	132	197	15	18	14
8	14	18	22	25	101	6,170	368	117	222	17	15	12
9	18	18	21	26	93	5,170	292	107	475	16	14	12
10	18	19	21	28	101	3,900	236	97	790	14	13	12
11	17	19	20	30	120	2,690	197	85	520	13	12	12
12	17	21	20	32	128	* 1,600	173	74	418	12	14	20
13	16	21	20	36	* 120	1,760	149	78	292	16	18	13
14	16	40	20	39	100	1,970	132	89	209	50	18	11
15	20	68	20	44	85	1,560	122	78	144	89	15	12
16	19	71	20	61	70	1,430	97	70	102	60	13	12
17	20	68	20	93	61	1,660	81	74	81	67	12	11
18	18	61	20	106	55	1,560	81	81	64	60	12	12
19	18	52	22	74	80	1,460	136	78	50	46	15	11
20	20	64	24	58	128	1,830	418	81	44	531	15	16
21	17	97	26	47	110	1,480	336	78	39	461	16	14
22	20	93	26	40	93	1,250	320	70	32	174	14	11
23	19	74	26	36	93	1,200	580	60	27	89	14	11
24	20	61	27	32	101	1,200	590	50	* 26	64	13	11
25	22	49	28	29	97	1,030	452	47	22	53	12	11
26	20	41	32	26	75	830	469	42	22	42	13	* 13
27	20	36	36	24	50	850	469	42	21	30	15	14
28	20	32	36	23	43	710	418	50	20	25	15	14
29	* 20	29	34	* 22	---------	554	* 320	106	17	* 41	15	14
30	19	26	31	21	------	503	292	144	23	54	14	11
31	18	------	29	20	------	452	------	85	------	26	13	------
Total	545	1,207	757	1,140	2,098	57,709	10,342	3,134	5,073	2,208	480	378
Mean	17.6	40.2	24.4	36.8	74.9	1,862	345	101	169	71.2	15.5	12.6
Cfsm	0.029	0.065	0.040	0.060	0.122	3.03	0.561	0.164	0.275	0.116	0.025	0.020
In.	0.03	0.07	0.05	0.07	0.13	3.49	0.63	0.19	0.31	0.13	0.03	0.02

Calendar year 1962 : Max 4,300 Min 11 Mean 353 Cfsm 0.574 In. 7.81
Water year 1962-63 : Max 6,170 Min 11 Mean 233 Cfsm 0.379 In. 5.15

Peak discharge (base, 2,900 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-8	1600	20.58	6,310				

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 24, Jan. 11, 13, Jan. 21 to Feb. 7, Feb. 11-16, 18, 19, 21, Feb. 26 to Mar. 4.

4-1820. St. Marys River near Fort Wayne, Ind.

Location.--Lat 41°00', long 85°07', in NE¼ sec. 12, T. 29 N., R. 12 E., on left bank, 130 ft downstream from highway bridge, 4 miles south of Fort Wayne, and 12 miles upstream from confluence with St. Joseph River.

Drainage area.--753 sq mi.

Records available.--October 1930 to September 1963. Monthly discharge only for some periods published in WSP 1307. Fragmentary gage-height records for period November 1924 to October 1927 are available in the District office.

Gage.--Water-stage recorder. Datum of gage is 748.61 ft above mean sea level, unadjusted. Prior to Apr. 13, 1939, chain gage on highway bridge at same datum.

Average discharge.--33 years, 557 cfs.

Extremes.--Maximum discharge during year, about 7,500 cfs Mar. 8; maximum gage height, 15.62 ft Mar. 8 (ice jam); minimum discharge, 9.6 cfs Sept. 26, 27 (gage height, 0.56 ft).
1930-63: Maximum discharge, 13,600 cfs Feb. 11, 1959; maximum gage height, 19.42 ft Feb. 11, 1959 (ice jam); minimum observed, 3.4 cfs Oct. 19, 1934 (gage height, 0.28 ft).

Remarks.--Records good except those for periods of ice effect, which are fair. The flow is sometimes regulated by Grand Lake. There is slight diversion from or into Wabash River basin and into Miami and Erie Canal.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 26-28, May 1 to June 5, June 7-9)

0.5	10	3.0	375
.6	15	5.0	1,020
.8	28	8.0	2,220
1.0	43	13.0	5,160
1.5	93	15.0	7,380
2.0	164		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	* 14	22	30	38	25	50	* 575	290	112	23	33	11
2	13	23	28	35	25	50	805	230	210	32	26	11
3	14	24	28	32	25	50	605	210	220	38	22	* 10
4	16	25	27	30	25	1,000	485	220	173	32	22	10
5	18	25	27	28	26	4,500	455	210	* 198	25	24	10
6	17	26	27	27	30	6,700	425	200	400	22	28	10
7	17	26	28	* 26	33	7,200	425	173	280	19	26	11
8	17	24	27	26	42	7,380	400	156	270	18	22	13
9	16	23	26	28	70	6,580	325	140	368	21	20	11
10	17	24	25	29	95	5,240	270	125	840	20	18	10
11	24	24	25	30	120	3,810	220	118	665	18	17	10
12	22	26	25	32	140	* 2,220	182	105	455	17	16	12
13	18	26	25	34	145	1,820	164	99	325	17	18	17
14	17	28	25	37	135	2,130	148	105	230	22	21	22
15	19	38	25	41	110	1,740	132	105	164	41	20	16
16	35	77	25	45	95	1,540	118	99	118	72	19	14
17	27	82	25	50	80	1,660	141	93	93	58	18	13
18	23	77	25	70	70	1,740	352	99	77	55	17	12
19	22	72	25	100	75	1,500	314	105	62	56	17	11
20	23	66	25	120	125	1,900	605	112	54	204	17	10
21	25	72	26	90	125	1,700	515	112	48	545	19	14
22	25	105	29	66	115	1,380	350	99	41	290	18	18
23	24	99	31	55	108	1,260	425	93	35	132	18	15
24	26	82	32	47	108	1,260	700	82	* 30	82	16	12
25	26	66	32	41	112	1,160	515	72	28	64	16	11
26	26	49	36	37	105	945	455	66	26	54	14	* 10
27	27	* 38	38	32	70	910	485	62	26	44	14	10
28	26	35	40	29	52	840	455	67	25	37	16	10
29	* 24	32	45	* 27	---------	635	* 375	88	25	* 34	16	11
30	23	31	45	26	------	545	325	148	23	37	14	11
31	22	------	42	25	------	485	------	148	------	51	13	------
Total	663	1,367	919	1,333	2,286	69,930	11,746	4,031	5,621	2,180	595	366
Mean	21.4	45.6	29.6	43.0	81.6	2,256	392	130	187	70.3	19.2	12.2
Cfsm	0.028	0.061	0.039	0.057	0.108	3.00	0.521	0.173	0.248	0.093	0.025	0.016
In.	0.03	0.07	0.04	0.07	0.11	3.46	0.58	0.20	0.28	0.11	0.03	0.02

Calendar year 1962 : Max 5,970 Min 11 Mean 470 Cfsm 0.624 In. 8.47
Water year 1962-63 : Max 7,380 Min 10 Mean 277 Cfsm 0.368 In. 5.00

Peak discharge (base, 4,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-8	Unknown	Unknown	About 7,500				

* Discharge measurement made on this day.
Notes.--Stage-discharge relation affected by ice Dec. 8 to Mar. 8.

4-1830. Maumee River at New Haven, Ind.

Location.--Lat 41°05', long 85°01', in SW¼ sec. 1, T. 30 N., R. 13 E., in center of span on downstream side of county road bridge, a quarter of a mile upstream from Wabash Railroad bridge, half a mile north of New Haven, and 6 miles downstream from confluence of St. Marys and St. Joseph Rivers.

Drainage area.--1,940 sq mi.

Records available.--December 1946 to September 1956 (high-water records only), October 1956 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 724.51 ft above mean sea level, datum of 1929. Prior to Sept. 7, 1956, wire-weight gage at same site and datum.

Average discharge.--7 years (1956-63), 1,478 cfs.

Extremes.--Maximum discharge during year, 9,930 cfs Mar. 9 (gage height, 15.48 ft); minimum daily, 55 cfs Sept. 29.
1946-63: Maximum discharge, 19,100 cfs Feb. 16, 1950 (gage height, 21.4 ft); minimum daily since Sept. 7, 1956, 54 cfs Aug. 11, 1962.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. Flow regulated at low stage by powerplant above station. Flow slightly regulated by upstream reservoirs.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.0	52	4.0	660
2.1	70	4.5	970
2.2	90	6.0	1,960
2.4	130	8.0	3,360
2.8	220	11.0	5,620
3.0	270	16.0	10,400
3.5	440		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	92	114	125	121	102	163	2,050	* 688	315	82	126	102
2	* 96	145	135	122	118	152	* 2,380	620	270	145	148	61
3	124	106	135	116	108	185	2,100	560	500	126	300	* 149
4	116	102	135	116	112	* 1,870	1,820	620	390	118	771	118
5	118	410	137	119	122	5,620	1,560	580	390	122	970	88
6	110	126	145	122	137	7,330	1,420	530	* 542	114	620	94
7	129	104	137	* 121	163	7,400	1,230	440	588	116	502	61
8	258	96	130	112	128	8,200	1,100	390	840	68	305	92
9	114	110	120	116	130	9,830	940	420	1,490	76	258	96
10	102	139	110	118	148	9,230	760	365	2,170	76	208	68
11	96	108	110	126	163	7,430	680	365	2,310	76	166	72
12	102	118	103	126	163	5,000	580	300	1,620	76	154	167
13	102	106	105	112	174	4,700	520	418	1,040	142	175	134
14	96	112	102	b 120	208	5,400	520	348	808	365	144	70
15	110	116	110	118	196	4,600	450	348	635	152	153	76
16	124	190	118	114	174	4,400	420	330	500	339	143	82
17	145	258	122	114	163	5,200	460	381	263	800	134	* 68
18	114	208	122	116	200	5,600	1,300	480	220	660	142	66
19	112	152	125	128	285	5,100	1,900	440	215	682	156	68
20	163	174	143	152	315	5,300	2,350	460	245	2,170	150	165
21	152	388	143	145	285	4,900	2,050	423	245	1,680	132	100
22	163	124	138	134	220	4,100	1,450	195	176	1,070	122	104
23	112	134	136	124	208	3,500	1,350	365	160	542	94	82
24	118	174	202	116	208	2,800	1,550	300	126	542	131	122
25	118	152	136	b 122	185	2,700	1,250	245	* 130	460	59	68
26	163	152	124	b 106	174	2,500	1,000	271	132	348	102	* 91
27	128	* 130	87	b 108	174	2,600	1,000	182	104	228	113	66
28	118	141	103	b 100	174	2,700	960	438	130	254	92	61
29	152	124	141	*b 106	----------	2,450	840	484	112	332	72	55
30	* 126	137	122	b 108	------	2,200	808	270	178	174	104	91
31	114	------	129	108	-----	2,000	-----	330	----	* 164	72	------
Total	3,887	4,650	3,930	3,686	4,937	135,160	36,798	12,586	16,844	12,299	6,818	2,737
Mean	125	155	127	119	176	4,360	1,227	406	561	397	220	91.2
Cfsm	0.064	0.080	0.065	0.061	0.091	2.25	0.632	0.209	0.289	0.205	0.113	0.047
In.	0.07	0.09	0.07	0.07	0.09	2.59	0.71	0.24	0.32	0.24	0.13	0.05

Calendar year 1962 : Max 9,630 Min 54 Mean 1,101 Cfsm 0.568 In. 7.70
Water year 1962-63 : Max 9,830 Min 55 Mean 669 Cfsm 0.345 In. 4.67

Peak discharge (base, 9,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-9	1600	15.48	9,930				

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice
Note.--No gage-height record Dec. 1 to Jan. 7, Mar. 7, 8, Mar. 12 to Apr. 1, Apr. 8-12, 15-29, May 2-8, June 3-5, Sept. 26-30.

4-1835. Maumee River at Antwerp, Ohio

Location.--Lat 41°11'56", long 84°44'40", in sec. 22, T. 3 N., R. 1 E., on left bank 425 ft downstream from bridge on State Highway 49, 1 mile north of Antwerp, Paulding County, 7 miles downstream from Indiana State line, and 10 miles upstream from Marie DeLarme Creek.

Drainage area.--2,049 sq mi.

Records available.--September 1921 to December 1935, April 1939 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 694.86 ft above mean sea level, adjustment of 1929. Prior to Sept. 13, 1925, chain gage at site 400 ft upstream at same datum.

Average discharge.--38 years, 1,658 cfs.

Extremes.--Maximum discharge during year, about 10,500 cfs Mar. 9; maximum gage height, 15.81 ft Mar. 9 (backwater from ice); minimum, 61 cfs Sept. 30 (gage height, 0.63 ft).
1921-35, 1939-63: Maximum discharge, 26,200 cfs May 20, 1943 (gage height, 20.29 ft); minimum, 24 cfs Oct. 17, 1930, June 21, 22, 1933 (gage height, 0.32 ft).
Flood of Mar. 27, 1913, estimated as 40,000 cfs.

Remarks.--Records good except those for period of ice effect, which are fair. Low flow slightly regulated by powerplant at Fort Wayne, Ind. Flow slightly regulated by upstream reservoirs.

Rating tables, water year 1962-63, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 17 to Nov. 6)

Oct. 1 to Mar. 9				Mar. 10 to Sept. 30			
0.7	69	4.0	1,430	0.6	54	3.0	855
1.0	136	7.0	3,470	1.0	143	6.0	2,720
1.5	271	11.0	7,140	1.5	269	11.0	7,140
2.0	440	14.0	11,000	2.0	433	14.0	11,000

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	102	118	165	140	100	190	2,150	810	388	215	198	107
2	100	115	155	140	110	180	2,270	719	309	* 134	178	96
3	113	136	162	130	120	180	* 2,220	641	338	122	202	98
4	124	134	165	130	120	260	1,970	617	* 530	145	391	125
5	134	115	165	120	120	5,500	1,650	719	433	145	845	136
6	131	392	168	120	130	7,200	1,520	617	437	118	845	113
7	134	193	180	120	150	8,300	1,350	573	810	120	585	113
8	165	136	170	* 110	180	9,200	1,200	* 499	701	143	462	89
9	284	129	160	110	160	10,200	1,090	437	1,230	94	328	87
10	148	129	140	120	150	9,700	960	437	1,960	74	272	98
11	111	160	130	130	160	8,030	820	416	2,430	76	241	96
12	102	141	130	140	170	6,000	724	398	1,870	76	188	76
13	100	148	130	140	180	4,760	633	384	1,330	78	183	134
14	106	136	120	130	190	4,980	581	477	948	181	195	166
15	106	138	120	140	230	4,930	545	412	775	336	171	107
16	109	148	120	140	230	4,330	507	402	649	190	180	78
17	* 124	235	130	140	210	4,830	499	384	499	622	161	* 96
18	143	310	140	140	190	5,440	815	496	315	732	161	85
19	124	256	140	140	230	5,220	1,470	526	266	688	159	76
20	113	198	150	150	310	5,130	2,730	518	263	1,780	161	80
21	155	221	160	160	360	5,110	2,410	480	290	1,980	178	143
22	172	408	160	170	320	4,360	1,840	437	266	1,570	150	161
23	148	172	150	150	270	3,690	1,480	258	212	1,300	129	113
24	131	155	150	140	240	3,120	1,460	374	208	719	127	94
25	118	190	160	130	230	2,690	1,530	334	173	605	145	102
26	118	190	170	130	210	2,520	1,210	278	145	496	89	98
27	160	188	140	130	200	2,620	1,080	290	138	371	87	100
28	134	* 160	120	120	190	2,680	1,060	244	152	269	111	96
29	120	172	110	110	---------	2,520	982	714	134	305	127	76
30	136	165	130	100	------	2,280	899	480	225	344	91	63
31	134	------	150	* 100	-----	2,070	-----	374	------	* 223	94	-------
Total	4,099	5,488	4,540	4,070	5,460	138,220	39,655	14,745	18,424	14,251	7,434	3,102
Mean	132	183	146	131	195	4,459	1,322	476	614	460	240	103
Cfsm	0.064	0.089	0.071	0.064	0.095	2.18	0.645	0.232	0.300	0.224	0.117	0.050
In.	0.07	0.10	0.08	0.07	0.10	2.51	0.72	0.27	0.34	0.26	0.13	0.06

Calendar year 1962: Max 9,610 Min 69 Mean 1,149 Cfsm 0.561 In. 7.59
Water year 1962-63: Max 10,200 Min 63 Mean 711 Cfsm 0.347 In. 4.71

Peak discharge (base, 8,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-9	unknown	-	about 10,500				

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 8 to Mar. 10.

5-5150. Kankakee River near North Liberty, Ind.

Location.--Lat 41°33'50", long 86°29'50", on line between secs. 14 and 23, T. 36 N., R. 1 W., on left bank at downstream side of bridge on St. Joseph County highway named "New Road," 4 miles northwest of North Liberty.

Drainage area.--152 sq mi.

Records available.--January 1951 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 680.04 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission). Prior to June 26, 1956, wire-weight gage at same site and datum.

Average discharge.--12 years, 140 cfs.

Extremes.--Maximum discharge during year, 560 cfs Mar. 20 (gage height, 6.96 ft); minimum, 52 cfs Aug. 30, 31 (gage height, 2.13 ft). 1951-63: Maximum discharge, 686 cfs Oct. 10, 1954; maximum gage height, 8.64 ft Oct. 12, 1954 (backwater from return of overbank flow); minimum, 52 cfs Sept. 9-11, 1959, Aug. 29, 30, 1962, Aug. 30, 31, 1963; minimum gage height, 1.60 ft Aug. 19, 1957.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor.

Rating table, water year 1961-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1-7, Mar. 9-27, July 8-13)

2.1	52
3.0	89
4.0	158
6.0	330
8.0	575

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	84	142	101	a 86	67	73	214	174	113	72	89	56
2	89	142	101	a 86	69	73	206	166	113	68	89	64
3	* 89	142	* 101	a 88	70	76	198	158	107	72	107	64
4	95	134	101	a 88	72	84	190	150	107	68	107	64
5	101	150	101	a 90	74	134	182	166	101	68	101	72
6	101	* 174	101	a 91	75	198	182	* 166	127	72	95	72
7	101	166	101	a 92	76	182	174	158	142	72	* 95	72
8	142	150	98	a 94	76	198	* 174	150	127	64	89	68
9	134	150	94	a 95	77	285	166	142	142	60	89	64
10	120	142	90	* 95	78	312	158	142	* 150	60	84	* 64
11	113	134	86	95	78	312	158	142	158	56	80	64
12	113	127	82	95	78	267	158	142	142	* 60	80	68
13	113	127	85	92	* 78	382	150	142	134	77	80	68
14	107	120	90	90	77	406	150	142	127	127	72	68
15	107	120	94	87	76	371	142	134	120	101	72	68
16	107	120	96	83	75	382	142	134	113	101	72	68
17	107	127	98	80	76	492	150	134	107	101	76	64
18	101	127	98	77	77	* 505	158	158	89	107	72	a 64
19	101	120	98	74	79	492	158	150	95	107	72	a 64
20	101	120	97	72	80	545	158	142	120	190	68	a 66
21	120	120	96	70	82	454	150	134	107	174	68	a 72
22	120	113	94	66	84	360	150	134	95	142	56	a 72
23	113	113	92	64	82	330	150	127	89	127	64	a 72
24	142	113	92	63	80	321	150	127	89	113	64	a 71
25	166	113	92	62	78	* 312	142	113	89	107	64	a 71
26	158	107	92	62	76	303	142	107	84	101	60	a 71
27	142	107	93	62	74	294	134	120	84	95	60	a 70
28	134	107	94	63	73	258	134	127	80	95	64	a 70
29	127	107	a 92	64	---	231	134	120	72	89	72	a 70
30	127	107	a 90	65	---	222	158	113	72	84	64	*a 70
31	134	---	a 88	66	---	214	---	113	---	84	52	---
Total	3,609	3,841	2,928	2,457	2,137	9,068	4,812	4,327	3,295	2,914	2,377	2,031
Mean	116	128	94.5	79.3	76.3	293	160	140	110	94.0	76.7	67.7
Cfsm	0.763	0.842	0.622	0.522	0.502	1.93	1.05	0.921	0.724	0.618	0.505	0.445
In.	0.88	0.94	0.72	0.60	0.52	2.22	1.17	1.06	0.81	0.71	0.58	0.50

Calendar year 1962: Max 418 Min 56 Mean 123 Cfsm 0.809 In. 10.98
Water year 1962-63: Max 545 Min 52 Mean 120 Cfsm 0.789 In. 10.71

* Discharge measurement made on this day.
a No gage-height record.
Note.--Stage-discharge relation affected by ice Dec. 8-28, Jan. 13 to Mar. 4.

5-5155. Kankakee River at Davis, Ind.

Location.--Lat 41°24', long 86°42', in sec. 13, T. 34 N., R. 3 W., on left bank at downstream side of bridge on U. S. Highway 30 at Davis, half a mile downstream from Mill Creek and 4 miles east of Hanna.

Drainage area.--508 sq mi.

Records available.--July 1905 to July 1906 and October 1924 to September 1963. Monthly discharge only for some periods, published in WSP 1308.

Gage.--Water-stage recorder. Datum of gage is 664.68 ft above mean sea level, datum of 1929. July 13, 1905 to July 21, 1906, staff gage at site, 50 ft downstream at different datum. July 28, 1925 to May 18, 1929, chain gage on bridge half a mile downstream at different datum. Apr. 19, 1931 to Mar. 11, 1942, chain gage at present site and datum. Mar. 12, 1942 to Nov. 3, 1953, wire-weight gage at present site and datum.

Average discharge.--39 years (1924-63), 478 cfs.

Extremes.--Maximum discharge during year, 1,010 cfs Mar. 10 (gage height, 9.88 ft); minimum discharge, 160 cfs Jan. 26-29; minimum gage height, 4.90 ft July 12.
1905-6, 1924-63: Maximum discharge observed, about 1,700 cfs Dec. 15, 1927 (gage height, 9.50 ft, site and datum then in use), from rating curve extended above 520 cfs; maximum gage height at present site and datum, 11.76 ft Oct. 16-18, 1954; minimum discharge observed, 154 cfs Aug. 30 to Sept. 3, 1941; minimum gage height observed, 2.97 ft Aug. 14, 1934.

Remarks.--Records good except those for periods of no gage-height record or ice effect, which are poor.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 16 to Dec. 6, Mar. 9, 29-31, Apr. 9-25, June 26 to July 13, Sept. 16-30)

Oct. 1 to Mar. 9		Mar. 10 to Sept. 30			
5.2	252	4.6	170	7.0	540
6.0	350	5.0	230	10.0	1,030
7.0	490				

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	252	420	288	280	180	250	a 770	572	380	260	365	230
2	252	420	276	280	180	260	a 740	572	380	260	365	230
3	✲ 264	406	276	280	190	280	a 720	556	365	260	412	245
4	276	392	✲ 276	280	200	392	a 700	524	350	245	428	245
5	300	406	276	280	210	678	a 690	540	350	230	396	245
6	324	✲ 434	276	290	230	842	a 660	540	350	230	380	245
7	312	448	270	290	240	862	a 640	✲ 540	380	230	✲ 365	245
8	364	434	265	300	250	862	a 620	508	396	230	350	230
9	406	420	255	✲ 300	260	968	✲ 604	492	444	215	335	230
10	392	406	240	300	260	979	588	492	524	215	320	230
11	378	392	230	300	260	979	572	508	✲ 508	✲ 200	320	✲ 215
12	350	378	230	300	260	945	556	508	476	192	305	245
13	336	364	240	290	✲ 260	945	540	492	444	215	305	245
14	336	364	260	280	270	996	540	508	412	365	305	245
15	324	350	280	260	270	✲ 962	540	492	396	350	290	230
16	336	364	290	250	260	928	524	476	380	428	290	230
17	336	378	310	230	260	928	524	476	365	460	290	215
18	324	378	310	220	260	945	540	540	350	460	290	200
19	324	364	320	210	260	945	540	556	335	492	290	200
20	336	364	320	200	270	979	540	540	350	732	290	215
21	378	350	310	190	280	996	524	508	350	764	275	215
22	392	336	310	180	280	979	508	492	335	668	260	215
23	378	324	300	180	280	945	524	476	320	588	245	200
24	378	324	300	170	280	928	508	460	305	540	245	200
25	392	312	300	170	270	894	508	444	305	476	245	192
26	406	312	300	160	260	894	492	428	290	444	245	185
27	406	300	300	160	250	894	476	428	290	412	230	185
28	392	300	300	160	250	877	460	428	290	396	245	178
29	378	288	300	160	---	844	460	428	275	380	245	178
30	364	288	290	170	---	812	524	412	260	365	245	✲ 178
31	392	---	280	170	---	796	---	396	---	350	230	---
Total	10.778	11.016	8.778	7.290	6.980	25.784	17.132	15.332	10.955	11.652	9.401	6.541
Mean	348	367	283	235	249	832	571	495	365	376	303	218
Cfsm	0.685	0.722	0.557	0.463	0.490	1.64	1.12	0.974	0.719	0.740	0.596	0.429
In.	0.79	0.81	0.64	0.53	0.51	1.89	1.25	1.12	0.80	0.85	0.69	0.48

Calendar year 1962 : Max 1,240 Min 210 Mean 440 Cfsm 0.866 In. 11.76
Water year 1962-63 : Max 996 Min 160 Mean 388 Cfsm 0.764 In. 10.36

✲ Discharge measurement made on this day.
a No gage-height record.
Note.--Stage-discharge relation affected by ice Dec. 7 to Jan. 7, Jan. 13 to Mar. 3.

5-5160. Yellow River near Bremen, Ind.

Location.--Lat 41°25', long 86°10', on line between secs. 3 and 10, T. 34 N., R. 3 E., on left bank at downstream side of bridge, 0.5 mile downstream from Bunch ditch, 2 miles southwest of Bremen, and 4 miles upstream from Dausman ditch.

Drainage area.--132 sq mi.

Records available.--August 1955 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 784.63 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission).

Average discharge.--8 years, 93.3 cfs.

Extremes.--Maximum discharge during year, 945 cfs Mar. 9 (gage height, 10.78 ft); minimum, 8.0 cfs Sept. 29-30; minimum gage height, 1.43 ft Sept. 11.
1955-63: Maximum discharge, 1,380 cfs May 13, 1956; maximum gage height, 13.07 ft Mar. 30, 1960; minimum, 6.2 cfs Aug. 23 and Oct. 11, 12, 13, 1957; minimum gage height, 0.81 ft Sept. 10, 1955.

Remarks.--Records good except those for periods of no gage-height record or ice effect, which are poor.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1-23, Oct. 27 to Nov. 9, June 23 to July 13, July 30 to Aug. 2, Aug. 7, 8)

1.3	6.9
1.7	18
2.0	30
3.0	92
6.0	389
11.0	969

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.4	28	17	a 15	a 9.0	a 13	a 140	88	29	14	29	11
2	8.4	28	16	a 15	a 9.0	a 13	a 150	45	27	14	31	10
3	* 17	27	* 16	a 16	a 10	a 22	a 120	38	27	13	106	11
4	20	27	16	a 16	a 10	a 250	a 100	38	27	12	82	11
5	25	* 30	16	a 16	a 10	a 680	a 80	74	27	12	48	10
6	22	45	16	a 16	a 11	a 800	a 70	* 72	91	11	38	9.9
7	22	42	b 15	a 16	a 12	a 790	a 60	57	160	11	* 34	9.9
8	24	37	b 15	a 16	a 13	a 870	* 57	51	92	11	29	9.6
9	24	31	b 15	a 16	a 13	933	51	45	121	10	26	9.6
10	23	28	b 16	* 15	a 12	861	45	45	* 130	9.9	24	* 9.6
11	22	25	b 16	a 14	a 12	705	41	41	88	* 9.6	22	9.4
12	22	24	b 15	a 14	a 12	a 500	37	37	66	9.1	20	16
13	22	23	b 14	a 14	*b 12	a 520	35	54	51	15	20	12
14	21	22	b 15	a 13	a 12	a 530	32	57	42	30	18	11
15	22	21	b 15	b 13	a 12	a 320	30	45	37	21	18	9.6
16	26	23	a 15	a 13	a 12	a 330	30	40	32	30	16	9.1
17	24	24	a 16	a 12	a 12	a 360	32	48	29	214	16	8.9
18	23	25	a 17	a 12	a 13	* 345	35	114	26	400	15	8.9
19	23	24	a 16	a 12	a 14	a 280	37	88	24	367	15	8.7
20	28	23	a 16	a 11	a 40	a 360	38	66	26	729	15	12
21	28	23	a 16	a 11	a 35	a 340	32	54	24	510	14	11
22	28	22	a 16	a 10	a 30	a 320	30	45	22	258	14	9.1
23	27	20	a 16	a 10	a 20	a 200	34	39	20	160	13	8.9
24	36	19	a 16	a 9.0	a 17	a 220	31	35	19	99	13	8.7
25	48	19	a 15	a 9.0	a 16	a 190	28	33	18	72	12	8.4
26	41	18	a 15	a 9.0	a 15	a 180	27	31	17	57	12	8.4
27	34	17	a 15	a 9.0	a 14	a 180	26	32	16	45	12	8.4
28	32	17	a 15	a 9.0	a 13	a 160	24	39	16	39	12	8.2
29	35	17	a 15	a 9.0	---------	a 120	27	37	15	37	12	8.0
30	31	17	a 15	a 9.0	------	a 120	54	33	15	34	11	* 8.0
31	30	------	a 15	a 9.0	-----	a 120	-----	30	----	30	11	-------
Total	796.8	746	482	388.0	420.0	11632	1533	1551	1334	3283.6	758	294.3
Mean	25.7	24.9	15.5	12.5	15.0	375	51.1	50.0	44.5	106	24.5	9.81
Cfsm	0.195	0.189	0.117	0.095	0.114	2.84	0.387	0.379	0.337	0.803	0.186	0.074
In.	0.22	0.21	0.13	0.11	0.12	3.27	0.43	0.44	0.38	0.93	0.21	0.08

Calendar year 1962: Max 1,160 Min 8.2 Mean 84.6 Cfsm 0.641 In. 8.69
Water year 1962-63: Max 933 Min 8.0 Mean 63.6 Cfsm 0.482 In. 6.53

Peak discharge (base, 800 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-9	0530	10.78	945				

* Discharge measurement made on this day.
a No gage-height record.
b Stage-discharge relation affected by ice

5-5165. Yellow River at Plymouth, Ind.

Location.--Lat 41°20'25", long 86°18'16", in NW¼ sec. 13, T. 33 N., R. 2 E., on left bank 50 ft upstream from LaPorte Street footbridge in Plymouth, 1.1 miles downstream from Elmer Seltenright (formerly Baker) ditch and 8.1 miles upstream from Wolf Creek.

Drainage area.--284 sq mi.

Records available.--July 1948 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 764.78 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission). Prior to Aug. 27, 1959, wire-weight gage at same site and datum.

Average discharge.--15 years, 243 cfs.

Extremes.--Maximum discharge during year, 1,700 cfs Mar. 10 (gage height, 11.22 ft); minimum, 18 cfs Jan. 21-31, result of freezeup. 1948-63: Maximum discharge, 5,390 cfs Oct. 12, 13, 1954 (gage height, 17.13 ft); minimum, 18 cfs Oct. 24, 1953, Jan. 21-31, 1963; minimum gage height observed, 3.49 ft Jan. 11, 14, 1954.

Remarks.--Records good except those for periods of doubtful gage-height record, which are fair and those for periods of no gage-height record or ice effect, which are poor.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	a 51	d 36	a 31	19	34	318	160	94	58	123	39
2	20	a 50	d 36	a 32	20	32	338	130	92	58	109	37
3	* 25	a 49	*d 36	a 32	20	39	278	116	94	58	294	45
4	23	a 49	d 36	a 33	21	345	a 215	102	95	54	318	42
5	37	a 56	d 36	a 35	23	1,030	a 180	137	95	48	183	39
6	d 37	* 74	d 38	a 36	24	1,410	a 150	* 160	149	45	130	37
7	d 38	78	a 38	a 37	25	1,560	a 140	130	318	44	* 116	36
8	d 39	70	a 35	a 39	26	1,500	*a 130	116	248	40	102	35
9	d 39	63	a 30	a 40	27	1,600	123	102	248	38	87	35
10	d 40	51	a 28	* 42	28	1,700	109	102	* 338	36	78	34
11	d 40	45	a 27	41	29	1,530	102	95	338	* 34	72	* 36
12	d 40	43	a 27	36	* 30	1,210	95	86	210	32	69	52
13	a 38	40	a 28	30	30	1,030	95	109	144	45	68	54
14	a 37	d 39	a 29	28	30	1,130	87	144	123	86	64	45
15	a 38	d 38	a 30	26	29	930	82	116	109	82	59	41
16	d 44	d 42	a 31	24	29	649	80	102	94	109	56	40
17	d 45	d 45	a 31	22	29	764	87	109	85	465	53	40
18	a 42	d 47	a 32	21	32	741	91	257	77	787	51	39
19	a 41	d 47	a 33	20	40	580	92	258	78	810	49	39
20	d 48	d 53	a 33	19	95	787	102	192	85	1,100	51	46
21	a 50	d 53	a 33	18	85	718	95	144	82	1,350	51	47
22	a 50	d 51	a 33	18	65	695	87	130	70	1,150	48	44
23	a 50	d 47	a 32	18	55	426	102	116	63	626	46	40
24	d 55	d 43	a 32	18	44	470	109	102	58	382	46	39
25	d 63	d 41	a 32	18	39	404	87	95	57	258	45	39
26	d 68	d 39	a 31	18	36	*a 380	75	91	55	183	42	37
27	a 62	d 39	a 31	18	35	a 380	71	88	55	144	42	36
28	a 58	d 38	a 31	18	34	382	67	109	58	123	45	34
29	a 62	d 38	a 31	18	---	298	72	116	58	210	46	32
30	a 57	d 36	a 31	18	---	258	144	102	57	152	45	* 33
31	a 54	---	a 31	18	---	258	---	95	---	123	42	---
Total	1,360	1,455	998	822	999	23,270	3,803	3,911	3,727	8,730	2,630	1,192
Mean	43.9	48.5	32.2	26.5	35.7	751	127	126	124	282	84.8	39.7
Cfsm	0.155	0.171	0.113	0.093	0.126	2.64	0.447	0.444	0.437	0.993	0.299	0.140
In.	0.18	0.19	0.13	0.11	0.13	3.04	0.50	0.51	0.49	1.14	0.34	0.16

Calendar year 1962: Max 2,200 Min 20 Mean 180 Cfsm 0.634 In. 8.63
Water year 1962-63: Max 1,700 Min 18 Mean 145 Cfsm 0.511 In. 6.92

* Discharge measurement made on this day.
a No gage-height record.
d Computed from doubtful gage-height record.
Note.--Stage-discharge relation affected by ice Jan. 13 to Feb. 23.

5-5170. Yellow River at Knox, Ind.

Location.--Lat 41°18', long 86°37', in sec. 14, T. 33 N., R. 2 W., on right bank 40 ft upstream from bridge on U. S. Highway 35 in Knox, 1½ miles downstream from Eagle Creek, and 9 miles upstream from mouth.

Drainage area.--425 sq mi.

Records available.--August 1905 to July 1906, August 1943 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 679.93 ft above mean sea level, datum of 1929, Lafayette supplementary adjustment of 1951 (levels by Indiana Flood Control and Water Resources Commission). August 1905 to July 1906, chain gage at same site at different datum. August 1943 to July 17, 1952, wire-weight gage at same site and datum.

Average discharge.--20 years (1943-63), 381 cfs.

Extremes.--Maximum discharge during year, about 1,600 cfs Mar. 13 (gage height not determined); minimum, 50 cfs Jan. 21-31, result of freezeup.

1905-6, 1943-63: Maximum discharge, 5,660 cfs Oct. 15, 16, 1954 (gage height, 13.75 ft); minimum, 39 cfs Jan. 11, 1957, result of freezeup; minimum gage height, 4.26 ft Jan. 12, 1954.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Low flow is affected by pumpage at times.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 15)

Oct. 1 to Mar. 14		Mar. 15 to Sept. 30			
4.7	87	4.7	81	6.0	355
5.3	165	5.2	140	7.0	780
		5.5	200	8.0	1,500

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	92	135	116	90	55	85	450	290	148	103	230	108
2	92	128	116	90	60	85	490	290	140	103	230	103
3	* 97	128	116	90	65	90	490	245	133	103	245	114
4	103	122	* 116	90	70	100	430	215	133	98	355	114
5	109	128	116	95	70	150	372	215	126	98	338	108
6	128	135	122	95	70	200	320	245	126	98	275	108
7	122	* 142	122	100	75	300	290	* 260	161	98	* 230	103
8	116	150	110	100	80	450	275	215	290	98	200	103
9	116	142	100	* 100	85	600	* 260	200	305	92	188	103
10	116	142	90	100	90	800	245	200	338	92	166	103
11	109	135	90	100	95	1,200	230	200	* 390	* 92	156	* 103
12	109	128	85	90	100	1,400	215	176	355	86	148	114
13	103	122	90	80	* 100	1,500	200	176	260	98	148	126
14	103	122	95	75	105	1,400	200	200	200	133	140	120
15	103	122	100	70	105	* 1,250	176	215	176	140	140	108
16	109	122	100	65	105	900	176	188	156	218	133	103
17	116	135	105	60	105	780	176	188	148	390	133	103
18	116	135	105	60	110	780	188	245	140	590	126	98
19	122	135	105	55	130	730	188	355	133	780	126	98
20	128	135	105	55	300	730	200	338	133	960	133	108
21	135	135	105	50	230	680	200	275	133	1,100	126	114
22	142	135	105	50	180	680	176	230	126	1,170	126	108
23	128	128	100	50	140	635	200	200	120	1,170	126	108
24	128	128	95	50	110	590	200	176	120	730	126	103
25	128	122	95	50	100	590	200	166	114	510	126	98
26	142	122	90	50	90	550	176	156	114	390	120	103
27	142	122	90	50	90	550	166	156	108	320	120	98
28	135	116	90	50	90	510	156	156	108	290	120	98
29	128	116	90	50	---	510	156	166	108	275	120	92
30	128	116	90	50	---	490	215	166	108	305	120	* 92
31	135	---	90	50	---	430	---	156	---	260	114	---
Total	3,680	3,883	3,144	2,210	3,005	19,745	7,416	6,659	5,150	10,990	5,184	3,162
Mean	119	129	101	71.3	107	637	247	215	172	355	167	105
Cfsm	0.280	0.304	0.238	0.168	0.252	1.50	0.581	0.506	0.405	0.835	0.393	0.247
In.	0.32	0.34	0.27	0.19	0.26	1.73	0.65	0.58	0.45	0.96	0.45	0.28

Calendar year 1962: Max 2,500 Min 85 Mean 310 Cfsm 0.729 In. 9.89
Water year 1962-63: Max 1,500 Min 50 Mean 203 Cfsm 0.478 In. 6.48

* Discharge measurement made on this day.
Note.--No gage-height record Jan. 2 to Mar. 14. Stage-discharge relation affected by ice Dec. 8 to Jan. 1.

5-5175. Kankakee River at Dunns Bridge, Ind.

Location.--Lat 41°13'17", long 86°57'52", in sec. 15, T. 32 N., R. 5 W., on left bank at downstream side of county highway bridge at Dunns bridge, 1.8 miles north of Tefft, and 3.5 miles upstream from Davis ditch.

Drainage area.--1,308 sq mi.

Records available.--July 1948 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 649.65 ft above mean sea level, datum of 1929, Lafayette supplementary adjustment of 1951 (levels by Indiana Flood Control and Water Resources Commission). Prior to July 17, 1956, wire-weight gage at same site and datum.

Average discharge.--15 years, 1,246 cfs.

Extremes.--Maximum discharge during year, 2,910 cfs Mar. 13 (gage height, 9.29 ft); minimum, 280 cfs Jan. 25-29 (result of freezeup). 1948-63: Maximum discharge, 5,300 cfs Oct. 22, 1954 (gage height, 13.20 ft); minimum, that of Jan. 25-29, 1963; minimum gage height, 2.00 ft Sept. 17, 1959.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet and discharge, in cubic feet per second)
(Shifting-control method used Nov. 1 to Dec. 6, May 11 to July 13, July 27 to Sept. 26)

2.0	349
4.0	909
6.0	1,580
10.0	3,240

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	433	657	601	600	310	380	1,800	1,120	685	461	909	405
2	405	685	601	600	330	370	1,760	1,140	685	433	853	405
3	405	685	601	600	340	360	1,730	1,120	657	433	881	433
4	433	657	601	600	360	700	1,650	1,080	657	433	909	433
5	517	685	573	600	380	1,800	1,580	1,080	629	405	965	433
6	573	685	601	600	390	2,320	1,460	1,080	629	405	909	433
7	573	713	580	600	400	2,320	1,380	1,060	629	405	853	405
8	573	713	550	600	400	2,440	1,320	1,020	685	405	797	405
9	629	713	530	600	390	2,600	1,240	965	853	391	741	391
10	629	713	510	600	380	2,720	1,210	965	965	377	713	391
11	629	685	500	600	370	2,810	1,140	965	1,020	377	685	377
12	601	657	500	570	370	2,860	1,080	937	995	363	657	377
13	573	629	520	540	360	2,910	1,080	937	937	377	629	405
14	545	629	560	510	360	2,860	1,060	937	853	601	629	405
15	545	629	620	480	360	2,810	1,020	937	769	685	* 601	405
16	573	629	680	450	370	2,760	1,020	909	741	* 741	573	391
17	573	657	730	420	380	2,680	995	909	685	1,020	573	* 377
18	573	685	760	400	* 390	* 2,560	1,020	965	* 657	1,180	545	363
19	573	* 657	* 750	370	400	2,520	1,020	1,060	629	1,320	545	349
20	573	685	720	350	410	2,480	1,020	* 1,080	629	1,690	545	391
21	629	685	690	330	420	2,440	995	1,020	629	2,040	545	405
22	* 685	685	660	310	450	2,400	* 995	965	601	2,160	517	405
23	657	657	640	300	470	2,360	995	881	573	2,200	489	391
24	657	657	640	290	470	2,280	995	853	545	2,160	489	391
25	657	657	630	280	470	2,200	965	797	545	1,880	489	391
26	657	629	640	280	430	2,160	965	797	517	1,540	461	391
27	657	629	640	280	410	2,160	937	769	517	1,280	461	391
28	657	629	650	* 280	390	2,120	909	769	489	1,140	433	391
29	629	629	640	280	---	2,040	909	769	489	1,060	433	405
30	601	601	620	290	---	1,960	1,020	741	461	965	433	391
31	629	---	610	300	---	1,880	---	741	---	937	433	---
Total	18,043	19,906	19,148	13,910	10,960	67,260	35,270	29,368	20,355	29,864	19,695	11,926
Mean	582	664	618	449	391	2,170	1,176	947	678	963	635	398
Cfsm	0.445	0.508	0.472	0.343	0.299	1.66	0.899	0.724	0.518	0.736	0.485	0.304
In.	0.51	0.57	0.54	0.40	0.31	1.91	1.00	0.83	0.58	0.85	0.56	0.34

Calendar year 1962: Max 3,850 Min 391 Mean 1,083 Cfsm 0.828 In. 11.25
Water year 1962-63: Max 2,910 Min 280 Mean 810 Cfsm 0.619 In. 8.40

* Discharge measurement made on this day.

Note.--No gage-height record Dec. 11-14, Jan. 15 to Feb. 17, Feb. 21 to Mar. 3. Stage-discharge relation affected by ice Dec. 7-10, Dec. 15 to Jan. 14, Feb. 18-20, Mar. 4, 5.

5-5180. Kankakee River at Shelby, Ind.

Location.--Lat 41°11', long 87°21', in NE¼ sec. 33, T. 32 N., R. 8 W., on left bank 25 ft downstream from Monon Railroad bridge, 1 mile south of Shelby and 9 miles upstream from Beaver Lake Creek.

Drainage area.--1,753 sq mi.

Records available.--October 1922 to September 1963. Monthly discharge only for some periods, published in WSP 1308.

Gage.--Water-stage recorder. Datum of gage is 628.13 ft above mean sea level, datum of 1929. Prior to Dec. 19, 1934, chain gage at highway bridge about 400 ft upstream at same datum.

Average discharge.--41 years, 1,514 cfs.

Extremes.--Maximum discharge during year, 3,410 cfs Mar. 11 (gage height, 8.70 ft); maximum gage height, 9.88 ft Mar. 9 (backwater from ice); minimum daily, 330 cfs Jan. 25-28 (result of freezeup).
1922-63: Maximum discharge, 7,200 cfs Dec. 21, 1927 (gage height, 11.40 ft, present datum, site then in use), from rating curve extended above 3,000 cfs by gage-height relation study with that of present site; minimum daily, 260 cfs Jan. 13-15, 1954, result of freezeup; minimum gage height, 0.80 ft (present datum, site then in use) Aug. 4, 5, 1934.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Apr. 12-30, May 18-22, Sept. 2-30)

2.2	455
5.0	1,310
7.0	2,260
9.0	3,620

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	505	775	805	780	370	450	2,200	1,340	925	655	1,080	565
2	505	805	805	780	390	430	2,140	1,380	925	625	1,040	565
3	505	805	805	790	410	430	2,040	1,380	895	595	1,040	565
4	505	805	775	800	430	600	1,980	1,340	865	595	1,040	595
5	505	805	775	800	450	2,000	1,870	1,310	865	595	1,080	565
6	595	805	805	810	460	2,500	1,720	1,310	835	565	1,080	565
7	655	835	805	820	480	2,700	1,620	1,310	835	565	1,040	565
8	655	865	760	830	480	2,900	1,530	1,280	835	565	985	535
9	685	865	730	840	480	3,100	1,450	1,210	955	565	955	535
10	715	835	720	840	470	3,200	1,420	1,210	1,080	535	925	535
11	715	865	710	840	450	3,340	1,340	1,210	1,140	535	895	505
12	685	835	710	800	450	3,340	1,310	1,210	1,170	535	865	505
13	655	805	720	700	440	3,340	1,240	1,170	1,140	535	835	505
14	655	805	740	620	440	3,340	1,240	1,170	1,080	625	835	505
15	625	805	780	570	440	3,340	1,170	1,140	1,020	745	* 805	505
16	655	805	860	530	450	3,270	1,140	1,140	955	* 775	775	505
17	685	865	920	490	460	3,200	1,140	1,140	925	775	745	* 480
18	685	865	960	450	470	* 3,130	1,170	1,240	865	1,080	745	480
19	685	865	* 960	420	480	3,060	1,140	1,340	865	1,240	745	455
20	715	865	920	400	500	3,060	1,140	* 1,380	* 865	1,530	745	480
21	775	* 895	880	370	520	2,990	1,110	1,380	835	1,920	715	505
22	805	895	840	* 360	540	2,850	* 1,110	1,310	805	2,040	715	505
23	805	865	820	350	580	2,780	1,110	1,170	805	2,140	685	480
24	805	865	800	340	570	2,710	1,110	1,110	775	2,200	655	505
25	* 775	865	790	330	560	2,640	1,110	1,080	745	2,090	655	480
26	775	835	780	330	520	2,570	1,080	1,040	715	1,820	625	480
27	805	835	780	330	500	2,570	1,040	1,020	715	1,530	625	480
28	805	805	780	330	460	2,500	1,020	1,020	685	1,380	595	480
29	775	805	780	340	---	2,440	1,020	1,020	685	1,280	595	455
30	745	805	780	350	---	2,380	1,170	985	655	1,170	595	455
31	745	---	780	360	---	2,260	---	985	---	1,110	595	---
Total	21,205	25,050	24,875	17,700	13,250	79,420	40,880	37,330	26,460	32,915	25,310	15,340
Mean	684	835	802	571	473	2,562	1,363	1,204	882	1,062	816	511
Cfsm	0.390	0.476	0.458	0.326	0.270	1.46	0.778	0.687	0.503	0.606	0.465	0.292
In.	0.45	0.53	0.53	0.38	0.28	1.68	0.87	0.79	0.56	0.70	0.54	0.33

Calendar year 1962 : Max 4,840 Min 480 Mean 1,373 Cfsm 0.783 In. 10.61
Water year 1962-63 : Max 3,340 Min 330 Mean 986 Cfsm 0.562 In. 7.64

* Discharge measurement made on this day.
Note.--No gage-height record Jan. 23 to Feb. 16, Feb. 21 to Mar. 6. Stage-discharge relation affected by ice Dec. 8 to Jan. 22, Feb. 17-20, Mar. 7-10.

5-5190. Singleton ditch at Schneider, Ind.

Location.--Lat 41°12'44", long 87°26'44", on line between NE¼ sec. 21 and NW¼ sec. 22, T. 32 N., R. 9 W., on left bank 15 ft upstream from bridge on Ackerman Avenue (revised), half a mile upstream from Bruce ditch, 1½ miles downstream from Cedar Creek, and 1 2/3 miles north of Schneider.

Drainage area.--122 sq mi.

Records available.--July 1948 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 623.67 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1949, wire-weight gage at same site at datum 2.00 ft higher. Oct. 1, 1949, to Aug. 13, 1951, wire-weight gage at same site and datum.

Average discharge.--15 years, 92.6 cfs.

Extremes.--Maximum daily discharge during year, 1,000 cfs Mar. 6; maximum gage height, 10.14 ft Mar. 4 (ice jam); minimum discharge, 7.0 cfs Sept. 28 (gage height, 1.32 ft).
1948-63: Maximum discharge, 1,120 cfs Feb. 14, 1959 (gage height, 10.45 ft); minimum, 6.8 cfs Aug. 24, 1962; minimum gage height, 1.14 ft Sept. 13, 1957.

Remarks.--Records good except those for periods of ice effect, which are poor.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used June 25 to July 19, Aug. 22 to Sept. 30)

1.2	7.0
1.4	15
2.0	45
2.5	75
3.0	113
10.0	1,100

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	22	21	30	11	14	72	150	33	16	22	9.8
2	14	20	20	30	11	14	75	105	32	16	20	9.8
3	15	20	20	29	11	16	72	86	30	15	22	11
4	15	20	22	29	11	780	69	72	30	14	22	13
5	18	22	23	29	11	950	60	86	31	14	20	12
6	16	20	23	30	17	1,000	57	78	30	14	18	11
7	18	22	33	35	22	873	54	69	30	16	18	10
8	26	22	32	38	19	798	51	63	30	13	17	10
9	19	22	31	41	18	634	48	57	38	12	16	9.5
10	18	24	30	43	16	396	48	57	48	11	16	9.5
11	16	20	29	43	15	270	45	69	42	11	15	9.8
12	16	20	29	42	14	228	42	60	35	10	14	9.8
13	15	20	28	41	13	228	45	57	32	14	15	9.1
14	15	19	29	40	13	200	42	60	32	22	14	8.4
15	16	22	30	37	12	162	40	51	28	15	* 14	7.7
16	16	24	31	34	12	150	42	48	27	* 17	14	8.0
17	16	28	34	33	12	174	42	51	25	18	13	* 8.0
18	16	27	37	32	* 12	140	42	72	24	15	13	7.4
19	16	26	* 38	31	21	140	40	69	24	46	13	7.4
20	26	26	39	30	37	* 150	42	* 60	* 28	60	13	8.0
21	30	* 26	40	28	31	121	40	57	23	57	13	9.1
22	26	24	40	* 26	26	101	38	54	22	57	12	8.4
23	24	24	39	25	23	93	40	48	22	57	12	8.0
24	22	23	39	23	21	86	* 40	45	20	48	11	7.4
25	* 21	22	37	20	18	82	38	42	20	38	11	7.4
26	20	22	36	17	17	82	38	40	20	32	10	7.4
27	20	22	35	14	16	89	35	38	18	30	10	7.4
28	20	22	34	12	15	78	35	40	18	28	9.8	7.4
29	19	21	33	11	---------	75	38	40	18	28	10	8.0
30	19	20	31	11	------	69	89	38	16	26	10	7.7
31	19	------	31	11	------	69	------	35	------	24	10	------
Total	581	672	974	895	475	8,262	1,459	1,897	826	794	447.8	267.4
Mean	18.7	22.4	31.4	28.9	17.0	267	48.6	61.2	27.5	25.6	14.4	8.91
Cfsm	0.153	0.184	0.257	0.237	0.139	2.19	0.398	0.502	0.225	0.210	0.118	0.073
In.	0.18	0.21	0.30	0.27	0.14	2.52	0.44	0.58	0.25	0.24	0.14	0.08

Calendar year 1962 : Max 948 Min 7.4 Mean 84.7 Cfsm 0.694 In. 9.43
Water year 1962-63 : Max 1,000 Min 7.4 Mean 48.1 Cfsm 0.394 In. 5.35

Peak discharge (base, 730 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-6	unknown	-	about 1,000				

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 9-20, Dec. 23 to Mar. 6.

5-5195. West Creek near Schneider, Ind.

Location.--Lat 41°12'52", long 87°29'36", in NW¼NE¼ sec. 19, T. 32 N., R. 9 W., on left bank at downstream side of county highway bridge, 1.2 miles upstream from Singleton ditch and 2 3/4 miles northwest of Schneider.

Drainage area.--54.5 sq mi.

Records available.--July 1948 to December 1951, January 1954 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 627.86 ft above mean sea level, datum of 1929 (levels by Soil Conservation Service). Prior to Mar. 17, 1950, staff gage 75 ft below bridge at same datum. Mar. 17, 1950, to Dec. 31, 1951, Jan. 1, 1954, to June 10, 1956, wire-weight gage at same site and datum.

Average discharge.--12 years, 39.1 cfs.

Extremes.--Maximum daily discharge during year, 360 cfs Mar. 7 (gage height not determined); minimum daily, 4.3 cfs Feb. 1-3. 1948-51, 1954-63: Maximum discharge, 1,840 cfs Oct. 10, 11, 1954 (gage height, 8.06 ft, from graph based on gage readings); minimum, 1.3 cfs Feb. 17, 1957 (gage height, 0.32 ft), result of freezeup.

Remarks.--Records fair except those for periods of ice effect and no gage-height record, which are poor.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Apr. 24		Apr. 25 to Sept. 30	
0.7	5.0	1.1	5.6
1.0	15	1.3	9.2
1.4	35	1.6	19
1.8	69	1.9	34
2.5	155	2.4	79
3.0	238	2.9	156
3.7	390		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.2	7.9	10	12	4.3	8.0	21	33	11	7.0	14	6.4
2	8.6	7.6	12	11	4.3	8.0	24	24	11	7.0	14	6.4
3	8.9	7.9	11	11	4.3	9.0	20	21	11	6.8	14	7.1
4	8.9	8.2	11	11	4.4	20	19	17	10	6.8	13	6.6
5	9.3	8.2	11	11	5.0	150	18	19	10	6.6	12	6.4
6	8.9	7.9	14	11	6.0	300	17	19	10	6.8	12	6.2
7	9.9	7.9	27	12	7.8	360	17	17	10	7.0	11	6.2
8	14	7.9	13	13	7.0	340	16	15	10	7.0	10	6.2
9	9.9	7.9	12	15	6.2	220	15	14	19	6.6	9.8	6.4
10	9.3	7.9	12	16	5.8	100	14	16	28	6.6	9.2	6.2
11	9.6	7.6	11	17	5.4	92	14	20	21	6.5	8.6	6.0
12	9.3	7.6	11	17	5.2	66	13	17	16	6.5	8.4	6.2
13	8.6	7.6	11	17	5.0	56	14	16	13	8.2	7.7	6.2
14	8.6	7.9	11	16	4.9	50	13	14	11	11 *	7.5	6.0
15	8.6	7.9	11	16	4.7	42	13	14	10	9.2	7.3	6.0
16	8.6	8.9	11	16	4.6	40	12	14	9.2	* 11	7.0	6.0
17	8.6	10	11	15	4.5	45	13	14	9.0	17	7.1 *	6.0
18	8.6	10	12	15	5.8	40	17	37	8.4	19	7.3	5.9
19	8.6	9.9	* 12	14	11	35	16	27	8.4	38	7.3	5.9
20	10	10	14	14	20	56	15	21	* 8.4	29	7.1	6.6
21	13	* 11	15	13	16	* 50	14	18	7.7	22	7.0	6.6
22	10	10	15	* 12	12	35	14	* 16	7.5	86	7.0	6.5
23	9.2	9.9	15	11	10	26	14	14	7.3	* 147	7.0	6.4
24	8.8	9.6	15	10	9.0	23	14	14	7.3	81	7.0	6.4
25	* 8.6	9.6	15	8.8	8.6	23	14	13	7.3	53	6.8	6.2
26	7.9	9.3	14	7.5	8.4	23	14	12	7.1	35	6.6	6.0
27	7.9	9.6	13	6.6	8.2	27	14	12	7.0	27	6.6	6.0
28	8.2	9.6	13	5.6	8.1	25	14	12	7.0	22	6.6	6.0
29	7.3	9.6	13	5.1	----------	23	15	12	7.0	19	6.6	6.2
30	7.6	9.3	12	4.7	- - - - - -	20	28	12	7.0	17	6.5	6.0
31	7.9	- - - - - -	12	4.4	- - - - -	19	- - - - -	11	- - ----	15	6.4	- - - - - -
Total	281.4	264.2	400	368.7	206.5	2,331.0	476	535	316.6	747.6	268.4	187.2
Mean	9.08	8.81	12.9	11.9	7.38	75.2	15.9	17.3	10.6	24.1	8.66	6.24
Cfsm	0.167	0.162	0.237	0.218	0.135	1.38	0.292	0.317	0.194	0.442	0.159	0.114
In.	0.19	0.18	0.27	0.25	0.14	1.59	0.33	0.37	0.22	0.51	0.18	0.13

Calendar year 1962 : Max 666 Min 7.3 Mean 36.9 Cfsm 0.677 In. 9.18
Water year 1962-63 : Max 360 Min 4.3 Mean 17.5 Cfsm 0.321 In. 4.36

Peak discharge (base, 500 cfs).--No peak above base.

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 9 to Jan. 17. No gage-height record Oct. 15-25, Jan. 18 to Apr. 24.

5-5200. Singleton ditch at Illinoi, Ill.

Location.--Lat 41°11'20", long 87°31'35", in SW¼ NW¼ sec. 8, T. 31 N., R. 15 E., on left bank 50 ft downstream from county highway bridge at Illinoi, beside the Cleveland, Cincinnati, Chicago and St. Louis Railway, and at Indiana-Illinois State line.

Drainage area.--219 sq mi.

Records available.--October 1944 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 620.33 ft above mean sea level, datum of 1929. Prior to Aug. 28, 1953, wire-weight gage at same site and datum.

Average discharge.--19 years, 165 cfs.

Extremes.--Maximum discharge during year, about 2,000 cfs Mar. 6; maximum gage height, 10.11 ft Mar. 4 (backwater from ice); minimum, 11 cfs Sept. 19, 30; minimum gage height, 1.36 ft Sept. 30.
1944-63: Maximum discharge, 2,040 cfs Feb. 14, 23, 1959; maximum gage height, that of Mar. 4, 1963; minimum, that of Sept. 19, 30, 1963; minimum gage height, 0.71 ft Oct. 21, 1948.

Remarks.--Records good except those for periods of ice effect and no gage-height record, which are poor.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 14-22, July 4 to Sept. 30)

1.2	12
1.3	18
1.9	68
2.5	138
4.0	444
8.0	1,470
10.0	2,070

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	39	40	54	19	26	118	228	64	39	43	16
2	29	39	42	54	19	24	118	161	59	39	39	17
3	31	38	41	52	19	27	111	131	59	38	43	22
4	32	38	42	52	20	1,400	111	118	59	37	41	22
5	34	41	43	51	24	1,700	99	131	59	37	38	19
6	34	39	50	50	28	1,800	94	124	59	36	36	17
7	36	41	78	a 60	40	1,530	94	105	59	38	35	17
8	52	40	59	a 68	35	1,320	88	94	59	35	32	17
9	40	41	56	a 73	31	1,230	83	88	78	32	32	16
10	36	42	54	a 77	29	795	78	88	99	31	29	16
11	35	39	53	a 79	27	444	78	111	88	30	26	16
12	35	39	52	a 78	25	356	73	94	73	29	27	16
13	34	37	51	a 75	24	356	78	88	68	34	28	15
14	34	37	51	a 71	23	312	73	88	64	41	26	14
15	33	38	52	a 67	22	238	68	83	59	32	* 25	13
16	35	43	54	a 64	22	218	68	78	57	* 35	23	14
17	34	47	56	a 60	22	249	73	83	55	45	24	* 14
18	35	46	61	a 58	22	207	78	124	54	39	24	13
19	34	45	67	a 56	35	197	73	118	55	94	24	12
20	46	45	* 72	a 53	90	238	73	99	* 59	94	23	18
21	59	* 46	74	51	70	* 187	68	88	54	78	22	18
22	51	45	74	48	55	153	68	* 83	51	111	20	16
23	47	42	73	45	46	146	68	78	50	187	19	15
24	45	42	73	41	40	131	* 68	73	48	131	20	15
25	* 45	41	68	34	35	131	64	73	47	99	18	14
26	42	40	66	28	31	131	64	68	46	78	18	13
27	39	40	64	24	28	138	64	68	46	68	18	12
28	42	40	62	* 21	27	131	59	68	44	59	18	12
29	39	40	60	19	---------	118	64	68	43	56	18	14
30	37	40	58	19	------	118	147	64	41	51	18	12
31	37	------	56	19	------	111	------	64	------	46	17	------
Total	1,191	1,230	1,802	1,601	908	14,162	2,463	3,029	1,756	1,799	824	465
Mean	38.4	41.0	58.1	51.6	32.4	457	82.1	97.7	58.6	58.0	26.6	15.5
Cfsm	0.175	0.187	0.265	0.236	0.148	2.09	0.375	0.446	0.268	0.265	0.121	0.071
In.	0.20	0.21	0.31	0.27	0.15	2.41	0.42	0.51	0.30	0.31	0.14	0.08

Calendar year 1962: Max 1,530 Min 24 Mean 154 Cfsm 0.703 In. 9.59
Water year 1962-63: Max 1,800 Min 12 Mean 85.6 Cfsm 0.391 In. 5.31

Peak discharge (base, 1,100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-6	0200	-	about 2,000				

* Discharge measurement made on this day.
a No gage-height record.
Note.--Stage-discharge relation affected by ice Dec. 9-22, Dec. 26 to Jan. 6, Jan. 21 to Mar. 6.

GPO 811-767-12

5-5205. Kankakee River at Momence, Ill.

Location.--Lat 41°09'36", long 87°40'07", in NE¼ sec. 24, T. 31 N., R. 13 E., on right bank a quarter of a mile downstream from highway bridge in momence and 1¼ miles upstream from Tower Creek.

Drainage area.--2,340 sq mi, approximately.

Records available.--February to December 1905, February to July 1906, December 1914 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 610.18 ft above mean sea level, datum of 1929. Prior to Aug. 1, 1938, chain gage at bridge a quarter of a mile upstream at same datum.

Average discharge.--48 years (1915-63), 1,828 cfs.

Extremes.--Maximum discharge during year, about 6,500 cfs Mar. 9; maximum gage height, 6.09 ft Mar. 9 (ice jam); minimum daily discharge, 450 cfs Feb. 15.
1905-6, 1914-63: Maximum discharge, 10,100 cfs Apr. 25, 1950 (gage height, 5.06 ft); maximum gage height observed, 8.09 ft Jan. 25, 1930, site then in use (ice jam); minimum discharge observed, 306 cfs Sept. 1, 16, 17, 1919.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor.

Rating table, water year 1962-63, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1-11, Aug. 25 to Sept. 30)

-0.2	445
0	560
.5	940
1.0	1,620
2.0	3,320
4.0	7,400

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	536	784	824	580	480	500	2,960	2,120	1,130	739	1,360	662
2	506	800	816	580	480	500	2,870	2,130	1,090	718	1,260	641
3	506	808	816	580	460	560	2,780	2,150	1,050	697	1,220	641
4	* 548	816	816	560	500	3,000	2,610	2,120	1,020	676	1,210	641
5	548	832	824	560	520	4,000	2,520	2,050	1,020	669	1,180	641
6	554	832	808	560	540	5,200	2,440	1,960	984	690	1,180	634
7	614	840	792	580	540	5,800	2,250	1,890	962	669	a 1,150	634
8	683	* 850	800	600	520	6,000	2,170	1,840	951	662	a 1,100	620
9	676	850	800	620	500	5,200	2,040	1,760	984	641	a 1,050	608
10	683	850	760	640	500	5,600	1,940	1,680	1,150	634	a 1,000	596
11	690	850	700	640	490	5,060	1,860	1,640	* 1,260	620	a 1,000	584
12	690	860	640	620	470	4,460	1,780	1,600	1,280	620	a 980	584
13	683	840	640	580	470	4,260	1,750	* 1,470	1,290	655	a 960	578
14	669	824	660	520	470	4,160	1,650	1,470	1,280	704	a 920	578
15	669	808	700	500	450	4,070	* 1,590	1,440	1,180	739	a 920	572
16	655	824	720	500	460	3,980	1,590	1,400	1,080	840	a 900	572
17	655	860	760	500	470	3,980	1,600	1,380	1,030	951	a 880	566
18	662	890	780	* 500	500	3,980	1,620	1,480	995	* 1,090	a 860	548
19	669	900	760	500	540	3,880	1,640	1,520	951	1,540	a 840	536
20	732	910	720	500	560	3,780	1,620	1,530	973	1,720	a 820	542
21	800	920	700	500	580	3,690	1,590	1,540	962	1,810	a 800	* 554
22	840	920	680	500	560	3,600	1,590	1,530	930	2,050	a 780	548
23	850	900	640	490	520	3,500	1,580	1,500	900	2,270	a 760	542
24	832	890	620	490	500	3,410	1,580	1,400	860	2,360	a 740	536
25	816	880	600	480	500	3,320	1,580	1,320	840	2,440	a 720	530
26	800	870	560	480	480	3,320	1,560	1,260	816	2,360	* 704	518
27	800	860	560	480	480	3,230	1,530	1,220	792	2,270	697	512
28	808	850	580	470	500	3,140	1,500	1,210	784	2,040	690	512
29	800	840	580	470	---------	* 3,050	1,520	1,220	768	1,810	683	524
30	784	824	580	470	---------	2,960	1,810	1,190	753	1,600	676	524
31	784	----------	580	470	---------	2,960	----------	1,170	----------	1,420	669	----------
Total	21,542	25,582	21,816	16,520	14,040	115,150	57,120	49,190	30,065	33,704	28,709	17,278
Mean	695	853	704	533	501	3,715	1,904	1,587	1,002	1,249	926	576
Cfsm	0.297	0.365	0.301	0.228	0.214	1.59	0.814	0.678	0.428	0.534	0.396	0.246
In.	0.34	0.41	0.35	0.26	0.22	1.83	0.91	0.78	0.48	0.62	0.46	0.27

Calendar year 1962 : Max 6,960 Min 506 Mean 1,739 Cfsm 0.743 In. 10.07
Water year 1962-63 : Max 6,200 Min 450 Mean 1,194 Cfsm 0.510 In. 6.93

* Discharge measurement made on this day.
a No gage-height record.
Note.--Stage-discharge relation affected by ice Dec. 9 to Mar. 10.

5-5210. Iroquois River at Rosebud, Ind.

Location.--Lat 41°02', long 87°11', in SW¼ sec. 24, T. 30 N., R. 7 W., 100 ft downstream from bridge on county road, half a mile north of Rosebud, half a mile downstream from confluence of Swain and Dexter ditches, 1.5 miles upstream from Davidson ditch, and 2 miles east of Parr.

Drainage area.--30.3 sq mi.

Records available.--July 1948 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 661.47 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission). Prior to Oct. 1, 1953, wire-weight gage on downstream side of county bridge at same datum.

Average discharge.--15 years, 24.1 cfs.

Extremes.--Maximum discharge during year, approximately 260 cfs Mar. 6; maximum gage height, 8.04 ft Mar. 4 (ice jam); minimum discharge, 2.4 cfs July 12 (gage height, 1.03 ft).
1948-63: Maximum discharge, 422 cfs Apr. 4, 1950; maximum gage height, 8.86 ft Feb. 10, 1959; minimum discharge, 1.5 cfs Dec. 30, 1955 (gage height, 0.68 ft), result of freezeup.

Remarks.--Records fair.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.0	8.9	8.7	3.5	3.0	6.0	45	42	6.0	3.4	4.5	3.0
2	4.8	8.3	8.7	3.5	3.0	8.0	40	30	6.0	3.3	4.5	3.0
3	4.9	8.7	8.6	3.5	3.0	20	35	24	6.0	3.4	4.5	3.0
4	4.9	9.1	8.7	4.0	3.0	100	30	21	5.5	3.3	4.0	3.0
5	5.2	9.5	8.9	4.0	3.0	200	25	20	5.0	3.2	4.0	3.0
6	5.1	8.9	8.7	4.5	3.0	250	23	17	6.0	3.4	4.0	2.5
7	12	9.4	10	5.0	3.0	150	20	16	8.0	3.5	4.0	2.5
8	55	9.4	8.0	5.5	3.0	133	18	17	7.0	3.5	3.5	2.5
9	26	8.9	7.0	5.5	3.0	110	16	14	8.0	3.3	3.5	2.5
10	15	9.1	5.0	5.0	3.0	90	15	13	10	2.9	3.5	2.5
11	11	8.6	4.0	4.5	3.0	74	14	13	* 7.8	2.9	3.0	3.0
12	9.2	8.3	3.5	4.0	3.0	62	14	13	6.9	2.8	3.0	3.0
13	8.1	8.1	3.0	3.5	3.0	58	14	12	6.3	4.4	3.5	3.0
14	7.8	7.6	3.0	3.5	3.0	48	13	11	5.8	5.5	3.0	3.0
15	8.3	8.1	3.0	3.0	3.0	42	13	10	5.5	4.0	3.0	3.5
16	13	* 11	3.5	3.0	3.0	42	13	* 11	8.0	14	2.5	3.0
17	9.7	15	4.0	3.0	3.5	45	14	13	6.0	* 12	2.5	3.0
18	11	13	5.0	3.5	4.0	39	16	12	5.1	8.0	3.0	3.0
19	9.9	11	6.0	4.0	5.0	51	15	11	4.7	12	3.5	3.0
20	27	11	* 7.0	3.5	15	48	13	9.7	4.8	75	4.5	* 3.0
21	42	11	7.0	3.0	20	39	11	9.0	4.6	45	* 4.0	3.0
22	24	11	6.0	3.0	10	34	13	8.0	4.3	24	3.5	3.0
23	18	9.5	5.5	3.0	8.0	33	15	7.0	4.4	15	3.0	3.0
24	* 13	9.7	5.0	3.0	6.0	30	* 13	7.0	4.3	12	3.0	3.0
25	12	9.9	4.5	2.5	5.0	28	12	7.0	3.9	10	3.0	3.0
26	11	9.5	4.5	2.5	5.0	* 45	12	8.0	3.8	8.7	3.0	3.0
27	11	9.4	4.0	2.5	5.0	54	11	8.0	3.9	8.1	3.0	3.0
28	10	9.2	4.0	2.5	5.0	48	11	7.0	3.9	7.5	3.0	3.0
29	9.7	9.1	4.0	2.5	----------	39	14	7.0	3.8	6.9	3.5	2.5
30	9.4	8.9	3.5	2.5	- - - - - -	36	39	8.0	3.5	5.9	3.0	2.5
31	9.2	- - - - - -	3.5	2.5	- - - - - -	34	- - - - -	7.0	- - ----	5.0	3.0	- - - - - - -
Total	423.2	289.1	175.8	109.0	139.5	1,996.0	557	412.7	168.8	321.9	106.5	87.0
Mean	13.7	9.64	5.67	3.52	4.98	64.4	18.6	13.3	5.63	10.4	3.44	2.90
Cfsm	0.452	0.318	0.187	0.116	0.164	2.13	0.614	0.439	0.186	0.343	0.114	0.096
In.	0.52	0.35	0.22	0.13	0.17	2.46	0.68	0.51	0.21	0.40	0.13	0.11

Calendar year 1962 : Max 179 Min 3.0 Mean 26.4 Cfsm 0.871 In. 11.84
Water year 1962-63 : Max 250 Min 2.5 Mean 13.1 Cfsm 0.432 In. 5.89

Peak discharge (base, 150 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-6	0200	--	About 260				

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 7-10, 20-26, Feb. 5-11, Feb. 19 to Mar. 7. No gage-height record Dec. 11-19, Dec. 27 to Feb. 4, Feb. 12-18, Mar. 30 to Apr. 23, May 21 to June 10, June 15-17. Stage discharge relation indefinite July 31 to Sept. 30.

5-5220. Iroquois River near North Marion, Ind.

Location.--Lat 40°58', long 87°07', in S½ sec. 9, T. 29 N., R. 6 W., on left bank at upstream side of county highway bridge, 1¼ miles upstream from Ryan ditch, 2 miles east of North Marion, and 3½ miles northeast of Rensselaer.

Drainage area.--134 sq mi.

Records available.--December 1948 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 646.68 ft above mean sea level, datum of 1929. Prior to Sept. 6, 1955, wire-weight gage at same site and datum.

Average discharge.--14 years (1949-63) 115 cfs.

Extremes.--Maximum discharge during year, 1,020 cfs Mar. 6 (gage height, 12.75 ft, backwater from ice); minimum, 5.1 cfs July 13; minimum gage height, 1.20 ft Sept. 8, 10, 11.
1948-63: Maximum discharge, 2,040 cfs June 10, 1958 (gage height, 15.09 ft); minimum, 1.8 cfs Nov. 28, 1956, result of freezeup.

Remarks.--Records fair. Water is diverted from Oliver ditch, a tributary, into Ryan ditch. Ryan ditch enters the Iroquois River 1½ miles below this station.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used June 10, 11, July 10-14)

1.2	6.2
1.3	8.3
1.6	16
1.8	24
2.0	33
3.0	90
6.0	320
10.0	710
13.0	1,140

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	33	33	15	9.0	21	224	256	25	12	16	9.0
2	13	31	31	15	9.0	26	224	192	26	11	17	10
3	13	28	28	16	10	40	176	145	24	8.8	18	10
4	14	28	* 28	16	10	350	138	117	22	8.5	16	9.9
5	16	31	28	16	* 9.0	800	110	110	21	9.9	16	9.0
6	14	31	24	17	10	1,000	103	103	22	9.0	14	8.5
7	30	33	26	17	11	940	96	90	60	9.4	16	10
8	184	* 31	28	* 18	12	840	90	75	42	9.7	13	9.2
9	138	28	24	19	13	700	78	63	63	8.3	14	10
10	* 69	28	21	20	13	600	* 75	54	103	7.7	13	8.1
11	42	28	18	18	12	473	69	60	* 78	* 7.7	12	8.1
12	33	28	16	17	11	365	63	57	60	7.5	10	14
13	25	26	15	15	11	312	66	60	48	9.7	14	11
14	25	27	15	14	11	272	60	54	37	29	12	7.8
15	21	24	15	13	11	216	60	45	28	19	9.4	19
16	31	33	16	12	11	192	63	48	33	55	9.0	12
17	28	54	18	11	12	208	66	* 54	26	96	9.2	11
18	19	51	21	11	16	184	75	69	19	45	11	11
19	24	42	24	11	40	208	75	60	19	45	18	10
20	70	40	30	11	80	280	63	57	19	216	24	* 11
21	124	40	28	11	50	240	51	51	14	224	17	11
22	84	37	26	11	35	176	60	42	13	176	16	10
23	60	33	24	10	25	152	75	31	15	* 117	* 15	9.0
24	51	33	23	10	22	138	75	33	17	72	10	10
25	42	31	22	10	20	131	66	31	11	51	12	11
26	37	28	20	10	20	216	60	40	9.9	40	12	10
27	35	31	19	10	20	288	54	33	9.7	35	8.8	10
28	35	31	18	9.0	20	248	48	31	9.4	31	9.7	9.0
29	31	31	18	9.0	--------	184	60	33	13	27	13	9.0
30	31	31	17	9.0	---------	168	184	33	12	18	11	8.5
31	31	----------	16	9.0	---------	168	----------	28	----------	15	9.0	----------
Total	1,382	981	690	410.0	533.0	10,136	2,707	2,155	899.0	1,430.2	415.1	306.1
Mean	44.6	32.7	22.3	13.2	19.0	327	90.2	69.5	30.0	46.1	13.4	10.2
Cfsm	0.333	0.244	0.166	0.098	0.142	2.44	0.673	0.519	0.224	0.344	0.100	0.076
In.	0.38	0.27	0.19	0.11	0.15	2.81	0.75	0.60	0.25	0.40	0.12	0.08

Calendar year 1962 : Max 794 Min 9.9 Mean 119 Cfsm 0.888 In. 12.05
Water year 1962-63 : Max 1,000 Min 7.5 Mean 60.4 Cfsm 0.451 In. 6.11

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 7-9, 16-23, Dec. 29 to Jan. 6, Jan. 8-12, Feb. 19, 20, Mar. 3-10. No gage-height record Dec. 10-15, 24-28, Jan. 7, Jan. 13 to Feb. 18, Feb. 21 to Mar. 2. Stage-discharge relation indefinite Sept. 15-30.

5-5225. Iroquois River at Rensselaer, Ind.

Location.--Lat 40°56', long 87°08', in NE¼ NW¼ SE¼ sec. 29, T. 29 N., R. 6 W., on right bank, 20 ft downstream from bridge on State Highway 114, three-quarters of a mile east of Rensselaer, 1.5 miles downstream from Ryan ditch and 5.5 miles upstream from Big Slough Creek.

Drainage area.--194 sq mi.

Records available.--July 1948 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 642.29 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission). Prior to July 8, 1949, wire-weight gage at same site and datum.

Average discharge.--15 years, 154 cfs.

Extremes.--Maximum discharge during year, 1,450 cfs Mar. 6 (gage height, 13.43 ft, backwater from ice); minimum, 6.3 cfs Sept. 11 (gage height, 3.05 ft).
1948-63: Maximum discharge, 2,550 cfs June 10, 1958 (gage height, 16.54 ft); minimum, 4.9 cfs Oct. 24, 1956; minimum gage height, 2.73 ft Sept. 15, 1948.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair.

Rating tables, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 4		Mar. 5 to Sept. 30	
3.2	11	3.0	5.0
3.7	32	3.2	12
4.3	69	3.6	31
5.0	119	4.3	75
6.0	235	5.0	135
7.0	365	7.0	365
		10.0	800

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	33	37	17	10	23	287	352	29	14	17	8.7
2	15	28	34	17	10	26	287	263	29	13	18	9.0
3	15	28	31	17	11	45	228	195	28	11	19	10
4	16	28	34	17	11	600	175	155	26	10	18	9.4
5	19	30	34	18	11	1,300	135	145	25	10	18	10
6	18	30	30	18	11	1,400	125	135	22	11	15	8.4
7	29	34	28	19	11	1,300	116	116	61	11	18	9.0
8	248	31	29	20	12	1,100	107	94	43	11	15	9.0
9	191	29	24	21	13	950	102	82	61	10	15	9.8
10	80	28	21	23	15	800	90	72	116	9.4	14	8.4
11	47	28	19	21	14	625	82	75	*86	9.0	14	6.3
12	34	28	18	19	13	469	75	68	61	8.7	12	10
13	26	26	16	17	12	391	75	75	52	10	15	12
14	27	*26	15	16	12	339	75	68	43	24	14	8.0
15	22	25	16	14	12	263	72	58	31	27	11	19
16	28	31	17	13	12	228	72	*55	33	51	10	12
17	30	56	20	12	13	251	78	58	31	112	10	11
18	22	56	22	12	15	217	90	82	21	*52	11	*11
19	25	47	*27	12	20	263	94	72	20	47	17	9.8
20	69	44	31	12	80	352	78	64	22	274	*29	12
21	128	44	30	12	50	300	64	61	17	275	17	12
22	90	43	28	11	40	217	72	55	15	217	15	10
23	59	36	27	*11	28	185	90	38	16	145	15	9.0
24	*53	35	25	11	24	165	*94	39	19	86	11	10
25	44	36	23	11	22	155	78	36	15	61	14	11
26	38	32	21	10	22	*263	72	43	12	46	13	9.8
27	34	34	20	10	21	378	64	41	12	38	9.8	9.8
28	34	32	19	10	22	326	58	38	11	33	9.0	8.7
29	30	36	18	10	---	228	75	38	14	30	12	8.7
30	28	33	18	10	---	206	263	38	14	19	11	8.7
31	28	---	17	10	---	326	---	34	---	17	9.0	---
Total	1,540	1,027	749	451	547	13,691	3,373	2,745	985	1,692.1	445.8	300.5
Mean	49.7	34.2	24.2	14.5	19.5	442	112	88.5	32.8	54.6	14.4	10.0
Cfsm	0.256	0.176	0.125	0.075	0.101	2.28	0.577	0.456	0.169	0.281	0.074	0.052
In.	0.29	0.20	0.14	0.09	0.11	2.63	0.64	0.53	0.19	0.32	0.09	0.06

Calendar year 1962: Max 1,170 Min 12 Mean 145 Cfsm 0.747 In. 10.15
Water year 1962-63: Max 1,400 Min 6.3 Mean 75.5 Cfsm 0.389 In. 5.29

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 8 to Mar. 9. No gage-height record Jan. 21-31, Feb. 11 to Mar. 2.

5-5230. Bice ditch near South Marion, Ind.

Location.--Lat 40°52', long 87°06', on line between secs. 15 and 22, T. 28 N., R. 6 W., on left bank at upstream side of bridge on State Highway 16, 2 miles upstream from Big Slough Creek, 3 miles southeast of South Marion, and 5 miles southeast of Rensselaer.

Drainage area.--22.6 sq mi.

Records available.--December 1948 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 653.30 ft above mean sea level, datum of 1929. Prior to Aug. 5, 1955, wire-weight gage at same site and datum.

Average discharge.--14 years (1949-63), 17.3 cfs.

Extremes.--Maximum discharge during year, 535 cfs Mar. 4 (gage height, 9.83 ft); minimum daily, 0.1 cfs Dec. 14, Feb. 12-16. 1948-63: Maximum discharge, 780 cfs June 13, 1958 (gage height, 12.02 ft); no flow at times during September 1952 and August 1955.

Remarks.--Records poor.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	0.7	0.7	0.2	0.2	1.0	42	58	0.9	0.2	1.4	0.3
2	.3	.7	.7	.2	.2	1.4	28	38	.7	.2	1.2	.3
3	.4	.8	.7	.3	.3	12	17	24	.6	.2	1.0	.3
4	.4	.8	* .7	.3	.2	* 398	9.0	18	.6	.2	.9	.4
5	.5	.7	.7	.3	* .2	343	6.5	16	.8	.3	.7	.3
6	.4	.8	.7	.3	.2	169	5.3	11	.9	.3	.8	.3
7	1.3	.7	.7	.3	.2	58	4.2	8.6	.8	.3	.8	.3
8	4.0	* .6	.6	* .4	.2	35	3.8	7.1	8.0	.4	.6	.3
9	1.6	.6	.5	.4	.2	25	3.1	5.3	6.0	.3	.5	.3
10	* .5	.5	.4	.5	.2	20	* 2.7	5.0	5.0	* .3	.5	.3
11	.5	.5	.3	.4	.2	17	3.8	4.0	* 4.0	.3	.4	.3
12	.5	.5	.2	.4	.1	15	3.5	3.5	3.0	.3	.4	.3
13	.5	.5	.2	.3	.1	14	2.3	8.0	2.2	.9	.5	.3
14	.5	.6	.1	.2	.1	13	2.2	4.5	1.9	1.4	.5	.3
15	.5	.7	.2	.2	.1	12	2.2	* 3.8	1.6	.9	.4	.3
16	.6	1.4	.2	.2	.1	13	2.9	3.5	1.3	4.0	.4	.3
17	.5	2.0	.3	.2	.2	21	12	3.7	1.1	3.0	.4	.3
18	.5	1.6	.4	.2	5.6	15	26	3.9	.9	2.2	.4	.2
19	.6	1.1	.5	.2	13	32	19	3.1	.8	15	1.0	.2
20	3.0	1.0	.6	.2	7.0	24	12	2.6	.9	176	1.7	* .3
21	2.5	.9	* .7	.2	4.0	16	7.4	2.2	.7	74	* .9	.2
22	1.5	.9	.7	.2	2.0	10	18	2.0	.6	50	.5	.2
23	1.0	.8	.6	.2	1.6	9.7	32	1.8	.5	30	.4	.2
24	1.0	.7	.5	.2	1.4	7.4	20	1.6	.5	13	.3	.2
25	.9	.7	.4	.2	1.3	7.1	13	1.4	.4	6.5	.5	.2
26	.8	.7	.3	.2	1.2	28	9.0	1.3	.4	4.0	.4	.2
27	.8	.7	.2	.2	1.1	23	6.5	1.3	.3	2.9	.4	.2
28	.7	.7	.2	.2	1.0	14	5.0	1.7	.3	2.7	.3	.2
29	.7	.7	.2	.2	----------	9.7	19	1.5	.3	2.3	.3	.2
30	.7	.7	.2	.2	------	9.0	90	1.2	.3	1.7	.3	.2
31	.7	------	.2	.2	-----	23	-----	1.0	----	1.6	.3	------
Total	28.6	24.3	13.6	7.9	42.2	1,395.3	427.4	248.6	46.3	395.4	19.1	7.9
Mean	0.923	0.810	0.439	0.255	1.51	45.0	14.2	8.02	1.54	12.8	0.616	0.263
Cfsm	0.041	0.036	0.019	0.011	0.067	1.99	0.628	0.355	0.068	0.566	0.027	0.012
In.	0.05	0.04	0.02	0.01	0.07	2.29	0.70	0.41	0.08	0.65	0.03	0.01

Calendar year 1962: Max 324 Min 0.1 Mean 14.7 Cfsm 0.650 In. 8.79
Water year 1962-63: Max 398 Min 0.1 Mean 7.28 Cfsm 0.322 In. 4.36

Peak discharge (base, 340 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-4	1700	9.83	535				

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 9-11, Dec. 19 to Jan. 7, Jan. 10-14, 18-20, Feb. 2-4, 8, 12-16, Feb. 19 to Mar. 1, Mar. 7-14. Stage-discharge relation indefinite Oct. 1 to Dec. 8, May 16 to July 19, July 28 to Sept. 30.

5-5235. Big Slough Creek near Collegeville, Ind.

Location.--Lat 40°52', long 87°09', in SW¼ NW¼ sec. 7, T. 28 N., R. 6 W., on right bank on downstream side of bridge on State Highway 53, 1½ miles south of Collegeville, 2½ miles upstream from mouth, and 2 3/4 miles downstream from Bice ditch.

Drainage area.--84.1 sq mi.

Records available.--July 1948 to December 1951, October 1952 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 634.75 ft above mean sea level, datum of 1929. Prior to Aug. 5, 1955, wire-weight gage and Aug. 5, 1955, to Oct. 8, 1958, water-stage recorder, at same site at datum 3.00 ft higher.

Average discharge.--14 years, 65.1 cfs.

Extremes.--Maximum discharge during year, about, 1,500 cfs Mar. 5; maximum gage height, 16.46 ft Mar. 5 (backwater from ice); minimum daily, 2.0 cfs Dec. 14, 15, Feb. 12-17, Feb. 24 to Mar. 2.
1948-51, 1952-63: Maximum discharge, 2,030 cfs June 13, 1958; maximum gage height, that of Mar. 5, 1963; minimum discharge, 1.0 cfs Oct. 15, 23, 1953.

Remarks.--Records poor.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.2	6.3	7.5	2.5	2.5	2.0	131	166	11	7.0	10	4.5
2	4.2	6.3	7.5	2.5	3.0	2.0	81	95	10	7.5	9.0	4.8
3	4.2	6.6	7.5	3.0	3.5	3.0	61	61	10	6.7	8.4	5.8
4	4.7	7.2	7.5	3.0	3.5	450	46	46	9.0	6.7	7.8	5.3
5	6.0	7.2	7.5	3.0	3.0	1,100	37	46	9.0	6.4	7.2	4.8
6	4.7	6.9	7.5	3.5	2.5	800	33	38	9.0	7.0	7.8	4.5
7	7.8	7.2	7.0	4.5	2.5	600	30	32	10	7.2	7.5	4.5
8	25	6.9	7.0	6.0	2.5	500	28	29	11	6.7	6.7	4.5
9	11	6.6	6.0	7.0	2.5	400	26	29	14	6.4	6.4	4.5
10	7.5	6.6	5.0	8.0	2.5	300	24	22	18	6.1	6.1	4.3
11	6.6	6.3	4.0	6.0	2.5	250	22	20	* 22	5.8	5.8	4.1
12	6.3	6.0	3.0	4.5	2.0	200	22	19	16	5.5	6.1	4.5
13	6.0	6.0	2.0	3.5	2.0	150	22	24	14	8.1	7.0	4.5
14	5.8	6.0	2.0	3.0	2.0	120	22	23	13	13	6.1	4.1
15	6.0	* 6.0	2.0	2.5	2.0	105	20	20	12	9.4	5.5	4.1
16	6.6	6.0	2.5	2.5	2.0	86	20	20	11	28	5.3	3.9
17	6.3	14	3.5	2.5	2.0	100	48	* 20	11	* 32	5.3	3.9
18	6.0	16	4.5	3.0	3.0	77	69	21	10	18	4.8	3.7
19	6.3	12	* 5.5	4.0	6.0	115	61	18	10	25	6.4	* 3.5
20	13	10	6.0	3.0	4.0	105	54	17	11	497	6.1	3.7
21	15	10	7.0	2.5	3.0	69	39	16	10	353	* 5.8	3.7
22	12	9.0	7.0	2.5	2.5	54	40	15	9.7	166	5.5	3.5
23	* 9.3	8.0	6.0	2.5	2.5	50	69	15	9.0	* 73	5.3	3.7
24	8.1	8.0	5.0	2.5	2.0	43	* 54	14	8.4	38	5.0	3.3
25	8.1	8.0	4.5	2.5	2.0	40	41	13	8.1	24	8.5	3.3
26	8.4	8.0	4.0	2.5	2.0	* 81	35	13	8.1	19	6.4	3.3
27	6.9	8.0	3.5	2.5	2.0	81	30	13	7.8	15	5.3	3.1
28	7.5	8.0	3.0	2.5	2.0	57	25	15	7.8	13	5.5	3.3
29	6.6	8.0	2.5	2.5	---	46	38	14	7.8	12	5.3	3.3
30	6.3	8.0	2.5	2.5	---	42	245	12	7.5	11	5.0	3.3
31	6.6	---	2.5	2.5	---	63	---	11	---	11	4.8	---
Total	243.0	239.1	152.5	105.0	73.5	6,091.0	1,473	917	325.2	1,444.5	197.7	121.3
Mean	7.84	7.97	4.92	3.39	2.62	196	49.1	29.6	10.8	46.6	6.38	4.04
Cfsm	0.093	0.095	0.059	0.040	0.031	2.33	0.584	0.352	0.128	0.554	0.076	0.048
In.	0.11	0.11	0.07	0.05	0.03	2.69	0.65	0.41	0.14	0.64	0.09	0.05

Calendar year 1962: Max 1,400 Min 2.0 Mean 72.4 Cfsm 0.861 In. 11.69
Water year 1962-63: Max 1,100 Min 2.0 Mean 31.2 Cfsm 0.371 In. 5.04

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Jan. 24 to Mar. 6. No gage-height record Nov. 13, 14, Nov. 16 to Jan. 23, May 27 to June 11.

5-5240. Carpenter Creek at Egypt, Ind.

Location.--Lat 40°52', long 87°12', on line between SW¼ sec. 15 and NW¼ sec. 22, T. 28 N., R. 7 W., on left bank on downstream side of bridge on State Highway 16, 0.5 mile north of Egypt, 2 3/4 miles upstream from mouth and 4 miles southwest of Collegeville.

Drainage area.--48.1 sq mi.

Records available.--July 1948 to December 1951, October 1952 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 641.79 ft above mean sea level, datum of 1929. Prior to Sept. 6, 1955, wire-weight gage at same site and datum.

Average discharge.--14 years, 36.7 cfs.

Extremes.--Maximum discharge during year, about 900 cfs Mar. 4; maximum gage height, 10.00 ft Mar. 4 (ice jam); no flow Sept. 14-30. 1948-51, 1952-63: Maximum discharge, 3,720 cfs June 10, 1958 (gage height, 11.66 ft); no flow at times during 1953, 1955-56, 1959, 1963.

Remarks.--Records fair except those for periods of ice effect, which are poor.

Rating table, water year 1962-63, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.4	0	3.0	25
1.5	.1	3.5	40
1.6	.3	4.0	57
1.7	.8	5.0	104
1.8	1.4	7.0	238
2.0	3.2	8.0	340
2.2	6.2	9.0	616
2.5	12		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	0.7	0.9	0.3	0.3	1.3	53	114	1.6	0.4	3.0	0.4
2	.4	.7	.9	.3	.4	1.7	42	69	1.6	.3	2.6	.3
3	.4	.8	.9	.3	.5	20	30	46	1.6	.2	2.2	.4
4	.5	.9	.9	.4	.5	540	20	36	1.3	.2	1.7	.4
5	.9	.9	1.0	.4	.4	620	14	30	1.9	.2	1.5	.4
6	.7	1.0	1.0	.5	.3	250	12	24	2.0	.6	1.5	.4
7	6.5	.9	1.0	.6	.3	100	11	20	1.7	.5	1.7	.2
8	8.4	.9	.9	.7	.3	70	9.0	17	50	.9	1.4	.2
9	2.0	.9	.7	.9	.3	50	7.8	14	37	.4	1.3	.2
10	1.0	.9	.5	.8	.3	45	6.0	13	18	* .2	2.3	.2
11	.7	.8	.4	.6	.3	36	5.2	10	* 16	.2	1.4	.2
12	.6	.8	.3	.4	.2	30	4.8	8.8	8.6	.1	1.2	.1
13	.6	.7	.2	.2	.2	26	4.7	12	5.9	.2	1.1	.1
14	.6	* .7	.2	.1	.2	24	4.1	10	4.8	3.1	1.1	0
15	.6	.7	.2	.1	.2	23	3.6	7.8	3.3	1.7	.9	0
16	.6	1.1	.3	.1	.5	20	3.6	7.6	2.6	9.9	.9	0
17	.6	2.3	.4	.1	.8	30	8.4	* 8.0	2.3	6.6	.7	0
18	.8	1.6	.5	.1	8.0	22	25	8.6	2.0	4.0	.6	0
19	.7	1.3	.6	.1	20	38	20	6.0	1.6	11	1.2	0
20	6.2	1.2	* .7	.1	10	40	15	5.2	2.0	476	* 2.7	* 0
21	5.4	1.2	.9	.1	6.0	24	11	4.4	1.6	226	1.3	0
22	2.1	1.0	.8	.1	3.0	16	20	4.0	1.2	104	1.0	0
23	* 1.4	.9	.7	.1	2.0	14	* 46	3.5	.9	57	.7	0
24	1.1	.9	.6	.1	1.8	12	34	3.0	.7	34	.6	0
25	1.0	.9	.5	.1	1.6	10	25	2.9	.6	20	.9	0
26	.9	.9	.4	.1	1.5	* 26	18	2.8	.5	13	.9	0
27	.8	.9	.3	.1	1.4	30	15	2.8	.5	8.8	.6	0
28	.8	.9	.3	.1	1.3	21	12	3.7	.5	6.0	.6	0
29	.7	.9	.3	.1	---	15	28	3.6	.4	4.8	.6	0
30	.7	.9	.3	.1	---	13	170	2.6	.4	3.3	.8	0
31	.7	---	.3	.2	---	18	---	2.0	---	3.1	.5	---
Total	48.6	29.2	17.9	8.3	62.6	2186.0	678.2	502.3	173.1	996.7	39.5	3.5
Mean	1.57	0.973	0.577	0.27	2.24	70.5	22.6	16.2	5.77	32.2	1.27	0.117
Cfsm	0.033	0.020	0.012	0.006	0.047	1.47	0.470	0.337	0.120	0.669	0.026	0.002
In.	0.04	0.02	0.01	0.007	0.05	1.70	0.52	0.39	0.13	0.77	0.03	0.002

Calendar year 1962 : Max 745 Min 0.2 Mean 39.2 Cfsm 0.815 In. 11.04
Water year 1962-63 : Max 620 Min 0 Mean 13.0 Cfsm 0.270 In. 3.67

Peak discharge (base, 600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-4	Unknown	10.00	About 900				
7-20	1200	8.97	616				

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 6, 7, 9-12, 17-27, 29-31, Jan. 7 to Feb. 3, Feb. 5-10, 18-27, Mar. 3-15.

5-5245. Iroquois River near Foresman, Ind.

Location.--Lat 40°52', long 87°18', on line between secs. 14 and 15, T. 28 N., R. 8 W., on right bank at downstream side of bridge on State Highway 55, a quarter of a mile north of intersection of Highways 16 and 55, 0.6 mile west of Foresman, and 3 miles east of Brook.

Drainage area.--452 sq mi.

Records available.--December 1948 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 624.00 ft above mean sea level, datum of 1929. Prior to Sept. 7, 1955, wire-weight gage 2.5 miles upstream at datum 3.54 ft higher.

Average discharge.--14 years (1949-63), 345 cfs.

Extremes.--Maximum discharge during year, about 3,100 cfs Mar. 6; maximum gage height, 20.12 ft Mar. 6 (backwater from ice); minimum, 14 cfs Sept. 15, 20; minimum gage height, 3.46 ft Sept. 7.
1948-63: Maximum discharge, 5,930 cfs June 14, 1958 (gage height, 24.42 ft); minimum discharge, 7.6 cfs Oct. 12, 1956; minimum gage height, 2.92 ft Sept. 27-29, 1956.

Remarks.--Records poor.

Rating tables, water year 1962-63, except periods of ice effect and indefinite stage-discharge relation, (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Sept. 5-30)

Oct. 1 to Mar. 6		Mar. 7 to Sept. 30	
4.0	26	3.3	14
4.6	47	4.0	35
5.5	94	5.0	84
7.0	215	7.0	235
9.0	440	9.0	455
		11.0	780

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	56	58	30	19	a 34	525	e 810	60	26	50	19
2	28	56	58	30	20	a 36	616	e 800	62	26	43	17
3	30	56	* 58	31	20	a 40	570	e 620	60	25	41	19
4	30	56	56	31	20	a 1,000	442	e 420	52	24	41	19
5	35	58	58	31	* 20	2,400	324	e 340	50	20	37	18
6	35	58	56	32	20	3,000	253	302	50	22	37	17
7	41	* 58	47	* 34	21	e 2,800	219	253	57	25	37	15
8	287	61	41	36	23	e 2,500	195	211	90	24	35	16
9	344	58	38	38	24	e 2,200	* 179	179	131	24	33	16
10	* 215	56	36	40	26	e 1,900	155	155	* 147	20	32	15
11	113	56	33	43	24	e 1,500	139	139	155	19	30	16
12	71	54	31	39	22	e 1,300	123	131	116	* 19	28	16
13	54	51	28	35	21	e 1,100	123	131	90	20	28	18
14	47	49	27	30	21	e 900	116	131	78	37	32	18
15	45	49	28	27	20	e 700	109	116	64	52	28	15
16	54	54	29	24	21	e 650	109	109	54	79	25	22
17	66	82	31	22	22	e 580	123	* 109	54	195	28	16
18	58	106	35	22	24	570	195	123	47	147	25	17
19	49	106	40	23	42	555	235	131	41	87	26	16
20	104	94	44	23	a 130	684	203	116	43	e 450	39	* 15
21	287	88	48	22	a 88	666	171	102	41	e 700	* 39	17
22	265	88	45	21	a 45	555	155	96	35	e 1,200	32	17
23	186	76	42	20	40	429	235	90	32	*e 700	28	16
24	127	68	39	19	36	357	262	72	32	e 480	26	16
25	100	64	37	19	34	302	219	70	33	e 250	28	16
26	82	64	34	19	33	357	187	70	30	e 170	32	17
27	74	61	32	19	33	525	155	72	26	123	26	17
28	68	61	31	19	33	570	131	72	25	84	22	17
29	64	61	31	19	----------	497	143	72	25	72	22	17
30	58	58	31	19	----------	392	e 470	70	26	62	22	18
31	56	----------	31	19	----------	357	----------	64	----------	52	20	----------
Total	3,099	1,963	1,233	836	902	29,456	7,081	6,176	1,806	5,234	972	508
Mean	100	65.4	39.8	27.0	32.2	950	236	199	60.2	169	31.4	16.9
Cfsm	0.221	0.145	0.088	0.060	0.071	2.10	0.522	0.440	0.133	0.374	0.069	0.037
In.	0.25	0.16	0.10	0.07	0.07	2.42	0.58	0.51	0.15	0.43	0.08	0.04

Calendar year 1962: Max 2,670 Min 23 Mean 368 Cfsm 0.814 In. 11.04
Water year 1962-63: Max 3,000 Min 15 Mean 162 Cfsm 0.358 In. 4.86

* Discharge measurement made on this day.
a No gage-height record.
e Stage-discharge relation indefinite.
Note.--Stage-discharge relation affected by ice Dec. 8 to Mar. 6.

5-5250. Iroquois River at Iroquois, Ill.

Location.--Lat 40°49'25", long 87°34'55", in SE¼ sec. 15, T. 27 N., R. 11 W., on left bank at upstream side of bridge on U. S. Highway 52 at Iroquois, 500 ft upstream from Cleveland, Cincinnati, Chicago & St. Louis Railway bridge and 4½ miles downstream from Indiana-Illinois State line.

Drainage area.--682 sq mi.

Records available.--October 1944 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 614.34 ft above mean sea level, datum of 1929. Prior to Aug. 5, 1945, chain gage at same site and datum.

Average discharge.--19 years, 514 cfs.

Extremes.--Maximum discharge during year, 5,150 cfs Mar. 7 (gage height, 21.49 ft); minimum, 12 cfs July 13.
1944-63: Maximum discharge, 10,400 cfs June 13, 1958 (gage height, 26.31 ft); minimum, 8.2 cfs Oct. 10, 1956.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	72	75	40	20	22	491	762	84	20	102	24
2	24	69	73	40	21	22	611	888	78	21	92	22
3	* 24	69	72	40	19	40	659	888	76	20	77	21
4	28	68	73	40	19	500	611	780	75	19	66	18
5	33	69	72	40	20	4,000	505	627	71	17	57	20
6	34	69	70	41	21	4,800	396	491	66	18	54	20
7	38	* 72	69	45	* 22	5,090	320	409	63	18	52	19
8	60	72	66	48	21	4,750	278	344	83	18	50	20
9	239	72	62	50	21	4,150	244	308	125	18	48	19
10	320	74	58	55	21	3,620	217	266	166	17	52	18
11	266	72	52	50	20	3,040	191	234	* 186	15	46	18
12	173	71	50	45	19	2,550	171	206	186	13	42	18
13	121	68	45	40	19	2,040	156	* 196	147	13	39	17
14	91	65	39	* 35	19	1,650	147	191	113	22	36	16
15	74	63	34	33	19	1,300	* 138	186	96	28	34	19
16	72	69	30	31	19	1,050	134	176	80	54	35	20
17	74	74	* 32	27	21	870	142	161	65	94	32	20
18	84	91	38	22	25	744	176	161	59	191	30	23
19	88	117	45	21	40	710	244	166	54	218	36	22
20	104	125	54	20	110	762	266	171	50	1,010	40	20
21	192	121	50	20	60	762	239	156	46	1,400	43	18
22	290	113	42	20	40	727	212	138	44	* 2,710	50	16
23	284	110	39	20	35	627	239	129	38	2,470	44	17
24	222	102	35	20	30	520	308	121	30	1,740	36	18
25	166	91	33	20	27	449	320	106	28	a 1,100	46	18
26	129	84	31	20	24	409	284	96	29	a 800	* 46	16
27	110	80	30	20	22	477	239	92	28	a 400	40	17
28	96	78	30	19	22	* 580	206	99	25	a 280	38	* 16
29	87	77	32	19	---	595	191	102	24	a 180	32	16
30	81	76	35	19	---	550	384	96	21	134	27	16
31	75	---	38	19	---	477	---	90	---	113	24	---
Total	3,703	2,453	1,504	979	776	47,883	8,719	8,836	2,236	13,171	1,446	562
Mean	119	81.8	48.5	31.6	27.7	1,545	291	285	74.5	425	46.6	18.7
Cfsm	0.174	0.120	0.071	0.046	0.041	2.27	0.427	0.418	0.109	0.623	0.068	0.027
In.	0.20	0.13	0.08	0.05	0.04	2.61	0.48	0.48	0.12	0.72	0.08	0.03

Calendar year 1962 : Max 3,950 Min 24 Mean 508 Cfsm 0.745 In. 10.11
Water year 1962-63 : Max 5,090 Min 13 Mean 253 Cfsm 0.371 In. 5.02

* Discharge measurement made on this day.
a No gage-height record.
Note.--Stage-discharge relation affected by ice Dec. 9 to Mar. 6; no gage-height record Jan. 21-26, 28, Jan. 30 to Feb. 1, Feb. 3-6, 8, 9, 22, 23, Feb. 25 to Mar. 5.

5-5255. Sugar Creek at Milford, Ill.

Location.--Lat 40°37'50", long 87°43'25", in N½ sec. 16, T. 25 N., R. 12 W., near right bank on downstream side of highway bridge, 200 ft downstream from Mud Creek and 1 mile west of Milford.

Drainage area.--430 sq mi.

Records available.--July 1948 to September 1963.

Gage.--Wire-weight gage read twice daily, and crest-stage gage. Datum of gage is 622.00 ft above mean sea level, datum of 1929.

Average discharge.--15 years, 335 cfs.

Extremes.--Maximum discharge during year, about 6,900 cfs Mar. 5; maximum gage height, 19.60 ft Mar. 5 (ice jam); minimum discharge, 3.5 cfs Sept. 30.
1948-63: Maximum discharge, 22,900 cfs Feb. 21, 1951 (gage height, 20.90 ft), from rating curve extended above 8,200 cfs; maximum gage height, 23.74 ft Feb. 10, 1959 (ice jam); minimum discharge observed, 2.8 cfs Dec. 14, 1952, result of freezeup.

Remarks.-- Records fair except those for periods of ice effect or no gage-height record, which are poor.

Rating table, water year 1962-63, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Apr. 15 to May 14, July 20 to Aug. 15)

1.4	3.0	7.0	513
1.7	8.9	10.0	1,050
2.0	18	13.0	1,860
2.5	38	16.0	3,140
3.0	65	17.0	4,040
4.0	141	19.0	6,700
5.0	245		

Discharge, in cubic feet per second, water year October 1962 to September 1963

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	16	15	11	8	9	543	1,770	46	16	31	a 7.4
2	14	16	15	11	8	10	590	1,330	43	14	27	a 7.2
3	* 15	22	15	12	7	50	440	1,010	40	14	27	7.1
4	15	22	15	13	7	1,800	332	872	38	13	25	7.5
5	14	20	15	13	* 9	6,200	245	950	38	13	25	7.1
6	14	18	14	13	10	4,840	200	1,200	50	14	23	7.1
7	14	* 18	14	13	11	2,640	150	760	50	19	22	6.8
8	14	18	13	14	10	1,800	141	426	82	18	19	6.6
9	14	17	12	16	9	1,110	115	371	78	15	19	6.2
10	14	17	10	15	9	742	88	306	71	13	18	6.0
11	14	16	9	14	9	574	82	245	* 56	12	16	5.8
12	14	16	8	13	8	543	78	211	46	11	15	5.6
13	13	16	8	12	8	528	74	* 189	40	12	14	5.5
14	13	16	9	* 11	8	513	68	169	38	13	14	5.3
15	12	15	11	10	7	398	* 62	150	33	14	13	5.3
16	14	19	12	9	7	293	59	141	31	17	12	5.1
17	16	25	* 13	9	9	332	59	123	27	23	11	4.9
18	18	25	15	9	15	498	107	107	25	18	10	4.7
19	16	23	16	9	32	689	169	107	23	22	11	4.5
20	33	21	18	9	50	760	159	99	25	467	18	4.5
21	53	20	16	8	25	528	123	88	24	384	17	4.5
22	48	19	14	8	13	358	169	82	23	281	13	4.5
23	46	17	12	8	12	245	1,160	74	21	233	9.2	4.4
24	40	16	10	8	11	179	1,010	65	19	* 189	7.1	4.4
25	36	16	10	8	10	222	689	59	17	123	a 9.0	4.4
26	33	16	9	8	9	454	498	62	16	78	* 8.0	4.2
27	29	16	8	8	8	483	319	59	16	62	a 7.0	4.2
28	25	15	8	7	8	* 384	222	65	16	50	a 10	* 4.0
29	21	15	9	7	---	371	179	99	17	43	a 9.0	3.8
30	19	16	10	7	---	440	1,500	99	17	38	a 8.0	3.5
31	17	---	10	7	---	468	---	48	---	36	a 7.6	---
Total	672	542	373	320	337	23,461	9,630	11,336	1,066	2,275	474.9	162.1
Mean	21.7	18.1	12.0	10.3	12.0	918	321	366	35.5	73.4	15.3	5.40
Cfsm	0.050	0.042	0.028	0.024	0.028	2.13	0.747	0.851	0.083	0.171	0.036	0.013
In.	0.06	0.05	0.03	0.03	0.03	2.46	0.83	0.98	0.09	0.20	0.04	0.01

Calendar year 1962 : Max 5,760 Min 8 Mean 407 Cfsm 0.947 In. 12.85
Water year 1962-63 : Max 6,200 Min 3.5 Mean 152 Cfsm 0.353 In. 4.81

Peak discharge (base, 2,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-5	unknown	-	about 6,900				

* Discharge measurement made on this day.
a No gage-height record.
Note.--Stage-discharge relation affected by ice Dec. 8 to Mar. 5.

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.

Records collected at partial-record stations and miscellaneous sites are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations. Discharge measurements made at miscellaneous sites for both low flow and high flow are given in the second table.

Low-flow partial-record stations

Measurements of streamflow in the area covered by this report made at low-flow partial-record stations are given in the following table. Most of these measurements were made during periods of base flow when streamflow is primarily from ground-water storage. These measurements, when correlated with the simultaneous discharge of a nearby stream where continuous records are available, will give a picture of the low-flow potentiality of stream. The column headed "Period of record" shows the water years in which measurements were made at the same, or practically the same, site.

Discharge measurements made at low-flow partial-record stations during water year 1963

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
		Miami River Basin				
3-2748.00	Martindale Creek near Cambridge City, Ind.	Lat 39°49', long 85°09', on line between secs. 13 and 24, T. 16 N., R. 12 E., 1¼ miles upstream from U.S. Highway 40, and 1 3/4 miles northeast of Cambridge City.	a 57	1960-63	6-24-63 9-12-63	6.67 1.85
3-2752.00	Salt Creek near Metamora, Ind.	Lat 39°26'45", long 85°11'01", in SW¼ sec. 34, T. 12 N., R. 12 E., three-tenths of a mile south of U.S. Highway 52 and 2 3/4 miles west of Metamora.	a 118	1954 1960-63	6-24-63 9-10-63	4.89 1.40
3-2757.00	Silver Creek near Liberty, Ind.	Lat 39°39'36", long 84°55'39", on line between sec. 31, T. 12 N., R. 1 W., and sec. 36, T. 12 N., R. 2 W., at bridge on U.S. Highway 27, 1½ miles north of liberty.	a 9	1960-63	6-24-63 9-12-63	0.12 0.04
		Laughery Creek Basin				
3-2767.50	Laughery Creek near Ballstown, Ind.	Lat 39°14'42", long 85°14'52", in SW¼NE¼ sec. 12, T. 9 N., R. 11 E., at bridge on State Highway 229, six-tenths of a mile south of Ballstown.	a 37	1961-63	6-24-63 9-10-63	0.42 0.00
		Big Indian Kentuck Creek Basin				
3-2918.00	Indian Kentuck Creek at Manville, Ind.	Lat 38°47'10", long 85°16'58", in SE¼ sec. 15, T. 4 N., R. 11 E., at Manville, below mouth of West Fork Indian Kentuck Creek.	a 121	1954 1961-63	9-11-63	0.00
		Fourteenmile Creek Basin				
3-2924.00	Fourteenmile Creek near Charlestown, Ind.	Lat 38°27'58", long 85°37'04", in SE¼SE¼ of lot 120 of Clark Military Grant, at bridge on State Highway 62, 2 miles northeast of Charlestown.	a 97	1954 1962-63	9-10-63	0.34
		Indian Creek Basin				
3-3026.00	Little Indian Creek near Corydon, Ind.	Lat 38°11'59", long 86°05'44", in NE¼ sec. 5, T. 4 S., R. 4 E., at bridge on county highway, two-tenths of a mile south of State Highway 62, 1 3/4 miles east of Corydon, and 2.4 miles upstream from mouth.	32.5	1960-63	9-10-63	0.35
		Blue River Basin				
3-3027.00	Middle Fork Blue River near Salem, Ind.	Lat 38°32'36", long 86°05'37", in NE¼ sec. 8, T. 1 N., R. 4 E., 1.7 miles upstream from confluence with West Fork Blue River, at bridge on State Highway 135, 4½ miles south of Salem.	38.4	1954 1961 1963	9-10-63	0.04
3-3029.00	Spring Creek near White Cloud, Ind.	Lat 38°14'20", long 86°13'45", in SE¼ sec. 19, T. 3 S., R. 3 E., at county highway bridge, north of White Cloud and at mouth of Harrison Spring.		1951-52 1954-63	10-15-62 11-14-62 12-10-62 1-14-63 2-12-63 3-12-63 4-15-63 5-20-63 6-20-63 7-15-63 8-19-63 9-23-63	48.5 82.4 26.6 138 101 362 110 137 55.4 126 35.2 16.2

Discharge measurements made at low-flow partial-record stations during water year 1963--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
		Little Pigeon Creek Basin				
3-3040.00	Little Pigeon Creek near Tennyson, Ind.	Lat 38°02'45", long 87°07'05", in NE¼ sec. 31, T. 5 S., R. 6 W., at county highway bridge, 1½ miles downstream from East Fork, and 2½ miles south of Tennyson.		✗ 1944-47 1961-63	9-10-63	4.76
		Pigeon Creek Basin				
3-3220.50	Pigeon Creek near Buckskin, Ind.	Lat 38°11'44", long 87°25'42", at corner of secs. 4, 5, 8, and 9, T. 4 S., R. 9 W., at bridge on State Highway 68 at Rosebud, 3 miles south of Buckskin, and 8.3 miles west of Lynnville.	a 184	1961-63	9-10-63	0.70
		Wabash River Basin				
3-3228.00	Bear Creek near Bryant, Ind.	Lat 40°31', long 84°58', on line between secs. 19 and 20, T. 24 N., R. 14 E., at bridge on U.S. Highway 27, 5 miles north of Portland, 1¼ miles south of Bryant.	a 14	1957 1961-63	9-11-63	0.00
3-3232.00	Rock Creek near Markle, Ind.	Lat 40°47'47", long 85°21'28", in NE¼ sec. 14, T. 27 N., R. 10 E., at bridge on State Highway 3, 2¼ miles southwest of Markle.	a 92	1954 1960-63	6-26-63 7- 9-63 9-11-63	3.75 1.76 0.44
3-3238.00	Eight Mile Creek at Zanesville, Ind.	Lat 40°55', long 85°17', in sec. 4, T. 28 N., R. 11 E., at bridge on State Highway 3, 0.7 mile southwest of Zanesville.	a 46	1954 1961-63	6-26-63 7- 9-63 9-11-63	1.69 0.60 0.61
3-3261.00	Lick Creek near Wheeling, Ind.	Lat 40°23', long 85°27', in NE¼ sec. 12, T. 22 N., R. 9 E., at county highway bridge, 3/8 mile upstream from mouth and 1¼ miles northeast of Wheeling.	a 83	1954 1961-63	9-11-63	3.99
3-3275.20	Pipe Creek near Bunker Hill, Ind.	Lat 40°40'06", long 86°05'44", in SE¼ sec. 29, T. 26 N., R. 4 E., at bridge on county highway, ½ mile northeast of Bunker Hill.	a 168	1953-54 1960-63	6-25-63 9-10-63	21.1 6.57
3-3277.70	Blue River near Columbia City, Ind.	Lat 41°10'52", long 85°27'24", in SW¼ sec. 35, T. 32 N., R. 9 E., at county highway bridge, 0.6 mile east of State Highway 9, 2¼ miles northeast of Columbia City and 2.5 miles downstream from Thorn Creek.	a 60	1961-63	6-25-63 9-12-63	4.68 4.57
3-3293.00	Rock Creek at Rockfield, Ind.	Lat 40°39'10", long 86°33'30", in SE¼ sec. 32, T. 26 N., R. 1 W., at bridge on State Highway 25, 1¼ miles northeast of Rockfield.	a 81	1954 1960-63	10-11-62 6-25-63 9-10-63	9.86 5.39 1.27
3-3296.00	Bachelor Run near Flora, Ind.	Lat 40°32'50", long 86°29'30", on line between secs. 2 and 11, T. 24 N., R. 1 W., at bridge on State Highway 18, 1¼ miles east of Flora.	a 13	1960-63	10-11-62 6-25-63 9-10-63	1.26 1.23 0.58
3-3311.80	Trimble Creek at Palestine, Ind.	Lat 40°11', long 85°57', in NE¼SW¼ sec. 33, T. 32 N., R. 5 E., at Palestine Lake outlet at Palestine.		1954-63	6-26-63 9-10-63	0.52 1.65
3-3314.30	Mud Creek near Bruce Lake, Ind.	Lat 41°03'10", long 86°19'39", on line between secs. 8 and 17, T. 30 N., R. 2 E., at bridge on State Highway 14, 4½ miles east of Bruce Lake, and 5½ miles west of Rochester.	a 69	1960-63	10-10-62 6-26-63 9- 9-63	5.81 6.72 5.06
3-3334.00	Mud Creek near Windfall, Ind.	Lat 40°24'23", long 85°54'18", in NW¼NE¼ sec. 34, T. 23 N., R. 5 E., at bridge on east-west county road along Tipton-Howard county line ½ mile east of State Road 213, ½ mile downstream from Turkey Creek, and 3 miles north of Windfall.	a 75	1960-63	6-25-63 9-10-63	3.39 1.26
3-3343.00	Kilmore Creek at Kilmore, Ind.	Lat 40°21', long 86°30', in SW¼ sec. 14, T. 22 N., R. 1 W., at county highway bridge, 0.7 mile upstream from State Highway 75, at south edge of Kilmore.	a 62	1954 1960-63	6-25-63 9-10-63	3.95 0.92
3-3356.70	Wea Creek near Lafayette, Ind.	Lat 40°21'46", long 86°54'17", in SE¼ sec. 7, T. 22 N., R. 4 W., at bridge on State Highway 43, 2 3/4 miles south of Lafayette.	a 103	1960-63	6-25-63 9-10-63	15.2 9.34
3-3391.00	Coal Creek near Veedersburg, Ind.	Lat 40°08'33", long 87°15'00", on line between secs. 30 and 31, T. 20 N., R. 7 W., at bridge on county road, 2.2 miles northeast of Veedersburg.	a 76	1962-63	10-12-62 6-26-63 9-10-63	16.5 9.55 5.47
3-3392.00	Sugar Creek near Kirklin, Ind.	Lat 40°12', long 86°22', in SE¼NW¼ sec. 1, T. 20 N., R. 1 E., at bridge on U.S. Highway 421, 1 mile north of Kirklin.	a 41	1960-63	6-25-63 9-10-63	2.12 0.67
3-3414.50	Otter Creek at Burnett, Ind.	Lat 39°32'17", long 87°17'44", on line between secs. 27 and 28, T. 13 N., R. 8 W., at county highway bridge, 0.3 mile south of Burnett.	a 69	1961-63	9-13-63	4.66

Discharge measurements made at low-flow partial-record stations during water year 1963--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
		Wabash River Basin--Continued				
3-3416.00	Honey Creek near Prairieton, Ind.	Lat 39°23'51", long 87°27'07", at center of sec. 18, T. 11 N., R. 9 W., at bridge on State Highway 63, 2.4 miles northeast of Prairieton.	a 86	1960-63	9-12-63	3.78
3-3418.00	Prairie Creek at Prairie Creek, Ind.	Lat 39°16'50", long 87°29'54", on line between secs. 26 and 27, T. 10 N., R. 10 W., at bridge on State Highway 63, ½ mile north of Prairie Creek.	a 24	1960 1962-63	9-12-63	0.00
3-3419.50	Turman Creek near Fairbanks, Ind.	Lat 39°09'18", long 87°31'22", in NW¼NE¼ sec. 9, T. 8 N., R. 10 W., at bridge on State Highway 63, 4.6 miles south of Fairbanks.	a 69	1954 1961-63	9-11-63	0.01
3-3427.00	Maria Creek near Emison, Ind.	Lat 38°46'25", long 87°28'21", in N½ sec. 24, T. 4 N., R. 10 W., at bridge on U.S. Highway 41, 2 miles south of Emison.	a 88	1954 1960-63	6-24-63 9-10-63	5.22 1.20
3-3467.00	White River near Harrisville, Ind.	Lat 40°11', long 84°53', in sec. 19, T. 20 N., R. 15 E., at bridge on State Highway 32, 1 mile west of Harrisville.	a 19	1961-63	9-11-63	0.34
3-3481.00	Killbuck Creek near Anderson, Ind.	Lat 40°08'20", long 85°39'41", in SW¼ sec. 31, T. 20 N., R. 8 E., at county highway bridge 300 ft upstream from bridge on State Highway 109 and State Highway 9 by-pass, 1½ miles upstream from mouth and 2¼ miles northeast of center of Anderson.	a 96	1944 1954 1960-63	6-26-63 9-11-63	19.0 11.2
3-3483.00	Pipe Creek near Alexandria, Ind.	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, 1½ miles east of State Highway 9, and 2 miles northeast of Alexandria.	a 38	1960-63	6-26-63 9-11-63	4.84 2.79
3-3507.00	Stoney Creek near Noblesville, Ind.	Lat 40°01'44", long 85°59'42", in NE¼NE¼ sec. 7, T. 18 N., R. 5 E., at bridge on State Highway 37, 1.4 miles southeast of Post Office in Noblesville, and 1.4 miles upstream from mouth.	a 51	1946 1960-63	6-28-63 9-11-63	7.82 3.64
3-3513.00	Crooked Creek at Augusta, Ind.	Lat 39°53'43", long 86°12'53", in NE¼NW¼ sec. 29, T. 17 N., R. 3 E., at bridge on U.S. Highway 421, 0.4 mile north of Augusta.	7.22	1960-63	6-26-63 9-10-63	0.06 0.04
3-3519.00	Indian Creek at Oaklandon, Ind.	Lat 39°51'51", long 85°58'07", in SW¼NW¼ sec. 3, T. 16 N., R. 5 E., at bridge on old State Highway 67, 0.2 mile northeast of State Highway 67 and Sunnyside Road intersection, and 1 mile southwest of Oaklandon.	a 18	1960-63	6-28-63 9-11-63	0.74 0.02
3-3536.30	Little Buck Creek at Southport, Ind.	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, 200 ft east of Sherman Drive - Southport Road intersection, and ½ mile east of Southport.	a 9	1960-63	10-2-62 6-26-63 9-11-63	0.40 0.04 0.04
3-3536.50	Pleasant Run at Greenwood, Ind.	Lat 39°37'53", long 86°06'58", in NW¼ sec. 29, T. 14 N., R. 4 E., at bridge on State Highway 431, 0.2 mile south of Marion-Johnson county line, and 0.5 mile north of Greenwood.	a 5	1960-63	10-2-62 6-25-63 9-11-63	0.34 0.20 0.03
3-3536.70	White Lick Creek near Brownsburg, Ind.	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 highway, 350 ft west of State Highway 267, and 1½ miles north of Brownsburg.	a 30	1960-63	6-26-63 9- 6-63	0.45 0.02
3-3541.00	Sycamore Creek near Centerton, Ind.	Lat 39°30'49", long 86°25'55", on line between sec. 33, T. 13 N., R. 1 E., and sec. 4, T. 12 N., R. 1 E., at county highway bridge, 2 miles west of Centerton.	17.2	1960-63	10-2-62 6-25-63 9-11-63	4.36 0.91 0.50
3-3542.00	Indian Creek near Morgantown, Ind.	Lat 39°22'08", long 86°13'50", in NW¼ sec. 29, T. 11 N., R. 3 E., at bridge on county highway, 100 ft upstream from Barnes Creek, 1.6 miles east of Morgantown.	a 20	1961-63	10-2-62 6-24-63 6-25-63 9-11-63	0.36 3.25 2.73 0.00
3-3571.00	Rattlesnake Creek near Spencer, Ind.	Lat 39°15'36", long 86°48'20", in S½ sec. 36, T. 10 N., R. 4 W., at county highway bridge, 400 ft upstream from State Highway 67 and U.S. Highway 231 bridge, and 2½ miles southwest of Spencer.	a 25	1960-63	10-3-62 6-24-63 9-11-63	2.68 2.50 0.52
3-3573.00	Big Walnut Creek near Barnard, Ind.	Lat 39°49'50", long 86°41'12", in NW¼ sec. 18, T. 16 N., R. 2 W., at bridge on Putnam-Hendricks county line, 1¼ miles southwest of Barnard.	a 120	1961-63	6-26-63 9-10-63	9.95 4.72
3-3602.00	Lattas Creek at Switz City, Ind.	Lat 39°02'40", long 87°02'38", in SE¼ sec. 14, T. 7 N., R. 6 W., at bridge on State Highway 67, 0.9 mile north of Switz City.	a 32	1954 1960-63	6-24-63 9-11-63	1.70 0.00

Discharge measurements made at low-flow partial-record stations during water year 1963--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
		Wabash River Basin--Continued				
3-3603.00	Richland Creek near Bloomfield, Ind.	Lat 39°01'38", long 86°55'05", in SE¼SE¼ sec. 24, T. 7 N., R. 5 W., at bridge on State Highway 54, 1.9 miles east of Bloomfield.	a 96	1960-63	6-24-63 9-11-63 9-26-63	9.33 1.89 1.05
3-3607.00	Black Creek near Sanborn, Ind.	Lat 38°52'38", long 87°11'12", at intersection of secs. 9, 10, 15, 16, T. 5 N., R. 7 W., at bridge on State Highway 58, 1.3 miles south of Sandborn.	a 101	1960-63	6-28-63 9-11-63	19.0 7.91
3-3608.00	Prairie Creek near Washington, Ind.	Lat 38°43'01", long 87°10'00", in SW¼SW¼ sec. 2, T. 3 N., R. 7 W., at bridge on State Highway 57, 4 miles north of Washington.	a 117	1954 1960-63	6-27-63 9-11-63	7.38 0.99
3-3614.00	Little Blue River near Rays Crossing, Ind.	Lat 39°33'16", long 85°43'08", on line between secs. 23 and 26, T. 13 N., R. 7 E., at county highway bridge, 2.8 miles west of Rays Crossing.	a 94	1960-63	6-27-63 9-11-63	5.74 0.59
3-3616.00	Brandywine Creek near Maxwell, Ind.	Lat 39°51'30", long 85°44'17", on line between secs. 3 and 10, T. 16 N., R. 7 E., at county highway bridge, 1.6 miles east of Maxwell and 4.5 miles northeast of Greenfield.	a 25	1960-63	6-27-63 9-11-63	1.32 0.07
3-3617.00	Sugar Creek near Pleasant View, Ind.	Lat 39°38'49", long 85°55'09", in E½ sec. 24, T. 14 N., R. 5 E., at bridge on Interstate Highway 74, 1 3/4 miles southeast of Pleasant View.	a 121	1954 1960-63	6-27-63 9-11-63	20.6 7.84
3-3618.00	Buck Creek near New Bethel, Ind.	Lat 39°43'34", long 85°48'20", on line between secs. 21 and 28, T. 15 N., R. 5 E., at bridge on E. Troy Ave., 7.7 miles east of corporate limits of Indianapolis.	49.5	1960-63	6-27-63 9-11-63	2.40 0.23
3-3619.00	Hurricane Creek at Franklin, Ind.	Lat 38°29'53", long 86°01'34", on line between sec. 7, T. 12 N., R. 5 E., and sec. 12, T. 12 N., R. 4 E., at county highway bridge, 1.0 mile northeast of Franklin.	a 13	1960-63	6-25-63 9-10-63	0.26 .006
3-3632.00	Flatrock River at Lewisville, Ind.	Lat 39°48'24", long 85°21'29", in NW¼SE¼ sec. 25, T. 16 N., R. 10 E., at bridge on U.S. Highway 40 at Lewisville.	a 49	1954 1960-63	6-27-63 9-12-63	10.4 3.71
3-3643.00	Haw Creek near Columbus, Ind.	Lat 39°14'44", long 85°52'51", in W½SE¼ sec. 5, T. 9 N., R. 6 E., at county highway bridge, 1.1 miles north of corporate limits of Columbus.	a 50	1960-63	6-25-63 9-10-63	6.38 3.54
3-3648.00	Sand Creek near Greensburg, Ind.	Lat 39°20'55", long 85°26'51", in NE¼ sec. 6, T. 10 N., R. 10 E., at county highway bridge, 1½ miles northeast of Greensburg.	a 9	1960-63	6-24-63 9-10-63	0.09 0.20
3-3656.00	White Creek near Cortland, Ind.	Lat 38°58'46", long 86°00'58", on line between secs. 6 and 7, T. 6 N., R. 5 E., at bridge on State Highway 258, 3 miles west of Cortland.	a 94	1954 1961-63	9- 9-63	0.21
3-3663.00	Big Creek near Volga, Ind.	Lat 38°46'47", long 85°32'57", in NE¼NW¼ sec. 20, T. 4 N., R. 9 E., at county highway bridge, 1.7 miles west of Volga, and 5.5 miles east of Deputy.	a 96	1954 1961-63	9-10-63	0.04
3-3673.00	Stucker Fork at Scottsburg, Ind.	Lat 38°41'41", long 85°45'24", on line between secs. 16 and 17, T. 3 N., R. 7 E., at county highway bridge, 0.6 mile north of State Highway 56, and 1 mile east of Scottsburg.	a 74	1961-63	9-10-63	0.00
3-3715.50	Middle Fork Salt Creek at Story, Ind.	Lat 39°05'37", long 86°12'29", in SE¼SE¼ sec. 29, T. 8 N., R. 3 E., at bridge on State Highway 135, 0.5 mile southeast of Story.	a 37	1954 1961-63	6-24-63 9-11-63	1.88 0.28
3-3733.20	Indian Creek near Trinity Springs, Ind.	Lat 38°44'15", long 86°46'14", in W½ sec. 32, T. 4 N., R. 3 W., at bridge on county road, 1.3 miles south of Trinity Springs, and 2.3 miles above mouth.	a 240	1963	6-24-63 9-10-63	15.5 4.40
3-3736.00	Lick Creek near Paoli, Ind.	Lat 38°32'42", long 86°26'56", in SW¼ sec. 6, T. 1 N., R. 1 E., at bridge on county road, 1.3 miles southeast of Paoli.	a 16	1954 1963	9-10-63	0.80
3-3786.00	Big Creek at Solitude, Ind.	Lat 38°01'06", long 87°54'01", in SW¼ sec. 8, T. 6 S., R. 13 W., at bridge on State Highway 69 at Solitude.	a 204	1954 1960-63	9-10-63	0.26

Discharge measurements made at low-flow partial-record stations during water year 1963--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
		Streams Tributary to Lake Michigan				
4-0984.00	Fawn River near Howe, Ind.	Lat 41°44'55", long 85°25'05", in SW¼ sec. 18, T. 38 N., R. 10 E., at county highway bridge, 1½ miles north of Howe.	a 161	1960-63	10-3-62	72.1
					10-31-62	42.3
					6-26-63	46.8
					9-13-63	55.8
4-1004.90	Turkey Creek at New Paris, Ind.	Lat 41°30'00", long 85°50'40", in SW¼ sec. 9, T. 35 N., R. 6 E., at county highway bridge, 0.4 mile west of New Paris.	a 160	1960-63	9-13-63	48.4
		Streams Tributary to Lake Erie				
4-1826.00	Fairfield ditch at Fort Wayne, Ind.	Lat 41°00'59", long 85°11'18", at intersection of secs. 28, 29, 32 and 33, T. 30 N., R. 12 E., at bridge on lower Huntington Road, at Fort Wayne, 0.7 mile downstream from State Highway 3 and 2.5 miles upstream from mouth.	a 184	1961-63	10-1-62	0.94
					10-29-62	0.94
					11-26-62	1.16
					1-7-63	0.33
					3-12-63	18.8
					4-1-63	19.7
					4-29-63	12.5
					6-7-63	10.9
					6-24-63	0.81
					7-29-63	0.93
					9-3-63	0.46
					9-26-63	0.39
		Illinois River Basin				
5-5151.00	Little Kankakee River near Mill Creek, Ind.	Lat 41°34', long 86°35', in sec. 18, T. 36 N., R. 1 W., at bridge on State Highway 4, 2½ miles west of Mill Creek.	a 39	1961-63	9-19-63	25.1
5-5163.00	Dausman ditch near Bremen, Ind.	Lat 41°22'58", long 86°07'02" at section line on east side of sec. 24, T. 34 N., on range line between R. 3 E., and R. 4 E., at bridge on State Highway 331, 4½ miles southeast of Bremen.	a 48	1956	7-12-63	4.61
				1961-63	9-10-63	4.86
5-5175.50	Reeves ditch near LaCrosse, Ind.	Lat 41°19'03", long 86°55'49", on line between secs. 12 and 13, T. 33 N., R. 5 W., at bridge on State Highway 8, 2.0 miles west of La Crosse.	a 44	1961-63	9-11-63	13.1

a About.
/ Operated as a continuous-record gaging station.

Measurements at miscellaneous sites

Measurements of streamflow at points other than gaging stations or partial-record stations are given in the following table.

Discharge measurements made at miscellaneous sites during water year 1963

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Wabash River basin						
Campbells Creek	Mississinewa River.	Lat 40°15'39", long 85°17'22", in NW¼ sec. 21, T. 21 N., R. 11 E., at bridge on Delaware County Road 525 East, 1.0 mile north of Desota, Ind.			9-30-63	* 0.16
Rees ditch	...do.....	Lat 40°20'08", long 85°19'25", in SW¼ sec. 19, T. 22 N., R. 11 E., at bridge on Delaware County Road 350 East, 0.9 mile east of Eaton, Ind.			9-30-63	* 0.99
Studebaker ditch	Pike Creek.	Lat 40°20'10", long 85°25'35", on line between secs. 19 and 20, T. 22 N., R. 10 E., at bridge on Delaware County Road 200 West, 2.7 miles southeast of Wheeling, Ind.			9-30-63	* 0.12
Stony Creek	White River	Lat 40°06'21", long 85°13'31", on line secs. 12 and 13, T. 19 N., R. 11 E., at bridge on Delaware County Road 600 South, 1.5 miles east of Gates Corner, Ind.			9-28-63	* 0.99
Cunningham ditch	Prairie Creek	Lat 40°07'21", long 85°15'12", on line secs. 2 and 3, T. 19 N., R. 11 E., at bridge on Delaware County Road 700 East, 1.2 miles north of Gates Corner, Ind.			9-28-63	* 0.56
Bell Creek	Buck Creek	Lat 40°05'29", long 85°29'31", on line secs. 15 and 22, T. 19 N., R. 9 E., at bridge on Delaware County Road 700 South, 0.4 mile east of Cross Roads, Ind.			9-28-63	* 0.83
Williams Creek	Bell Creek	Lat 40°06'12", long 85°28'50", on line NW¼ sec. 14 and NE¼ sec. 15, T. 19 N., R. 9 E., at County bridge 0.3 mile above mouth, and 1.3 miles northeast of Cross Roads, Ind.			9-28-63	* 0.36
Bell Creek tributary	Bell Creek	Lat 40°08'30", long 85°26'04", in SW¼ sec. 31, T. 20 N., R. 10 E., at bridge on State Highway 67, 1.5 miles north of Progress, Ind.			9-28-63	* 0.18
York Prairie Creek	White River	Lat 40°11'52", long 85°30'00", in SW¼ sec. 10, T. 20 N., R. 9 E., at bridge on Delaware County Road 600 West, 0.9 mile southwest of Commack, Ind.			9-28-63	* 1.83
Kilbuck Creek	White River	Lat 40°15'34", long 85°31'12", on line NE¼ sec. 20 and NW¼ sec. 21, T. 21 N., R. 9 E., at bridge on Delaware County Road 700 West, 1.0 mile northeast of Bethel, Ind.			9-30-63	* 1.23
White River	Wabash River	Lat 40°00'01", long 86°01'23", near south edge of sec. 13, T. 18 N., R. 4 E., at bridge on State Highway 234, 2 miles south of Noblesville, Ind.			9-9-63 9-12-63	* 152 *a 153
...Do.....	...do.....	Lat 39°57'22", long 86°03'54", in NW¼ sec. 3, T. 17 N., R. 4 E., at bridge on 116th Street, 2-3/4 miles west of Fishers, Ind.			9-9-63	159
...Do.....	...do.....	Lat 39°52'35", long 86°08'18", in W½ sec. 36, T. 17 N., R. 3 E., at bridge on State Highway 431 at Indianapolis, Ind.		1958, 1962	3-7-63	b 13,600
...Do.....	...do.....	Lat 39°51'44", long 86°09'44", in sec. 2, T. 16 N., R. 3 E., at bridge on Kessler Blvd., West Drive, at Indianapolis, Ind.			3-6-63 3-7-63 3-8-63	b 20,300 b 21,200 b 9,020
...Do.....	...do.....	Lat 39°47'20", long 86°11'53", in NE¼ sec. 33, T. 16 N., R. 3 E., at bridge on West 16th St., at Indianapolis, Ind.		1959, 1962	3-6-63 3-7-63 3-8-63 3-9-63	b 19,400 b 19,400 b 6,820 b 6,730
Dry Run	Little Eagle Creek	Lat 39°48'04', long 86°14'54", in SW¼ sec. 30, T. 16 N., R. 3 E., 400 ft downstream from 25th St. in Speedway, Ind.	4.52	1956, 1962	3-7-63	✗ 618
...Do.....	...do.....	Lat 39°47'16", long 86°13'41", in sec. 32, T. 16 N., R. 3 E., at West 16th St. in Speedway, Ind.		1956, 1962	3-4-63 3-4-63	b 657 ✗ 892
Bryant Creek	White River	Lat 39°20'07", long 86°30'41", in NW¼ sec. 3, T. 10 N., R. 1 W., at bridge on State Highway 37, 5.0 miles southwest of Martinsville, Ind.	5.69		6-5-63	✗ 3,490
Patoka River	Wabash River	Lat 38°29'08", long 86°22'30", in SW¼ sec. 26, T. 1 N., R. 1 E., at bridge on County road, 3.4 miles northeast of Valeene, Ind.			9-24-63	* 0.06
Patoka River tributary	Patoka River	Lat 38°29'08", long 86°22'33", in SW¼ sec. 26, T. 1 N., R. 1 E., 200 ft above mouth and 3.4 miles northeast of Valeene, Ind.			9-24-64	0

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Discharge measurements made at miscellaneous sites during water year 1963--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements		
					Date		Discharge (cfs)
		Wabash River basin--continued					
Patoka River tributary	Patoka River	Lat 38°28'32", long 86°22'35", in SW¼ sec. 35, T. 1 N., R. 1 E., 800 ft above mouth and 2.7 miles northeast of Valeene, Ind.			9-24-64		0
...Do.....	...do.....	Lat 38°28'17", long 86°22'44", in SW¼ sec. 35, T. 1 N., R. 1 E., 100 ft above mouth and 2.4 miles northeast of Valeene, Ind.			9-24-63		0
...Do.....	...do.....	Lat 38°28'07", long 86°23'30", in N½ sec. 3, T. 1 S., R. 1 E., at bridge on County road 0.2 mile above mouth and 2.1 miles north of Valeene, Ind.			9-24-63		0
Patoka River	Wabash River	Lat 38°27'18", long 86°23'32", on line secs. 30 and 10, T. 1 S., R. 1 E., at bridge on County road, 1.1 miles north of Valeene, Ind.			9-24-63		0
Fudge Creek tributary	Fudge Creek	Lat 38°27'18", long 86°22'25", on line secs. 2 and 11, T. 1 S., R. 1 E., at bridge on County road, 1.5 miles northeast of Valeene, Ind.			9-24-63		0
...Do.....	...do.....	Lat 38°27'18", long 86°22'57", on line secs. 3 and 10, T. 1 S., R. 1 E., at bridge on County road, 1.4 miles northeast of Valeene, Ind.			9-24-63		0
Patoka River	Wabash River	Lat 38°26'41", long 86°23'13", in SE¼ sec. 10, T. 1 S., R. 1 E., at bridge on County road, 0.3 mile downstream from Fudge Creek and 0.7 mile northeast of Valeene, Ind.			9-24-63		0
Patoka River tributary	Patoka River	Lat 38°26'02", long 86°23'51", in NW¼ sec. 15, T. 1 S., R. 1 E., at bridge on County road, 500 ft above mouth and 0.3 mile south of Valeene, Ind.			9-24-63		0
...Do.....	...do.....	Lat 38°25'45", long 86°24'39", in SW¼ sec. 16, T. 1 S., R. 1 E., at bridge on County road, 600 ft above mouth and 1.0 mile southwest of Valeene, Ind.			9-24-63		0
Patoka River	Wabash River	Lat 38°25'59", long 86°27'09", in W½ sec. 18, T. 1 S., R. 1 E., at bridge on County road, 3.1 miles west of Valeene, Ind.			9-24-63		0.03
Hogs Defeat Creek	Patoka River	Lat 38°27'34", long 86°27'03", in SW¼ sec. 6, T. 1 S., R. 1 E., at bridge on County road, 3.2 miles northwest of Valeene, Ind.			9-24-63		0
Hogs Defeat Creek tributary	Hogs Defeat Creek	Lat 38°27'26", long 86°27'03", in SW¼ sec. 6, T. 1 S., R. 1 E., at bridge on State Highway 37, 3.2 miles northwest of Valeene, Ind.			9-24-63		0
Youngs Creek	Patoka River	Lat 38°26'38", long 86°31'41", in SW¼ sec. 9, T. 1 S., R. 1 W., at bridge on County road, 2.0 miles southeast of Greenbrier, Ind.			9-24-63		0
Cane Branch	Patoka River	Lat 38°25'19", long 86°31'07", in NE¼ sec. 21, T. 1 S., R. 1 W., at bridge on County road, 1.3 miles north of Ethel, Ind.			9-24-63		0
Patoka River	Wabash River	Lat 38°25'36", long 86°40'19", in S½ sec. 18, T. 1 S., R. 2 W., at bridge on County road, 0.6 mile northwest of Elon, Ind.			9-25-63	*	0.52
Straight River	Patoka River	Lat 38°21'20", long 86°53'34", in SW¼ sec. 7, T. 2 S., R. 4 W., at bridge on State Highway 162, 3.3 miles southeast of Jasper, Ind.	62.4	1959, 1962	3-20-63	b	245
					3-21-63	b	109
					4-26-63	b	8.9
					5-24-63	b	10.2
					6-18-63	b	1.4
Patoka River	Wabash River	Lat 87°13'02", long 38°22'10", in SW¼ sec. 32, T. 1 S., R. 7 W., at bridge on State Highway 61, 0.2 mile south of the post office at Winslow, Ind.		1961-62	11-7-62	b	18.4
					1-9-63	b	165
					3-10-63	b	4,200
					3-21-63	b	4,520
					4-25-63	b	281
					5-23-63	b	317
					6-17-63	b	50.0
					7-16-63	b	144
					8-13-63	b	13.6
					9-16-63	b	2.8

Discharge measurements made at miscellaneous sites during water year 1963--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Streams Tributary to Lake Michigan						
Indiana Harbor Canal	Lake Michigan	Lat 41°37'17", long 87°28'15", at bridge on 151st St., East Chicago, Ind.		1955-56	2-7-62	c 737
					2-8-62	c 803
					2-9-62	c 774
					2-13-62	c 798
					2-14-62	c 733
					2-15-62	c 721
					2-16-62	c 821
					2-19-62	c 732
					2-23-62	c 830
					2-26-62	c 954
					2-27-62	c 805
					3-1-62	c 778
					3-2-62	c 768
					7-9-63	c 890
					7-10-63	c 886
					7-11-63	c 883
					7-17-63	c 914
					7-24-63	c 907
					8-16-63	c 816
					8-20-63	c 811
					8-21-63	c 793
					8-22-63	c 823
					8-23-63	c 817
					8-24-63	c 736
					8-25-63	c 777
					8-26-63	c 765
					8-27-63	c 829
					8-28-63	c 873
					8-29-63	c 791
					9-3-63	c 773
					9-4-63	c 679
					9-5-63	c 746
					9-6-63	c 761
					9-7-63	c 751
					9-8-63	c 725
					9-9-63	c 708
					9-10-63	c 781
					9-11-63	c 790
					9-12-63	c 875
Streams Tributary to Lake Erie						
St. Joseph River	Lake Erie	T. 33 N., R. 14 E., at covered wooden bridge at Spencerville, Ind.			10-2-62	41.4

* Base flow.
/ Peak flow.
a Mean of four measurements on this date.
b Made by Indiana Flood Control and Water Resources Commission.
c Made by Department of Health, Education, and Welfare, Public Health Service.

For several 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 Conservation, Division of Water 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 are based on once-daily readings of a staff gage by a local observer and consist of daily, monthly, and yearly mean water-surface elevations as well as graphs showing the fluctuation in elevation. Discharge measurements, made at the outflow, are also available in some instances.

The lakes for which records have been collected are listed 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.

Lakes in the Ohio River basin for which records are available

Lake	County	Drainage area (square miles)	Surface area (acres)	Established level**	Records available
Bayou drain basin					
Hovey Lake near Mt. Vernon	Posey	6.34	253	-	1950-63
Wabash River basin					
Banning Lake near North Webster	Kosciusko	0.58	12	837.50	1945-63
Baugher Lake near Washington Center	Noble	36.4	32	878.52	1945-51
Beaver Dam Lake near Silver Lake	Kosciusko	1.89	146	868.95	1947-53
Big Barbee Lake near North Webster	Kosciusko	* 44.8	* 302	837.50	1945-63
Big Lake near Wolflake	Noble	6.77	228	897.83	1943-63
Blue Lake near Churubusco	Whitley	3.47	239	850.28	1946-63
Bruce Lake at Lake Bruce	Pulaski	5.19	245	723.69	1943-53
Carr Lake near Claypool	Kosciusko	2.56	79	848.88	1947-53
Cedar Lake at Tri-Lakes	Whitley	1.62	131	901.90	1943-49
Center Lake at Warsaw	Kosciusko	0.75	120	-	1945-63
Chapman Lake near Warsaw	Kosciusko	4.59	* 474	827.75	1945-63
Crooked Lake near Wolflake	Noble	1.32	206	905.69	1943-53
Crystal Lake near Atwood	Kosciusko	0.38	76	789.69	1945-51
Diamond Lake near Silver Lake	Kosciusko	5.35	79	-	1954-63
Everett Lake near Levert	Allen	2.13	43	-	1946-63
Fish Lake near Warsaw	Kosciusko	3.59	15	845.52	1951-63
Fletcher Lake at Fletcher	Fulton	0.62	45	783.20	1946-53
Gilbert Lake near Washington Center	Noble	0.39	28	-	1954-63
Goose Lake near Lorane	Whitley	1.42	84	910.96	1945-53
Hawks Lake near Culver	Marshall	10.2	40	732.00	1954-63
Hill Lake near Silver Lake	Kosciusko	.56	67	871.50	1952-63
Hoffman Lake at Atwood	Kosciusko	7.14	180	785.85	1945-53
Horseshoe Lake near Washington Center	Noble	1.39	18	901.80	1945-63
Irish Lake near North Webster	Kosciusko	* 50.8	135	837.50	1945-63
James Lake at Oswego	Kosciusko	-	271	836.40	1943-63
Jonnson Lake near Pierceton	Kosciusko	5.42	15	-	1954-63
Kuhn Lake near North Webster	Kosciusko	* 3.74	121	837.50	1945-63
Lake Manitou at Rochester	Fulton	38.1	* 631	778.41	1943-63
Langenbaum Lake near Monterey	Starke	0.98	48	-	1954-63
Little Barbee Lake near North Webster	Kosciusko	* 48.8	56	837.50	1945-63
Little Chapman Lake near Warsaw	Kosciusko	7.78	* 128	827.75	1945-63
Little Wilson Lake near Larwill	Whitley	0.59	8	865.39	1946-52
Long Lake at Laketon	Wabash	0.64	48	751.19	1946-51, 1959-63
Loon Lake at Ormas	Whitley	11.2	222	895.14	1943-63
Loon Lake near Silver Lake	Kosciusko	2.70	40	865.74	1947-53
Lukens Lake near Disko	Wabash	0.99	46	-	1948-49, 1959-63
McClures Lake near Silver Lake	Kosciusko	0.45	32	865.85	1945-52
Maxinkuckee Lake at Culver	Marshall	9.48	* 1,650	733.12	1943-63
Muskelonge Lake near Warsaw	Kosciusko	11.1	32	842.67	1943-53, 1959-63
New Lake near Etna	Whitley	0.49	50	903.91	1945-53
North Little Lake at Silver Lake	Kosciusko	2.81	12	861.73	1947-63
Nyona Lake near Greenoak	Fulton	6.47	104	793.91	1946-63
Ogle Lake near Nashville	Brown	1.03	20	-	1954-63
Old Lake near Etna	Whitley	3.13	32	898.07	1949-63
Palestine Lake at Palestine	Kosciusko	29.9	269	-	1954-63
Pike Lake at Warsaw	Kosciusko	40.4	203	-	1954-63
Ridinger Lake near Pierceton	Kosciusko	* 34.9	136	843.12	1943-63
Robinson Lake near Pierceton	Kosciusko	* 6.95	59	851.09	1946-51
Rock Lake near Akron	Kosciusko	1.78	56	847.29	1949-63
Round Lake at Tri-Lakes	Whitley	0.83	* 125	901.90	1946-53
Sawmill Lake near North Webster	Kosciusko	* 51.9	23	837.50	1945-63

Lakes in the Ohio River basin for which records are available--Continued

Lake	County	Drainage area (square miles)	Surface area (acres)	Established level**	Records available
Wabash River basin--Continued					
Sechrist Lake near North Webster	Kosciusko	* 0.42	81	837.50	1945-63
Shoe Lake near Oswego	Kosciusko	* 0.47	40	841.57	1946-53
Shriner Lake at Tri-Lakes	Whitley	1.12	* 111	907.04	1943-63
Silver Lake at Silver Lake	Kosciusko	4.47	102	861.73	1947-63
Smalley Lake near Washington Center	Noble	32.6	* 69	-	1943-63
South Mud Lake near Fulton	Fulton	4.74	94	793.42	1946-63
Starve Hollow Lake near Vallonia	Jackson	6.14	145	-	1946-61, 1963
Tippecanoe Lake at Oswego	Kosciusko	* 115.0	* 816	836.40	1943-63
Town Lake near Akron	Fulton	1.74	5	-	1949-50
Troy Cedar Lake near Lorane	Whitley	* 5.51	93	905.41	1945-52
Versailles Lake near Versailles	Ripley	* 167.0	232	-	1957-63
Webster Lake at North Webster	Kosciusko	54.0	* 774	852.75	1943-63
Wilmot Pond at Wilmot a/	Noble	39.7	10	-	1945-51
Wilson Lake near Larwill	Whitley	* 0.49	29	865.39	1946-52
Winona Lake at Warsaw	Kosciusko	* 32.1	529	811.06	1943-63
Yellow Creek Lake near Silver Lake	Kosciusko	8.50	151	860.50	1945-53
Zink Lake near Rochester	Fulton	0.26	19	810.68	1952-55
Lakes in the St. Lawrence River basin for which records are available					
Streams tributary to Lake Michigan					
Adams Lake near Wolcottville	LaGrange	5.69	* 267	953.59	1946-63
Atwood Lake near Wolcottville	LaGrange	1.31	170	899.99	1948-53
Ball Lake near Hamilton	Steuben	11.5	87	-	1961-63
Bass Lake near Angola	Steuben	0.60	* 61	-	1954-63
Bear Lake at Wolflake	Noble	6.12	36	894.60	1943-63
Big Long Lake near Stroh	LaGrange	4.13	* 388	-	1954-63
Big Otter Lake near Fremont	Steuben	19.8	69	965.18	1946-53
Big Turkey Lake at Stroh	LaGrange	34.6	450	926.61	1945-63
Bixler Lake at Kendallville	Noble	3.63	120	963.65	1945-63
Blackman Lake near Wolcottville	LaGrange	1.4	67	974.20	1953-59
Bower Lake near Pleasant Lake	Steuben	87.5	25	948.50	1946-63
Cedar Lake near Ontario	LaGrange	1.66	120	871.90	1948-51
Cedar Lake near Waterloo	DeKalb	21.8	28	896.76	1943-56
Cree Lake near Kendallville	Noble	4.90	58	945.23	1949-63
Crooked Lake at Crooked Lake	Steuben	11.9	* 733	988.17	1946-63
Dallas Lake near Wolcottville	LaGrange	39.4	283	897.36	1945-63
Dewart Lake near Leesburg	Kosciusko	7.88	* 551	867.70	1945-63
Diamond Lake near Wawaka	Noble	2.82	105	-	1946-63
Duely Lake near Cromwell b/	Noble	* 11.2	21	876.68	1953-63
Eagle Lake near Kimmel	Noble	1.77	81	-	1946-48
Emma Lake near Emma	LaGrange	14.8	42	-	1954-63
Engle Lake near Ligonier	Noble	3.22	48	-	1956-63
Fish Lake near Plato	LaGrange	10.8	100	936.50	1945-63
Fish Lake near Scott	LaGrange	6.14	139	814.42	1954-63
Fox Lake near Angola	Steuben	1.13	142	1,018.83	1946-53
Golden Lake near Pleasant Lake	Steuben	92.4	119	948.50	1946-63
Gordy Lake near Cromwell	Noble	8.82	31	876.68	1953-63
Hackenburg Lake near Wolcottville	LaGrange	54.8	42	897.36	1945-63
Harper Lake near Washington Center	Noble	2.67	11	878.25	1946-63
Heaton Lake near Elkhart	Elkhart	8.78	87	767.30	1946-53
High Lake near Wolflake	Noble	4.75	123	-	1961-63
Hindman Lake near Washington Center	Noble	8.00	13	878.25	1946-63
Hogback Lake near Angola	Steuben	102.0	146	948.50	1946-63
Howard Lake near Angola	Steuben	3.94	* 27	-	1954-63
Hudson Lake at Hudson Lake	LaPorte	3.06	432	763.09	1946-63
Hunter Lake near Middlebury	Elkhart	0.72	99	856.90	1946-53
Indian Lake near Corunna	DeKalb	3.50	* 56	-	1957
Indiana Lake near Bristol	Elkhart	0.53	122	759.73	1946-53
Jimerson Lake at Nevada Mills	Steuben	47.0	* 283	964.66	1946-63
Knapp Lake near Washington Center	Noble	5.64	88	878.25	1946-63
Lake Gage at Panama	Steuben	17.2	* 324	954.25	1946-63
Lake George at Hobart	Lake	125.0	282	602.23	1946-63
Lake George at Jamestown	Steuben	12.3	* 488	985.28	1946-63
Lake James at Lake James	Steuben	43.0	* 1,034	964.96	1943-49
Lake of the Woods near Helmer	LaGrange	5.36	136	951.09	1951-63
Lake Pleasant near Nevada Mills	Steuben	2.51	424	-	1954-63
Latta Lake near Rome City	Noble	4.37	42	-	1954-63
Lime Lake at Panama	Steuben	17.4	44	954.25	1946-63
Little Long Lake at Kendallville	Noble	4.34	71	-	1954-63

Lakes in the St. Lawrence River basin for which records are available--Continued

Lake	County	Drainage area (square miles)	Surface area (acres)	Established level**	Records available
Streams tributary to Lake Michigan--Continued					
Little Otter Lake near Fremont	Steuben	* 14.3	34	965.18	1946-53
Little Turkey Lake at Elmira	LaGrange	56.0	135	925.72	1945-63
Long Lake near Burr Oak	Noble	* 12.0	40	-	1954-63
Long Lake at Moonlight	Steuben	70.8	92	-	1946-63
Loon Lake near Angola	Steuben	2.73	138	-	1954-63
Lower Long Lake near Albion	Noble	3.96	66	889.81	1946-52
McClish Lake near Helmer	LaGrange	* 1.36	35	951.09	1951-63
Martin Lake near Valentine	LaGrange	5.36	* 26	-	1945-63
Messick Lake near Wolcottville	LaGrange	55.8	68	897.36	1945-63
Moss Lake near Washington Center	Noble	5.90	9	878.25	1946-63
Mud Lake near Orland	Steuben	1.64	25	-	1956-63
Muncie Lake near Burr Oak	Noble	43.4	47	-	1954-63
North Twin Lake near Howe	LaGrange	1.99	135	843.56	1953-63
Olin Lake near Valentine	LaGrange	6.12	* 103	899.45	1945-63
Oliver Lake near Valentine	LaGrange	11.3	* 362	899.45	1945-63
Otter Lake near Flint	Steuben	6.82	118	-	1954-63
Pigeon Lake near Angola	Steuben	30.6	61	-	1954-63
Pleasant Lake at Pleasant Lake	Steuben	0.94	53	963.52	1946-63
Pleasant Lake near Wolflake	Noble	0.30	20	-	1952-53
Pretty Lake near Stroh	LaGrange	2.91	184	965.50	1949-53, 1963
Rider Lake near Cromwell	Noble	* 9.12	5	876.68	1953-63
Rivir Lake near Burr Oak	Noble	18.7	24	-	1954-63
Round Lake at Kendallville	Noble	3.60	99	-	1954-63
Royer Lake near Plato	LaGrange	4.91	69	936.50	1952-63
Sacarider Lake near Kendallville	Noble	2.42	33	-	1954-63
Sand Lake near Burr Oak	Noble	15.0	47	893.56	1946-51
Sanford Lake near Cosperville	Noble	104.0	114	-	1948-63
Saugany Lake near Rolling Prairie	LaPorte	0.82	74	781.21	1946-50
Shipshewana Lake near Shipshewana	LaGrange	4.00	202	852.04	1951-63
Silver Lake near Angola	Steuben	3.72	238	959.40	1945-53
Silver Lake near Rolling Prairie	LaPorte	0.82	54	795.20	1946-63
Silver Lake near Wolflake	Noble	0.32	* 34	-	1953-63
Simonton Lake near Elkhart	Elkhart	4.37	282	772.19	1946-63
Skinner Lake near Albion	Noble	13.8	125	927.74	1945-63
Snow Lake near Lake James	Steuben	36.3	310	964.96	1943-49
South Twin Lake near Howe	LaGrange	3.13	116	843.56	1953-63
Sparta Lake at Kimmel	Noble	0.26	31	888.50	1946-51
Steinbarger Lake near Cosperville	Noble	25.3	73	-	1948-63
Stone Lake near Scott	LaGrange	1.32	152	-	1954-63
Story Lake near Hudson	DeKalb	2.48	77	942.20	1946, 1954-63
Sylvan Lake at Rome City	Noble	31.5	* 575	916.20	1943-63
Syracuse Lake at Syracuse	Kosciusko	37.4	* 408	858.87	1943-63
Tamarack Lake near Cosperville	Noble	15.1	50	-	1948-63
Upper Long Lake near Wolflake	Noble	2.03	86	-	1956-63
Village Lake near Cromwell	Noble	* 11.9	12	876.68	1953-63
Wabee Lake near Milford	Kosciusko	13.4	187	829.79	1946-53
Waldron Lake near Cosperville	Noble	131.0	216	-	1948-63
Wall Lake near Orland	LaGrange	1.43	141	942.25	1953-54
Wawasee Lake near Wawasee	Kosciusko	36.1	2,620	858.89	1943-63
Westler Lake near Wolcottville	LaGrange	37.3	88	897.36	1945-63
Witmer Lake near Wolcottville	LaGrange	35.8	204	897.36	1945-63
Wolf Lake near Goshen	Elkhart	0.87	100	813.00	1947-57
Wolf Lake at Hammond	Lake	5.72	999	-	1946-49
Streams tributary to Lake Erie					
Clear Lake at Clear Lake	Steuben	7.25	800	1,037.38	1943-63
Hamilton Lake at Hamilton	Steuben	12.8	802	898.83	1943-63
Long Lake near Ray	Steuben	2.29	* 154	-	1961-63
Round Lake at Clear Lake	Steuben	7.25	30	1,037.38	1943-63
Lakes in the Upper Mississippi River basin for which records are available					
Illinois River basin					
Bass Lake at Bass Lake	Starke	3.66	1,405	713.65	1943-63
Cedar Lake at Cedar Lake	Lake	8.05	781	-	1943-63
Clear Lake at LaPorte	LaPorte	0.35	106	798.20	1942-49, 1952-63
Dalecarlia Lake near Creston	Lake	19.4	193	-	1947-52
Eagle Lake near Ober	Starke	26.2	24	713.25	1946-53

Lakes in the Upper Mississippi River basin for which records are available--Continued

Lake	County	Drainage area (square miles)	Surface area (acres)	Established levels☆☆	Records available
Illinois River basin--Continued					
Eliza Lake near Beatrice	Porter	2.69	45	-	1954-63
Flint Lake near Valparaiso	Porter	2.88	86	-	1946-63
J. C. Murphy Lake near Morocco	Newton	16.7	1,515	-	1952-61
Koontz Lake at Koontz Lake	Starke	6.46	346	714.56	1943-63
Lake of the Woods near Bremen	Marshall	11.6	416	803.85	1945-63
Long Lake near Valparaiso	Porter	☆ 1.25	65	797.66	1947-52
Lower Fish Lake near Stillwell	LaPorte	☆ 10.5	134	688.22	1946-53
Mill Pond Lake and Kreighbaum Lake near Twin Lakes	Marshall	4.86	168	767.75	1945-53
Myers Lake near Twin Lakes	Marshall	1.66	96	768.69	1945-53
North Chain Lake at Lydick	St. Joseph	4.50	88	721.17	1946-53
Pine Lake at LaPorte	LaPorte	5.88	564	796.20	1946-63
Pretty Lake near Plymouth	Marshall	☆ 0.91	97	-	1954-63
Riddles Lake near Lakeville	St. Joseph	13.5	77	817.50	1946-63
Ringneck Lake near Medaryville	Jasper	-	1,400	-	1949-55
Skitz Lake near Knox	Starke	-	1,000	-	1949-53
South Chain Lake at Westfield	St. Joseph	6.00	90	717.04	1946-53
Spectacle (Loomis) Lake near Valparaiso	Porter	0.89	62	-	1946-53
Stone Lake at LaPorte	LaPorte	5.88	140	796.20	1946-63
Upper Fish Lake near Stillwell	LaPorte	☆ 9.71	139	688.22	1946-53
Wauhob Lake near Valparaiso	Porter	0.29	☆ 21	-	1946-63
Wharton Lake near South Bend	St. Joseph	1.75	-	-	1960-63

☆ Revised.
☆☆ Elevation, in feet, above mean sea level.
a Formerly published as Rider Lake at Wilmot.
b Formerly published as Duley Lake near Cromwell, Druley Lake near Cromwell and Druely Lake near Cromwell.

Note: Records available listings for 1963 water year were corrected to correspond to a water year. Prior records were listed as calendar year.

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